Users Perceptions towards Networking and Resource Sharing among Selected Libraries in Odisha

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Abstract - **The present study confined only 3 universities of Odisha on the basis of NAAC accreditation rank. This study has been conducted in order to examine existing infrastructure facilities and identify the factors responsible for improvement of the University libraries especially for networked services. Questionnaire designed in structural form and based on the nature, scope and objectives of the research. The questionnaire was divided into different sections representing specific facets concerning to computerization of the library, network infrastructure facilities ,computer and communication infrastructure, electronic resources, networked services, manpower and training.**
Keywords: **Utkal University, Sambalpur University, Berhmapur University, Resource sharing, Networking**

I. INTRODUCTION

Introduction of computer and communication technology in the libraries has radically changed the way information traveling through a network (both wire and wireless). The Internet as a tool, now is witnessed the world for the growth of information evolution and saturation in wide variety of formats through networking. Braun(2002) explored that now technology has penetrated every facet of library service, and every staff member has to know something about technology. New technological developments and increased information needs of users, forcing libraries to recruit skilled manpower, who can understand the new environment and meet a large community of users demands". Thus, the impact of network on the library has been increased due to the widespread of their applications and components applied in the libraries services for reaching a large community of users. In general, a library network system relies on architecture and topology adopted. In a networked library environment, the technology can be applied for the purpose of condensing, stitching and customizing information according to users' expectations and needs. Whereas, the network can be delivered library services regardless of space and time. Round the clock, the library networked services are active and attempting to reach and satisfy large community of users across the globe.

The network connectivity is vital for the library evolution. They become an integral part in the daily functions of the library and they have been used almost all library services. Webster (2006) stated that, the inherent capabilities of networked technology have presented libraries with opportunities to take their services to new levels." A user needs a computer, specialized communication software, and a network connection to access and retrieve networked information resources and services simultaneously from any time and any location (no physical boundaries). Communication technology especially Internet has become vital resource for improving productivity and services of the libraries. Internet connectivity on a network is often an important feature for extending networked service. Bertot, McClure & Ryan (2000) defined as "networked services are electronic information resources and/or services that users access at a public, regional, or statewide library network. Examples of electronic network resources include: public, regional, or state library hosted or authored web sites or library or licensed databases (e.g. Infotrac, SearchBank, EbscoHost). Examples of electronic network services include: provision of access to networks via public access workstation or dial-in/remote access; network services such as email, listservs, chat, online reference/assistance; and training in the use of these resources and services."

II. SCOPE OF THE STUDY

The study has covered only top three Universities of Odisha on the basis of NAAC accreditation rank. The present study has been proposed mainly to develop a model university library networking plan for resource sharing in Odisha. Therefore, the study has been designed to ascertain:

1. To find the difference among selected university libraries in Odisha in terms of Networked Services (NS), Library Automation (LA), Networked Infrastructure (NI), Computer and Communication Infrastructure (CC), Electronic Resources (ER), and Manpower (MA).

2. The present Status of library services to the research scholars in three University libraries according to University Grants Commission (UGC) 2017 with NAAC accreditation of Odisha.

3. The research scholar perceptions towards of resource sharing, networking and telecommunication in university libraries of Odisha.

TABLE 1 NUMBER OF USERS SELECTED FROM THE SAMPLE UNIVERSITY LIBRARIES

	Users								
	Regular				Part Time				
	U.U	S.U	B.U	Total	U.U	S.U	B.U	Total (%)	
Scholars	28 (41%)	30 (43%)	11 (16%)	69 (100%)	08 (33%)	02 (9%)	14 (58%)	24 (100%)	x^2=18.537** DF=2
Respondent Scholars(66)	25 (38%)	30 (45%)	11 (17%)	66 (100%)	08 (36%)	02 (9%)	12 (55%)	22 (100%)	x^2=15.068** DF=2

There are 69 scholars regularly working in the major disciplines of science in the three major universities of Odisha. The above table which also indicates that maximum 30(45%) of S.U. responded followed by 25(38%) of U.U and 11(17%) of B.U.

Almost all the Part-time scholars responded except 2 from B.U, unwilling to respond. The total response both from regular 96% and part-time 92%.

TABLE 2 SAMPLE LIBRARIES OF THE STUDY

Sl. No.	Name of the Library	Type	Year of establishment	NAAC Accreditations
1.	ParijaLibrary,Utkal University	Academic	1946	B++
2.	Prof.B.Behera Central Library, Sambalpur University	Academic	1970	B+
3.	R.PPadhi Library, Berhmpur University	Academic	1968	B+

According to University Grants Commission (UGC) 2017 recognised Universities in ORISSA with NAAC accreditation status the universities got rank mentioned above.

TABLE 3 RATIO OF GENDER OF THE SAMPLE USERS

University Library	Gender		Total (%)
	Male	Female	
ParijaLibrary, Utkal University	14 (42%)	19 (58%)	33 (100%)
Prof.B.Behera Central Library, Sambalpur University	16 (50%)	16 (50%)	32 (100%)
R.P Padhi Library, Berhmpur University	20 (87%)	03 (13%)	23 (100%)
Total	50 (57%)	38 (43%)	88 (100%)

From the above table it is found out of 88 respondents 50(57%) male and 38(43%)female responded to the questionnaire. The distribution of gender response according to university wise which shows from the table 33(38%) of U.U, followed by 32(36%) of S.U and 23(26%) of B.U responded to the questionnaire. It also reveals from the table that out of total response the highest 20(87%) male responded from B.U where as 19(58%) female from U.U and the least response of female from B.U i.e. 03(13%). The S.U contributes equally 16(50%) both in male & female.

TABLE 4 DISTRIBUTIONS OF SCHOLARS IN DISCIPLINE WISE

Sl. No	Discipline wise	Universities			Total (%)
		U.U	S.U	B.U	
1	Botany	07 (21%)	--	06 (26%)	13 (15%)
2	Chemistry	06 (18%)	11 (34%)	05 (22%)	22 (25%)
3	Geology	04 (12%)	01 (3%)	--	05 (6%)
4	Life Science	--	15 (47%)	--	15 (17%)
5	Mathematics	02 (7%)	01 (3%)	05 (22%)	08 (9%)
6	Physics	07 (21%)	04 (13%)	03 (13%)	14 (16%)
7	Zoology	07 (21%)	--	04 (17%)	11 (12%)
	Total	33 (100%)	32 (100%)	23 (100%)	88 (100%)

N.B: x^2=52.830**, DF=12

The Table No.4 shows that the distribution of scholars in discipline wise. Out of total 88 respondents 33(37%) from U.U, 32(36%) from S.U and 23(26%) from B.U. There are seven major disciplines have been chosen from the pure science subject presently imparting teaching in the 3 major universities of Orissa. The subjects include Botany, Chemistry, Geology, Life Science, Mathematics, Physics and Zoology. In Sambalpur University during the data collection it was found that there is no research scholar in Botany and Zoology. But the subject has been merged into Life science. Same like in B.U, there is no department of Life science and the subject has been distributed into Botany & Zoology. Therefore the researcher has covered almost all the disciplines of the above science subjects for data collection. The table shows that in Utkal University 21% from Botany, Physics and Zoology followed by 18%, Chemistry & Geology 12% and Mathematics 7%.B.U the major response 26% from Botany, followed by Chemistry & Mathematics 22%, Zoology17% and Physics 13%. Similarly in Sambalpur University the major response from Life science was 47%, followed by Chemistry 34%, Physics 13%, Geology & Mathematics 3% each and response . The classification of the table also shows that the major response

in discipline wise which contributes 25% in Chemistry, followed by 17% in Life science, 16% in Physics, 15% in Botany, 12% in Zoology, 9% in Mathematics and 6% in Geology.

TABLE 5 DISTRIBUTION OF AGE

Age Group	Research Scholars	
	Full Time	Part Time
24-29	50 (57%)	04 (5%)
30-35	13 (15%)	11 (13%)
36-41	02 (2%)	04 (15%)
42- 47	01 (1%)	03 (3%)
Total	66 (75%)	22 (25%)

From the above table that out of total response the highest 20(87%) male responded from B.U where as 19(58%) female from U.U and the least response of female from B.U i.e. 03(13%). The S.U contributes equally 16(50%) both in male & female.

TABLE 6 YEAR –WISE DISTRIBUTION OF RESEARCH SCHOLARS

University	Year wise						Total (%)
	2011	2012	2013	2014	2015	2016	
ParijaLibrary, Utkal University	01 (3%)	21 (64%)	06 (18%)	Nil	05 (15%)	Nil	33 (100%)
Prof.B.Behera Central Library, Sambalpur University	Nil	02 (6%)	01 (3%)	07 (22%)	11 (34%)	11 (34%)	32 (100%)
R.P Padhi Library, Berhmpur University	Nil	07 (30%)	01 (5%)	07 (30%)	07 (30%)	01 (5%)	23 (100%)
Total							88 (100%)

From the above table it shows , Berhampur University maximum 07(30%) scholars are in 2012, 2014 and 2015, followed by 01(5%) each in 2013 and 2016. Similarly, in Utkal University maximum 21(64%) scholars are in 2012, followed by 06(18%), 05(15%) and 1(3%) in the year

2013, 2015 and 2011 respectively. In Sambalpur University maximum 11(34%) scholars are both in 2015 & 2016, followed by 07(22%), 02(6%) and 01(3%) in the year 2014, 2012 and 2013 respectively.

TABLE 7 AUTOMATION OF THE UNIVERSITY LIBRARIES (RANK WISE)

Rank	Universities	Library Automation			Library SoftwareUsed	Sections Automated					Total Score	Percentage
		Fully	Partially	Process		Acq	Cat.	Cir.	Sr.C.	S.V.		
		3	2	1	1	1	1	1	1	1	12	
1	Utkal University	√	-	-	√	x	√	√	x	x	4	33.33
2	Sambalpur University	x	√	x	√	x	√	√	x	x	4	33.33
3	Berhampur University	x	x	√	x	x	x	x	x	x	1	8.33

The above table shows the performance of the university libraries with respect to Library Automation in rank wise. Parija Library(Utkal University) has done his Automation by using e-Granthalaya ,only circulation section and cataloguing section functioning likewise Sambalpur University done it's Automation by using Soul Integrated Management Software but in case of Berhampur University , it is in process.

III. COMPUTER COMMUNICATION INFRASTRUCTURE FACILITIES

Infrastructure is a fundamental and developmental tool for any organization. It has a wider influence and capabilities to promote the productivity and services of an organization. The infrastructure includes devices and electronic

equipments etc. It requires specialized communication hardware and software skills to handle. Adequate infrastructure is supporting network system to avail resources, services and facilities. Lakos (1997)   the infrastructure is "Physical Component - hardware & software ,various equipment, communication lines, etc" It is used not only for storing documents but creating a common platform for faculty, students, researchers and staff to view, access, search and retrieve resources timely also. In this study the infrastructure covers computers, scanners, bar television set.

TABLE 8 COMPUTER COMMUNICATION INFRASTRUCTURE FACILITIES IN UNIVERSITY LIBRARIES (RANK WISE)

Rank	Universities	No .of Computers				No of Scanners	No. of Barcode Scanners	No .of Printers		No. of TVs		Total Score	Percentage
		<5	6 - 10	11-20	21-30			<5	>5	<3	>3		
		1	2	3	4	1	1	1	2	1	2	18	
1	Utkal University	x	x	x	√	√	√	x	√	x	x	8	44.44
2	Sambalpur University	x	x	x	√	x	x	√	x	x	x	5	27.77
3	Berhampur University	x	x	x	√	√	x	√	x	x	x	6	33.33

The above table reveals that the availability of computer and communication infrastructure facilities at various NIT libraries is ranked individually with percentage value.

TABLE 9 LIBRARY USE BY THE SCHOLARS

Use of Library	Universities			Total (%)
	U.U.	S.U.	B.U.	
Daily	19 (58%)	15 (47%)	12 (53%)	46 (52%)
Weekly once	08 (24%)	07 (22%)	09 (39%)	24 (27%)
Fortnightly	03 (9%)	01 (3%)	01 (4%)	05 (6%)
Monthly once	01 (3%)	03 (9%)	Nil	04 (5%)
Rarely	02 (6%)	06 (19%)	01 (4%)	09 (10%)
Total	33 (100%)	32 (100%)	23 (100%)	88 (100%)

The Table No.9 indicates the research scholars of 46(25%) of 3 universities is used daily, 04(5%) research scholar used once in a month;5(6%) research scholar used fortnightly whereas 24(27%) used once in a week and lastly 9(10%) research scholars used rarely .

TABLE 10 TIME SPENT BY THE RESEARCH SCHOLARS IN THE LIBRARY

Time Spent	Universities			Total (%)
	U.U.	S.U.	B.U.	
<1 hour	02 (6%)	04 (13%)	02 (9%)	08 (9%)
1 hour	13 (40%)	09 (28%)	05 (22%)	27 (31%)
1-2 hours	16 (48%)	10 (31%)	09 (39%)	35 (40%)
>3hours	02 (6%)	09 (28%)	07 (30%)	18 (20%)
Total	33 (100%)	32 (100%)	23 (100%)	88 (100%)

N.B: $x^2=8.830^{NS}$, DF=6

It reveals from the analysis of the table that 8(9%) research scholar from three universities; spend less than one hour time in the library. 27(31%) research scholars were spend one hour , 35(40%) research scholars who spend two to three hours in the library. 18(20%) research scholars spend more than three hours in the library .

The Table shows that the value of χ^2 is 8.830 and the degrees of freedom (df) is 6. The significant chi-square test for users' shows that there is no significant (p<0.05) variation among the users as far as spending time in the library by the scholars is concerned.

TABLE 11 SATISFACTION OF EXISTING FUNCTIONING OF THE LIBRARY

University	Satisfaction		Total (%)
	Yes	No	
ParijaLibrary, Utkal University	26 (79%)	07 (21%)	33 (100%)
Prof.B.Behera Central Library, Sambalpur University	23 (72%)	09 (28%)	32 (100%)
R.P Padhi Library, Berhmpur University	21 (91%)	02 (9%)	23 (100%)
Total	70 (80%)	18 (20%)	88 (100%)

N.B: $x^2=3.123^{NS}$, DF=2

From the above table it indicates that out of total response 26(79%), 23(72%), 21(91%) research scholars of three universities were positive whereas 07(21%) and 09(28%) and 2(9%) responded negatively. The above table shows that the value of χ^2 is 3.123 and the degrees of freedom (df) is 2. The significant chi-square test for users' shows that there is no significant (p>0.05) variation among the users as far as satisfaction of existing functioning of the library by the scholars is concerned.

TABLE 12. PREFERENCE OF E-RESOURCES ACCESS

Sl. No	E-Resources	Response			Total (%)
		1st Priority	2nd Priority	3rd Priority	
1	WWW	74 (84%)	08 (9%)	Nil	82 (93%)
2	Internet	81 (91%)	02 (2%)	02 (2%)	85 (97%)
3	Online Databases	61 (69%)	09 (10%)	05 (6%)	75 (85%)
4	CD-ROM Databases	07 (8%)	33 (38%)	20 (23%)	60 (68%)
5	OPAC/Web-OPAC	02 (2%)	09 (10%)	28 (32%)	39 (44%)
6	E-Books	43 (49%)	25 (28%)	05 (6%)	73 (83%)
7	E-Journals	77 (88%)	08 (9%)	Nil	85 (97%)
8	ETD	06 (7%)	26 (30%)	17 (19%)	49 (56%)

N.B: $x^2=349.511^{**}$, DF=14

It reveals from the analysis of the table that the most priority of e-resources access by the science scholars are Internet 91%, E-journals 88%, WWW 84%, Online databases 69%. Among the e-resources the most preferred e-resources in average accessed by the user's Internet and E-journals 97%, WWW 93%, Online databases 85%, E-books 83%, CD-ROM databases 68%. The reason being unsatisfactory use of ETD and least use of OPAC and Web-OPAC being the libraries are not properly organized and access and adapt to library automation, networking and lacking of digital library initiation.

IV. MANPOWER

In a traditional library environment, more labour is invested to manage library collections and services. In general libraries are used for collection of materials, sources, and services. In this juncture, a library professional is to create an atmosphere where high-level customer service is to be expected and ensured using new technologies. In this study we have taken two categories of manpower one is professionals in Library and Information Science and second one is non-professionals. their qualifications.

TABLE 13 MANPOWER OF THE UNIVERSITY LIBRARIES (RANK-WISE)

Rank	Universities	LISc Professionals				Other Staff			Qualification for Professionals			Total Score	Percentage
		<5	6 - 10	11-15	15-20	<5	6-10	11-15	Graduation	Post-Graduation	M.Phil.&Ph.D in LISc		
		1	2	3	4	1	2	3	1	2	3	25	
1	Utkal University	x	x	√	x	x	√	x	√	√	x	8	32
2	Sambalpur University	x	x	√	x	x	√	x	x	√	√	10	40
3	Berhampur University	x	x	√	x	x	√	x	x	√	√	10	40

Table -13 discloses about the manpower of library and information science professionals along with their qualifications and other staff which have been arranged in rank-wise with percentage.

TABLE 14 SATISFACTION OF EXISTING LIBRARY SERVICES

Sl. No	Library Services	Satisfaction			Total (%)
		Satisfied	Partly Satisfied	Not Satisfied	
1	Circulation Services	20 (23%)	40 (45%)	28 (32%)	88 (100%)
2	Reference Services	39 (44%)	44 (50%)	05 (6%)	88 (100%)
3	Reprographic Services	18 (20%)	54 (61%)	16 (18%)	88 (100%)
4	Inter-Library Loan Facilities	Nil	05 (6%)	83 (94%)	88 (100%)
5	Bibliographic Services	10 (11%)	36 (41%)	42 (48%)	88 (100%)
6	Translation Services	03 (3%)	13 (15%)	72 (82%)	88 (100%)
7	Indexing & Abstracting Services	08 (9%)	42 (48%)	38 (43%)	88 (100%)
8	CAS	05 (6%)	38 (43%)	45 (51%)	88 (100%)
9	SDI	02 (2%)	28 (32%)	58 (66%)	88 (100%)
10	News Paper Clipping Services	18 (20%)	35 (40%)	35 (40%)	88 (100%)
11	Technical Enquiry Services	18 (20%)	35 (40%)	35 (40%)	88 (100%)

N.B: x^2=283.220**, DF=20

From the Table No.13 , 20(23%) research scholars are satisfied, while 40(45%) are partly satisfied and 28(32%) are not satisfied with Circulation services. Likewise 39(44%) are satisfied, while 44(50%) are partly satisfied and only 05(6%) scholars are not satisfied with Reference services. Regarding Reprographic services 18(20%) are satisfied, 54(61%) partly satisfied and 16(18%) are not satisfied. For Inter-Library Loan facilities no research scholars are satisfied, while maximum 83(94%) are not satisfied with this service. Regarding Bibliographic services only 10(11%) are satisfied, while 36(41%) are partly satisfied and 42(48%) are not satisfied so. For Translation services very less research scholars i.e. 03(3%) are satisfied, while maximum 72(82%) are not satisfied. It is also evident from the table that 08(9%) are satisfied while 42(48%) are partly satisfied and 38(43%) are not satisfied with Indexing and Abstracting services, 05(6%) are satisfied while 38(43%) are partly satisfied and 45(51%) are not satisfied with CAS services, only 02(2%) are satisfied, 28(32%) are partly satisfied and maximum 58(66%) are not satisfied with regard to SDI Services. For both News Paper Clipping services and Technical Enquiry services 18(20%) are satisfied while 35(40%) both are partly satisfied and not satisfied with these services.

The findings of the satisfaction of existing library services extended to the research scholars, most of the scholars are not satisfied with the ILL facilities, Translation services, SDI services, Bibliographic services, Indexing & abstracting Services, CAS, News Paper clipping Services and Technical enquiry services. Among the level of satisfaction about the remaining services most users are partially satisfied. Among the satisfaction level related to all the services, it is very meagre. Therefore the total satisfaction of existing library services are significant variation among the users.

Table No. 14shows that for users, Chi-Square test for independence is significant at 1 per cent level of significance. The value of χ^2 is 283.220 and the degrees of freedom (df) is 20. The value of p shows statistically significant (p< 0.01).

TABLE 15 PROBLEMS & CONSTRAINTS IN SEEKING INFORMATION

Sl.No.	Types of problems & constraints	Response			Total (%)
		University Wise			
		B.U.	U.U.	S.U.	
1	Materials are not available	14 (16%)	10 (11%)	20 (23%)	44 (50%)
2	Incomplete information materials	19 (22%)	29 (33%)	29 (33%)	77 (88%)
3	Difficult in finding relevant information	11 (13%)	06 (7%)	12 (14%)	29 (33%)
4	Slow internet access	14 (16%)	27 (31%)	26 (30%)	67 (76%)
5	Overload of information on Internet	12 (14%)	11 (13%)	12 (14%)	35 (40%)
6	Long time to download information	10 (11%)	19 (22%)	23 (26%)	52 (59%)
7	Conversation of information	03 (3%)	08 (9%)	16 (18%)	27 (30%)
8	Lack of attitudes of library staffs	18 (20%)	25 (28%)	20 (23%)	63 (71%)

From Table No.15 it is found that 44(50%) users responded that required materials are not available in their respective libraries. 19(22%) users of B.U and 29(33%) both from U.U and S.U expressed that maximum information materials are incomplete, 29(33%) research scholar are facing difficulty while finding relevant information. 67(76%) research scholars are facing difficulties to access the relevant information from internet due to slow internet. 35(40%) research scholars are facing problems due to overload of information on internet. 52(59%) research scholars expressed that it has been taken long time to download relevant information through internet. It is observed that 27(30%) and 63(71%) users are facing difficulty in conversation of information and lack of attitudes of library staff respectively.

V. CONCLUSION

1. The finding of the time spent by research scholar in the library which was observed that 40% users remain in the library one hour and less one hour in the library and 20% user spent more than three hours only. The conclusions of the time spent by the researchers are not significant. This may be cause that the research scholar may not get their appropriate information in the library which let them to stay more hours in the library. The library should see and take appropriate measure that how the research scholar spend more time in the library and utilize the resources of the library.

2. It is observed that the library have not developed the complete OPAC that is why the research scholars are much dependent to traditional catalogue ,indexes, abstracts ,databases and bibliography. So it is suggested that a union catalogue of the holdings of the collections of university libraries at state level would solve the problems of inadequate library and thus, facilitate for maximum utilization of the resources of other sister libraries as no single library can satisfy the unlimited demands of the users with limited fund.

3. The library should take appropriate measures providing facilities to the research scholar particularly research cubicles, documentation works, digital library services, A/V Facilities ,bibliography, Indexing and abstracting services. More emphasis should be given by library on digital library collection.

4. From the observation it is found that the research scholars are not satisfied with the existing library services mostly of ILL, translation services, CAS and SDI services and bibliographic services. As now a days most users expect particularly science research scholar required translation service, CIS service and ILL service.

5. Although the science research scholars in the library and more stress should be given to increase the availability of electronic information resources. The library should give much attention in making availability and building the collection on electronics information resources on ETD. By joining different national and international library consortia which is are providing ETD facilities, digital library information resources ,network based information services ,digital copies and more particularly E-DDS.

6. As soon as possible, the library must be computerized and accordingly the professional staff should be imparted training in the application of library software and operation of computers.

7. Building library staff team with the appropriate skills. Making participation with such other academic departments, similar organizations and institutions in exchange and sharing of information.

8. More computers with latest specifications kit should be installed, so that the research scholars can use internet other useful services of the internet. There should be complete campus networking. By upgrading the bandwidth, we should overcome the slow connectivity.

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