USER'S PERCEPTION ON LIBRARY AUTOMATION AND ICT APPLICATION IN DR. PANJABRAO DESHMUKH KRISHI VIDYAPEETH LIBRARY, AKOLA AND SANT GADGE BABA AMRAVATI UNIVERSITY LIBRARY, AMRAVATI, MAHARASHTRA: A CASE STUDY

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ABSTRACT:

The Application of Information Technology in Agricultural and Non-Agricultural University libraries of Maharashtra was the study carried out during 2007-2012. Thirteen universities were established during the study period excluding Technical and Medical Universities which were not considered for the study. The user's perception of library automation and ICT application in the university libraries of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola and Sant Gadge Baba Amravati University was chosen among the thirteen university libraries for comparative study. The users of Library automation and ICT applications in the libraries of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola and Sant Gadge Baba Amravati University are discussed in this work. The study explores user's perspectives at Sant Gadge Baba Amravati University Library Amravati (SGBAULA) and Dr. Panjabrao Deshmukh Krishi Vidyapeeth Library (DPDKVLA), which were selected for the study because of the researcher's connection to DPDKVLA and Library's close vicinity to (SGBAULA). A questionnaire intended to measure users' opinions of the Library automation and ICT application in these two university's libraries was used together with the data. On a 5-point scale, where 5 represented Strong Agreement and 1 represented Strong Disagreement, respondents were asked to rate how much they agreed with these statements. The corresponding sections offer a thorough analysis of these ratings.

Keywords: *User perception, Library automation, ICT, Information communication technology, Libraries, University Libraries,*

1. Introduction:

The establishment of Sant Gadge Baba Amravati University (formerly Amravati University) came into existence on 1st May 1983 on Maharashtra Day. Sant Gadge Baba Amravati University is located at Amravati in Maharashtra (India) a famous historical place on the Mumbai-Amravati & Mumbai-Howrah railway route. The University Library building is located amid the university having 87,123 sq. meters. built-up area. Whereas, The Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola came into existence on 20th October, 1969 with its head-quarter at Akola. This Agricultural University was named after the illustrious son of Vidarbha Dr. Panjabrao (alias Bhausaheb) Deshmukh, who was the Minister for Agriculture, Govt. of India.

Central Library and Information Centre of Dr. Panjabrao Deshmukh Krishi Vidyapeeth was initially established in the College of Agriculture in 1970. It was later relocated to the main library building in 1980, situated at the

heart of the Centre for Post Graduate Institute of Research, Instruction and Extension Education of the University. The library spans an area of 72,825 square feet, with a carpet area covering 52,435 square feet.

The jurisdiction of this university is spread over the eleven districts of Vidarbha. According to the University Act 1983 (of the Government of Maharashtra), the University is entrusted with the responsibility of agricultural education, research and extension education along with breeder and foundation seed programme. The University has its main campus at Akola. The instructional programmes at the main campus are spread over in 5 Colleges namely, the College of Agriculture, College of Agricultural Engineering & Technology, College of Forestry, College of Horticulture and Post Graduate Institute. At this campus 4 degree programmes namely B.Sc.(Agri.) B.Sc. (Hort.), B.Sc. (Forestry) and B.Tech. (Agri. Engg.) , two Master's Degree Programmes viz. M.Sc. (Agri.) and M. Tech. (Agri. Engg.) and Doctoral Degree Programmes in the faculties of Agriculture and Agril. Engineering are offered.

2. Objectives:

1 To study the use of library services and information sources.
2 To study the achievement and User Satisfaction after application of IT
3 To study the utilization of various National and International Networks of universities in different fields.
4 To study the benefits of IT in library services

3   Review of Literature

Effective use of technology in libraries, according to VENKATARAMNA and CHANDRASHEKHAR RAO (1998), improves the quality and range of services, increases operational efficiency, eliminates repetitive work, makes it easier to access a wide range of information services, speeds up information sharing and communication, conserves time, space, and resources, and enhances the productivity and reputation of the library.

The following justifications for IT adoption in academic and special libraries were provided by HARAVU (1995). 1) In order to achieve greater operational effectiveness; 2) To free up professional employees' time from administrative tasks so they may provide services that are more user-focused; 3) To raise the standard of services; 4) To offer new services that were previously unattainable; 5) In order to manage their financial and physical needs; 6) To enable their clients to have greater access to information; 7) To make it easier for their information products and services to be distributed widely; 8) To facilitate their involvement in library networks and resource sharing; and 9) To facilitate quick communication with other libraries and colleagues in the field.

According to KUMAR (P.S.G.) (1987), Indian libraries have computerised information for the following reasons: Increased speed, increased efficiency, increased capacity to handle large data volumes, increased flexibility to perform various manipulations, improved service quality, increased power economy, availability of hardware and

software facilities, increased responsibility placed in the organisation, and increased prestige are just a few of the benefits.

4 Hypothetical Statement:

The following hypothetical statement is being made which can be put for testing.

1. Though the objective of the application of Information Technology is meant to serve the information needs of users, the outputs have not reached the academic community to a satisfactory level.

2. There are many network facilities available at national and international levels, which are not accessed and used to the optimum level by these university libraries in the state.

3. These libraries have failed to avail the benefits of Information Technology to the fullest although there is a great impact of Information Technology on the library services.

5. Methodology:

The current investigation of the two target universities in the state is being conducted using a survey research methodology. A structured questionnaire was used as an instrument for data collection.

6. Data Collection:

Primary and secondary sources have yielded the data needed for the investigation. Two distinct questionnaires were used to gather primary data, which was then enhanced by in-person interviews, conversations with library staff, and user surveys. Journal articles, books, committee reports, annual reports, and other published papers are examples of secondary sources of data that are employed.

7. Data Analysis:

Data collected for the study was analyzed using frequency counts and percentages to answer research questions. The gathered data were tabulated and statistically analysed. Descriptive statistics, such as percentage mean, standard deviations, and frequency distribution, were employed to paint a broad picture of the state of IT utilisation in both the libraries.

7.1 Response rate

50 questionnaires were distributed among users of these two university libraries which were duly completed by 50 (100%) of the DPDKV Library in Akola and 50 (100%) of the SGBAU Library in Amravati. The results of the survey is displayed in Table No. 7.1. The purpose of the user survey on libraries is to investigate the effects of using information technology to provide a range of IT-based services.

Table No. 7.1 Response rate

Universities	No. of Questionnaire Distributed	No. of Respondent	Percentage
DPDKVLA	50	50	100
SGBAULA	50	50	100

7.2 Age Group:

Based on their age, the respondents were divided into three groups, and the results are shown in Table 7.2 below. Table 7.2 shows that 35 (70%) respondents from DPDKVLA and 36 (72%) from SGBAULA are in the 21–30 age range, 11 (22%) users from DPDKVLA and 6 (12%) from SGBAULA are in the 31–40 age range, and 4 (8%) users from DPDKVLA and 8 (16%) users from SGBAULA are in the 41–50 age range, respectively. DPDKVLA users are 16.67 years old on average, while SGBAULA users are 14.33 years old.

Table No. 7.2 Age Group

AGE Group	DPDKVLA	Percentage	SGBAULA	Percentage
21-30	35	70	36	72
31-40	11	22	6	12
41-50	4	8	8	16
Total	**50**	**100**	**50**	**100**

7.3 Gender-wise Distribution:

Table No. 7.3 below shows the distribution of users of the university library by gender. Table No. 7.3 shows that while there are 22 (44%) male and 28 (56%) female users from SGBAULA, there are 23 (46%) male and 27 (54%) female users from DPDKVLA.

Table No. 7.3

UNIVERSITY	MALE	Percentage	FEMALE	Percentage	TOTAL
DRPDKVLA	23	46%	27	54%	50
SGBAULA	22	44%	28	56%	50

7.4 Status of Users:

The status of users is presented in table 7.4. It can be revealed from the table that 8 (16%) users belong to I year from DPDKVA and 15 (30%) from SGBAUA. From DPDKVLA 28 (56%) and from SGBAULA 14 (28%) users belongs to II year, 6 (12%) users from DPDKVLA and 10 (20%) user from SGBAULA belongs to Junior Research category. 5 (10%) users from DPDKVLA and 8 (16%) user from SGBAULA belongs to Senior Research category. 3 (6%) users belongs to Lecturer category from both the university.

Table No. 7.4 Status of Users.

Users	Universities			
	DPDKVA	**Percentage**	**SGBAUA**	**Percentage**
I yr.	8	16%	15	30%
II yr.	28	56%	14	28%
Junior Researchers	6	12%	10	20%
Senior Researchers	5	10%	8	16%
Lecturers	3	6%	3	6%
Total	**50**	**100**%	**50**	**100**%

7.5 Visit to university libraries:

The information on the respondents' frequency of library visits is shown in Table No. 7.5. Out of the 50 responders from DPDKVLA, 21 (42%) visit the library every day, whereas 10 (20%) attend once a week. In contrast, 17 (34%) respondents from SGBAU visit daily and 13 (26%) visit once a week and daily, respectively. Nearly 50% of the people polled said they visit the library every day.

Table 7.5 Visit to University Library

Description	Response			
Frequency of Visit	DPDKVLA	Percentage	SGBAULA	Percentage
Daily	21	42%	17	34%
Once in a Week	10	20%	13	26%
Twice in a Week	9	18%	4	8%
Once in a Fortnight	0	0%	3	6%
Ocassionally	10	20%	13	26%
Never	0	0%	0	0%
TOTAL	50	100%	50	100%

7.6 Time Spent

Majority users of both the libraries have indicated that they are using library. But how much time they spent to use the library is again another question. To ascertain the information regarding the users were asked to indicate the time spent in the library. The majority of the users use to spent only one to two hours in using the library from both the university.

Table No. 7.6 Time Spent

Time Spent	Response			Percentage
	DPDKVLA	Percentage	SGBAULA	
1/2 an hour to 1 hour	10	20%	11	22%
1 hour to 2 hour	25	50%	24	48%
2 hour to 4 hour	15	30%	12	24%
4 hour to 6 hour	0	0%	3	6%
Total	50	100%	50	100%

7.7 Awareness of the Services:

Users were asked to indicate their awareness of the services provided by the university library. From Table No. 7.7 below it is found that the majority of the users are aware of all the services provided by both the library.

Table No. 7.7 Awareness of Services Provided by Library.

SERVICES	DPDKVLA	Percentage	SGBAULA	Percentage
Ref. Service	50	100%	43	86%
Circulation Service	50	100%	23	46%
Abstracting Service	50	100%	10	20%
Reader's Guidance	22	44%	21	42%
Intern Library Loan Service	7	14%	1	2%
Current Awareness Service	27	54%	24	48%
Document Delivery Service	50	100%	15	30%
S. D. I. Service	10	20%	6	12%
OPAC Service	50	100%	13	26%
Microfilm/Microfiche Services	0	0%	0	0%
Online Databases Search Service	50	100%	29	29%
CD-ROM Database Search	50	100%	11	22%
Indexing Services	50	100%	11	22%
WEBOPAC Service	50	100%	8	16%
Internet Service	50	100%	34	68%
Reprographic Service	50	100%	4	8%
Inhouse Database Search Service	50	100%	7	14%
Through E-mail	50	100%	19	38%
Online Journals Search	50	100%	28	56%
Translation Services	0	0%	5	10%

7.8 Information sources consult

Table no. 7.8 discloses that majority of the users are using print as well as digital information sources. Amongst the various information sources books, journals, research reports, theses, online databases, online consortia, e-mail/internet, gateways, discussion with colleagues, are the major information sources frequently used by the users from both the universities.

Table No. 7.8 Information sources consult

Information sources consult	Response			
Information Sources	DPDKV	Percentage	SGBAU	Percentage
Books	50	100%	43	86%
Journals	50	100%	35	70%
Research Reports	35	70%	32	64%
Theses	50	100%	28	56%
Dissertations	50	100%	19	38%
Encyclopaedias	9	18%	23	46%
Year Books	16	32%	21	42%
Handbooks	26	52%	18	36%
Directories	6	12%	17	34%
Standards	8	16%	7	14%
Patents	6	12%	6	12%
Gazetteers	5	10%	6	12%
Atlases	3	6%	6	12%
CD-ROM Databases	50	100%	6	12%
Online Databases	50	100%	23	46%
Online Journals	50	100%	24	48%
Online Consortia	50	100%	27	54%
E-Mail Internet	50	100%	27	54%
Gateways	50	100%	4	8%
Discussion with Colleagues	50	100%	23	46%
Online Discussion Forums	3	6%	8	16%
Bibliographies	30	60%	13	26%
Indexing Journals	35	70%	13	26%
Abstracting Journals	35	70%	16	32%

7.9   Use of CD-ROM & Online Databases

Table no. 7.9 shows that both the University libraries are providing CD-ROM & Online Databases services. Users were asked to indicate the CD-ROM & Online databases mostly used by them. From table no. 7.9 below it is found that from DPDKVLA majority of the users are using AGRICOLA, AGRIS, BIOSIS, AgECON, Agriculture, Biology and environment, Open J-Gate and DOAJ. Whereas from SGBAULA majority of the users are using Life Science Collection Abst., AGRIS, Production Agriculture Abst. database, Annual Life Science Abst., Natural Resources & Life Sci. Education Abstract.

Table No. 7.9 Use of CD-ROM & Online Databases

	Name Of Databases	PDKVLA		SGBAULA	
		Responses	%	Responses	%
A	Life Science Collection Abst.	0	0%	24	48%
B	AGRICOLA	50	100%	3	6%
C	Derwent Biotechnology Abst.	0	0%	7	14%
D	AGRIS	50	100%	21	42%
E	Applied Science & Technology Abst.	0	0%	5	10%
F	BIOSlS	50	100%	6	12%
G	ABI Infonn Abst. (Mgt. Abst. Database)	0	0%	7	14%
H	LISA	2	4%	8	16
I	Chemical Abst.	0	0%	5	10%
J	NUCCSI	0	0%	2	4%
K	Patent Abst.	2	4%	2	4%
L	AGECON	50	100%	0	0%
M	CABPEST Abst.	3	6%	1	2%
N	HORT Abst.	9	18%	1	2%
0	CROP Science Abst.	12	24%	7	14%
P	Agronmy Abst.	8	16%	17	34%
Q	Plant Protection Abst. Database	6	12%	6	12%
R	Production Agriculture Abst. Database	4	8%	12	24%
S	Annual Life Science Abst.	4	8%	11	22%
T	Natural Resources & Life Sci. Education Abst.	5	10%	17	34%
U	Agriculture, Biology & Environment Abst.	50	100%	8	16%
V	Soil Science Abst.	6	12%	9	18%
W	Microcomputer Abst.	1	2%	0	0%
X	Supreme Court Cases Abst.	0	0%	0	0%
Y	UMI Dissertations Abstracts	0	0%	1	2%
Z	J-Gate Online	0	0%	1	2%
AA	J-Store Online	0	0%	2	4%
AB	Open J-Gate Online	50	100%	5	10%
AC	DOAJ Online	50	100%	8	16%
AD	PUBMED Online	5	10%	5	10%
AE	BIOMED Online	2	4%	3	6%
AF	ERIC Online	1	2%	3	6%
AG	SOSIG (Social Science Information Gateway)	0	0%	1	2%
AH	MEDLINE Online	4	8%	2	4%

7.10   OPAC & WEBOPAC:

Following library automation, OPAC and WEBOPAC were created and are now the most popular tools for finding information in libraries. Users were asked to indicate whether they used OPAC to locate information sources in order to determine its usage. From table no 10 it can be depicted that the majority of the users from both the universities are using OPAC/WEBOPAC.

Table No. 7.10

Use of OPAC/WEBOPAC	Response			
	DPDKVLA	Percentage	SGBAULA	
Yes	42	84%	37	74%
No	8	16%	13	26%
Total	50	100%	50	100%

7.11   Use of Catalogue for locating Information Sources.

Before the automation of library there was various types of catalogues in vogue, like card catalogue, register catalogue, etc. But after automation of libraries OPAC came in to existence and the old one remain aside. But in some libraries still these are in use. To ascertain the use of these catalogue users were asked to indicate the use of catalogue for locating information sources. From table no. 7.11 above it can be seen that from DPDKVLA only 8 (16%) users whereas 37 (74%) users are using catalogue for locating information sources. On the other hand 42 (84%) users from DPDKVLA and 13 (26%) users from SGBAULA are not using catalogue for locating information sources.

Table No. 7.11 Use of Catalogue for locating Information Sources.

USE	Response			Percentage
	DPDKVLA	Percentage	SGBAULA	
Yes	8	16%	37	74%
No	42	84%	13	26%
Total	50	100%	50	100%

7.12   Help from Library Staff

Users were asked to provide feedback on the assistance they received from library staff. From table no. 7.12 below, it can be observed that 50 users (100%) from DPDKVLA and 42 users (84%) from SGBAULA report receiving assistance from library staff, while only 0 users (0%) from DPDKVLA and 4 (8%) from SGBAULA reported receiving no assistance from library staff. It indicates that most patrons are receiving assistance from library workers.

Table No. 7.12 Help from Library Staff

Response				
Help	DRPDKVULA	Percentage	SGBAULA	Percentage
Yes	50	100%	46	92%
No	0	0%	4	8%

7.13   Do you get information sources from library?

Users were asked whether they use to get the required information from library or not. In reply to this question majority of the users from both the universities replied that they are getting the required information from the library (Table No. 7.13).

Table No. 7.13 Get Inf. Sources From Library

	DPDKVLA	Percentage	SGBAULA	Percentage
Yes	47	94%	42	84%
No	3	6%	8	16%
	50	**100%**	**50**	**100%**

7.14   How you keep abreast with latest development.

Table no. 7.14 below discloses that majority of the users are using various types of print as well as digital information sources for keeping themselves abreast with latest developments taking place in their field of interest.

Amongst the various information sources books, journals, research reports, theses, Encyclopaedias, yearbooks, handbooks CD-ROM databases, online databases, online journals consortia, e-mail/internet, gateways, discussion with colleagues, indexing and abstracting journals are the major information sources frequently used by the users from both the university libraries.

Table No. 7.14 How you keep abreast with latest development.

	Information Sources	Response			
		DPDKVLA	Percentage	SGBAULA	Percentage
A	Books	50	100%	41	82%
B	Journals	50	100%	27	54%
C	Research Reports	35	70%	31	62%
D	Theses	50	100%	24	48%
E	Dissertations	50	100%	23	46%
F	Encyclopaedias	13	26%	21	42%
G	Year Books	16	32%	23	46%
H	Handbooks	23	46%	17	34%
I	Directories	7	14%	14	24%
J	Standards	6	12%	0	0%
K	Patents	6	12%	7	14%
L	Gazetteers	8	16%	11	22%
M	Atlases	3	6%	9	18
N	CD-ROM Databases	50	100%	7	14%
O	Online Databases	50	100%	21	42%
P	Online Journals	50	100%	21	42%
Q	Online Consortia	50	100%	4	8%
R	E-Mail Internet	50	100%	25	50%
S	Gateways	50	100%	0	0%
T	Discussion with Colleagues	50	100%	18	36%
V	Bibliographies	30	60%	9	18%
W	Indexing Journals	35	70%	15	30%
X	Abstracting Journals	35	70%	18	36%

7.15   Training provided

Both the libraries are providing various types of IT based services. But to put these services by the users efficiently and effectively there is a need of providing specific training or to conduct user orientation programmes for the same. Keeping this in view users were asked to indicate whether they have been provided any training to use various IT based services?

Table no. 7.15 indicates that 100% of the users from DPDKV have indicated that they have been provided training whereas from SGBAULA 12 (24%) of the users have indicated that they have been provided training for Orientation to Electronic Resources. Similarly, 23 (46%) responded positively for Help in Online Searching and 15 (30%) agreed to have received Special training for CD-ROM & Online Database and 10 (20%) user have received Orientation programme.

Table No. 7.15 Training Provided

Provided Any Training	DPDKVLA	Percentage	SGBAULA	Percentage
Orientation to Electronic Resources	50	100%	12	24%
Help in Online Searching	50	100%	23	46%
Special Training for CD-ROM & Online Database	50	100%	15	30%
Orientation programme	50	100%	10	20%

7.16   IT Based Facilities

To access the various types of information services and sources in efficient and effect manner it is necessary to make available various types of IT based facilities in library to the users. To ascertain the information regarding the IT based facilities available in the library the users were asked to indicate the various IT based facilities accessible to them in library. Users from DPDKVL Akola had indicated that they have access to almost all the IT based facilities provided by the library, whereas 31(62%) users of SGBAULA have access to Computer facility, 14(28%) users have access to the OPAC and online theses searching facilities, 26(52%) of the users have access to the Internet facility, 13(26%) users have access to the CD-ROM Database Searching facility, 23(46%) users have access to the Online Database Searching facility and 17(34%) of the users have access to the Online Journals Searching facility, and 14(28%) users have access to Online Theses.

Table No. 7.16 IT based facilities accessible in Library

IT based facilities accessible in Library	Response			
	DPDKVLA	Percentage	SGBAULA	Percentage
Internet Surfing facility	50	100%	31	62%
OPAC/WEBOPAC	50	100%	14	28%
Web2 Browsing facility	50	100%	26	52%
CD-ROM Database Searching	50	100%	13	26%
Online Database Searching	50	100%	23	46%
Online Journals Searching	50	100%	17	34%
Online Theses Searching	50	100%	14	28%

7.17 Other ICT enabled services extended by the library

Table No. 7.17 Other ICT enabled services extended by the library

Other ICT enabled services extended by the library		Response			
Sr. No.	Other ICT enabled Services extended by Library	DPDKVI LA	Percentage	SGBAULA	Percentage
1	Electronic Document Delivery Services (DDS)	50	100%	13	26%
2	Electronic Information Notification	50	100%	11	22%
3	Literature Search Using CD-ROM Databases/ Online Database search services	50	100%	11	22%
4	Online Public Access Catalogue (OPAC)	50	100%	14	28%
5	Web Online Public Access Catalogue (WEBOPAC)	50	100%	13	26%
6	Photocopying/Printing/CD Writing	50	100%	10	20%
7	Group Mail Service facility	50	100%	5	10%
8	Group Messaging Service to students by faculty	50	100%	0	0%
8	Online Journals through Consortia	50	100%	13	26%

It was also important to know which are the other types of the ICT based services that are extended by library other than the services mentioned above in table no. 7.17. The respondents were asked to indicate the other types of the ICT based services that are extended by library to them.

From above table no. 7.17 it can be clearly seen that DPDKVLA has extended eight various types of services like electronic document delivery, electronic information notification, literature search usage online/CD-ROM databases, OPAC, WEBOPAC, Colour Photocopying/printing, CD writing, group mail services, group messaging, online journals through consortia etc. 50(100%)users of DPDKVLA are using these services, whereas the percentage of the users of SGBAULA is varied who have indicated the other ICT enabled Services extended to them by the Library.

7.18   Consortia Accessing

In today's ICT environment there is tremendous information and it is not possible to each and every library to procure all the published information resources either in print form or in digital form. No library can't be a self-sufficient. Libraries have to depend on some other types of facilities also like Consortia, Inter Library Loan etc. Keeping this in view respondents were asked to indicate which consortia they are having access? Table No. 7.18 below indicates that users of DPDKVLA are having access to three types of consortia KrishiKosh e-Theses Database, JCCeRA and Open J-Gate. Whereas users of SGBAULA indicated that they are having access to Krishi Prabha e-Theses Databases, UGC-INFONET, INDEST, DELNET, J-Gate, and Open J-Gate.

Table No 7.18 Consortia Accessing

Consotria	DPDLVLA	Response Percentage	SGBAULA	Percentage
KrishiKosh e-Theses	50	100%	3	6%
UGC-INFONET	0	0%	10	20%
INDEST	0	0%	1	2%
DELNET	0	0%	2	4%
J-Gate	50	100%	2	4%
J-Store	0	0%	0	0%
JCCe-RA	50	100%	0	0%
Open J-Gate	50	100%	1	2%

7.19   Time Spent in Using Electronic Resources

Table No. 7.19 Time spent in using Electronic Resources

	DPDKVLA	Percentage	SGBAULA	Percentage
One to Two Hours	45	90%	35	70%
Three to Four Hours	5	10%	10	20%
Five to Six Hours	0	0%	5	10%

Users of both the libraries have indicated that they are using various ICT enabled services provided by library. But how much time they spent to use these services is again another question. To ascertain the information regarding the time spent in using electronic resources users were asked to indicate the time spent. Table No. 7.19 above shows that majority of the users spend only one to two hours in using electronic resources from both the universities.

7.20 Impact of it on user satisfaction

Table No. 7.20 Impact of OT On User Satisfaction

	IMPACT OF IT ON USER SATISFACTION	Response										
	Services	DPDKVLA					SGBAULA					
		E	G	A	P	NA	Total	E	G	A	P	NA	Total
1	Automated Lending/ Circulation	28	18	4	0	0	50	7	13	16	14	0	50
2	Maintaining in-house database, (Library Collection)	19	29	2	0	0	50	12	16	17	5	0	50
3	Bibliography Services	27	21	2	0	0	50	12	28	10	0	0	50
4	Reference Services	27	21	2	0	0	50	7	6	20	17	0	50
5	Current Awareness Services (CAS) eg. List of New Additions	28	20	2	0	0	50	7	15	15	13	0	50
6	Indexing/ Abstracting Services	25	25	0	0	0	50	8	9	17	16	0	50
7	SDI Services (Selective Dissemination of Information Services)	24	25	1	0	0	50	8	16	10	16	0	50
8	Internet Access	28	15	7	0	0	50	17	10	6	17	0	50
9	Inter Library Loan	22	23	5	0	0	50	9	23	14	4	0	50
10	CD-ROM Databases Search Services	4	32	14	0	0	50	1	7	21	21	0	50
11	Access to Online Databases	21	23	6	0	0	50	9	15	19	7	0	50
12	Access to E-Books/Online Journals	25	25	0	0	0	50	8	35	7	0	()	50
E=Excellent, G=Good, A=Average, P=Poor, NA=Not Available												

To ascertain the whether there is impact of IT application on library users satisfaction, the users were requested to indicate their response regarding the same. From table no. 20 above it is observed that in case of PDKVLA, majority of the responses fall in the categories of 'Excellent' and 'Good', whereas, in case of SGBAULA, majority falls in the categories of 'Good' and 'Average'. None of the respondents from PDKVLA chosen 'Poor' as their response for any of the above mentioned parameters. Whereas, there are multiple parameters from SGBAULA which has received 'Poor' as a response from respondents.

Table No. 7.21 Aspects Improved due to Application of IT.

		RESPONSE																				
		DPDKVLA										SGBAULA										
	Aspects Improved Due to Application of IT	VI	%	MI	%	LI	%	NI	%	D	%	Total	VI	%	MI	%	LI	%	NI	%	D	%	Total
1	Access to Collection	28	56%	18	36%	4	8%	0	0%	0	0%	50	10	20%	19	38%	19	38%	2	4%	0	0%	50
2	Status of Library (Image/Reputation)	12	24%	36	72%	2	4%	0	0%	0	0%	50	10	20%	19	38%	19	38%	2	4%	0	0%	50
3	Efficiency	22	44%	19	38%	7	14%	2	4%	0	0%	50	10	20%	15	30%	20	40%	5	10%	0	0%	50
4	User Friendliness	23	46%	19	38%	5	10%	3	6%	0	0%	50	10	20%	12	24%	24	48%	4	8%	0	0%	50
5	Aesthetics/Pleasant Atmosphere	13	26%	18	36%	18	36%	1	2%	0	0%	50	11	22%	12	24%	22	44%	5	10%	0	0%	50
6	Satisfaction	14	28%	3 1	62%	5	10%	0	0%	0	0%	50	7	14%	14	28%	29	58%	0	0%	0	0%	50
7	Services	14	28%	29	58%	7	14%	0	0%	0	0%	50	8	16%	12	24%	26	52%	4	8%	()	0%	50
8	Utilization (Resources /Services Usage)	20	40%	21	42%	9	18%	0	0%	0	0%	50	3	6%	11	22%	24	48%	12	24%	()	0%	50
9	Collection arrangement	20	40%	22	44%	8	16%	0	0%	0	0%	50	3	6%	13	26%	29	58%	2	4%	0	0%	50
10	Effectiveness (How well the library satisfied your demands)	15	30%	26	52%	9	18%	0	0%	0	0%	50	5	10%	17	34%	28	56%	0	0%	0	0%	50
11	Physical facility	18	36%	20	40%	11	22%	1	2%	0	0%	50	4	8%	17	34%	29	58%	0	0%	0	0%	50
12	Staff Attitude (Helpfulness)	24	48%	15	30%	9	18%	2	4%	0	0%	50	7	14%	13	26%	18	36%	12	24%	()	0%	50
13	Staff Competence (Knowledge & Expertise)	26	52%	18	36%	6	12%	0	0%	0	0%	50	5	10%	15	30%	25	50%	5	10%	0	0%	50
14	Communication (Staff-User Interaction)	26	52%	15	30%	8	16%	1	2%	0	0%	50	5	10%	15	30%	25	50%	5	10%	()	0%	50
15	Innovation (New ways of Services)	20	40%	17	34%	12	24%	1	2%	0	0%	50	4	8%	13	26%	17	34%	16	32%	0	0%	50

VI= Very much Improved, MI=Much Improved, LI=Little Improved, NI=Not Improved, D= Deteriorated

7.21 Aspects improved due to application of IT.

The data from table no 7.21 above reveals that 28 (56%) users of DPDKVLA and 10 (20%) user of SGBAULA indicated that access to collection is very much improved. 18 (36%) users of DPDKVLA and 19 (38%) user of SGBAULA indicated that access is much improved. 4(8%) users of DPDKVLA and 19 (38%) user of SGBAULA indicated that access is little improved. From only SGBAULA 2 (4%) users stated that the access to collection is not improved.

Regarding the status of library (image/reputation) 12 (24%) users of DPDKVLA and 10 (20%) users of SGBAULA indicated that is very much improved due to application of IT in library. 36 (72%) users of DPDKVLA and 19 (38%) users of SGBAULA indicated much improved. 2 (4%) users of DPDKVLA whereas 19 (38%) user of SGBAULA indicated that status is little improved. From only SGBAULA 2(4%) users stated that the access to collection is not improved.

22 (44%) users of DPDKVLA and 10 (20%) users of SGBAULA indicated that efficiency is very much improved. 19 08%) users of DPDKVLA and 15 (30%) users of SGBAULA indicated that efficiency is much improved. 7(14%) users of DPDKVLA and 20 (40%) user of SGBAULA indicated that efficiency is little improved.

About friendliness, the 23 (46%) users of DPDKVLA and 10 (20%) users of SGBAULA indicated that it is very much improved due to application of IT in library. Whereas 19 (38%) users from DPDKVLA and 12 (24%) users from SGBAULA have indicated that it has much improved. Little improved has been indicated by 5(10%) users of DPDKVLA and 24 (48%) users of SGBAULA. 3(6%) users of DPDKVLA and 4(8%) users of SGBAULA has indicated that there is no improvement due to application of IT.

Regarding the aesthetic (pleasant atmosphere appearance) of library 13 (26%) users of DPDKVLA and 11 (22%) users of SGBAULA indicated that is very much improved due to application of IT. 18 (36%) users of DPDKVLA and 12 (24%) users of SGBAULA indicated much improved. 18 (36%) users of DPDKVLA whereas 22 (44%) user of SGBAULA indicated that status is little improved. From DPDKVLA I (2%) and from SGBAULA 5 (10%) users stated that it is not improved.

Regarding satisfaction 14 (28%) users of DPDKVLA and 7 (14%) users of SGBAULA indicated that

it is very much improved. 31 (62%) users of DPDKVLA whereas 14 (28%) user of SGBAULA indicated that it is much improved. 5 (10%) users from DPDKVLA and 29 (58%) users form SGBAULA stated it is little improved.

As far as services are concerned 14 (28%) users of DPDKVLA and 8 (16%) users of SGBAULA indicated that it is very much improved. 29 (58%) users of DPDKVLA whereas 12 (24%) user of SGBAULA indicated that it is much improved. 7 (14%) users from DPDKVLA and 26 (55%) users from SGBAULA stated it is little improved. From only SGBAULA 4 (8%) users stated it is not improved.

7.22 Impact of Application of IT

From the data of table no. 7.22 below reveals that 28 (56%) users of DPDKVLA and 10 (20%) user of SGBAULA strongly agreed that there is positive impact of OPAC service. 22 (44%) users of DPDKVLA and 19 (38%) user of SGBAULA agreed that there is impact. Whereas 19 (38%) users of SGBAULA indicated that they are undecided about impact and 2 (4%) users of SGBAULA indicated that they disagree with the statement.

Regarding increased access to number of journals 36 (72%) users of DPDKVLA and 10 (20%) user of SGBAULA strongly agreed that there is positive impact on service. 12 (24%) users of DPDKVLA and 19 (38%) user of SGBAULA agreed that there is impact. Whereas 2 (4%) users of DPDKVLA and 19 (38%) SGBAULA indicated that they are undecided about impact and 2 (4%) users of SGBAULA indicated that they disagreeing with the statement.

In relation increased access to theses (National level and International level) 36 (72%) users from DP DKVLA and 5 (10%) users from SGBAULA stated that they strongly agree with statement. 12 (24%) users of DPDKVLA and 15 (30%) user of SGBAULA agreed that there is impact. Whereas 2 (4%) users of DPDKVLA and 25 (50%) SGBAULA indicated that they are undecided about impact. Regarding the increased efficiency 22 (44%) users of DPDKVLA and 10 (20%) users from SGBAULA stated that they strongly agree with statement. 19 (38%) users of DPDKVLA and 15 (30%) user of SGBAULA agreed that there is impact. Whereas 7 (14%) users of DPDKVLA and 20 (40%) SGBAULA indicated that they are undecided about impact. On the other hand 2 (4%) users of DPDKVLA and 5 (10%) users of SGBAULA disagree with the statement.

About the impact on user friendliness information retrieval 23 (46%) users of DPDKVLA and

10 (20%) users from SGBAULA stated that they strongly agree with statement. 19 (38%) users of DPDKVLA and 12 (24%) user of SGBAULA agreed that there is impact. Whereas 5 (10%) users of DPDKVLA and 24 (48%) SGBAULA indicated that they are undecided about impact. On the other hand 3 (6%) users of DPDKVLA and 8 (16%) users of SGBAULA disagree with the statement.

About impact on direct access to information 26 (52%) users of DPDKVLA and 5 (10%) users from SGBAULA stated that they strongly agree with statement. 23 (46%) users of DPDKVLA and 15 (30%) user of SGBAULA agreed that there is impact. Whereas 1 (2%) users of DPDKVLA and 25 (50%) SGBAULA indicated that they are undecided about impact. On the other hand only from SGBAULA 5 (10%) users are disagreeing with the statement.

From Table 7.23 below, the following observations were made regarding user satisfaction across various services:

OPAC Service:

- DPDKVLA: Excellent (56%, 28 users), Good (36%, 18 users), Average (8%, 4 users)
- SGBAULA: Excellent (14%, 7 users), Good (26%, 13 users), Average (32%, 16 users), Poor (28%, 14 users).

Automated Lending Services (Circulation Service):

- DPDKVLA: Excellent (38%, 19 users), Good (58%, 29 users), Average (4%, 2 users)
- SGBAULA: Excellent (24%, 12 users), Good (32%, 16 users), Average (34%, 17 users), Poor (10%, 5 users)

Maintenance of In-House Database (Library Collection):

- DPDKVLA: Excellent (54%, 27 users), Good (42%, 21 users), Average (4%, 2 users)
- SGBAULA: Excellent (24%, 12 users), Good (56%, 28 users), Average (20%, 10 users)

Bibliographic Services:

- DPDKVLA: Excellent (54%, 27 users), Good (42%, 21 users), Average (4%, 2 users)
- SGBAULA: Excellent (14%, 7 users), Good (12%, 6 users), Average (40%, 20 users), Poor (34%, 17 users)

Table No. 7.22 APSECTS IMPROVED OR NOT

Sr. No.	APSECTS IMPROVED OR NOT	RESPONSE																				
		DPDKVLA										SGBAULA										
	IMPACT OF APPLACATION OF IT ON USERS	SA	%	A	%	U	%	DA	%	SD	%	Total	SA	%	A	%	U	%	DA	%	SD	%	Total
1	OPAC	28	56%	22	44%	0	0%	0	0%	0	0%	50	10	20%	19	38%	19	38%	2	4%	0	0%	50
2	Increased access to number of Journals	36	72%	12	24%	2	4%	0	0%	0	0%	50	10	20%	19	38%	19	38%	2	4%	0	0%	50
3	Increased access to these national & international level	36	72%	12	24%	2	4%	0	0%	0	0%	50	5	10%	15	30%	25	50%	5	10%	0	0%	50
4	Increased Efficiency	22	44%	19	38%	7	14%	2	4%	0	0%	50	10	20%	15	30%	20	40%	5	10%	0	0%	50
5	User Friendliness information retrieval	23	46%	19	38%	5	10%	3	6%	0	0%	50	10	20%	12	24%	24	48%	4	8%	0	0%	50
6	Enabled direct access to information	26	52%	23	46%	1	2%	0	0%	0	0%	50	5	10%	15	30%	25	50%	5	10%	0	0%	50
7	Increased Satisfaction	31	62%	19	38%	0	10%	0	0%	0	0%	50	14	28	29	58%	7	14%	0	0%	0	0%	50
8	Increased Services	29	58%	14	28%	7	14%	0	0%	0	0%	50	8	16%	12	24%	26	52%	4	8%	0	0%	50
9	Reference/Information queries satisfied quickly	20	40%	21	42%	9	18%	0	0%	0	0%	50	3	6%	11	22%	24	48%	12	24%	0	0%	50
10	Enable issue & return of books fast	24	48%	22	44%	4	8%	0	0%	0	0%	50	3	6%	13	26%	29	58%	2	4%	0	0%	50
11	Effectiveness (How well the library satisfied Your demands)	26	52%	15	30%	9	18%	0	0%	0	0%	50	5	10%	17	34%	28	56%	0	0%	0	0%	50
12	Indexing & Abstracting Services	28	56%	20	40%	2	4%	0	0%	0	0%	50	4	8%	29	58%	17	34%	0	0%	0	0%	50
13	Adequate number of terminals to access the services & sources	26	52%	19	38%	5	10%	0	0%	0	0%	50	7	14%	13	26%	18	36%	12	24%	0	0%	50
14	Save time and efforts	26	52%	18	36%	6	12%	0	0%	0	0%	50	5	10%	15	30%	25	50%	5	10%	0	0%	50
15	Introduced new services	26	52%	24	48%	0	0%	0	0%	0	0%	50	4	8%	13	26%	17	34%	16	32%	0	0%	50

Table No. 7.23 IMPACT OF IT ON USER SATISFAFTION

	IMPACT OF IT ON USER SATISFAFTION	Response											
	SERVICES	E	G	A	P	NA	Total	E	G	A	P	NA	Total
1	OPAC (Computerized Catalogue)	28	18	4	0	0	50	7	13	16	14	0	50
2	Automated Lending/Circulation	19	29	2	0	0	50	12	16	17	5	0	50
3	Maintaining in-house database, (Library Collection)	27	21	2	0	0	50	12	28	10	0	0	50
4	Bibliography Services	27	21	2	0	0	50	7	6	20	17	0	50
5	Reference Services	28	20	2	0	0	50	8	14	15	13	0	50
6	Current Awareness Services (CAS) eg. List of New Additions	25	25	0	0	0	50	8	9	17	16	0	50
7	Indexing/ Abstracting Services	24	25	1	0	0	50	8	16	10	16	0	50
8	SDI Services (Selective Dissemination of Information Services)	28	15	7	0	0	50	17	10	6	17	0	50
9	Internet Access	22	23	5	0	0	50	9	23	14	4	0	50
10	Inter Library Loan	4	32	14	0	0	50	1	7	21	21	0	50
11	CD-ROM Database Search Services	21	23	6	0	0	50	9	15	19	7	0	50
12	Access to Online Database	22	23	5	0	0	50	8	35	7	0	0	50

Reference Services:

- DPDKVLA: Excellent (56%, 2 users), Good (40%, 20 users), Average (4%, 2 users)
- SGBAULA: Excellent (16%, 8 users), Good (28%, 14 users), Average (30%, 15 users), Poor (26%, 13 users)

Current Awareness Services (CAS):

- DPDKVLA: Excellent (50%, 25 users), Good (50%, 25 users)
- SGBAULA: Excellent (16%, 8 users), Good (18%, 9 users), Average (34%, 17 users), Poor (32%, 16 users)

Indexing and Abstracting Services:

- DPDKVLA: Excellent (50%, 25 users), Good (50%, 25 users)
- SGBAULA: Excellent (16%, 8 users), Good (18%, 9 users), Average (34%, 17 users), Poor (32%, 16 users)

Selective Dissemination of Information Services (SDI):

- DPDKVLA: Excellent (56%, 28 users), Good (30%, 15 users), Average (14%, 7 users)
- SGBAULA: Excellent (34%, 17 users), Good (20%, 10 users), Average (12%, 6 users), Poor (34%, 17 users)

Internet Access Services:

- DPDKVLA: Excellent (44%, 22 users), Good (46%, 23 users), Average (10%, 5 users)
- SGBAULA: Excellent (18%, 9 users), Good (46%, 23 users), Average (28%, 14 users), Poor (8%, 4 users)

These statistics provide a comprehensive overview of user satisfaction across different services offered by the libraries. It is evident that there is room for improvement in certain areas to enhance user satisfaction.

In summary, participants responded to three open-ended questions regarding their expectations for new IT-based services, the challenges they encountered, and their feedback on existing IT services. Their expectations included a desire for additional CD-ROM databases, improved internet access within the library, external online database access, and subscriptions to electronic journals and new e-books. Challenges users faced included the need for more comprehensive training in IT facilities and services, especially for faculty members, as well as increased access to IT resources within various departments. General comments from users emphasized the importance of procuring advanced books and general knowledge materials in English, providing thorough training on internet literature searches, and expanding the library's collection of CD-ROM databases related to Taxonomy, Pollen, and Plant Science. Additionally, users expressed a desire for the availability of audio-video learning resources and online books.

Summary & findings:

1. **User Categories and Library Awareness:**
   o In PKV, 36 users fall into the student category, while SGB has 22 student users.

- In DPDKV, 11 respondents are categorized as researchers, whereas in SGBAU, 18 users belong to the researcher category, and 3 from each university are faculty members.

2. **Library Usage Patterns:**

- The majority of users in both libraries visit daily, with only a few visiting once or twice a week.
- Most users spend 1-2 hours daily in their respective libraries, while very few remain for 2-4 hours.

3. **User Experience and Duration:**

- Both libraries primarily serve students, with only a small number of faculty members and researchers using the facilities extensively.
- Commonly used information sources include books, journals, research reports, theses, online databases, email, internet resources, gateways, and discussions with colleagues.

4. **CD-ROM Databases:**

- In agricultural university libraries, users access CD-ROM databases such as Agricola, Agris, Biosis, Agecon, Agriculture, Biology, and Environment.
- SGBAULA users predominantly utilize CD-ROM databases related to Life Science collection abstracts, Agris, Production Agriculture, Agriculture abstracts, annotated life science abstracts, and natural resources.

5. **Information Retrieval and Assistance:**

- Most users from both libraries obtain the required information from library resources.
- Library staff play a crucial role in assisting users.
- In DPDKV, only 16% of users use the catalog, whereas in SGBAU, 64% utilize it.

6. **OPAC Usage:**

- DPDKV users rely heavily on the Online Public Access Catalog (OPAC) for information needs (100% usage).
- In contrast, only 28% of SGBAU users make use of OPAC, suggesting that it is less popular in traditional universities.

7. **Training Categories:**

- Training areas include orientation in electronic resources, assistance with online searching, and training related to CD-ROM and online databases.
- DPDKV shows a 100% response rate to such training, while SGBAU records fewer responses.

Verification of Hypotheses and Recommendations for University Libraries

In this article, we examine the hypotheses stated at the outset and present the results based on data collected through questionnaires.

Hypotheses Verification:

1. **Objective Achievement and User Satisfaction:**
   o The primary objective of information technology (IT) is to serve users' information needs effectively. However, our analysis reveals that the outputs have not reached a satisfactory level.
   o Specifically, responses related to indexing and abstracting services, translation services, and email/internet services fall short of expectations according to respondents. Thus, the hypothesis stands validated.

2. **Underutilization of National and International Networks:**
   o Despite the availability of various network facilities at national and international levels (such as INFLIBNET, DELNET, NDLI, and NDLTD), users of both the university libraries do not fully utilize them.
   o Surprisingly, users of both the libraries are acquainted with different networks like INFLIBNET, CeRA. KrishiKosh and neglecting other valuable networks. This underutilization validates our second hypothesis.

3. **Unrealized Benefits of IT in Library Services:**
   o Despite the significant impact of information technology on library services, our third hypothesis holds true.
   o User perceptions indicate that libraries have not fully harnessed the benefits of IT, leaving room for improvement.

Recommendations:

1. **Optimizing IT Implementation:**
   o Given limited library finances and the decreasing cost of IT, university libraries must strategically allocate resources.
   o Prioritize in-house IT operations and information services to enhance user experiences.

2. **Financial Allocation and Modernization:**
   o Initial funding, in the form of special grants, should be allocated to modernize library operations and services.

o Restructure budget policies to include IT-related expenses, such as hardware and software upgrades, maintenance, and staff training.

3. **Balancing Print and Electronic Resources:**

o Recognize the abundance of electronic information sources. Adopt a collection development policy that balances print and electronic resources effectively.

4. **Inclusive Planning for Library Automation:**

o Involve library professionals at all levels in planning library automation.

o Boost morale and motivation by engaging staff in the successful implementation of IT initiatives.

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