

IIT Madras and IIT Bombay, Central Library Portal: Content Analysis

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Abstract

IITs are determined as chief institutes of technical, higher education as well as research in India. These institutes have common objectives to further advancement of learning and dissemination of knowledge. To fulfill this objective, library portal plays a vital role in providing information sources and services through it. According to MHRD, NIRF IIT Madras and IIT Bombay are top two IITs. Their library portals also make them at the top. As IIT Madras is at first rank and IIT Bombay at second place, the information on portals are informative, current, and accountable to their users. The study e-survey method has been used to collect the data. The primary data of the study has been collected through observation technique. The main aim of the study is to know about the content features of library portal of IIT Madras and IIT Bombay, to evaluate the portals for verification of currency, navigation and accessibility and to find out the resources and services provided on portal. The study also suggests the measures for improvement of library portal of the present IITs. The checklist is based on 95 items have been created in tables under the following heads: general information, accessibility, navigation, currency, e-resources, services and special features.

Keywords: Content Analysis, Library Portal, IIT Madras, IIT Bombay

1. Introduction

In libraries, World Wide Web (WWW) has replaced the form of information acquisition, organization and dissemination. The information seekers, whether student, research scholar or faculty member, do not have much time to getting information in a formal way. However, they prefer to get it through web. Library portal plays a vital role in providing information resources and services that it supports their needs. It should have user-friendly, convenient essence, simple structure, pertinent resources and services.

Research institutes especially IITs have library portal to provide best quality information for their patrons.

It gives direct links to library e-resources, e-services as well as print collection of a particular library. It plays a very important role in displaying their resources and services in front of their patrons because of its key features like ease of use, user authentication, search and navigation. It is the best device to fulfill Ranganathan's fourth law.

IITs are the prime institutes in scientific and research education. IIT Madras and IIT Bombay are at the first and second rank according to the MHRD, National Institutional Ranking Framework (NIRF) 2017. Library plays a vital role in ranking it because of the provision of resources and services to their patrons. The study helps us in finding out that how library portal of these IITs play role in ranking them at the top.



2. Literature Review

Various studies have been executed on content analysis of library portal. Madhusudhan's (2012) study entitled "Content Evaluation of Indian Institutes of Technology Library Websites in India. The study assesses the content features of IITs library websites and uses a mixed-method that combines both quantitative and qualitative aspects of library websites evaluation with the help of a specifically designed checklist. The study has found that libraries, to improve their web-based services, particularly Web2.0-based features also provide a model for newly established IIT libraries. Mane and Panage's (2015) study deals with the Savitribai Phule Pune University Library portal, its features and underlying technologies in order to identify its strength and weakness. The portal's simple structure helps users to browse various e-resources on portal. Pareek and Gupta (2013) studied that 52 library websites of Rajasthan have been examined their content and navigational strengths and weaknesses give recommendations for developing better web sites and quality assessment studies. Savitha and Parameshappa's (2016) study "An Engineering college Library websites of Mysore: A Content Analysis" reveals that library websites are a significant device to technical education and these provide traditional as well as electronic service to their users. Vijayakumar, Kannappanavar and Mestri's (2009) study revealed that the library portals of IITs provide detailed information with links and menus to access information from different information resources. Portals also contain basic information such as information about the library and news and events of the library.

3. Objectives

Following are the objectives of the study:

- ❖ To know about the features related to content of IIT Madras and IIT Bombay library portal.
- ❖ To identify the portal's design for content analysis of library portal under study.
- ❖ To evaluate the portal for verification of currency, navigation and accessibility.
- ❖ To find out the resources and services provided on the library portal.
- ❖ To suggest measures for improvement of library portal of IIT Madras and IIT Bombay.

4. Methodology

The present study is confined to IIT Madras and IIT Bombay library portal. The study e-survey method has been used to collect the data. The primary data of the study has been collected through observation technique. The study analyzed the IIT Madras and IIT Bombay library portal with its content, organization and linking of resources and services. The checklists are created in tables given in sub-sections in the following headings of tables:

- ❖ General Information
- ❖ Accessibility
- ❖ Navigation
- ❖ Currency
- ❖ Library Collection (Print)
- ❖ E-Resources
- ❖ Services
- ❖ Special features

5. Scope

The Present study is entitled “IIT Madras and IIT Bombay Central Library Portal: Content Analysis. The study is limited to evaluate IIT Madras library and IIT Bombay library portal. It deals with content available on web during 1st April 2017 to 30th April 2017 through IIT Madras <http://www.cenlib.iitm.ac.in/> and IIT Bombay <http://www.library.iitb.ac.in/>.

6. IIT Madras and IIT Bombay and their Libraries: Brief view

The Indian Institute of Technology Madras is one amongst the primary institutes of national importance in advanced scientific education, basic and applied research. In 1956, the German Government presented technical aid for founding an institute of advanced education in engineering in India. It was for the establishment of the Indian Institute of Technology at Madras and this was signed in 1959; it was the first Indo-German agreement in Bonn.

The Central Library started functioning in 1959 from the Civil Engineering Department . In 1965 the Central Library moved to autonomous building in front of the Institute’s Main Guest House. It has applied Integrated RFID Technology, Smart Card, Virtual Reference Desk, Contactless Smart Card Enabled Access Control System, and ISO 9001:2000 Standards, It has also E-Book Drop System, Auto check-in and check-out system, Z39.50 and Web portal.

IIT Bombay was established in 1958 with foreign aid. The funds from UNESCO came as Ruble from the then Soviet Union. In 1961 Parliament announced that the IITs as ‘Institutes of National

Importance’. Meanwhile then, IITB developed from asset to asset to one of the top technical academia in the world.

The Central Library is a place of self-importance in IIT Bombay and is a vital section of the institution’s outstanding research and education mission. It is a most sparkling abode on the campus providing comfortable and friendly environment that enables learning and advancement of knowledge, and promotes discovery and scholarship.

7. Data Analysis And Interpretation

The relevant data have been collected through the e-survey method and with observation technique during the phase of 1st April 2017 to 30th April 2017 of IIT Madras and IIT Bombay Central Library and the data have been presented in tabulation form.

7.1. General Information

Table-1

General Information	IIT Madras	IIT Bombay
About Library	√	√
Working hours	√	√
Staff Directory	√	√
General Library rules	√	×
Mission/objectives	√	√
FAQs	√	√
News/Events	×	√
Annual reports	×	×
Floor map	√	×
Newsletter	×	×
Web OPAC	√	√
Library Committee	√	×
Photo Gallery	√	×
Notifications	√	×

Site map	×	√
Library location	×	×
Mail address	√	√
Postal Address	√	√
Phone number	√	√
List of librarians	√	×
Library Team	×	√

Table-1 shows that the Library Portal of IIT Madras provides general information regarding library, working hours, staff directory, library rules, mission, floor map, web OPAC, library committee, notifications, mail address, postal address, list of librarians (since 1959-2016). The Bombay IIT's Library Portal also contains information about the library, working hour, staff directory, mission, FAQs, Web OPAC, site map, mail address, postal address, phone number and library team. The portal gives information about the renovation of library building, but not about its floor plan.

7.2. Accessibility

Table-2

Accessibility	IIT Madras	IIT Bombay
Access within 10 seconds	√	√
Portal can accessed publicly	√	√
Link with institute website homepage	×	√
Not more than three clicks from homepage of institute	√	√
Not found page /errors/ site can't reached	√	√
Under construction few pages	×	×
Blocked links	×	√
Log in links	√	√

Table-2 acknowledges the accessibility of IIT Madras library portal. The library portal of IIT Madras is accessible within ten seconds through Google. There are only few links that are dead such as open source arrangement, reference sources, etc. There is no page which is under construction. There is no link with institute website homepage. IIT Madras has a few log in links such as emerald cases. The IIT Bombay library portal is also publicly accessible within ten seconds through Google. The link of library also avails through its institute website, i.e. from IIT Bombay website and not more than two clicks from the institute website. There is no page which is under construction.

The link of Journals A to Z does not respond with server not found. A few databases in IIT Bombay are blocked such as J C R Database and few them need log in such as EMIS, Engineering Village- Inspec, ProQuest, and CDEEP Video lectures. The dead link in IIT Bombay library portal is journals A-Z. The "site can't be reached" has been presented on portal such as Application Software Cell, Moodle, INDEST, NPTEL.

7.3. Navigation

Table-3

Navigation	IIT Madras	IIT Bombay
Home link on every page of portal	√	√
Page title links to contents	√	√
Page title provide Web OPAC	√	√
Use of Library picture	√	√
Only text version	√	√

Table-3 states the navigation of library portal of IIT Madras and IIT Bombay. Navigation is a route through which users can easily search within the portal. The navigation of IIT Madras and IIT Bombay library portals provide link of home on every page of portal. Title page also links to contents and provides Web OPAC. The IIT Bombay provides Web OPAC, search site and also provides search bar for J-Gate database. Title page use library picture with text. There are other content pages of portal where only text version.

7.4. Currency:

Table-4

Currency	IIT Madras	IIT Bombay
Copyright information	√	×
Portal is updated frequently	√	√
Current information and meet the needs of users	√	√
Page updated?	√	√
Library portal feedback form or e-mail link	√	√
New Arrivals (Additions)	√	√

Table-4 acknowledges the currency of IIT Madras Central library portal. The information of copyright was provided to their users, such as Copyrights © 2016-17 IIT Madras Central Library, but IIT Bombay does not provide copyright information. The pages like e-resources are timely updated in both IIT Madras and IIT Bombay. There is also provision of feedback form or e-mail link to give their views on problems faced by their users, recommendation to new books and journals in both IITs library portal.

The portal also provides information about the new arrivals in library.

7.5. Library Collection

Table-5

Library Collection (Print)	IIT Madras	IIT Bombay
Books	√	√
Journals	√	√
Reference Sources	√	√
Back Volumes	√	√
Standards	√	√
Patents	√	√
Theses	√	√
Universities Prospectus	√	×
Reports	√	√
Union Catalogue	×	√

Table-5 states that the library print collections floor wise such as books, journals (indexing and abstracting), reference sources, back volumes of HSS, theses, standards, patents, prospectus and reports in IIT Madras. The IIT Bombay library portal provides information about back volumes of periodicals and it holds 1, 06,533. IIT Bombay has also access to the union catalogue of NUCSSI database which is an ideal tool to access journal.

7.6. E-Resources

Table-6

E-Resources	IIT Madras	IIT Bombay
E-Databases		
Bibliographic	√	√
Full Text	√	√
Standards	√	√
Abstracting	√	√
Citation	√	√
Patent	√	×
E-Journals		
A to Z	√	√
Department-wise	×	×
Publisher-wise	√	√
Subject-wise	×	×
Back Volumes	×	×
E-books		
Link to e-books	√	√
E-books Publisher wise	√	×
Free e-books	×	√
IR/ETD		
Institutional Repository	√	√
Electronic Theses Dissertations	×	√
ProQuest Dissertations & Theses	√	×
National Digital Library	×	√
Consortia		
e-ShodhSindhu	√	×
INDEST	×	√
DelCON	×	×
Open Access Resources	√	√
Archives	×	√

Table-6 reveals that the portal provides bibliographic as well as full-text databases such as ASM Alloy Phase Diagrams, BMJ Learning, JCR, JSTOR, MathSciNet, RSC Database, SciFinder Scholar, SCOPUS Database, etc. There are some citation databases such as Web of Science. There is also provision of Standards like ASTM Standards, Indian Standards on CD-ROM, ISO Standards on Civil Engineering and IEC Standards.

The portal of IIT Madras, Central Library also provides e-resources under the following heads— e-journals, e-books, institutional repository, ETD and consortium. The portal provides e-journals alphabetically (A-Z) and publisher wise, not departmentwise subject wise. There is no provision on back volumes. The portal provides e-books link and e-books access over 6000+ publisher-wise to their users. The IIT Madras Central Library portal also provides link of institutional repository as IRepose IIT Madras. It preserves and enables easy and open access to all scholarly publications of IIT Madras Research. The publications can be searched through author, subject and date issued. The portal also provides electronic theses and dissertations through Pro Quest Dissertations and Theses (PQDT). There are number of e-resources provided to users through e-ShodhSindhu such as ACM Digital Library, EBSCO Databases, Elsevier-Science Direct, Emerald Full-text, IEEE/IEE Electronic Library, ISID Database, JGate-Plus (JCCC), Springer Verlag's Link, etc.

IIT Bombay has bibliographic, citation, standards and abstracting databases such as Crisil Research, Capitaline Databases Plus, CMIE Database, EMIS, Engineering Village-Inspec, ICSD, IEC Standards, IndiaStat, Inspec, MathSciNet, ProQuest, Reaxys, SciFinder Scholar, SCOPUS, and Web of Science. The IIT Bombay library portal contains 3856 e-books. The portal also provides e-journals wise.

The open access resources such as American Society for Microbiology (with Embargo), Bentham Open Access, Bio-Med Central, ChemSpider, Copernicus Publications, Current Science, DOAJ, Free Medical Journals, De Gruyter Reference Global, High Wire Press Archives Hindawi Corporation, Indian Academy of Sciences (IAS), InTech Open Access, J-Stage, MathWorld, MedIND, PLoS, Pub Med Central, SabiNet, Scholarly Exchange List, Scientific Research Pub, Friends Science Publishers. NPTEL Videos are all also provided by the portal. The open educational resources provided by the portal are Oercommons and MIT-OCW. The portal also provides link of CDs/DVDs of books, journals, conferences. It has also archives of workshop reports, list of additions and list of Hindi books. It also provides link to free e-books. The portal of IIT Bombay also provides link to users of institutional repository D Space @ IIT Bombay. The portal also provides a link of National Digital Library (NDL). It is being developed by IIT Kharagpur. IIT Madras has membership of INDEST.

7.7. Services

Table-7

Services	IIT Madras	IIT Bombay
Library Membership	√	√
Circulation	√	√
CD-ROM Search	×	√
Reprographic Service	√	√
Book Bank	√	√
Reference Service	√	√
Inter Library Loan	√	√
Document Delivery Service	√	×
Services to Industrial Members	√	√
Facilities for visually impaired students	×	√
OPAC	√	√

Table-7 acknowledges that the library portal of IIT Madras provides all types of services to their users. The services are : OPAC, self-check-in and self-check-out, self-renewal, e-book drop, book bank, book reservation, ILL, DDS, Bibliographic Compilation, Technical Consultancy, photocopying, etc. The advantage goes to every enrolled member of IIT Madras, even student, research scholar, faculty and industrial member also. The IIT Bombay Central library portal also provides link to their users of services such as circulation, reference services, OPAC, ILL, Remote access service, study room and photocopying. IIT Bombay portal provides membership to Alumni, Industrial and Corporate Houses, Engineering Educational Institutions, IITB retired faculty and officers, and other professionals.

7.8. Special Features

Table-8

Special Feature	IIT Madras	IIT Bombay
Web 2.0	×	√
Children's Library	√	×
E-Resources Usage Policy	√	√
Reference Manager	√	×
Trial Access	×	√
Anti-Plagiarism	√	×
Spoken Tutorial	×	√
Site search link	×	√

Table-8 acknowledges that the IIT Madras provides other sources and services through which to add to the value of library portal such as children's library, anti-plagiarism (Turnitin), trial access resources, reference manager through which references of a particular study can be managed such

as Mendeley and Sage Research Methods (SRMO), e-resources usage policy and membership by IIT Madras library portal.

The IIT Bombay library portal web 2.0 services are given by the library through RSS feed, Facebook, Twitter and YouTube. The portal also provides link to users to get forms related to book reservation/claims, book renew/re-issue, generate pin, book suggestion and book lost declaration. Another special feature of IIT Bombay library portal is Site Search. There are also some useful link i.e. Ask Librarian, here the users can easily send their directly to the Librarian. The spoken tutorial, link provided through portal, is the initiative of National Mission on Education through ICT, MHRD.

8. Findings:

The major findings of the present study are given below:

- ❖ Table-1 reveals that IIT Madras and IIT Bombay library- portals have given general information regarding the library, working hours, staff directory, addresses (email as well as postal, etc.) However information about annual report, newsletter and library location are not available in both portals. There are some information which are not given by IIT Madras library portal and it does not provide link to users such as news/events and site map. The IIT Bombay library portal also does not given information about library general rules, floor map, notifications, photo gallery and library committee.
- ❖ Table-2 shows the accessibility of library portals of the present IITs. The study finds out that the IIT Madras website does not provide link of the central library. It also finds that in both the library portals, not a single page is under construction.
- ❖ Table-3 acknowledges the navigation of library portals of IIT Madras and IIT Bombay. Both library portals provide home link on every page of portal, the title page provides links to contents, Web OPAC, use of library picture on title page and other pages have only text version.
- ❖ Table-4 states that IIT Madras and IIT Bombay library portals have given information about their currency. The criteria included in currency are copyright information, portal updated frequently, current information and meet the needs of users, new arrivals and feedback e-mail.
- ❖ Table-5 acknowledges that IIT Madras and IIT Bombay have books, journals, reference sources, back volumes, standards, patents, etc. However, IIT Madras has no access to any union catalogue.
- ❖ Table-6 reveals that IIT Madras and IIT Bombay library portals provide links to many types of e-resources such databases, e-journals, e-books, institutional repository, electronic theses dissertations and open access resources. However, IIT Madras does not provide links to their users National Digital Library which is being developed by IIT Kharagpur, whereas IIT Bombay does not provide any e-resource through e-ShodhSindhu.
- ❖ The library portals of IIT Madras and IIT Bombay provide all types of services to their users. Whereas IIT Bombay does not provide Document Delivery Service to their users.

- ❖ Table-8 shows the special features of IIT Madras and IIT Bombay, which make them, different from each other. IIT Madras has no link of Trial Access and Spoken Tutorial. IIT Bombay has no Children's Library, Reference Manager such as Mendeley and SRMO and Anti-Plagiarism.

9. Suggestions

Following are the suggestions:

- ❖ General Information: The IIT Madras library portal should provide link of news/events and also site map through which users can easily search and easily get updated through link of latest news or events. Whereas, IIT Bombay Central library portal should provide link of floor map for their new users because it helps them to get easy access to their needs.
- ❖ Accessibility: The IIT Madras website should also provide link to its Central Library as it will increase its accessibility. Currency: The IIT Bombay library portal should provide copyright information because it shows the currency of library and it supports education and scholarly communications.
- ❖ Library Collection (Print): The IIT Madras' library portal should be a member of the union catalogue through which better reference to journals in electronic as well as print form can be had.
- ❖ E-Resources: The IIT Madras library portal should also provide link for back volumes of e-journals. The Library should build its repository of electronic theses and dissertations and facilitate to find out the productivity of IIT Madras. The Library should also become the

member of INDEST and National Digital Library because it is a very informative link for users. Whereas the IIT Bombay library should get membership of E-ShodhSindhu as this will make users more informative.

- ❖ Services: The IIT Madras library should also provide facility for the physically impaired. IIT Bombay library should also provide Document Delivery Service to their users because users will be able to get access to full-text.

Special features The IIT Madras library portal should provide link to their users of Spoken Tutorials in the information literacy program through which users can acknowledge ICT based resources. However, IIT Bombay library portal should provide link of reference manager which helps the users in reference management.

10. Conclusion

Library portals present appropriate resources and services and allow users to save time of travel and providing access to information whatever, whenever and wherever needed. The present study gives a detailed preview of the contents of IIT Madras and IIT Bombay Central Libraries. It is found that these library portals have all features to achieve the needs of their users. The portals are so informative and attractive. The study reveals that library portals are important tools to higher and technical education and these are serving to provide print as well as electronic resources to their users.

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