Use of Biomedical Information Centres & Libraries in India in Digital Era

Prabhat Ranjan* and Surya Nath Singh**


ABSTRACT

The present paper is centred on status of biomedical Information Centres & Libraries (ICLs) in India in modern digital era when application of ICTs has changed the structure of information resources as well as library services. The use of Internet and existence of information in clouds has changed the information search and access by people. Due to availability of less research works on the specified subject, there is a need of study to support the library professionals in the field. The study is based on a survey at 95% confidence level and 5% confidence interval. Questionnaire has been used as a tool to collect the data and Microsoft Excel used for data analysis. Library visits were found moderate by respondents, but it stand an important place for getting information and reading by users. Availability of information online everywhere has minimised the visits to the biomedical libraries for most of the users. Poor library resources and services prove obstruction to visits to libraries in very few incidents. Libraries were found largest subscription sources for both printed and electronic than subscriptions by own or colleagues/friends.

Key Terms: Digital Era, Electronic Resources, Biomedical Libraries, Library Use, Information Access, Information, Subscription Sources.

INTRODUCTION

We are living in hybrid and complex information environment. Availability of immense information electronically online has affected services of all types of Information Centres & Libraries (ICLs). The traditions of storing information at a place so called libraries are changing with its changing names viz. ICLs, Knowledge Centres (KCs), Virtual Libraries (VLs), Digital Libraries (DLs), Electronic Libraries (ELs) and so on. Expansion of information contents has sometimes fulfilled and sometimes intensified the human curiosities to understand the mysteries of sciences as well as life. Clouds as an information sources has changed the site of information storage and accessibility of the same. In this way, new environment has arisen, where all the information is available on the desktop of a searcher and he is only some clicks away from the information available on the World Wide Web and clouds any time (24X7) pattern, anywhere irrespective of form and format. Use of printed resources is also affected in the same accord as library resources and services have been stroked by the electronic age of information.

Biomedical information is set of information directly linked with public health, hygiene and their lives. Its domain is constituted by technical improvements in techniques and ultra-pure knowledge of human anatomy, physiology and other related subjects, therefore information needs and seeking are somewhat unique than other subject domains.

OBJECTIVES

The main objective of the study is to explore the prospects of biomedical ICLs in India concisely listed below:

- To know the importance of biomedical ICLs as a knowledge centre and as information seeking/reading place.
- To discover and describe the reasons behind limited visits of the users to the biomedical ICLs in digital era.
- To identify the acquisition/subscription sources of information for both electronic and printed.


**SCOPE AND LIMITATION**

The study is limited to India geographically and biomedical sciences by subject domain. Due to lack of time and resources, the questionnaires were sent through emails and only information literate users could be included. However, sending questionnaire had a benefit that the questionnaires received from all regions of India and each type of organizations.

**LITERATURE REVIEW**

There are a number of studies dealing with changing perspectives of ICLs which guide to imagine about the present needs of biomedical ICLs. These studies are varied to different types of users, libraries and subject domains. All these have some similarity in results and variations too due to difference in user groups, localities and time.

Nagy explored that library use is on decrease with proceedings of time along with lending of books from libraries after the results of surveys in 1964, 1985 and 2000. McClure opines Internet as the reason behind preference of networked information than physical access to the libraries. The number of Internet users in China increased to 298 million at the end of 2008, 480 times than that in 1997 where number of people visiting libraries was on decline. These studies sketch a picture of delimiting figure of libraries and printed resources. But all the studies have not the similar results. Murray & Tschenitz in Australia found that reference enquiries in public and state library did not decline due to greater Internet access and use. Chiemeke et al. observed that the researchers in Nigeria felt comfortable using the library rather than a cyber cafe due to its serene environment. Some studies disclose good library visits by its patrons. Shafi & Loan found that few students only (10%) opted libraries to their favourite place to read. Approximately 80% of respondents chose to read at their homes. But it is not clear in this study if it was created by new digital era. Some earlier studies in specific fields show that library visits were poor in some libraries in previous era also with studies showing good library visits. Unawareness to the library services and collections may be one of its true reasons as Shivalingaiah & Gowda observed in university libraries in Karnataka. Shanmugam reported proportionality between ease in accessing library and frequency of its use.

Kumar et al. expect that competent staffs, training to them and users can improve the appreciable library services of the Sardar Vallabhbhai Patel University of Agriculture & Technology by its library users. Sharma & Singh cleared that one fourth of people do not visit libraries in University of Delhi due to non-availability of materials and the same proportion due to distance from home. Busy time schedules were the reasons for 41% of users. Poor library services proved problems for ten percent of users only.

Deví revealed that study is the purpose of visiting the library by largest number of respondents followed by borrowing of books, using reference materials, browse e-resources, read newspapers and magazines and read print journals. Verma et al. found that updating knowledge and research works were the purpose of information access by 100% of faculty members in Sikkim Manipal Institute of Technology, Sikkim. She further finds those libraries are better as subscription sources for both print and electronic journals. This all confirms ICLs a better source of information in spite of fewer visits to the same.

**METHODOLOGY**

The present study is an outcome of a survey among various biomedical organizations in government and private sector engaged in research, education, manufacturing or service. The questionnaires were sent through emails of the respondents using SurveyMonkey online software. In this way, scientists, professors, physicians, surgeons, research scholars, students, assistants, nurses were among the respondents. To study the variations due to age, gender and designation levels, comparative analysis of Chi-Square and ANOVA (Analysis of Variance) were carried on. The survey was proposed at 95% confidence level and 5% confidence interval. Morgan formula for unlimited respondents was used to calculate sample size:

\[ SS = Z^2 \times (p) \times (1-p) / c^2 \]

Where,

- **SS** = Sample Size
- **Z** = Z - Value (1.96 for a 95 percent confidence level)
- **p** = Percentage of population picking a choice expressed as decimal
- **c** = Confidence Interval expressed as decimal

The calculations confirm that 384 sample size is enough for the study at this scale. But positively 526 questionnaires were collected and therefore confidence intervals extracted was less than 5%. Microsoft Excel was used for data analysis and preparation of graphs, tables and figures.

**DATA ANALYSSES**

To find the results, the questionnaire was framed consisting of 8 questions including one for demographic details. Data was analysed after collection to conclude the result.

**Composition of Respondents**

In the general question, respondents were requested to indicate their age groups, gender, designations and professional fields which is shown in Table 1 and Table 2.

### Table 1: Composition of Respondents based on Age, Gender and Professional Field

<table>
<thead>
<tr>
<th>Age Distribution (in Years)</th>
<th>Gender Distribution</th>
<th>Professional Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-25</td>
<td>Male 378 (71.9%)</td>
<td>R &amp; D 164 (31.2%)</td>
</tr>
<tr>
<td></td>
<td>Female 148 (28.1%)</td>
<td>Academic 212 (40.3%)</td>
</tr>
<tr>
<td></td>
<td>Total 526</td>
<td>Industry 34 (6.5%)</td>
</tr>
<tr>
<td>26-35</td>
<td></td>
<td>Students 116 (22.1%)</td>
</tr>
<tr>
<td>36-45</td>
<td></td>
<td>Total 526</td>
</tr>
<tr>
<td>46-55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56-65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
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</tbody>
</table>

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Primary Place of Reading

The study confirmed that the libraries are not the primary place of reading for most of the respondents. Only 18.6% of respondents consider libraries as their primary place to read in. Almost half of respondents (48.5%) read primarily at their working places. One third of them (30.9%) read primarily at their homes and residences. Hence the survey discloses biomedical academic libraries not being an inevitable place for reading.

Frequency of Library Visits:

The second question of the questionnaire was framed to know the visits to the libraries by the respondents (Table 4).

Reasons to Fewer Visits to the Libraries

In further question, respondents were asked to rate the importance of libraries from least important to very important. ‘Least important’ was marked by -2 and preceding ‘less important’, ‘important’, ‘much important’ and ‘very important’ were marked by -1, 0, 1 and 2 respectively (Table 6).

Suitability of Libraries as Serious Place of Reading

Respondents were asked if they consider libraries as a suitable place for serious reading (Table 7) in later question. In a previous question, respondents had disclosed libraries as less used place for reading, therefore question arises on the suitability of biomedical libraries as a serious place for the same purpose.
reading to them. Although libraries should follow zero tolerance policy to avail good services and environment to its users, however a small such percentage notifies libraries to be a good place for serious reading.

### Satisfaction with Library Services

In the next question, satisfaction with the library services was asked from the respondents (Table 8).

**Table 8: Satisfaction with Library Services**

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied</td>
<td>279 (58.5%)</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>101 (21.2%)</td>
</tr>
<tr>
<td>Can’t say</td>
<td>97 (20.3%)</td>
</tr>
</tbody>
</table>

More than half (58.5%) of the respondents replied that they were satisfied with the library services. Only one fifth (21.2%) of them replied that they were not so. One fifth (20.3%) of them selected the option ‘can’t say’. Ratio of satisfied and unsatisfied is roughly 3:1 which notifies that services of biomedical ICLs are satisfactory to its patrons.

### Subscription Sources of Information

Subscription sources of information for electronic and printed were asked from the respondents at the end of the questionnaire (Table 9).

Library subscriptions were used often for print (score 0.55 between 0 and 1.0) and electronic (score 0.68) resources. Own subscriptions score 0.39 (sometimes) and 0.48 (sometimes) for print and electronic resources respectively. Subscriptions from friends and colleagues were used sometimes for print (0.35) and electronic (0.46) respectively. Summarily it was found that library Subscriptions are used more than own subscriptions or lent from friends. Electronic sources were found subscribed more than printed.

**Table 9: Subscription Sources of Information**

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Library Subscriptions</th>
<th>Total Answered Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source</strong></td>
<td><strong>Always</strong></td>
<td><strong>Often</strong></td>
</tr>
<tr>
<td>Print</td>
<td>110</td>
<td>121</td>
</tr>
<tr>
<td>Electronic</td>
<td>198</td>
<td>153</td>
</tr>
<tr>
<td><strong>Own Subscriptions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td><strong>Always</strong></td>
<td><strong>Often</strong></td>
</tr>
<tr>
<td>Print</td>
<td>40</td>
<td>59</td>
</tr>
<tr>
<td>Electronic</td>
<td>69</td>
<td>105</td>
</tr>
<tr>
<td><strong>From Colleagues &amp; Friends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td><strong>Always</strong></td>
<td><strong>Often</strong></td>
</tr>
<tr>
<td>Print</td>
<td>19</td>
<td>56</td>
</tr>
<tr>
<td>Electronic</td>
<td>50</td>
<td>98</td>
</tr>
</tbody>
</table>

**ANOVA and Chi-Square Comparisons**

ANOVA and chi-square test were performed for comparing the data obtained to investigate any significant difference based on age, gender and designation levels. Questions having only one choice as correct answer are compared. The error limits (confidence levels) were determined on the bases of sample sizes and number of options in a question at 95% confidence level. The comparisons showed that format for searching information, frequently used resources among offline and online resources, importance of Libraries to respondents and satisfaction with library services have no any significant difference on the bases of age, gender and designation levels. Age and designation levels are significant factors of differentiation for primary place of reading. Age and gender are significant factors to differentiate suitability of libraries as serious place of reading.

### Findings

Based on the above analysis and discussions, following are the major findings of the study:

- Library subscriptions are used more than own subscriptions or subscriptions of colleagues/friends. Electronic resources are subscribed more than printed in any type of subscriptions i.e. subscribed by libraries, own subscriptions or borrowed from friends. This clears library an important information intermediary yet in digital era.
- Working places are the favourite places for reading. Libraries are primary place of reading for only 18.6% of respondents.
- Almost half (45.9%) of respondents visit the biomedical libraries in one or more times in a week. 31.7% of respondents visit the libraries in more than a month. This study confirms moderate library visits by its patrons.
- Availability of materials online outside the libraries (75.6%) and shortage of time (27.1%) are the main reasons to fewer visits to the libraries. Poor library services obstruct 6.6% of respondents to visit the biomedical libraries. This clears that biomedical ICL services are good enough in India.
- 78.1% of respondents consider libraries suitable for serious reading where 4.2% of them don’t find so. This confirms libraries to be suitable to read in for serious and deep reading.
- Libraries are much important (score 0.66 between 0 and 1.00) to the respondents. Satisfactions with library services are found good.
- Age and designation of respondents affects the favourite place of reading by users.
- Age and gender of respondents affects the consideration of libraries as a serious place of reading by them.

### Discussions

Different studies show different results about library visits in different type of libraries. Some of them indicate healthy library visits where some of them indicate visits to the libraries are being constricted. The present study shows a moderately good frequency of library visits by respondents as 45.9% of them visit the libraries once or more than once in a week.

Chiemeke, et al. observed libraries a comfortable place to read
which is also proved in the study as 78.1% of respondents consider libraries as a place of serious reading. However libraries are not the primary place of reading that is also confirmed by another study by Shafi & Loan limited to students. Non availability of materials in the libraries and poor library services are reasons to fewer visits to the libraries by one fourth and one tenth of people in University of Delhi which is found less problematic in this study as 11.0% and 6.6% only of respondents respectively do not visit to the libraries due to this reason as per this study. Status of electronic resources in searching and access is different in different studies. In this study it was found that almost printed and printed only information is accessed by negligible number (1.0% of respondents only) of people.

**RECOMMENDATIONS**

Based on above discussions, it is recommended that:

- Biomedical ICLs should increase their online and remote services as, most of people responded that online availability of resources minimises their library visits, therefore libraries should also enhance their online services.
- Biomedical ICLs should increase their electronic resources as people access more these resources than prints. However use of prints has not reached to zero. It is only less than use of electronic resources.

**CONCLUSION**

Libraries are considered as a serious place of reading and important to the users as the study discloses. Library subscriptions are used more than own subscriptions or subscriptions of colleagues and friends. However libraries are not used as a favourite place of reading. Designation level affects the purpose of information access and use. Searching is highly preferred in electronic format, but for reading printed is favoured. Different type of resources is used differently in terms of its use as printed/electronic. Online availability of information outside the libraries proves most important reason to minimise the library visits.

**REFERENCES**