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## Content Analysis of Selected IISERs Library Websites in India: An Analytical Study

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# **Content Analysis of Selected IISERs Library Websites in India: An Analytical Study**

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## **Abstract**

The study analyzed the content of selected IISERs library websites data collected through the online survey of selected IISERs library websites with 57 checklists under general information, library website features, information on library resources, library services, web 2.0 features, web browser compatibility. The study presents IISER Mohali got the first rank with 48 points and IISER Bhopal and Pune on the second position with 46 points and IISER Kolkata got 37 points on third position IISER Thiruvananthapuram on the fourth position with 30 points.

**Keywords:** IISER library website, Content analysis, Library website analysis, Website analysis, IISER library

## **1. Introduction**

Academic libraries in the age of ICT face the difficulty of providing patrons' information needs, which range from simple publications to online resources. Previously, user requirements were extremely diverse and easy for library employees to accommodate. They would direct the various users to various physical resources accessible in the library, or if the resource was not available, they would redirect them to another library or information centre. Patrons can now access the library not only through the front door, but also through library websites from anywhere in the world. The library website's role and the variety of its materials are essential considerations in providing good user services. The World Wide Web (www) played a key role in this, introducing many significant changes to how we go about our daily lives. Information

and communication technology (ICT) has caused a paradigm change in how we process and present information. The rate of information obsolescence is rapidly increasing. What's new today can be outdated tomorrow. Coping with this is a massive issue for libraries. The internet, web portals, and electronic information resource repositories seemed to impact library online services significantly. In an academic context, library websites serve as the actual knowledge hub, providing users with the correct information in the appropriate format at the appropriate time.

Academic library websites contain information on libraries and library services, along with access to electronic databases, online catalogues, various library tutorials, and digital collections; They serve as information portals for faculty members and students. Students can now use the internet to ask reference queries, perform research in databases, request interlibrary loans, and get scholarly articles (Aharony, 2012).

## **Indian Institutes of Science Education and Research**

The Indian Institutes of Science Education and Research (IISERs) are apex research institutions in India. The Central Government of India established these institutions under the Ministry of Education earlier, was Ministry of Human Resource Development (MHRD). The libraries of the Indian Institutes of Science Education and Research (IISERs) are indeed the intellectual backbone of students' and researchers' scientific pursuits. They assist in improving basic science education and research. In an intellectually vibrant research environment, IISERs libraries focus on students, researchers and professors of science education requirement. Electronic publication has been very much in demand in recent years for remote and online access to higher education learning resources. The user of science and research libraries need up to current information on a daily basis along with complete access to research papers, full-text databases, bibliographical databases, services from e-sodhsindhu etc., searchable, browsed, or printable from the library website.

Web content analysis conducted on various library websites of many institutions and universities. This study analysis content of library websites of IISER Bhopal, Kolkata, Mohali, Pune and Thiruvananthapuram to ensure how appropriately library prepare their concerned website to their users for library services and easy access to resources.

## **2. Literature Review**

Devi and Verma (2019) assessed the website's web content and design of 27 NITs' library websites with 108 checklists under 13 heading. They found the NIT library website of Agartala loaded very fast within 5.48 seconds, and NIT Allahabad took maximum time.

Devi and Verma (2018) analyzed and evaluated library websites' content of Indian Institutes of technology. They have evaluated 19 libraries' websites of IITs, and they got four IITs library websites separate from leading institute websites. Few IITs library websites' provided information about services, collections, value-added services, and link to web 2.0 tools.

Gautam (2017) analyzed the library websites' content of all central libraries situated in Delhi. In this study, they inquired about web technology application for analysis of the content of universities' websites. Websites were well organized and well enriched with online resources. Finally, they revealed the library website of Jawaharlal Nehru University provided the best services, and maximum resources were used to direct their user as compared to other universities.

Devi and Verma (2016) evaluated and compared the website content between Mizoram University and North-eastern Hill University prepared structured checklists based on earlier literature on website content analysis. They identify 73 criteria under 14 main heading. They designed a three-number rating rank scale for content features of websites of MZU and NEHU. After the study, both university websites are easily accessible to their users.

Madhusudhan (2012) evaluated several content features of the selected 12 library websites of the Indian Institutes of Technology. Madhusudhan used a mixed-method approach containing two types of analysis of content which were qualitative and quantitative. Madhusudhan evaluated selected websites of IITs' library websites with some specially designed checklist. The qualitative part had 11 checklists related to the home page of the library websites, which were used to keep descriptive data. On another side, Madhusudhan used quantitative 90 dichotomous checklist questions, which were related to content features. Madhusudhan implemented a five-point rating scale to provide numerical rating and rank for every individual specification mentioned on IITs' library websites.

Haneefa and Venugopal (2010) designed checklists to collect data from 28 national libraries' website in Asia. Collected data under the main heading, which were general information, data about library documents collection, information about web 2.0 technology. They got library websites' content and design were in a common pattern. Web 2.0 technology was used by 6 national libraries only.

### **3. Objectives**

The objectives of the study are to assess the content features of library websites of IISER Bhopal, Kolkata, Mohali, Pune, and Thiruvananthapuram; with reference to :

- i) To check basic library information on the library websites;
- ii) To assess the web content of five selected IISERs library websites;
- iii) To know the current services and resources on the five selected IISERs library websites;
- iv) To classify the websites of the library of five selected IISERs on the basis of this study.

#### 4. Scope of the study

This study covered five selected IISERs. Those are the second-largest institutions in India in the field of basic science after the Indian Academy of Sciences, Bangalore. These institutions mentioned in table 1 as per got position on the National Institutional Ranking Framework (NIRF) 2020, published on the website of the Ministry of Education of Govt. of India.

Sl.	Institute	NIRF Ranked
1	Indian Institute of Science Education and Research Pune	25
2	Indian Institute of Science Education and Research Kolkata	29
3	Indian Institute of Science Education and Research Bhopal	40
4	Indian Institute of Science Education and Research Mohali	59
5	Indian Institute of Science Education and Research Thiruvananthapuram	80

Table 1: Five IISERs on National Institutional Ranking Framework (NIRF) 2020

#### 5. Methodology

This study is prepared with well-thought-out and well-designed 57 checklists based on previous related documents for the collection of data. Data collected through the online visit of library websites of five selected IISERs. Data analyzed and presented in tabular form with the help of MS-Excel. Each checklist is checked with the mark "Yes" or "No". And point (1) is given for each "Yes", and point (0) is for each "No".

#### 6. Data Analysis and Interpretation

The present study analyzed the 57 checklists under various headings such as general information, library website features, information on library resources, library services, web 2.0 features, and web browser compatibility.

##### 6.1 General Information

Table 2 shows general information of selected IISERs library websites. IISER Bhopal, Pune and Mohali got 10(100%) points, followed by IISER Kolkata 8(80%) and IISER Thiruvananthapuram 6(60%). IISER Bhopal, Pune and Mohali presented all features mentioned under general information on their library website.

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
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About the Library	Yes	Yes	Yes	Yes	Yes
Mission	Yes	No	Yes	Yes	No
Objective	Yes	No	Yes	Yes	No
Library Rules	Yes	Yes	Yes	Yes	Yes
Library Membership	Yes	Yes	Yes	Yes	Yes
Contact Number	Yes	Yes	Yes	Yes	Yes
Collections of the Library	Yes	Yes	Yes	Yes	Yes
Library Team	Yes	Yes	Yes	Yes	No
Book Recommendation	Yes	Yes	Yes	Yes	No
Working Hours	Yes	Yes	Yes	Yes	Yes
<b>Total = 10 (100%)</b>	<b>10 (100%)</b>	<b>8 (80%)</b>	<b>10 (100%)</b>	<b>10 (100%)</b>	<b>6 (60%)</b>

Table 2: General Information

\* Thiruvananthapuram

## 6.2 Library Website Features

Table 3 demonstrates library website features of selected IISERs library websites. IISER Pune and Mohali presented all features on their library website. IISER Pune and Mohali got the highest 10(66.66%) points, followed by IISER Bhopal 9(60%), Kolkata 6(40%), and Thiruvananthapuram 4(26.66%).

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
Library Separate Home Page	No	No	No	Yes	No
Website Updating Date	No	No	Yes	Yes	No
Login/Registration	Yes	Yes	Yes	Yes	Yes
Multimedia	No	No	No	Yes	No
Feedback	No	No	No	Yes	No
Use of Graphics	Yes	Yes	Yes	Yes	Yes
Key Word Search	Yes	Yes	Yes	Yes	Yes
Download Forms	Yes	Yes	Yes	Yes	No
Link to Home Page of Library	Yes	No	Yes	No	No
Link to Institutional Home Page	Yes	Yes	Yes	No	No
Multilingual Content	Yes	No	No	No	No
Name of the Library on the Top of the Page	No	No	No	Yes	No
Links to other Institutions	Yes	No	Yes	No	No

Links to online Book Store	No	No	Yes	No	No
Copyright Information	Yes	Yes	Yes	Yes	Yes
<b>Total = 15 (100%)</b>	<b>9 (60%)</b>	<b>6 (40%)</b>	<b>10 (66.66%)</b>	<b>10 (66.66%)</b>	<b>4 (26.66%)</b>

Table 3: Library Website Features

\* Thiruvananthapuram

### 6.3 Information on Library Resources

Table 4 shows the information on library resources of selected IISERs library websites. IISER Pune and Mohali got 13(100%) points, followed by IISER Bhopal and Kolkata 12(92.30%), and IISER Thiruvananthapuram got 10(76.92%). IISER Pune and Mohali mentioned all features under the heading of information of library resources.

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
Print Books	Yes	Yes	Yes	Yes	Yes
Print Journals	No	Yes	Yes	Yes	No
Electronic Journals	Yes	Yes	Yes	Yes	Yes
Electronic Books	Yes	Yes	Yes	Yes	Yes
Bibliographic Databases	Yes	Yes	Yes	Yes	Yes
Full text Databases	Yes	Yes	Yes	Yes	Yes
Open Access Resources	Yes	Yes	Yes	Yes	No
Archive Resources	Yes	Yes	Yes	Yes	Yes
Video Resources (JoVE)	Yes	Yes	Yes	Yes	Yes
NDLI Resources	Yes	No	Yes	Yes	No
Writing Support Tool	Yes	Yes	Yes	Yes	Yes
Institutional Repository	Yes	Yes	Yes	Yes	Yes
CD/DVD Resources	Yes	Yes	Yes	Yes	Yes
<b>Total = 13 (100%)</b>	<b>12 (92.30%)</b>	<b>12 (92.30%)</b>	<b>13 (100%)</b>	<b>13 (100%)</b>	<b>10 (76.92%)</b>

Table 4: Information on Library Resources

\* Thiruvananthapuram

### 6.4 Library Services

Table 5 presents library services of selected IISERs library websites. IISER Mohali got the highest points 9(81.81%), followed by Bhopal 8(72.72%), Pune 7(63.63%), Kolkata 5(45.45%), and Thiruvananthapuram got the lowest points 3(27.27%).

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
Web OPAC	Yes	Yes	Yes	Yes	Yes
Newspaper Clipping	No	No	No	Yes	No
Question Paper	No	Yes	No	No	No
Ask Librarian	Yes	No	No	Yes	No
Inter Library Loan	Yes	No	Yes	Yes	No
FAQ's	No	No	No	No	No
Photocopy Information	Yes	Yes	Yes	Yes	No
New Arrivals	Yes	No	Yes	Yes	Yes
Library Orientation/Guide	Yes	Yes	Yes	Yes	No
Self Check-in and Check-out	Yes	No	Yes	Yes	Yes
Systematically Download Information	Yes	Yes	Yes	Yes	No
<b>Total = 11 (100%)</b>	<b>8 (72.72%)</b>	<b>5 (45.45%)</b>	<b>7 (63.63%)</b>	<b>9 (81.81%)</b>	<b>3 (27.27%)</b>

Table 5: Library Services

\* Thiruvananthapuram

## 6.5 Web 2.0 Features

Table 6 reveals web 2.0 features for selected IISERs library websites. IISER Bhopal and Thiruvananthapuram got 2(66.66%), followed by IISER Kolkata, Pune, and Mohali 1(33.33%) point.

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
Blog	No	No	No	No	Yes
Facebook	Yes	No	No	No	No
RSS	Yes	Yes	Yes	Yes	Yes
<b>Total = 3 (100%)</b>	<b>2 (66.66%)</b>	<b>1 (33.33%)</b>	<b>1 (33.33%)</b>	<b>1 (33.33%)</b>	<b>2 (66.66%)</b>

Table 6: Web 2.0 Features

\* Thiruvananthapuram



## 6.6 Web Browser Compatibility

Table 7 demonstrates web browser compatibility features of selected IISERs library websites. All selected IISERs got full points 5(100%) under the heading of web browser compatibility.

Features	IISER Bhopal	IISER Kolkata	IISER Pune	IISER Mohali	IISER TVM*
Google Chrome	Yes	Yes	Yes	Yes	Yes
Mozilla Firefox	Yes	Yes	Yes	Yes	Yes
Microsoft Edge	Yes	Yes	Yes	Yes	Yes
Internet Explorer	Yes	Yes	Yes	Yes	Yes
Opera	Yes	Yes	Yes	Yes	Yes
<b>Total = 5 (100%)</b>	<b>5 (100%)</b>	<b>5 (100%)</b>	<b>5 (100%)</b>	<b>5 (100%)</b>	<b>5 (100%)</b>

Table 7: Web Browser Compatibility

\* Thiruvananthapuram

## 7. Ranking of Library Websites of Selected IISERs

Table 8 presents the ranking of library websites of selected IISERs. The rank prepared on the basis of points allowed to selected library websites of IISERs on the basis of web content available on their concerned website. IISER Mohali got the first rank with 48 points out of 57, followed by Bhopal and Pune second with 46 points. IISER Kolkata ranked third with 37 points out of 57, and IISER Thiruvananthapuram in the fourth position with 30 points out of 57.

Features	IISER Mohali	IISER Bhopal	IISER Pune	IISER Kolkata	IISER TVM*
General Information (n=10)	10	10	10	8	6
Library Website Features (n=15)	10	9	10	6	4
Information on Library Resources (n=13)	13	12	13	12	10
Library Services (n=11)	9	8	7	5	3
Web 2.0 Features (n=3)	1	2	1	1	2
Web Browser Compatibility (n=5)	5	5	5	5	5
<b>Total = 57</b>	<b>48</b>	<b>46</b>	<b>46</b>	<b>37</b>	<b>30</b>
<b>Rank</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>4</b>

Table 8: Ranking of Library Websites of Selected IISERs

\* Thiruvananthapuram

## **8. Findings and Conclusion**

In this study, IISER Mohali got the first rank with 48 points out of 57, followed by IISER Bhopal, and Pune got the second rank with 46 points. IISER Kolkata got the third rank with 37 points, and IISER Thiruvananthapuram got the fourth rank with 30 points.

IISER Bhopal, Mohali and Pune mentioned all features of general information. Some features such as mission, objective did not mention by IISER Kolkata and Thiruvananthapuram.

Under the heading of library website features, IISER Pune and Mohali got 10(66.66%) points out of 15. It is reasonable to compare to other IISERs, but they need to improve also. IISER Thiruvananthapuram got the lowest 4(26.66%) points, and IISER Kolkata 6(40%). They need to give more emphasis on library website features.

IISER Pune and Mohali got a full score of 13(100%) out of 13 under information on library resources. IISER Bhopal and Kolkata got 12(92.30%), and IISER Thiruvananthapuram got 10(76.92%). NDLI resources did not mention by IISER Kolkata and Thiruvananthapuram, and information on print journals did not provide IISER Thiruvananthapuram and Bhopal.

Under library services, IISER Mohali got the highest 9(81.81%) points out of 11, followed by IISER Bhopal 8(72.72%) and Kolkata 7(63.63%), and IISER Thiruvananthapuram got the lowest 3(27.27%). FAQs did not mention any five selected IISERs. The newspaper clipping feature did not mention four IISERs except Mohali. The information about the question paper mentioned only IISER Kolkata.

RSS feature used by all selected IISERs under web 2.0 features. IISER Bhopal used Facebook, and IISER Thiruvananthapuram created a blog. IISER Bhopal and Thiruvananthapuram got 2(66.66%) out of 3, followed by IISER Kolkata, Pune, and Mohali got 1(33.33%).

All selected IISERs compatible with mentioned five web browsers, and all of them got 5(100%) points.

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