# WEBBASED LIBRARY RESOURCES AND SERVICES: A RELATIVE STUDY OF IITS AND NITS

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## Abstract

*The purpose of this paper addresses the web-based library services and resources provided through the library website in IITs and NITs and suggest new ways to satisfy young technocrats in the digital era. Indian Institute of Technology (IITs) and National Institutes of Technology (NITs) are renowned as leading institutes of higher education and research of technology in India. This study attempt to know about web based library resources and services offered by IITs and NITs library through their web sites. The entire study indicates that IITs and NITs are comprise with outstanding web-based resources and services, good number of IITs are having dynamic website in compare to NITs. All the libraries covered in study are having library websites and general library information on their respective library webpage. It is recommended that these libraries need to move to the next stage of hi-tech services i.e. dynamic websites, use social networking and mobile apps to satisfy the young technocrats.*

*Keywords: Web-based Resources (WBR), Indian Institute of Technology (IITs), Web-based Services (WBS), Web 2.0, Social Networking, National Institutes of Technology (NITs), Information and communication technologies (ICT)*

This era is known as a digital era. ICT have become routine entities in all aspects of life. The educational systems and processes are significantly influenced by the enormously rapid technological changes.[1] IITsareautonomous and independent public institutes and known for quality based technical education, research and proud of nationwith globally recognized for the quality education.Education is a very socially inclined activity and quality of education in any society is a measure of its growth and development. In India quality education in engineering and technology, is the alternative word to take education at IITs because IITs are the premier institutions for engineering education and research in technology in India. Teaching and research quality of these institutes' is very high standard which is match with international technological university. According to QS (Quacquarelli Symonds) World University Rankings IIT Delhi ranked 79th and IIT Bombay ranked 13th in the year 2015 and 2016 respectively among top 200 universities in the world. (http://www.asianage.com/print/518531)At the moment there are total 22 IITs are in existence in India up to session of 2016. The National Institutes of Technology earlier knew as regional engineering colleges of India. These institutes came into existence by the Act of Parliament. NITS also known as pride of nation in imparting quality based technical education in the India. NITs offers undergraduate to doctoral courses in the area of science and technology.

## Traditional Library Services to Web-based Library Services

In traditional libraries printed resources are used to create library services by the library professionals. But now a day's digital web-based digital library resources are used with web-based interfaces. These services are WEBOPAC, e DDS, E CAS, Remote Access, e index, e reserve, Short Massages, e-journals and online databases, Federated Search, Discovery, Library twitter, Library Virtual Tour, Institutional Repository (IR), Library blog, Mobile apps etc. are phenomenal practices implemented to attract users with high technology. To keeping up tuning with ICT based latest technology, Libraries are forced to increase delivery of library services in hybrid environment to satisfy the users' expectations. Now a days library users' can access library services as well as resources inside and outside campus. According to Jena [2] ICT have made great impact on each and every academic activity where library website is the library portal that is being called as the "Mirror of the Library". However, Libraries should provide better web-based services to their users.

## Need for the Study

Library is service oriented organisation and supportive role in academic institute. If an institute is doing academically well, there is no doubt about ithaving a good library resources and services to support it. IITs libraries are expected to identify, acquire, organize, store, retrieve and disseminate information not only on the specific subject covered by the curriculum, but also on the current directions of technological advancement.[3]To make NITs library website effective, decorative, dynamic and informative in real situation need to compare and adoption of contents and information of fully developed library websites of other institutions of national importance such as Indian Institutes of Technology and Indian Institutes of Management.[4]Keeping these opinions the web-based library resources and services of IITsand NITs libraries were studied and presented in this paper.

## Objective of the Study

To find out accessibility of libraries' websites and hosted library information; To assess the library resources and services supported through the library websites; To find out the nature of libraries' websites whether it is static or dynamic; To Analyze relative study of web-based resources and services among all IITs and NITs libraries; To suggest new ways for effective technology based library services

## Research Methodology

This study is basically designed on observation methods, the data was collected by visiting the library websites of the

all IIT's and NIT's covered in this study. The Library website were accessed through their institute's website. Data were collected based on check list prepared for the study and maintain in Excel Sheet. The scope of this study is limited to IITs and NITs, established from year 1950 to 2009 which comprises 15 IITs among 22 IITs in India and 19 NITs among 29 NITs in India. Library website of 15 IITs and 19 NITs accessed. The collected data were analyzed and interpreted.

### Review of Literature

Lwoga's[5] discussed about integrate web 2.0 technologies in its library services to provide quality library services to undergraduate medical students of MUHAS users in Tanzania. This paper also discussed about effectively implementation of web 2.0 technology to achieve university goals and user's need, difficulty faced in implementation and area also discussed and reveled that most academic libraries in Africa have not yet adopted Web 2.0 technologies to improve their services. Wordofa's[6] studied implementation of web 2.0 technology in libraries of top universities in Africa and reveled that web 2.0 tools mostly used to share and promote the information of library resources, services and activities to the users. Author concludes that the adoption of Web 2.0 technologies by academic libraries in Sub-Saharan Africa appears to be still at an early stage. The adoption rate by libraries of the elite universities in Africa was found to be far below that of the developed world. Faisal[7] discussed about role of emergence social networks in library services. Blog of kendriyaVidyalaya, Pattom, Kerala and various library services and activities through the home page of library blogs also described and reveled that web 2.0 technology that can be implemented as a part of library services to reshaping the library.Madhusudhan[8] studied university libraries of India are still in different stage and not exploit at full potential of websites and suggested that there is an urgent need to implementation of web-based library services, web 2.0 technology services should be offer to keep user's abreast with library resources and services through the dynamic library website in Indian Universities.Chintha[9] described that now Indian libraries have stated to provide web-based services as well as portals and web 2.0 technology to satisfy the need of users and web-based OPAC service has key roles in access library resources from the remote places and need to provide federated search services. According to Madhusudhan[10], the librarians should be experts to manage this paradigm shift of from paper to electronic delivery service and physical presence to virtual presence. Librarian can play very important leadership role to meet the challenges of providing better web-based service to the users.Mal's[11]Conclude that web-based information service will become highly effective in academic libraries

especially in the case of students as well as faculty/staff members access the information at their desktop without wasting their valuable time.

### Analysis and Interpretation

The study started with the observation on nature of websites whether libraries are having dynamic website or static website. It was found that Out of 15 IITs covered in this study only 7(47%) of IITs are having dynamic website whereas ratio of dynamic websites are very poor in NITs. Out of 19 NITs only 1(5%) have dynamic website. Majority of libraries are having static website.

It has been observed from the following table 1 that availability and details of web-based resources among IITs and NITs accessible through the library websites of respective institutes. Resources are supported through website are defines as web-based library resources and services.

Table 1 - WBR among IITs and NITs libraries in India

| Web-based library sources | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| Text Books | 7% | 21% |
| Newspaper Clippings | 7% | 16% |
| e thesis | 33% | 5% |
| Photographs | 80% | 5% |
| Print Journals | 87% | 63% |
| Back volume | 87% | 26% |
| Cd / DVDS | 87% | 11% |

It is reveled from the above the table 1 that out of 15 only one (7%) IIT provides textbook and newspaper clipping as a web-based Resources(WBR) while out of 19 NITs, 4 (21%) provides textbooks and 3 NITs (16%)of NITs providing newspaper clippings as a WBR. Ratio of providing this services in NITs is sound in comparison to IITs. Now a days trend of ETD (Electronic Thesis becomes more popular in academia. 5(33%) IITsare having electronic thesis whereas only 01 NIT (5%) provides this facility online. It is also observed that Photographsas a WBR given by 13 (87%) IIT's of India whileonly 1 (5%) of NITs provides the same. It is found from the study that Print Journals,Back volume and Cd / DVDS as a WBR given by 13 (87%) IIT's whereas 12 (63%), 5(26%) and 2 (11%) respective NITs provides these services as WBR.

Table 2 - WBR among IITs and NITs libraries in India

| Web-based library sources | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| FAQ | 87% | 32% |
| e books | 87% | 47% |
| Institutional Repository | 87% | 5% |
| NPTEL | 87% | 21% |
| Online Databases | 93% | 79% |
| Online e journals | 93% | 79% |
| General Library Information | 100% | 100% |

It is depicts from the table 2 that 13(87%) of IITs providing FAQ, e-books,Institutional Repository,NPTEL as a WBR

whereas ratio of these services in NITs are very low respectively 63 (2%), 9 (47%), 1(5%) and 4(20%) of NITs.Table no. 2 also shows the number of libraries providing online databases, online e journals and general library information as a WBR. Out of 15 majority of IITs14 (93%) provides access of online database and e-journals whereas Out of 19 NITs only 4 (21%) of NITs provides online database and majority of NITs 15 (79%) provides access of e-journals. Library website also act as handy brochure for the users. To keep all users abreast with all General Information all the IITs and NITs provides this information through the website.

**Web-based Library Services among IITs and NITsLibraries in India**

This study categorizedweb-based library services in five divisions namely, Reference Services, Acquisition Services, Cataloguing Services, Circulation Services, General Services and web 2.0 tools in the libraries.

Table 3 - WBS (Reference) among IITs and NITs libraries in India

| Web-based library Services | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| e DDS | 80% | 21% |
| e CAS | 80% | 37% |
| e SDI | 80% | 32% |
| Remote Access | 80% | 63% |
| Ask A Librarian | 93% | 16% |

It is depicts from the table 3 that out of 15 majority 12 (80%) of IITs are having e-DDS, e-CAS, e-SDI and remote access facility through their websites where as only 4 (21%) of NITs are having e-DDS, 7(37%) having –CAS, 6(32%) are having e-SDI and good number of NITS 12(63%) are providing remote access facility to the users through their website. Majority of IITs 14(93%) are providing ask a Librarian services whereas only 3(16%) of NITs are providing this services through website.

Table 4 - WBS (Acquisition) among IITs and NITs libraries in India

| Web-based library Services | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| list of new arrivals | 87% | 58% |
| e index | 87% | 21% |
| e reserve | 13% | 11% |

It is observed from the above table 4 that out of 15 majority 13 (87%) of IITs are having list of new arrivals e-index services whereas 11(58%) of NITs provides list of new arrival and 4(21%) are having e-index services through the library websites, e-reserve services are providing by very low number of institutes.

Table 5 - WBS (Cataloguing) among IITs and NITs libraries in India

| Web-based library Services | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| FEDERATED Search | 87% | 0% |
| WEBOPAC | 87% | 74% |
| path finder's bibliographies | 7% | 0% |

Table 5 shows that the numbers of institutes are providing various cataloguing based services. Out of 15 majority 13 (87%) of IITs are having federated search or WEBOPAC services through the library website whereas good number of NITs 14 (74%) are providing WEBOPAC facility and none of NITs providing federated search facility. Path finder's bibliographies as WBS given by one (7%) IIT and no NIT deliver the same.

Table 6 - WBS (Circulation) among IITs and NITs libraries in India

| Web-based library Services | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| Reservation | 20% | 21% |
| status account of user/s | 87% | 74% |

It is depicts from the above table 6 that both good number of the institutes are providing services related circulation through websites.

Table 7 - WBS (General) among IITs and NITs libraries in India

| Web-based library Services | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| staff list | 87% | 84% |
| Library news | 87% | 47% |
| e mail based services | 87% | 16% |
| Library tour | 87% | 11% |
| Library map | 87% | 11% |
| Library holidays | 87% | 68% |

It is observed from the table 7 that majority of NITs 13 (87%) are providing staff list, Library news, email based services, Library tour and library map through their websites whereas ratio of these services are poor in NITs only 2(11%) of NITs are having Library tour and Library map on their website. 3 (16%) libraries of NITs are providing email based library services, 9 (47%) of libraries of NITs are providing Library news and good number of libraries 16 (84%) out of 19 are having a staff list on their library website.

Web 2.0 tools in IITs & NITs Libraries:This is the second generation of web known as web 2.0. It is based 'interactive' in the nature and by the use of this technology library users can interact with others. Web 2.0 tools include Social networking sites, Twitter, Wikis, Blogs, Skype, cloud computing Android apps etc.Some of web 2.0 tools are used by libraries among IITs & NITs of India.

Table 8 - WBS (web 2.0) among IITs and NITs libraries in India

| Web 2.0 tools | Number of IIT(n=15) | Number of NIT(n=19) |
|---|---|---|
| Social Networking | 80% | 11% |
| Library twitter | 40% | 5% |
| Library wiki | 40% | 5% |
| Institutional Repository (IR) | 60% | 5% |
| Library blog | 13%2 | 0% |
| Android application | 7% | 0% |

Table 8 shows that majority libraries of IITs are using social media through the library websites. When we are discussing about libraries presence on social networking Out of 15, 12(80%) of libraries are having presence on social networking

whereas only 02 (11%) of libraries of NITs are having presence this indicate very poor results of the same. Out of 15 Libraries of IITs only 1(7%) of libraries have android based mobile application. Presence on Twitter, Library Wiki, and Library Blog are sound in the libraries of IITs in compare to Libraries of NITs. To keep tuning with young generation's interests' libraries should have presence on social media and android based mobile application also attract the users.

## Conclusion

The entire study indicates that IITs and NITs are comprised with outstanding Web-based resources and effectively provide web-based services to their users. Study shows that prime web-based resources in the libraries of the IITs are e-thesis, photographs, Print Journals, Back Volume, Cd/DVDs, FAQ, e books, Institutional Repository, NPTEL, Online Databases and Online e journals as compare to NITs web-based resources, whereas Text Books and Newspaper Clippings as a web-based resources are prime for NITs as compare to IITs Web based sources.

The prime web-based services for IITs are Institutional Repository (IR), e DDS,e CAS,e SDI,Remote Access,List of new arrivals,e index,FEDERATED Search,WEBOPAC,status account of user/s,Library news,e mail based services,Library tour,Library map and Ask A Librarian as compare to NITs Web based services, whereas e journal and online databases are prime services of NITs as compare to IITs web based services.

Regarding Web based services like Android application; Library blog; Library twitter and Library wiki are found in very low percentage in libraries of IITs and NITs.

It is also observed from the study that Libraries of IITs are providing better web-based services in compare to NITs libraries on social networking. NITs library should extend this services based on social networking to keep abreast their users with each move of the library.

A practical suggestion for improving web-based library services is that the basic function of the academic libraries is to serve user community in better way through the user focused library services and resources. Websites, social networks, library blogs, new frontier mobile apps are handy tools to incorporate into academic library to reach at each library users. This application helps library professionals to reach out to young generation users at their own space. Library website should be updated just like handy Library Brochure so that without physical visit to Library, User can make themselves aware from each and every move of the Library. There is an urgent need to develop library mobile apps, create dynamic website and use of social networking and social media should be incorporate with library website.

Hence, internet and mobile apps scenarios, library and librarians would become content providers on an equal footing with current technology and would create apps for users to achieve an ultimate goal to give right information at right time at right format on smart phones.

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