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User Preference on use of print and electronic resources among faculties and PG students: A study of University of Agricultural Sciences, Dharwad

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Abstract:

This paper discuss about the user perspective on use of print and electronic resources in University of Agricultural sciences, Dharwad. The study was conducted by using a questionnaire method to know the faculty and post graduate students preference towards print and electronic resources for academic activities. A well structured questionnaire were distributed among faculty and post graduate students.

Key words: User studies, Print resources, Electronic resources, Hybrid libraries, Agriculture university.

Introduction:

Library is the treasure of information in an education institution. The importance of agricultural university library in the process of higher education/learning and promotion of research has been established and acknowledged since long. The health of any higher education institution or university could be gauged on the status of its library. Their importance is better realized when the information is stored in different forms in the library is properly put into use by its readers.

The education and library have been inseparables since dawn of civilization. Their co-existence has been attributed to many landmarks in knowledge creation and scholarship, since academic libraries play an important role in Teaching, Learning and Research, through acting as access points for contents needed for Teaching, Learning and Research Processes. As a focal point for Teaching, Learning and Research, it is expected to provide standard information resources. There are number of instances where libraries of educational institutions were the predominantly learning centers and are being quoted in the historical texts and therefore have been one of the integral parts of all education and learning, more so in the institutions of higher learning. The library in an educational institution is now considered as actively participating intermediary between the learners and the vast storehouse of information resources, between classroom lectures and the vast sources of information, from where the content of the lectures are drawn. Human knowledge can be recorded and preserved on different media. The birth of moveable type of printing in the 15th Century A.D. brought the first conceptual change in the content of libraries. Few years back, documents written or printed in paper were considered as the best medium. But with the development of science and technology today electronic multimedia have been widely used for preservation of knowledge in the libraries of any kind whether public, academic or special library. Since the beginning of civilization human beings have been putting emphasis on storing of information in different ways. The change in type and shape of reading materials made tremendous difference and the universal growth and democratization of education is also attributed to this discovery. Since that time the libraries started acquiring new media and also a new role to support the academic programmes of all educational institutions.

In traditional libraries, user cannot easily locate a piece of information and have to spend more time in searching information. But in this age of Information Communication Technology (ICT), computers are being used for day to day house keeping activities of the libraries, to read and download of texts of articles, reports and other materials. Thus, it saves the time of the library professional and end user and makes the library service smooth and effective.

There is a paradigm shift from hard print to digital, ownership of documents to access of information, physical to virtual libraries. Though the electronic resource cannot fully replace the printed collections, it can definitely augment the print collection to a large extent. Electronic resources are available on CD-ROM, DVDs, Online databases, Repositories, Digital Archives and Electronic information resources contain originally published information, in electronic form or information originally published in print form and then made available electronically. Some information is available both in print and electronic form as well.

Importance of Information :

Information is the basic resource for all academic activities. Therefore, it becomes imperative for the academic libraries to procure information in whatever format they are available and provide the same to the users. The academic libraries are thus faced with the challenge of deciding on not only the books and journals to be selected to meet the needs of its users, but also on remaining relevant in the digital era, since the choice of the users range from print to digital, opting for alternative, more convenient and qualitative sources of information. The success of the library depends very much on its balanced collection.
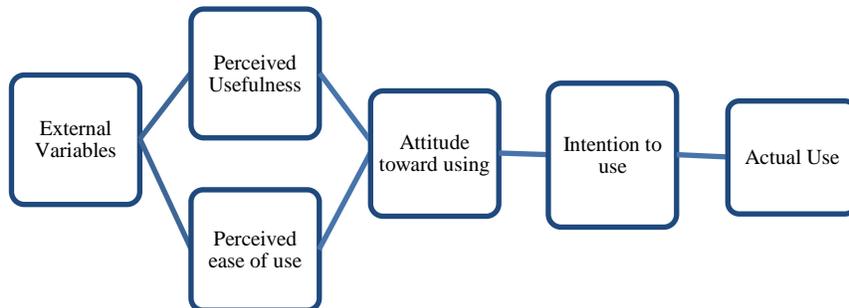
Formation of Attitude :

The academic libraries are visited by the users in pursuit of academic information to successfully complete their academic activities. The academic libraries provide different types of resources in different formats in an effort to successfully meet the information requirements of their users. Of these different types of resources offered, the users use such resources frequently which meet their information requirements conveniently and at a faster rate. Thus, Usefulness and convenience are the determinant factors in the use of the information resources. This view is also supported by the Theory of Reasoned Action (TRA) put forth by Fishbein and Ajzen (1975) and Technology Acceptance Model (TAM), introduced by Davis and others (1986). According to TRA, a person's performance of a specified behavior is determined by his or her Behavioural Intention (BI) to perform the behavior, and BI is jointly determined by the person's Attitude (A) and Subjective Norm (SN) concerning the behavior in question. BI is a measure of one's intention to perform a specified behavior and Attitude represents an individual's feelings about performing the behavior.

Technology Acceptance Model of Davis and others (1986) combines these two concepts with Perceived Usefulness (PU) and Perceived Ease Of Use (PEOU).

PU is defined as the user's subjective probability that using a specific system will increase his or her job performance within an organizational context.

PEOU refers to the degree to which user expects the target system to be free of effort. Both PU and PEOU predict attitude toward using the system, defined as the user's desirability of his or her using the system. Attitude and PU influence the individual's BI to use the system.

With use, the user assesses and evaluates the different resources used in the background of the fulfillment of the information requirements. This results in the formation of attitude.

Attitude :

An Attitude is an evaluation of an attitude object, ranging from extremely negative to extremely positive. In other words, attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavor (Eagly and Chaiken, 1998). Attitude may influence the attention to attitude objects …Judgement and recall of attitude-relevant information (Vogel and Wanke, 2014). These influences tend to be more powerful for strong attitudes (Vogel and Wanke, 2014).

Attitudes are formed very easily. It is formed when people judge an object, considering various features of the object, including the evaluation of an object. The strongest attitudes are usually formed when a person has direct experience with the attitude object. Even exposure to an object can contribute in the formation of attitude. Research has shown that repeated exposure to an object leads to liking towards the object. In other words, people tend to have a positive attitude towards familiar things (Ramachandran, 1994).

Attitude has an extensive influence on an individual. When the evaluation is favourable, which results when the purpose of the user is met with the resources offered in the library, it results in positive attitude. While negative evaluation results in negative attitude. Attitude can be a guide for behavior. Positive attitude leads to satisfaction.

Hybrid Libraries :

The Hybrid library is where electronic and paper-bound information resources are used along side each other. The hybrid library encourages information use in a variety of formats and from a number of local and remote sources, in a seamlessly integrated way. Most of the academic institutions have hybrid libraries, which provide access to electronic resources and services, while maintaining and supporting use of physical collection housed in a library building. Thus, most higher learning institutions have managed to install ICT infrastructure for delivery of

information resources and providing access to several electronic services to meet the information needs of Learners, Researchers and Instructors.

In the present day the general opinion is that Electronic or digital library is the only likely model for future services. At the same time, it is also felt that at least in the short to medium term, the more effective approach would be to develop services which would draw on the best of both the traditional and electronic worlds, since singly, each of these, i.e print or electronic have their own deficiencies. In the traditional, print-based library, each item has to be used serially, (i.e. one user at a time); only a very restricted range of items can be stocked; publication processes mean material is dated even when added to stock; heavily used items wear out; the cost of stocking little-used items is very high; and there are high costs associated with handling physical objects. In contrast to this, the electronic library has its own problems : browsing is difficult at the individual item level; there are great uncertainties over the economic model with the danger that no – one will be willing to pay for little-used materials or for long-term preservation; electronic 'virtual places' are poor for social interaction, such as is needed to develop literacy's; license costs for 'valuable' source may effectively bar widespread use; and the quality of sources is often uncertain or unknown.

Objectives of the study:

1. To Identify the users preference to print and electronic resources
2. To know the reasons for preference to print resources
3. To know the reasons for preference to electronic resources
4. To identify the purpose of using such resources
5. To know the reason for referring the traditional library after approaching the e-resources.

Review of Literature:

Review of literature happens to be an important segment of the concerned library users preference to print and electronic formats in UASD which helps to improve library collection development. The existing literature review shows that studies have been reported on use of print electronic formats among academic institutes have been exploring the optimum utilization of resources by its users to support their learning, teaching and research activities.

Melcher, A. (2017), conducted a library survey at Carmichael library, University of Montevallo, Alabama, US on e-Books and e-Book readers. Respondents comprised students and staff. The results showed a general preference of using print books, whereby 59.6 percent of the respondents read printed books, but also occassionally read e-books. Since the study was conducted in the US, a nation endowed with advanced socio-economic and cultural patterns of development, it is difficult to generalise the findings of this study to a localised and particularised context of Tanzania. Indeed, the current study was carried out in Tanzania' university settings.

Mizhirachi(2015), who examined the undergraduates' format preferences between electronic and print when searching for their academic readings at the University of California in the US, used online questionnaire administered to 400 students. The study found that 67.7 percent of the respondents preferred print over electronic format for all courses, when they want to achieve or deeper learning outcome, while 18 percent preferred electronic resources. The results indicate that printed resources were still the mainstay of academic research despite the emergence of e-resources. However, participants in this study were mainly undergraduates and, 10 therefore, the

results may not necessarily be generalised to other categories of users. The current study involved all user groups with different academic backgrounds.

Anunobi (2008), has discussed the nature of academic libraries and described the digital age including the resources. He has also discussed the concept of universal access and the role of the universal access to print and electronic resources. He presented and described a conceptual model of resource access for academic libraries in developing countries. The emergence of information and communication technology has repositioned the frontiers of academic library resources, operations and services as well as expectations of user groups. The print and the e-resources access model can serve as a stepping stone. When such a step is taken academic libraries must take into consideration factors like expansion, flexibility and compatibility.

Morse & Clintworth (2000), compared use of a matched set of biomedical literature available to users both in print and on the web. The study results showed that for journal volumes in the study subset (the 1998 volumes of 194 titles), users accessed the electronic versions more than ten times as often as the print versions during the six-month study period. The results further revealed similar usage in the print and electronic data, with 20% of titles accounting for nearly 60% of use in both study sets. Conversely, the bottom 40% of ranked titles in both the print and electronic study sets accounted for 9% of total usage.

Tyagi and Kumar (2011), conducted a study on measuring usage patterns of print & E-resources by scientists of pharmacopoeial libraries in northern India to determine use and impact of electronic information resources on quality of research in pharmacopoeial libraries in Northern India, preferences of the scientists towards print and electronic information resources, pattern of using electronic information resources by scientists of pharmacopoeial libraries in Northern India. They concluded that scientific and technical problems had reached a level which required abundant, relevant and timely use of information. Information played an all-important role in scientific and technical activities. The work efficiency and productivity of scientists and the quality of work performed by them was affected significantly by the operation of the information system. Scientific and technical information had itself been recognized as a resource. In view of its role and importance as a resource, the issues relating to scientific and technical information were now finding a place of priority in the scientific and technological plans and programmes of several nations. Various scientific and technical libraries, documentation and information centres were being upgraded, improved and integrated to enhance their importance and role in the transfer of information. In this regard pharmacopoeial libraries of Northern India i.e. Indian Pharmacopoeia Commission (IPC), Pharmacopoeial Laboratory for Indian Medicine (PLIM) and Homoeopathic Pharmacopoeia Laboratory (HPL) had upgraded and improved their library & information centre at satisfaction level.

Ziming Liu. (2006), determined the arrival and proliferation of electronic resources and digital libraries have a number of significant impacts on the use of print resources and traditional libraries. This study explores the extent to which graduate students in a metropolitan university setting use print and electronic resources. Reading preferences and use of print and electronic resources vary among different disciplines. Graduate students seem to expect a hybrid of print and electronic resources. They desire to meet their information needs through a mix of print and online resources, even though reasons for supplementing another type of resource differ. Circumstances that affect the selection of use between digital libraries and traditional libraries also discussed.

Naushad Ali (2005), focuses the purpose of study on the use electronic information services (EIS) among the users of the Indian Institute of Technology (IIT) library in Delhi, India. The study found that Boolean logic and truncation are the most often used search facilities by IIT users. Lack of printing facilities, terminals and trained staff are the major reasons that would discourage users from accessing the EIS. Krishna Kumar et al. (2010) examines the use of collections and services at IIT Delhi Library. The study identifies the levels of use of various services provided , access of online databases services, database search techniques and users awareness about different types of library networks.

A study conducted by **Moorthy and Ankur (2012)**, discusses the genesis of the DRDO Consortium, its services, budgetary provisions, services offered, and efforts made by DESIDOC to enhance the use of e-resources across the Organization. An analytical study of the usage of e-resources by the DRDO scientific community has also been made and the inferences listed. Overall, the Consortium has been perceived as a major facilitator in providing required information within least possible time. In the current era of IT (Information Technology), the information needs of the users have increased considerably that no library individually can meet all the information requirements of the users. This has required the need for efficient association and collaboration between libraries and information centers for sharing their available resources and information through networking. The consortia approach can be considered as a major step towards library collaboration in sharing electronic resources (Lal,2012).

Methodology:

A descriptive survey method was used as research design. Sampling technique method was used to select respondents comprising faculty and Post Graduate students who are involved in usage of information in both print and electronic formats in their academic and research activities. The data was collected using questionnaire and interview method. Total 330 questionnaires were distributed among faculty and post graduate students out of which dully filled in 65 questionnaires from faculty and 214 from post graduate students were received and used for the study.

Data Analysis and Interpretation:

The response of the users collected through the questionnaire have been analyzed**.** The major distinction made in the resources is print and electronic resources, because the library under study, being hybrid library, they serve the users with both print and electronic resources. Having identified the usage, and preference of different formats of resources, it was felt necessary to understand the preferences of the users to these different formats, since preference results in more usage of the resource.

Table-1 Preference to Print or Electronic Medium

Preference	User category	
	Faculty	**PG Students**
Print Medium	21 (32.30%)	64 (29.91%)
Electronic Medium	12 (18.46%)	126 (58.88%)
Both	32 (49.24%)	24 (11.21%)
Total	65 (100%)	214 (100%)

Presently libraries are hybrid libraries with both conventional and Electronic resources. The users use both the resources to meet their information needs. Although resources in both formats are used, users may prefer one format over the other or prefer both. Preference is arrived at by assessing the merits and demerits of each format and selection of the best alternative, based on such an assessment. Apart from merits and demerits, there are various other factors which influence the assessment. Users preference could be influenced by their familiarity or lack of familiarity.

From the table it is clear that around two-fifths of the Faculty prefer both (49.24%) Electronic and Print format. While 18.46 percent prefer Electronic format. It is also observed that amongst the faculty only one-fifth (32.30%) prefer print media.

Further, around three-fifths of the Post graduate students (58.88%) prefer electronic version and around one-third (29.91%) prefer print. The Post graduate students preferring both the versions are a meager 11.21 percent.

Table-2 Reasons for Preference to Print Resources

Reasons for Preference to Print resources	User Category		
	Faculty	**PG Students**	**Total**
Electronic version not always accurate	29 (21.8%)	8 (9.09%)	37 (13.26%)
Electronic version not permanent	24 (18.04%)	12 (13.64%)	36 (12.90%)
Easier to Bookmark	59 (90.77%)	69 (78.41%)	128 (45.88%)
Better Comprehension	65 (100%)	83 (94.32%)	148 (53.04%)
Can be read at leisure	65 (100%)	88 (100%)	153 (54.84%)
No Eye Strain	65 (100%)	64 (72.7%)	129 (46.24%)

There are various reasons for preferring print resources. A brief description of the reasons, that were listed is provided.

Accuracy of Electronic Version: Electronic version not always accurate. Anyone with a computer and the necessary rights to a web server can post or after data. There is no guarantee of the poster's authority or of the authenticity of a document. (Wu, 2005) Unlike most printed resources, many free on line ones are not routinely reviewed, edited or checked for accuracy prior to or after publication. (Preston and Ebbs, 1998).

Electronic version not permanent: Many electronic documents are fleeting and ephemeral. They can disappear entirely or suffer from the lesser defect of link rot. They may be removed from the database by the publisher for reasons ranging from desire to keep the database current, disinterest in to maintaining a low use resource, to fear of litigation over database , copyright issues to objections of a political nature (Block,2003)

Easier to Book mark: It is easier to bookmark in a printed resources, which is not possible in an electronic resources.

Better Comprehension: Print medium establishes one to one relationship with the reader, since new technology is needed for the use of print medium. Thus print medium can be used at maximum comfort and results in better comprehension of what is read.

Can be read at leisure: Print medium does not need technology to read. Hence, can be read anywhere and at any time at leisure.

No Eye strain: Constant staring at the monitor meets out strain to the eyes with the strain to the eyes, the concentration on what is read gets reduced and the comprehension of the information also lost.

Summarizing ,print resources, they can be used at leisure. Print medium has established one-to-one relationship with the reader, Since no technology comes in between the user and the resource. Further, with technology in between, many a times, comprehension of what is read is slow. It is also said that silent reading from screen is significantly slower than reading from paper (Gould and Grischkowsky,1984). Screen reading manifests itself in increased visual fatigue and/or eyestrain when reading from screens, as opposed to paper. Consequently use of Print resources is free from eye strain.

In the background of the above mentioned reasons for preferring print version, an analysis of the users choice for print resources has been made. Herein, only the users preferring print version and both have been considered. Majority of the faculty find that print information resources are easier to book mark (90.77%), better comprehension (100%), can be read at leisure (100%) and no eye strain (100%).

It is observed from the table that more than 70 percent of the Post Graduates students feel that print resources are Easier to Bookmark (78.41%) and No Eyestrain (72.7%). Thus more than 90 percent of Post Graduates students feel that print resources have Better Comprehension (94.32%) and Can be Read at Leisure (100%) to access print resources.

Table-3 Reasons for Preference to Electronic Resources

Reasons for Preference to Electronic resources	User Category		
	Faculty	PG Students	Total
Access to current and up to date information	53 (81.54%)	110 (73.3%)	163 (58.42%)
Easier and faster access to more information	49 (75.38%)	113 (75.3%)	162 (58.06%)
Access to Diverse resources	51 (78.46%)	109 (72.67%)	160 (57.34%)
Relational mobility	48 (73.84%)	93 (62%)	141 (50.54%)
Portability	51 (76.92%)	105 (70%)	156 (55.91%)
Information available at 24*7	46 (70.77%)	107 (71.33%)	153 (54.84%)

The benefits that have been listed under Electronic resources are the –

Currency and up to date Information: Currency and up to datedness of information retrieved since technology enables rapid updating of information, a feature that has high influence on Faculty, Research Scholar and PG and UG students.

Easier and Faster Access: Technology has transformed the libraries and the manner in which they provide their services. Proxy server and virtual private networks allow users to connect to library resources remotely; hyper linking in integrated library systems publicizes the location of resources, regardless of formats.

Access to Diverse resources: Access is provided to a variety of resources.

Relational Mobility: Technology enables seamless transition from one source to another . The user needs only to click on the hyper link to view the cited document.

Portability: Data can be doubled to USB memory, hard disks and carried from one location to another.

Information available 24*7: Information can be accessed any time.

The libraries offer different types of resources and services to meet the information needs of its users. The success of these resources and services has to be measured in terms of the benefits accrued by the user, the amount of usage of these newly introduced resources and services and the amount of satisfaction derived by the user by using these resources and services. The users of a library have certain expectations from the library. These expectations range from availability of information at a fast rate, easy access to the required information, current and up to date and relevant information and exhaustive information at a fast rate. When these expectations are met by the library, then the users derive satisfaction. Satisfaction, intern, leads to higher usage of these information resources and services.

In the background of above facts, data was collected to identify the benefits derived by the users of the library. The users who prefer Electronic version and both have been considered here. The data clearly reflects that more than three-fourths of the faculty find that electronic information resources provide access to current and up to date information (81.54%), access to Diverse resources (78.46%), easier and faster access to information (75.38%), Portability (76.92%) and relational mobility (73.84%) of electronic resources. It is also felt by 70.77 percent of faculty that the information is available 24*7.

As compared to faculty, the usage of electronic information resources by Post Graduate students would be comparatively less, Accordingly, it is observed from the table that more than 70 percent of the Post Graduate students feel that electronic information resources provide faster and easier (75.3%), current and up to date information (73.3%), access to diverse resources (72.67%) and 24*7 access to information (71.33%).

The libraries under study, are hybrid libraries, with both print and electronic information resources. Each format has its own advantage over the other.

Table-4 Purpose of using print and electronic resources

Purpose of using print and electronic resources	User category		
	Faculty	**PG Students**	**Total**
Course work	11 (16.92%)	200 (93.4%)	211 (75.63%)
Research	65 (100%)	98 (45.79%)	163 (58.42%)
Teaching	63 (96.92%)	0 (0.0%)	63 (22.58%)
Current Information	60 (92.31%)	115 (53.7%)	175 (62.72%)

Different services are introduced in the library to serve the users. Of these services introduced, users use such service which suits their needs and purpose. In an academic environment, the major purpose for which the users seek information would be Teaching, Learning and Research. Thus, information was sought by the users on the purpose of their using the information services.

Faculty are involved in Teaching and Research. As such, it is observed from the table that all the faculty members use information services for teaching 96.92 and 100 percent for research. Teaching and Research needs current information. Thus, 92.31 percent of the faculty members also use information services for gaining access to current information.

As far as Post Graduate and Under Graduate students are concerned, the major purpose of using information services is for course work (93.4%) and also to gain access to current information 53.7% and 45.79 percent for research.

Table-5 Assistance from Library staff

Assistance from library staff	User category		
	Faculty	PG Students	Total
Yes	58 (89.23%)	198 (92.5%)	256 (91.76%)
No	7 (10.77%)	16 (7.47%)	23 (8.24%)

From the table -5 it is observed that more than 85 percent of the respondents Faculty (89.9%), Post graduate students (91.76%) agree that the library staff have been assisting them in the use of resources and services.

Table-6 Referring traditional library after approaching e resources

Preference	Faculty	PG Students
Yes	53 (81.54%)	199 (92.9%)
No	12 (18.46%)	15 (7.1%)
Total	65 (100%)	214 (100%)

With the development of ICT, libraries are becoming the norm at universities since they combine technology and information resources to allow remote access to academic content, breaking down the physical barriers. Received feedback to the question on whether they would still refer the traditional library after finding the information they needed online. The majority of faculty 53(81.54%) refer library even after referring the e-resources. Where as pg students 199(92.9%) say even they consult traditional library.

Even though the availability of information online, users have faith on the traditional library and would continue using the sources. Particularly, the traditional library would continue supporting academic aim, even in the ICT era, which suggest the value of having hybrid academic libraries

Conclusion:

From the above study it is investigated that users preference and attitude in the use of print and electronic resources in UASD. It is observed from the study that majority of the users prefer print resources

over electronic resources. Libraries have traditionally been the location for storing and maintaining knowledge of the society. Libraries have served the role of information gatherers and information communication agents through time. They have the responsibility of accumulating knowledge – be it in the form of print or electronic, and make it available to the seekers of information. Even with the rapid growth of ICT users have not lost interest in print resources. In this process, libraries acquire different types of information resources. Presently, the digital technology has revolutionized the way information is packaged and disseminated. In this context, the academic libraries no longer restrict themselves to print resources alone and are paving way for Hybrid libraries.

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