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Usability Analysis of Indian Institutes of Science Education and Research (IISERs) Library Websites: A Study

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Abstract

The accessibility, efficiency, and effectiveness of the websites of Indian Institutes of Science Education and Research (IISERs) libraries are evaluated in this paper. Online survey and observation methods were considered suitable for conducting the research. A Checklist was prepared and used for the data collection from the websites of IISERs. Study shows that selected IISER libraries have helpful websites but have overlooked the essential usability characteristics and tend to be in the primitive phase. Most of the websites of the selected IISER libraries were relatively simple. They had fundamental and popular usability characteristics in terms of general library information, search features, Web 2.0 applications, ILL, etc. In the selected websites of IISER libraries, tremendous potential for development has been found. The study results would help enhance the usability characteristics of IISERs' libraries' websites, which will eventually support library users who use library services frequently. The research would also encourage webmasters to promptly review their websites to improve usability ratings based on online usability tools.

Keywords: Usability study, web 2.0, web 3.0, content analysis, Library website.

Introduction

The role of the internet is essential in this information era. The information dissemination capability of the internet makes it very important. According to Shukla and Verma, "The increasing use of the internet has changed the method of accessing and disseminating information about library activities, services, rules and regulations, various sections, and staff, etc. The library websites/webpages of academic institutions not only serve as a great platform for publishing the library news, activities, programs, resources and services but also help to disseminate the information to all the remote users." [1]. The website of the library acts as a portal for library services. Library website usability research is vital because library websites pay more attention to serving their users' primary sources of information. Library users rely on library websites for many resources and references.

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The Indian Institutes of Education and Research in Science (IISERs) are India's leading public research institutions. The Government of India set up the institutions through the Ministry of Human Resource Development (MHRD) to provide quality basic science collegiate education coupled with cutting-edge undergraduate study.

Name IISER	Short Name of the IISER	Year of Establishment	Website URL
IISER Kolkata	IISER-K	2006	https://www.iiserkol.ac.in
IISER Pune	IISER-P	2006	http://www.iiserpune.ac.in
IISER Mohali	IISER-M	2007	http://iisermohali.ac.in
IISER Bhopal	IISER-B	2008	https://www.iiserb.ac.in
IISER Thiruvananthapuram	IISER-TVM	2008	http://www.iisertvm.ac.in
IISER Tirupati	IISER-T	2015	http://www.iisertirupati.ac.in
IISER Berhampur	IISER-BPR	2016	https://www.iiserbpr.ac.in

Table 1: List of IISERs'

Literature Review

Kalra and Verma (2011) found that the present preliminary study leads to specific important issues for quality improvements in websites, particularly usability and usefulness. They did not find any significant relationship between the two, as revealed from the qualitative study's correlation coefficient [2].

Khatri and Baheti (2013) evaluated the university website and their library web pages. They found that Library web pages are excellent media for publishing detailed information about the collection, services, and different activities, and resources. But very few of the university sites provide detailed information about the library and its resources and services. The website and library pages need to be evaluated periodically using established criteria like web design, accessibility, arrangement, etc., which will improve the website according to the user's need and credibility and reliability issue [3].

Pant (2014) stated that there is no fixed criterion for usability evaluation. He found that there is much work to do to make the website meet its users' expectations. The overall information architecture of the website is not logical or intuitive and needs to be restructured. It creates confusion and misleads users. It is somewhat difficult to find particular information within the website with a minimum of time spent (efficiency) and with a minimum of errors found (effectiveness) [4].

Basic Information	Name of IISERs							Total 7 (%)
	IISER-K	IISER-P	IISER-M	IISER-B	IISER-TVM	IISER-T	IISER-BPR	
About	Y	Y	Y	Y	Y	Y	Y	07(100)
Library Home	N	N	Y	N	N	N	N	01(14.28)
Library Rules	Y	Y	Y	Y	Y	Y	Y	07(100)
Membership	Y	N	N	N	Y	Y	Y	04(57.14)
Services	Y	N	Y	Y	Y	N	Y	05(71.43)
Collection	Y	Y	Y	Y	Y	Y	Y	07(100)

Sections	N	N	N	N	N	N	N	Nil
New Arrival	N	N	Y	Y	Y	N	Y	04(57.14)
Book Bank	N	N	N	N	N	N	N	Nil
Photocopy	N	N	Y	N	N	N	Y	02(28.57)
Library Team	Y	N	N	N	N	Y	Y	03(42.86)
Book Recommendation	Y	N	Y	Y	N	N	N	03(42.86)
Orientation	Y	Y	Y	Y	N	N	N	04(57.14)
Total Score (14)	**08**	**04**	**09**	**07**	**06**	**05**	**08**	

Table 2: Basic Information about Library

Objectives of the present study

The objectives of the study are-

- To analyses the content of the library websites of IISERs' in India.
- To discover the essential services and features present on the library websites of IISERs'.
- To know about the accessibility, currency, and user-friendliness.
- To rank the library websites of selected IISERs' based on the present study.

Scope of the study

The present study covers all the seven Indian Institute of Science Education and Research library websites in India (Table 1).

Services	Name of IISERs							Total 7 (%)
	IISER-K	IISER-P	IISER-M	IISER-B	IISER-TVM	IISER-T	IISER-BPR	
OPAC/Web OPAC	Y	Y	Y	N	Y	Y	Y	06(85.71)
E-Journals	Y	Y	Y	Y	Y	Y	Y	07(100)
E-Books	Y	Y	Y	N	Y	N	N	04(57.14)
Databases	N	Y	Y	N	Y	Y	Y	05(71.43)
Useful Links	Y	Y	N	Y	N	N	N	03(42.86)
Single Window Search Facility	Y	N	N	N	N	N	N	01(14.29)
Newspaper Clipping	N	N	Y	N	N	N	N	01(14.29)
Remote Access	N	Y	N	N	Y	N	N	02(28.57)
Question Paper	N	N	N	N	N	N	N	Nil
FAQ's	N	N	N	N	N	N	Y	01(14.29)
Photo/Video	Y	N	Y	Y	Y	N	Y	05(71.43)
Ask Librarian	N	N	Y	Y	N	N	N	02(28.57)
Inter Library Loan	N	N	Y	N	N	N	Y	02(28.57)
Total Score(13)	**06**	**06**	**08**	**04**	**06**	**03**	**06**	

Table 3: Library Services

Methodology

For the data collection, a checklist was created, and data were collected directly from the library websites of the said area of scope during November 2020. The content of the study is categorized into two variables 'Yes' (Y) and 'No' (N). The score (1) was given for 'Yes' and score (0) for 'No'.

The data have been prepared in a table to calculate the ranking of the IISERs' library websites.

Features	Name of IISERs							Total 7 (%)
	IISER-K	IISER-P	IISER-M	IISER-B	IISER-TVM	IISER-T	IISER-BPR	
Dedicated Website	N	N	Y	N	N	N	N	01(14.29)
Registration/Login	Y	N	Y	N	N	N	Y	03(42.86)
Web 2.0	N	N	Y	N	Y	N	N	02(28.57)
Feedback	N	N	N	N	N	N	N	Nil
Last Update	N	Y	Y	N	N	N	N	02(28.57)
Key Word Search	N	N	Y	N	N	N	Y	02(28.57)
Download forms	Y	N	Y	N	N	N	Y	03(42.86)
Total Score (07)	**02**	**01**	**05**	**Nil**	**01**	**Nil**	**03**	

Table 4: Features of Library Website

Data Analysis

Table 1 shows the name, abbreviations, and year of establishment of the IISERs'. This table has also contained the URL of the selected websites. During the study, it was found the no IISERs' library has its separate dedicated website. It is also found that the IISER Mohali is using a sub domain of the institution's website as its library website.

According to table-2, all the IISERs' library websites have information related to about, library rules and the collection (100%) It is observed that only IISER Mohali has the direct link of library home in its library webpage, which is 14.28 %, only 57.14 % IISERs library websites have the information about the membership of the library, information about the services of the libraries are present in 71.43 % IISERs library websites. None of the IISERs library websites have information about the library's various sections and the book bank present in the library. 57.14 % of IISERs library websites have information about the new arrival of books. Only two IISER libraries have the photocopy information with 28.57 %, 42.86 % IISER websites has the details about the library staff in their websites. Details about books recommendation are present in 42.86 % library websites of IISERs' and details about the orientation of the library is present in 42.86 % IISERs' library websites.

Table-3 contains information about the different library facilities & services presented through the IISERs library websites. It can be easily observed that most of the library websites of IISERs have OPAC facilities (85.71 %). All the IISERs share the one common facility of E-Journal (100 %). 57.14 % of libraries provide the E-Book facility, which is significantly less in number, 71.43

% of library websites provide Databases' services. Service of useful links is provided by 42.86 % IISERs' library websites, IISER Kolkata is the only which provides the service of single-window search facility and newspaper clipping service is provided by only IISERs Mohali (14.29 %). Services of remote access, ask a librarian, and interlibrary loan is provided by only 28.57 % IISER library website, which is somehow significantly less. None of IISER library websites provided the details of very important service regarding question paper. Link about FAQs is also provided by only one IISER library website. Facility of photo/video is provided by five library websites (71.43 %).

After the data analysis of Table-4, it can be seen that the only IISER Mohali has a dedicated library website, registration/login and download forms features are available in 42.86 % of library websites. The feedback feature is not available in any of the IISER websites. The feature of web 2.0 (28.27 %) is available in only one library website, which is seen as very strange in today's information era. It is also found that most of the library websites in this study are updated (28.57 %) regularly, and keyword search (28.57 %) feature is available in only two IISER library websites. Download forms (42.86 %) is also an essential feature, but only three library websites have it on its website.

Particulars	Name of IISERs						
	IISER-M	IISER-BPR	IISER-K	IISER-B	IISER-P	IISER-TVM	IISER-T
Basic Information (Max. Score 14)	09	08	08	07	04	06	05
Services (Max. Score 13)	08	06	06	04	06	06	03
Features (Max. Score 07)	05	03	02	Nil	01	01	Nil
Accessibility through selected browser-Google Chrome, Opera, Mozilla, Internet explorer (Max. Score 04)	03	04	04	03	04	04	03
Total (Max. Score 38)	25	21	20	14	15	17	11
Rank	01	02	03	04	05	06	07

Table 5: Ranking of IISERs Library Websites

The ranking of the IISER library websites under the study is listed in Table-5. The ranks are given based on points obtained by the library websites/webpages based on web content availability. According to Table-5, it is clear that IISER Mohali got the highest score (25) out of 38, followed by IISER Berhampur (21), and IISER Kolkata with a score of 20 got the third rank in this list. In contrast, IISER Tirupati got the last position with a score of point 11 out of 38 under the study.

Findings and Conclusion

In this information, era websites are the essential part of every organization, whether academic, banking, research, etc. It acts as the platform which provides information. In this study, it is found that most of the IISERs library websites have web pages with the moderate layout, but most of the website does not have dedicated website. Most of the library websites in the present study have information about e-resources and e-content. OPAC is linked with most of the websites, which indicate that most of the library of IISERs' is automated with ILMS. Web 2.0 is also an important part of academic library websites. Only IISER Mohali has the web 2.0 facility

on its website. There should be a provision of web 2.0 technologies in all the library websites. In terms of user-friendliness, most of the IISERs websites are very much user friendly and interactively made. Based on the study IISER Mohali has found rank one with all the necessary library information, services, features, and accessibility. Library websites of IISER Tirupati and Thiruvananthapuram need improvement in terms of their overall layout, content and user friendliness.

The study ends with the suggestion that such evaluative studies be carried out on a regular basis to keep the websites of the library up-to-date and meet the needs of its valued users and establish a digital environment for the provision of library services. The study is believed to serve as an illustration for further studies on the creation of measurement mechanisms for the evaluation of library websites.

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