Virtual Reference Service in Academic Libraries: A Case Study of the Libraries of IIMs and IITs in India

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Abstract:

The paper introduces the concept of Virtual Reference Service (VRS) in academic libraries. The survey investigates into the state of VRS in the libraries of premier educational institutions, the IIMs and IITs in India. The study reveals that although a remarkable advancement in the automation and electronic access to information has been achieved in these libraries, there is a long way ahead to march towards the establishment of standard VRS at par with similar institutions in developed countries.

Keywords: Virtual Reference Service, Digital Reference Service, Live Reference service

1. INTRODUCTION

Technology is developing at a very fast rate and what looks a myth a few years back is becoming a reality now. The largest single factor which caused the significant changes in library operations and services in this century is undoubtedly the evolution of information technology. Technology has changed the way the libraries serve their users and this change will continue in future also. While continuing to provide many traditional information services, libraries are developing new skills and taking new roles that are necessary to support technology based services.

In the libraries and information centers "Reference Service" is an important personalised service. Traditionally, it is a one-to-one service with user and reference librarian. The user is helped by the variety of sources available to meet the information needs. But in the present era, the library and information profession is facing the challenges of so called 'electronic age' and being transformed by technology. So the advancement in information technology has brought out incredible changes in almost every aspect of information services.

It has been observed that many large and modern libraries in abroad and also in India have a general reference desk, full time reference librarians with subject specialists and off desk responsibilities. This type of an environment need to be cultivated in academic libraries, especially in Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), where the thrust is on imparting education and pursuing research and consultancy. Thus, with the advancement of changing technology the mode of providing reference service in the academic libraries are gradually changing. It is now presented to the user in a new and more developed form that is "virtual reference service", which is other wise known as "digital reference service".

1. AIMS AND OBJECTIVES

There has been a demand for digital reference service especially in academic libraries of the premier institutes like, IITs and IIMs where the faculty, students and researchers heavily depend upon the instant, useful and standard information delivery service. In view of this, the primary objective of the present study is to investigate and identify the current level of virtual reference service offered in the libraries of IITs and IIMs in India. The objectives of the present investigation can be summarized as follows:

(i) To uncover the present status of virtual reference service (VRS) being provided in the libraries under study.

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(ii) To systematically identify the strength and weakness of existing reference service available in the libraries of IITs and IIMs in India.

(iii) To find out the various components and modes of VRS at the libraries of IIMs and IITs and to evaluate such services under proposed guidelines as suggested by different associations like, IFLA and ALA.

2. METHODOLOGY

The success of any social research lies with careful selection of a suitable methodology. For the purpose of the present study, websites of all the IITs and IIMs libraries were explored to identify and assess the present state of virtual reference services provided in the libraries of the above premier institutions. A checklist was used for collecting pertinent data from the respective websites of the libraries under study. The data thus obtained were analyzed, tabulated and interpreted for a systematic evaluation of the strength and weakness of VRS in the libraries included in the study.

3. VIRTUAL REFERENCE SERVICE (VRS): ITS CONCEPT AND ELEMENTS

Unlike traditional reference, virtual reference services allow patrons to submit questions and receive answers via the Internet and other electronic means. Linda Berube (2003) defines that Digital reference or virtual reference primarily refers to a network of expertise, intermediation and resources placed at the disposal of someone seeking answers in an online environment. Joann M Wasik (2003) defines "Digital reference and AskA services are Internet-based question-and-answer services that connect users with experts in a variety of subject areas. In addition to answering questions, experts may also provide users with referrals to other online and print sources of information".

Thus, the virtual reference service connects the users with librarians or information professionals and help them to receive direct assistance irrespective their location and time. In addition to answering questions, these information experts may also provide users with referrals to other online and print sources of information and support the development of skills such as information literacy. The term, "virtual reference," "digital reference", "e-reference," "Internet information Services,", "live reference," and "real-time reference" are used interchangeably to describe reference service that utilize computer technology in someway (Kaza, 2005, p.553). A digital reference transaction will usually include the following elements:

- The user;
- The interface (web form; e-mail; chat; video etc.);
- Electronic resources (including electronic or CD-based resources, Web resources, local digitized materials etc.) as well as print resources; and
- The information professional(s)

4. CLASSIFICATION OF VIRTUAL REFERENCE SERVICE

The virtual reference service models can be broadly divided in to three categories. The following figure exhibits the various types of virtual reference services currently in practice.

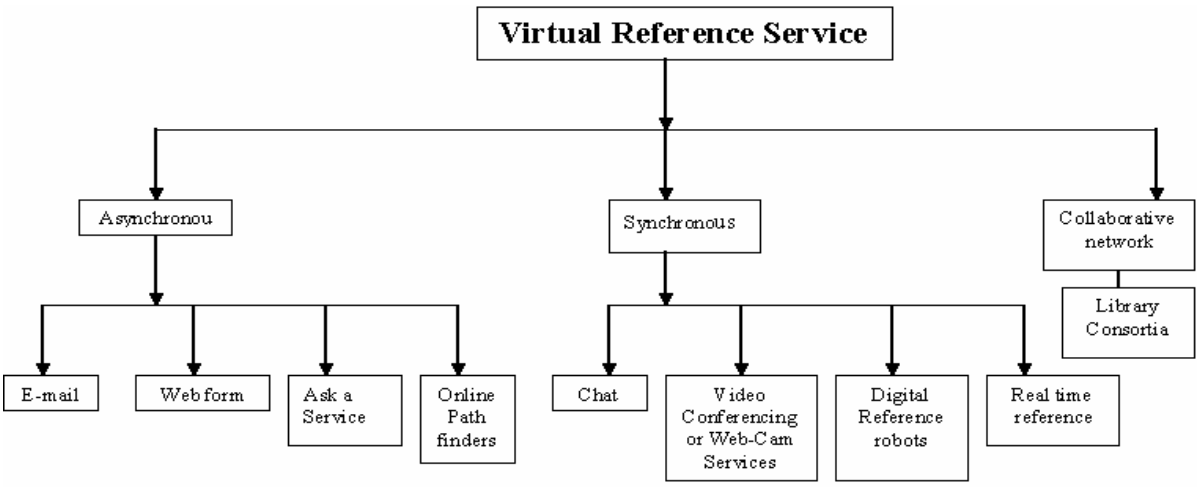

Fig.-1: Topology of virtual Reference Service
Source: (Sharma, Kumar and Singh; 2005; p.983)

4.1 Asynchronous Transaction

The Asynchronous transaction involves a time delay between the question and answer, such as with e-mail based, web form or Ask a service, Virtual Reference Desk (VRD) service, Question Point, Online Pathfinders, etc.

4.2 Synchronous Transactions

The synchronous transaction, on the other hand takes place in 'real time' with an immediate response to the query, such as in chat based services, Video Conferencing or web cam services, Digital Reference Robots, Real time Reference services (Live Ref, 24/7 Ref), etc.

4.3 Collaborative Networks

Many libraries and organizations have recognized the benefits of providing digital reference service through collaborative services. Some regional library consortia are offering member libraries the opportunity to share reference questions with each other using the internet and other technologies. The collaborative Digital Reference Service (CDRS), operated by the library of congress, is an international network of libraries, consortia, museums, Ask a services that uses a help desk system to route questions to appropriate institutions based on member profile.

5. OBJECTIVES OF VIRTUAL REFERENCE SERVICE

Libraries of the current digital era have undergone massive facelift. To achieve the goal of providing excellent services and assist users with their educational and research needs, the reference librarian answer reference questions, both to users in the library and remotely through telephone, e-mail and online services. Hence the virtual reference service has the following basic objectives:

- To provide individual assistance and instruction;
- To provide and maintain an appropriate collection of reference resources, both print and electronic;
- To assist users with locating the best sources of information;
- To help in marketing reference and resources;
- To serve as a public relations representative;
- To help in Online Searching;
- To help and assist in professional activities for professional development and growth;
- To help in referral process, forward the enquiry or provide the user with live links to authoritative websites; and finally
- To educate users concerning resources and research techniques in order to help them to become information literate.

6. IIMS AND IITS OF INDIA: A PROFILE

The increasing globalization of economy, growth of industrial and technological sector in India coupled with competition for limited resources have brought unprecedented pressure and challenges to the management and technical education as a discipline. At the same time, it has also offered an opportunity to improve the economic growth and the quality of life. The need for professional management and technical education has never been more crucial than today specially in the era of changing global digital environment. So, the task of producing a large pool of well trained management and technical professionals in a resource starved environment provides the need for establishing IITs and IIMs. At present, there are seven IITs and six IIMs functioning under the Ministry of Human Resource Development of the Government of India as depicted in Table-1 in their chronological order:

Table-1: Growth of IIMs and IITs in India

Sl. No.	Name of IIM	Year of Estd.	Sl No.	Name of the IIT	Year of Estd.
1.	Indian Institute of Management, Ahmedabad URL: http:// www.iima.ernet.in	1961	1	Indian institute of Technology, Kharagpur URL:http://www.iitkgp.earnet.in	1950
2.	Indian Institute of Management Calcutta URL: http://www. iimcal.ac.in	1961	2	Indian Institute of Technology, Bombay URL: http://www.iitb.ac.in	1958
3.	Indian Institute of Management Bangalore URL:http// www. iimb.ac.in	1973	3.	Indian Institute of Technology, Kanpur URL: http://www.iitk.ac.in	1959
4.	Indian Institute of Management, Lucknow URL:http// www.iiml.ac.in	1984	4.	Indian Institute of Technology, Madras URL: http://www.iitm.ac.in.	1959
5.	Indian Institute of Management, Kozhikode URL:http// www. iimk.ac.in	1996	5.	Indian Institute of Technology, Delhi URL: http://www.iitd.ac.in.	1961
6.	Indian Institute of Management Indore URL:http// www. iimidr.ac.in	1998	6.	Indian Institute of Technology, Guwahati URL: http://www.iitg.ac.in	1994
			7.	Indian Institute of Technology, Roorkee URL: http://www.iitr.ac.in	2001

7. VRS PROVIDED IN IITS AND IIMS: AN ASSESSMENT.

Generally, VRS refers to a network of experts, intermediation and resources placed at the disposal of someone seeking answer online. These services are provided through e-mails, web forms, chat, videoconferencing, digital reference robots and FAQs, etc. Keeping in view the importance of digital resources, the libraries of IIMs and IITs are deeply involved in the organization and management of a large number of e-resources to provide various digital reference sources to their users under intranet as well as internet environment. These resources and services which deserve mention are as follows:

7.1 Reference Desk Service

The reference desk in the libraries provide access to various indices, reviews of the quality, credible and current information-based sites and assists the readers in navigating these sites to satisfy their required need.

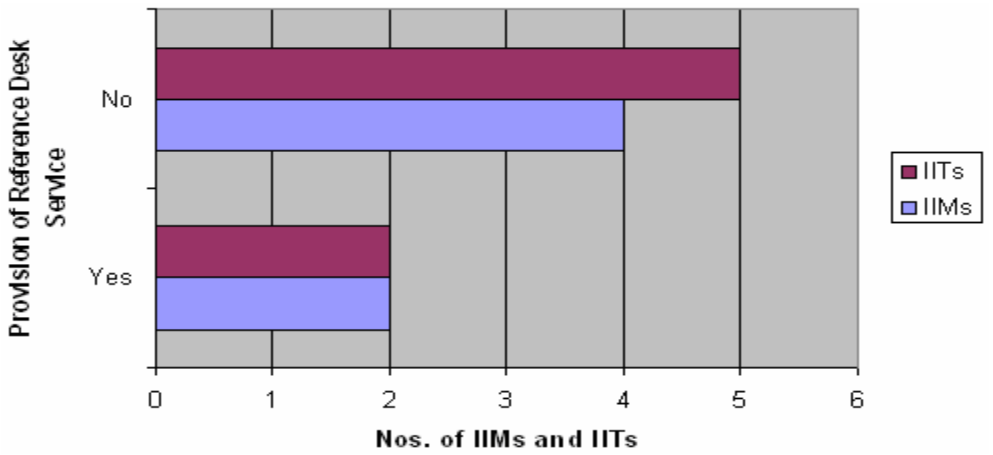

Fig. - 2 : Provision of Reference Desk Service

The above graph represents that the reference desk facility is currently being provided by only 2 (33.33%) IIT libraries (IIT, Madras and IIT, Bombay) and 2 (28.57%) IIM libraries (IIM, Bangalore and IIM, Kozhikode). However, a majority of libraries of both IIMs and IITs are yet to launch the Reference Desk service.

7.2 E-mail Reference Service

In e-mail reference service, the user sends the concerned library an e-mail with a reference query to supply whatever information he or she feels is necessary. It can be provided to the users in different forms, such as TOC Alerts, customized news to users, latest additions of library resources and provide answers to the query by different ask a services such as ASK A Librarian and Question point, etc.

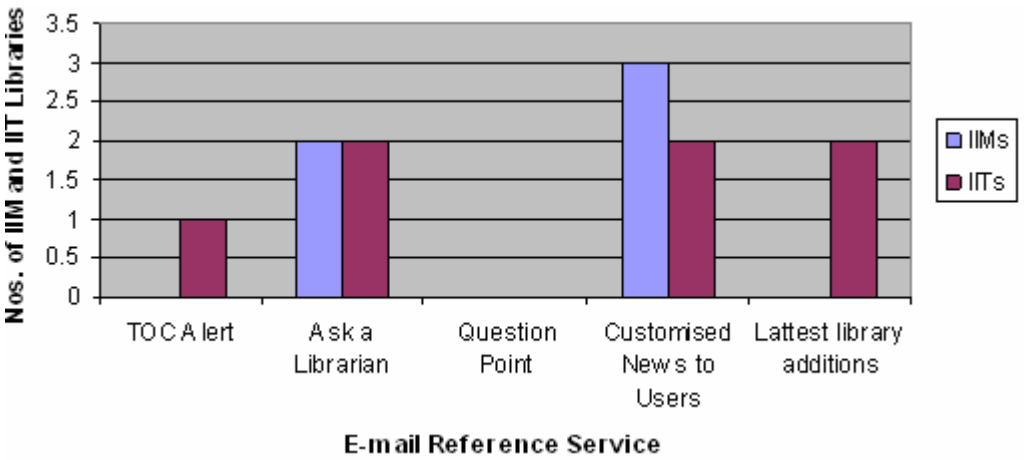

Fig. - 3 : E-mail reference service

Fig-3 shows that out of seven IITs, only 2 (28.57%), i.e, IIT-Delhi and IIT-Bombay are successfully providing three types of e-mail reference. However, IIT-Madras provides only TOC Alert service in better way. In comparison to IITs, the IIMs are not far behind in providing e-mail reference. The Question point as a form of e-mail reference service is not provided by any of the libraries under study. It is surprising to note that IIM-C, IIT-G, IIT-K, IIT-R and IIT-KGP are not facilitating any form of e-mail reference service through Internet.

7.3 Real time Reference

Real time reference service that libraries of IITs and IIMs are attempting to provide more and more is live reference. These are real time, interactive reference service in which user can talk to a real, live reference librarian at any time day or night, from any where in the world. Chat, technology enables users to communicate on the internet with others in real-time. Also the instant messaging software product such as AOL instant messenger and ICQ allow libraries to communicate in real time with users through a series of messages sent back

and forth. Video conferencing also becoming a popular mode of real time reference for big institutions.

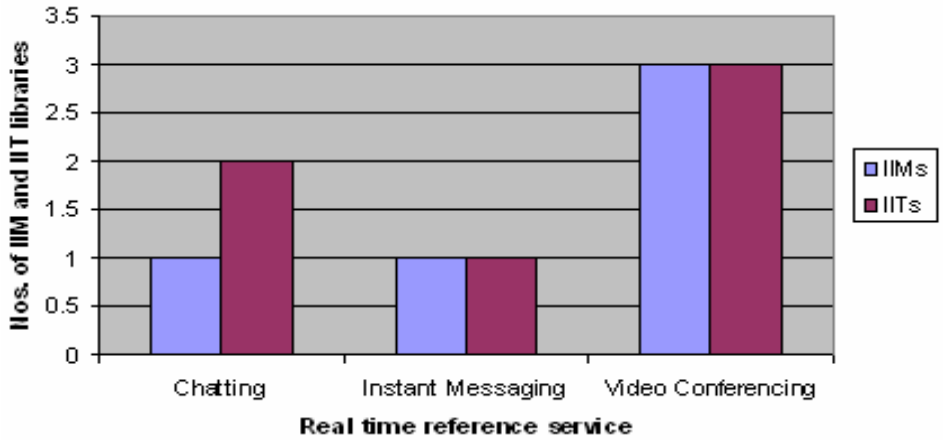

Fig. - 4 : Real time reference.

Table-3 reveals that the real time reference service is an active part of the libraries of IIM Lucknow and IIT-Bombay. They provide both the chat and instant message services frequently. However, IIT-Madras has made provision only for chat reference service. Only six (3 IITs and 3 IIMs) libraries provide video conferencing service.

7.4 Links to E-Resources

The growing popularity of electronic information resources and the increasing demand of information seekers has necessitated the present day libraries to acquire e-resources. The libraries of IITs and IIMs have built up a good collection of e-resources such as, e-books, e-journals, e-databases, e-thesis, standards, patents etc. and the links to e-resources provide a quick accessibility all these resources. Through the library FAQ, OPAC and Links to other open Access/ free resources, the users are capable to search their required information on line and obtain such resources through electronic mode of distribution.

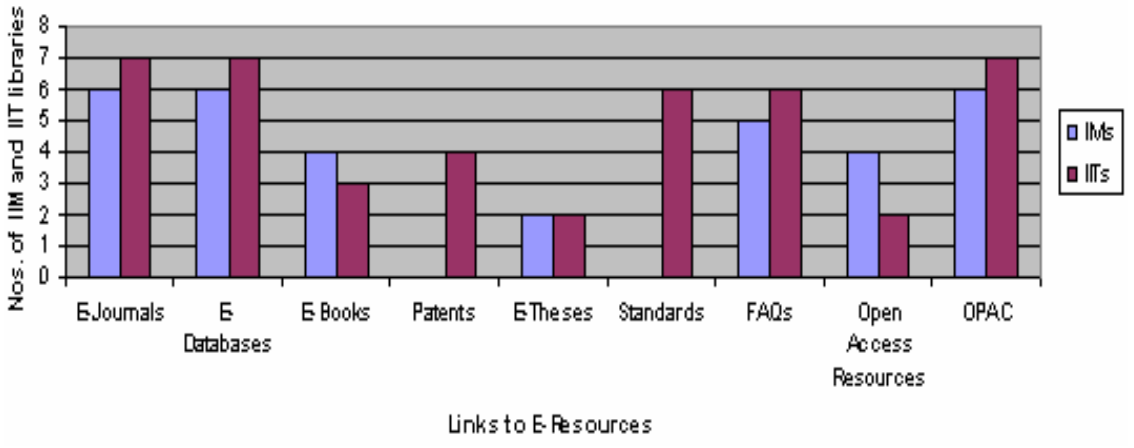

Fig. – 4 : Links to e-resources.

The graphical representation above reveals that all the 13 libraries of IIMs and IITs provide links to their e-resources such as OPACs, e-journals and e-databases. While 7 libraries have links to e-books, 4 of them have linked to their e-thesis and e-patents. A link to FAQ of the library has been given in 11 libraries and libraries have links for online access to open access resources in various subjects.

7.5 Referral Service

Referral service gives the reference source of required information. In case of IITs and IIMs the referral service includes the links to different publisher's sites, links to other websites, interlibrary loan and directory service.

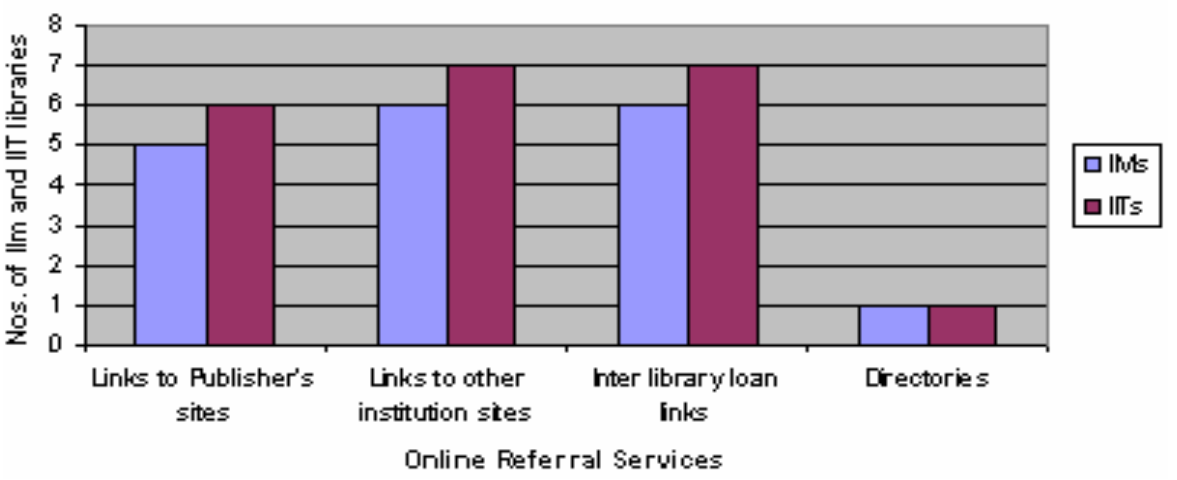

Fig. -5 : Referral Service.

Fig-5 indicates a high response towards the interlibrary loan service among the IITs and IIMs library and also link with publisher are greatly influence the level of referral service in the library.

7.6 Web form or Query form Service

In web forms the user fills out an online form on the libraries websites. It structures the user's request in such a way that helps the user in providing additional supply of information that will specify his/her request. The query thus structured is submitted to the respective library and the person replying these will post an e-mail reply to the user immediately.

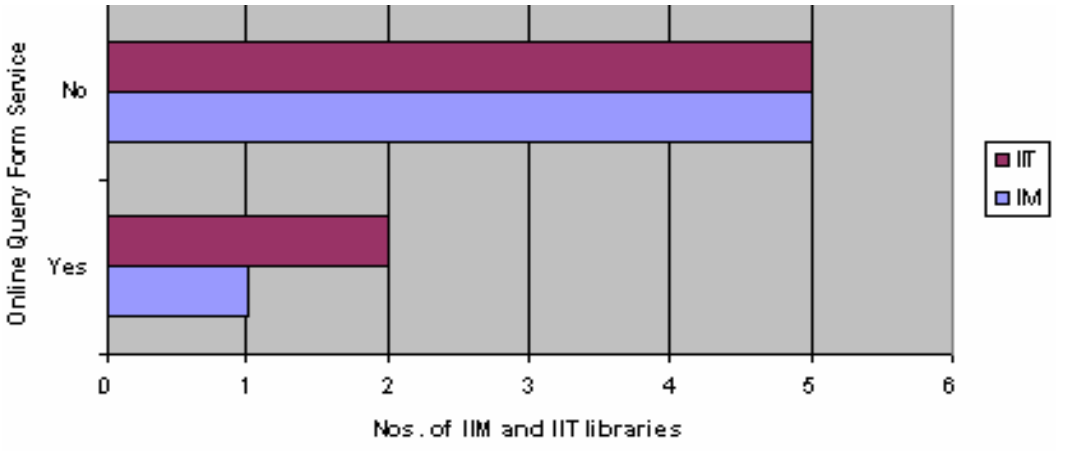

Fig.-6: Web form or Query form service

Table-10 and its associated graph shows that the web form, is used for VRS services in two IITs, IIT-Bombay and IIT- Madras. It is also used in the IIM –Calcutta.

7.7 Collaborative reference Service

In this model, two or more libraries team up to offer reference service using any of the online formats. It includes union list or union catalogue of Participating libraries and also takes initiation towards providing consortia based resources to the libraries under study for serving the users in a better way.

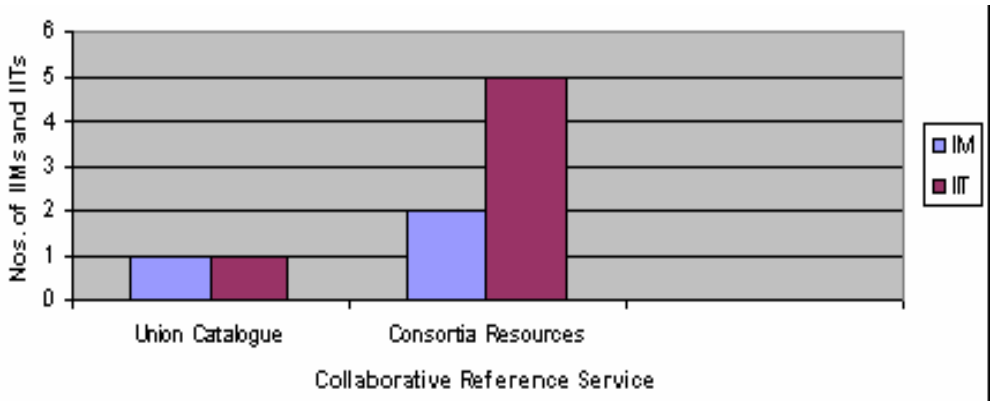

Fig. – 6 : Collaborative reference service.

Fig-6 indicate that out of all the 6 IIMs libraries, only two library, IIM-Ahmedabad library and IIM-Kozhikode library are able to provide consortia based resources to their users through Internet but in case of IITs, out of 7 libraries, 5 are able to provide such facilities. In India all IITs and IIMs generally provide consortium reference resources through INDEST. Also in case of IIM-Kozhikode the IIM consortium is also take active part towards providing reference resources, but the union catalogue is not so efficiently used in any IIMs and IITs Libraries.

7.8 E-Print archives

E-Prints are electronic copies of academic research papers. They may take the form of Pre-print (Papers before they have been referred) or `post print' (after they have been referred). They may be Journal articles, conference papers, book chapters or any other form of research output. Typically, an e-print archive is normally made for freely available on the web with the aim of ensuring the widest possible dissemination of their contents, now the IITs and IIMs libraries of India are putting to provide such archives to their users.

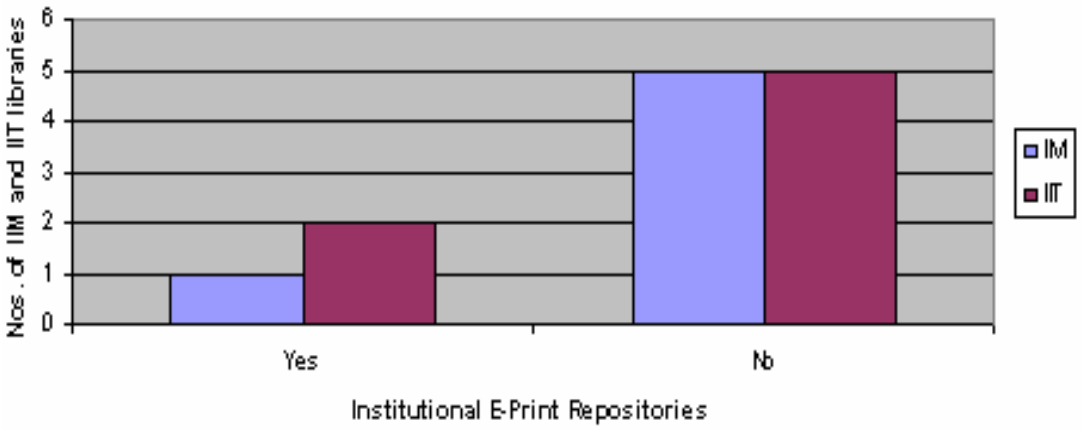

Fig.-7: E-print archives.

It is revealed from the above figure among all the IITs and IIMs libraries, only one IIMs library i.e. IIM- Kozhikode and two IITs library such as IIT-Delhi and IIT-Kharagpur are till now able provide e-print archive service.

7.9 Feedback form Service

In feedback form the libraries provide an online form for asking questions to libraries, librarian, also sending suggestion, views and comment upon the library service for building up the service in a more effective way. Now days all the IITs and IIMs are try to provide feedback form service to build up a standard up a standard and user oriented library service.

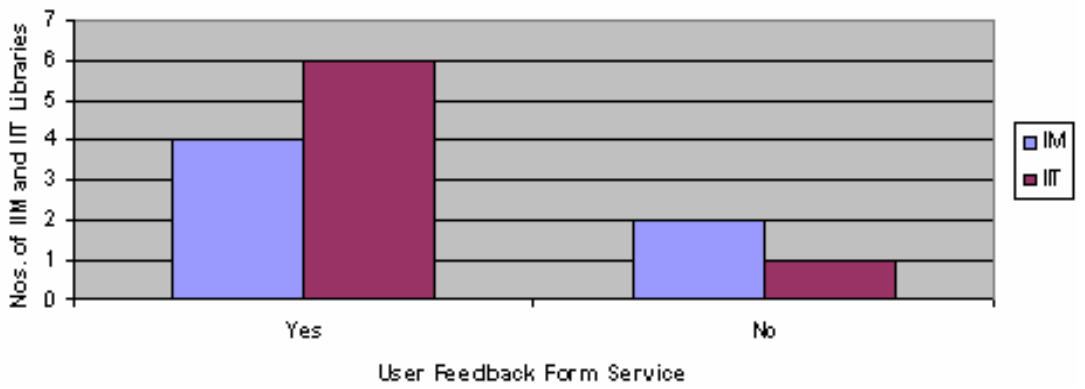

Fig.-8: Feedback form service

Fig-8 indicates that the feedback forms are heavily used by the users of IITs in comparison to IIMs. Where about six IITs library are able to provide these facilities in comparison to that only 4 IIMs are efficient towards provide feedback form service.

8. MAJOR FINDINGS OF THE STUDY

The systematic and careful study undertaken in this work disclosed the current state of digital reference in the premier institutions the IIMs and IITs. The investigator found it worth mentioning the important findings obtained from analysis and interpretation of data.

(i) The study revealed that only 2 (15.4%) IITs, i.e. IIT, Bombay and IIT, Madras are providing a `Reference Desk' or a Help Desk Service. This information indicates that the above institutions have not yet been seriously concerned about the Reference Desk services to their clientele.

(ii) Reference Service through e-mails are being provided by only 7 (53.9%) libraries in different forms, such as, TOC Alerts, Ask a librarian, Question Point, customized news to users, latest library additions etc. Surprisingly institutions like IIM-C, IIT-G, IIT-K, IIT-R and IIT-KGP do not provide e-mail based reference service.

(iii) `Video Conferencing' as a real-time reference service being facilitate in 6 (46.1%) libraries, IIM-B, IIM-K, IIM-I, IIT-D, IIT-KGP and IIT-M. However, only 3(23.0%) libraries have introduced 'Online chat' facility as a mode of real-time reference service. IIM-L and IIT-B are also provides 'instant messaging' service.

(iv) The libraries under study either have a local collection of digital resource or they have remote access to various databases outside. The study revealed that all the libraries provide links to their collection of e-journals, e-data bases and OPAC. However, links to e-books, Patents, e-theses, standards, FAQ and Open access resources are being provided by 7(53.9%), 4(30.76%), 1(7.7%), 6(46.15%), 11(84.6%) and 6(46.15%) libraries respectively.

(v) It is revealed here that all the libraries under study have linked the web sites of other institutes and 'ILL'. But (84.6%) libraries provide links to publishers of e-journals, data base etc. and only 2(15.4%) libraries have their 'online directories'.

(vi) 'Query form' is an effective tool for the input of the users' query form remote locations in standard format. In this study only 3(3.33%) libraries, IIM-C, IIT-B and IIT-M are having their query forms on their web sties.

(vii) While, collaborative reference service provide through 'union catalogues' by 2(15.4%) libraries, 7(53.9%) libraries provide consortia based resources to their user.

(viii) In 3(23%) libraries under study, institutional e-print archives have been set up and research output is communicated through this archive.

9. CONCLUSION

Increasingly, virtual reference service are being developed and implemented at libraries across the country. Unfortunately, similar emphasis on developing an assessment techniques, measures, and standards is not progressing at a similar rate in India. If Virtual Reference Service is to evolve successfully as bonafide library and information services, librarians need to engage in ongoing assessment and evaluation of those services. Such assessment is essential for planning and development of these services, for cost and financial decision-making and perhaps most importantly, to ensure that user information needs are met. This study is an important first step towards better understanding how digital library services can be successfully integrated into existing library and information services of the premier academic institutions of India, the IIMs and IITs.

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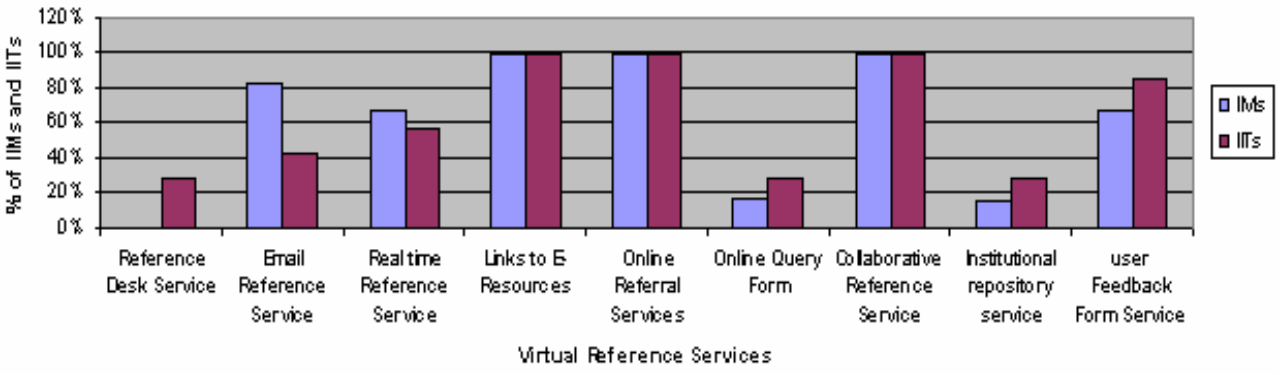
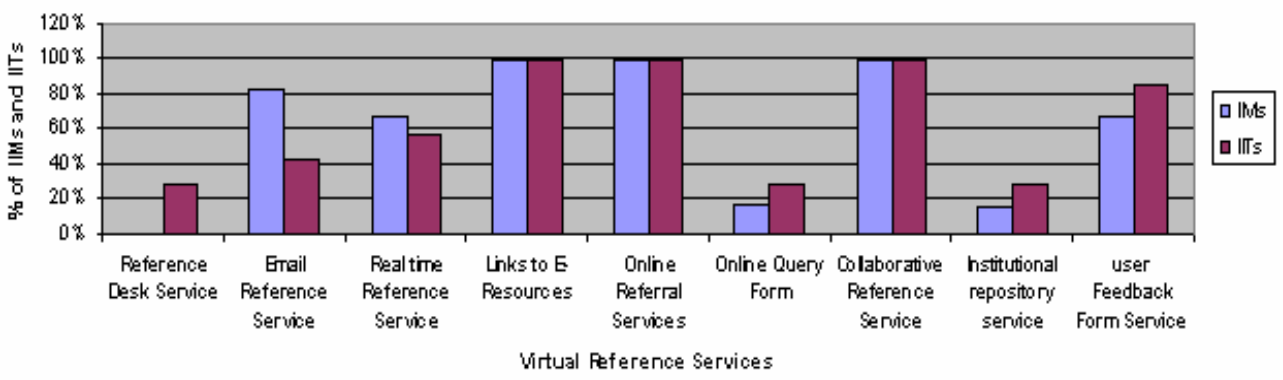


Sl No.	Type of VRS Provided	IIMA	IIMC	IIMB	IIML	IIMK	IIMI	Total	IITKGP	IITB	IITK	IITM	IITD	IITG	IITR	Total
1.	Reference Desk Service	×	×	×	×	×	×	00	×	√	×	√	×	×	×	02 (28.57%)
2.	E-Mail Reference Service	√	×	√	√	√	√	05 (83.33%)	×	√	×	√	√	×	×	03 (42.85%)
3.	Real time Reference Service	×	×	√	√	√	√	04 (66.66%)	√	√	×	√	√	×	×	04 (57.14%)
4.	Links to E-resources	√	√	√	√	√	√	06 (100%)	√	√	√	√	√	√	√	07 (100%)
5.	Online Referral Service	√	√	√	√	√	√	06 (100%)	√	√	√	√	√	√	√	07 (100%)
6.	Online Query Form	×	√	×	×	×	×	01 (16.66%)		√		√				02 (28.57%)
7.	Collaborative Reference Service	√	√	√	√	√	√	06 (100%)	√	√	√	√	√	√	√	07 (100%)
8.	Institutional Repository Service	×	×	×	×	√	×	01 (16.66%)	√	×	×	×	√	×	×	02 (28.57%)
9.	User Feedback form service	√	√	√	×		√	04 (66.66%)	×	√	√	√	√	√	√	06 (85.71%)


120%
100%
80%
60%
40%
20%
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% of IIMs and IITs
Reference Desk Service
Email Reference Service
Real time Reference Service
Links to E-Resources
Online Referral Services
Online Query Form
Collaborative Reference Service
Institutional repository service
user Feedback Form Service
Virtual Reference Services
IIMs
IITs