

## Web Content Evaluation of National Institutes of Technology (NITs) Libraries of North-Eastern States of India

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### *Abstract*

*In the age of ICT, the World Wide Web and the Internet became the most popular communication tools. The Internet has made the information available to the world at just one single click from anywhere. The library website plays an important role of an institution. The websites make it available all the basic information. It also gives information about the services provided by the institution as well as its collections. The library website should maintain properly and make it interactive one so that the information seekers can easily get the information of their needs without any hindrance. Paper focused on the evaluation of the websites of NIT libraries of North-Eastern states of India.*

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**Keywords:** Content analysis, web content analysis, content evaluation, NITs, NITs of North-East India.

### **1. Introduction**

ICT plays an important role in disseminating the information to the world. With the advent of ICT and the implementation in the library brings a tremendous change in the library function and their services. Libraries are the backbone of an institution while library websites are the gateway of the library. It is a primary source of information for the users where they get all the information related to the library. The library website helps in accessing the information disseminated by the library to their users. It should maintain properly and make it an interactive one so that the information seekers can easily get the information of their needs efficiently. The website must be updated regularly so that the correct and the latest information should reach to the users on time. The analysis of the library website is an important practice so it has to be evaluated from time to time.

### **2. Overview of NITs in the North-East Region**

The National Institutes of Technology of India are located in different part of the country. At present there are altogether 31 NITs established in India. All the NITs are governed by the National Institutes of Technology Act, 2007, which declared them as the Institutions of National Importance. And all the North-Eastern states of India have been gifted by one NIT each in their respective states. The list of NITs along with the library website/web page links is shown in Table-1.

Table-1: List of NITs of the North-East India

S. N.	Name of the Institute	Library Website/web page	State
1	NIT Silchar	<a href="http://www.nits.ac.in/academics/library.php">http://www.nits.ac.in/academics/library.php</a>	Assam
2	NIT Agartala	<a href="http://www.nita.ac.in/NITAMain/adminstration/librarySection.html">http://www.nita.ac.in/NITAMain/adminstration/librarySection.html</a>	Tripura
3	NIT Manipur	<a href="http://www.nitmanipur.ac.in/DisplayPage.aspx?page=cq&amp;ItemID=23">http://www.nitmanipur.ac.in/DisplayPage.aspx?page=cq&amp;ItemID=23</a>	Manipur
4	NIT Meghalaya	<a href="http://nitmeghalaya.in/nitm_web/fp/central_library/central_library_about.html">http://nitmeghalaya.in/nitm_web/fp/central_library/central_library_about.html</a>	Meghalaya
5	NIT Mizoram	<a href="http://www.nitmz.ac.in/DisplayPage.aspx?page=ck&amp;ItemID=18">http://www.nitmz.ac.in/DisplayPage.aspx?page=ck&amp;ItemID=18</a>	Mizoram
6	NIT Nagaland	<a href="http://nitnagaland.ac.in/index.php/facilities/library">http://nitnagaland.ac.in/index.php/facilities/library</a>	Nagaland
7	NIT Sikkim	<a href="http://www.kic.nitsikkim.ac.in/">http://www.kic.nitsikkim.ac.in/</a>	Sikkim
8	NIT Arunachal Pradesh	<a href="http://www.nitap.in/facilities/library.aspx">http://www.nitap.in/facilities/library.aspx</a>	Arunachal Pradesh

### 3. Review of Literature

The present study is focused on the content analysis of the libraries' website of the NITs of North East India. Some of the similar studies have been brought out in the literature review are as under:

Clausen (1999) studied an empirical survey to 12 Danish academic library websites. The author has derived 38 Web site evaluation criteria from the previous studies carried out which was further divided into 6 categories; design and structure, quality of information, links and navigation, aesthetic impression, miscellaneous, and general assessment. The author suggests that the regular update of the library Web sites are necessary for the development which can be done with the help of user studies and comparative evaluation. Still (2001) studied the university library Web sites in four English speaking countries viz., Australia, Canada, the United Kingdom and the United States of America and examined 150 library Web sites which has access to their own library catalogue and other databases. During the study the author has come through some university library websites which have also provided access to the other library catalogues. Brower (2004) analysed 41 academic health sciences library website and the navigational tools were also analysed for layout, technology, and links. The authors have developed 40 criterias under four broad specific areas, such as, general information of library, website aids and tools, library services, and electronic resources. The study found that there were some library web based services are not linked from the home page and the formula for determining the links was developed. Verma and Devi (2015) have analyzed the contents of the 7 Central Universities library websites of the North Eastern states in India. The authors have developed 66 items checklist under 6 broad headings. The study reveals that the library webpage of North Eastern Hill University has the highest number of items checklist taken for the study followed by Tezpur University. They have suggested for updating the library websites frequently and for incorporating the Web 2.0 tools and further suggested for removing the dead links available in the library web page. Devi and Verma (2016) have evaluated and compared the web contents of the North Eastern Hill University and Mizoram University. They have developed 73 criterias under 14 broad headings for analyzing the contents where 69 criterias has been analyzed quantitatively. A quantitative three-point-rating scale was designed to determine a meaningful numerical rating. The study reveals that NEHU scored the highest point with 85.51 percent to that of MZU (68.11%). They suggest for evaluating the websites frequently so that the latest information can reach to their users. Verma and Devi (2016) have analysed the contents

available in the library web page/website of 12 Indian Institutes of Management. They have developed 112 criterias under 10 broad headings for analyzing the contents of IIM libraries website. They have focused on maintaining a separate library webpage/website providing all the information related to the library where the users will get all the information at one place and the dead links from the library webpage must be deleted for minimizing the chaos to the users. They further suggests for updating the webpage regularly.

#### 4. Objectives of the study

The objectives of present study are to:

- Evaluate the structure and contents of NITs of North-East India.
- Find out the library collections and services of NITs of North-East India.
- Measure the accuracy, currency and accessibility of NITs libraries of North-East India.

#### 5. Methodology

For the present study a survey method and the observation techniques was used for the collections of data from the respective libraries website of the NITs of North-East India. On the basis of the previous study conducted by Clausen (1999), Still (2001), Brower (2004), Verma and Devi (2015), 36 criteria under 8 headings enumerated to analyze the contents of the NITs library website/web page of North-East India. The data of webpage size and download speed have been collected after the analysis of the NIT libraries website/web page URL respectively in the WebSiteOptimization.com <http://www.websiteoptimization.com/services/analyze/>. The selected libraries website was analyzed at various times and the data were presented in tabular form and for analysis the data Microsoft Excel is used.

#### 6. Data Analysis and Interpretation

##### 6.1 Availability of NITs Library Website of North-East India

A website is a collection of related web pages and a web page is a document written in HTML which is accessible through internet whereas a dedicated page is an outbound link anywhere on the site or the homepage with good quality content. Table-2 gives information about the availability of the library website. It was observed from the present study that only NIT Sikkim has a separate library website. And three NITs have a library web page while four other NITs have a library page dedicated on their institute's website.

Table-2: Availability of library website of NITs of North-East India

Name of NIT	Library has website	Library has web page	A page dedicated
NIT Silchar		Yes	
NIT Agartala			Yes
NIT Manipur			Yes
NIT Meghalaya		Yes	
NIT Mizoram			Yes
NIT Nagaland		Yes	
NIT Sikkim	Yes		
NIT Arunachal Pradesh			Yes

## 6.2 Accessibility of NITs Libraries' Website/Web page of North-East India

The websites must design in such a way that one can easily access the contents and information they are looking for. If the information is not easily accessible from the website then obviously the visitors feels worthless to browse all the contents to find the information they need. Similarly, the library page link must be easily accessible from the institutes' home page. Table-3 gives the details about the NITs of North-East India libraries website/web page. It was observed that only NIT Sikkim library website has their direct link on institute's home page while the other seven NITs of the North-East India have their link of the library web page under facilities, quick links, academics, etc.

Table-3: Accessibility of NITs libraries website/web page of North East India

NITs	Direct link on parents home page	Link under facilities, etc.
NIT Silchar		Yes
NIT Agartala		Yes
NIT Manipur		Yes
NIT Meghalaya		Yes
NIT Mizoram		Yes
NIT Nagaland		Yes
NIT Sikkim	Yes	
NIT Arunachal Pradesh		Yes

## 6.3 Classification of NITs Libraries' website of North-East India by webpage size and download speed

Size of the web page and their download speed is an important feature of a website. They are inter-related to one another. The larger the size of the page the long time it takes for download and the smaller the size of the page the less time it takes for downloading. Web Page Analyser Tool (Website optimization) is used for checking the total size of the page and their download speed. For the present study, 56K connection rate (download speed) has been taken to represent the other connection rates.

Table-4: Classification of Libraries' website by webpage size and download speed

NITs	Total Size of the Website in bytes	Total Size of the images in bytes	Percentage of Images in total size (%)	Download time at 56K connection in seconds
NIT Silchar	1114736	500400	44.89%	226.17 seconds
NIT Agartala	15431	3996	25.89%	5.48 seconds
NIT Manipur	250552	82076	37.76%	59.93 seconds
NIT Meghalaya	170199	165516	97.25%	37.52 seconds
NIT Mizoram	2026460	1865894	92.07%	418.07 seconds
NIT Nagaland	302700	254478	84.07%	62.13 seconds
NIT Sikkim	1285342	1249103	97.18%	260.17 seconds
NIT Arunachal Pradesh	-	-	-	-

Table-4 provides information about the classification of NITs libraries website by web page size and download speed. The data for the webpage size and download speed of NIT Arunachal Pradesh could not retrieve from the tool because of the error (403 error) occurred in the page. It was observed from the study that NIT Mizoram takes the maximum time with 418.07 seconds at 56K connection in seconds for downloading the page as their total size of the page is more among all the NITs of North-East India. Further, it was also observed that NIT Agartala library web page takes very less time for downloading because of the smaller size of the web page.

#### 6.4 Classification of NITs library website by design factor

Table-5 gives information about the classification of NITs library website by design factor of the North-East India. It was observed from the study that not a single library website/web page of the NITs of North-East India have suggested the view resolution as well as the number of visitors in their respective web pages. Further, it was also observed that only NIT Arunachal Pradesh library web page have suggested the browser compatibility while all the NITs of North-East India library website/web page format is followed same in all the web pages.

Table-5: Classification of NITs library website of North-East India by design factor

<b>NITs</b>	<b>View resolution is suggested</b>	<b>Browser compatibility is suggested</b>	<b>Site's page format is followed in all the web pages</b>	<b>No. of visitor is given</b>
NIT Silchar	No	No	Yes	No
NIT Agartala	No	No	Yes	No
NIT Manipur	No	No	Yes	No
NIT Meghalaya	No	No	Yes	No
NIT Mizoram	No	No	Yes	No
NIT Nagaland	No	No	Yes	No
NIT Sikkim	No	No	Yes	No
NIT Arunachal Pradesh	No	Yes	Yes	No

#### 6.5 Statement of responsibility of NITs library website/web page of North-East India

It is very important to provide the information about the library postal address, library personnel contact numbers, their email IDs because there must be the provision for the users who are not a frequent visitor but need to get in touch with the concerned library personnel.

Table-6: Statement of responsibility of NITs library website/web page of North-East India

<b>NITs</b>	<b>Postal Address</b>	<b>Phone No.</b>	<b>Fax</b>	<b>Email</b>	<b>Separate Contact Link</b>
NIT Silchar	No	Yes	No	Yes	No
NIT Manipur	No	No	No	No	No
NIT Meghalaya	No	Yes	No	Yes	No
NIT Mizoram	No	No	No	No	No
NIT Nagaland	No	Yes	No	Yes	No
NIT Sikkim	Yes	Yes	No	Yes	No
NIT Arunachal Pradesh	No	No	No	No	No

Table-6 provides information about the statement of responsibility of NITs library website/web page of North-East India. So, it was observed from the study that only NIT Sikkim library website gives information about the library postal details. Not a single NIT library website/web page has provided the information about the fax numbers as well as the separate contact link. It was also observed from the study that NIT Silchar, Meghalaya, Nagaland, and Sikkim have provided the phone numbers and the email ID of the concerned library personnel.

### 6.6 Authority details of NITs library website/web page of North-East India

It is very difficult to find out the reliability of the information available in the website which is an important aspect. So, as to inform the visitors the reliability of the information available in the website the copyright statement must be provided. Table-7 gives the information about the authority details of the NITs of North-East India. And it is observed from the study that all the NITs of North-East India provides the copyright statement in their respective library web pages whereas no maintenance details have been provided by any of the NITs library website/web pages.

Table-7: Authority details of NITs library website/web page of North-East India

<b>NITs</b>	<b>Copyright Statement</b>	<b>Maintenance Details</b>
NIT Silchar	Yes	No
NIT Agartala	Yes	No
NIT Manipur	Yes	No
NIT Meghalaya	Yes	No
NIT Mizoram	Yes	No
NIT Nagaland	Yes	No
NIT Sikkim	Yes	No
NIT Arunachal Pradesh	Yes	No

### 6.7 Currency of NITs library website/web page of North-East India

The updateness of the information available in the library is very necessary so as to show the accuracy and the currency of the information to their users.

Table-8: Currency of NITs library website/web page of North-East India

<b>NITs</b>	<b>Date of updation</b>	<b>Page has been updated in the past three months</b>	<b>Present date</b>
NIT Silchar	Yes	Yes	Yes
NIT Agartala	No	No	No
NIT Manipur	No	No	No
NIT Meghalaya	No	No	No
NIT Mizoram	No	No	No
NIT Nagaland	No	No	No
NIT Sikkim	No	No	No
NIT Arunachal Pradesh	No	No	Yes

Table-8 gives the information about the currency of library website/web page of NITs of North-East India. It was observed from the study that only NIT Silchar has provided the information about the date of updation of their library web page and further it was also checked whether the page was updated in the past three months or not where only NIT Silchar library web page has been updated in the past three months. It was also observed that NIT Silchar and NIT Arunachal Pradesh library web page provides the present date respectively.

### 6.8 Information about Library Collection of NITs of North-East India

The library collections are the integral part of the library. The library must try to have a rich collection so as to help their users in their academic purpose which will further help them in shaping their career. Table-9 gives the details about the information about the library collections of NITs of North-East India. So, it was observed from the study that NIT Agartala have not provided any information about the library collection in their library web page while NIT Meghalaya has provided the information about the collection of the books only. The information about the collection of books has also been provided by NIT Silchar, Manipur, Mizoram, Nagaland, Sikkim, and Arunachal Pradesh. Information about the journals has been provided by NIT Silchar, Manipur, Nagaland, Sikkim, and Arunachal Pradesh. Reference source is provided by NIT Manipur, Mizoram, Nagaland, and Sikkim; reports by NIT Silchar and Mizoram. Information about the theses/dissertations is provided by only NIT Silchar library web page, newspaper/magazines by NIT Manipur, Mizorma, Nagaland, Sikkim and Arunachal Pradesh. Further, the collection of the conference proceedings is provided by only NIT Mizoram and Arunachal Pradesh. Audio-visual material and ongoing projects collection is provided by NIT Silchar only. While the information about the collection of CD/DVDs or CD ROM is provided NIT Silchar, Manipur, Mizoram, Nagaland and Sikkim. Further the information about the collection of standards is provided by only NIT Silchar and Manipur.

Table-9: Information about Library Collection of NITs of North-East India

Criteria	NIT Silchar	NIT Agartala	NIT Manipur	NIT Meghalaya	NIT Mizoram	NIT Nagaland	NIT Sikkim	NIT Arunachal Pradesh
Books	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Journals	Yes		Yes			Yes	Yes	Yes
References Sources			Yes		Yes	Yes	Yes	
Reports	Yes				Yes			
Theses/ Dissertations	Yes							
Newspaper/ Magazines			Yes		Yes	Yes	Yes	Yes
Conference Proceedings					Yes			Yes
Audio-visual mat.	Yes							
CD/DVDs / CD ROM	Yes		Yes		Yes	Yes	Yes	
Standards	Yes		Yes					
Ongoing Projects	Yes							

## 6.9 Information about Library Services of NITs North-East India

Library services are the most important part of a library. The library must try to facilitate to cater their users the best services so that it will help them in academic and research purpose. Table-10 gives the details about the library services offered by the respective NITs of North-East India. It was observed from the present study that the library website/web page of the NITs of North-East India are lacking in informing and providing the services to their users. It was observed that only NIT Silchar, Sikkim and Arunachal Pradesh have given a little information about the library services in their respective library website/web page. The information about the circulation service was offered by the three NITs in their library website/web page. The information about the reprographic service is provided by NIT Sikkim and Arunachal Pradesh library website/web page. The information about the newspaper clippings and book bank service is provided by NIT Silchar only while external membership and forms which can be downloaded is offered by only NIT Sikkim library website.

Table-10: Information about Library Services of NITs North-East India

Criteria	NIT Silchar	NIT Agartala	NIT Manipur	NIT Meghalaya	NIT Mizoram	NIT Nagaland	NIT Sikkim	NIT Arunachal Pradesh
Circulation Service	Yes						Yes	Yes
Reprographic Service							Yes	Yes
Newspaper Clippings	Yes							
Book Bank	Yes							
External membership							Yes	
Forms							Yes	

## 7. Suggestions

The suggestions of the present study are as follows:

- 1) NITs are the pioneer institutes of engineering in India. So, all the NITs of North-East India must have a separate library website where they can provide all the information related to the library at one place.
- 2) The NITs of North-East India must put the graphics in their library websites for communication and providing the information which will attract the users in using the site respectively.
- 3) The NITs library website must be updated frequently so that the visitors find the information available in the web site reliable.

## 8. Conclusions

It is observed from the study that the NITs library website/web page is different in themselves in many respects. It is observed from the study that only NIT Sikkim has a library website and all the other NITs of North-East India have the library web page respectively. All the NITs library website/web page must include the information about the contact details of the library personnel respectively so that the user can get in touch with the concerned personnel directly. The library website/web page must provide the information about the



collections of the library and they must provide and highlight all the services in their respective library website/web page. It should also be noted that all the links provided in the library website/web page must be accessible.

## References

1. Aharony, N. (2012). An analysis of American academic libraries' websites: 2000-2010. *The Electronic Library*, 30 (6), 764-776.
2. Babu, B. R., Jeyshankar, R., & Rao, P. N. (2010). Websites of Central Universities in India: A Webometric Analysis. *DESIDOC Journal of Library & Information Technology*, 30 (4), 33-43.
3. Babu, B. R., Kumar, A. N., & Gopalakrishnan, S. (2009). Credibility of University Websites in Tamil Nadu. *DESIDOC Journal of Library & Information Technology*, 29 (3), 16-28.
4. Brower, S. M. (2004). Academic health sciences library Website navigation: an analysis of forty-one Websites and their navigation tools. *Journal of Medical Library Association*, 412-420.
5. Clausen, H. (1999). Evaluation of library Web sites: the Danish case. *The Electronic Library*, 17 (2), 83-87.
6. Devi, K. K., & Verma, M. K. (2016). Comparison of Design and Content Features of North Eastern Hill University (NEHU) and Mizoram University (MZU) Websites: A Study. *World Digital Libraries: An International Journal*, 9 (1), 19-32.
7. Still, J. M. (2001). A content analysis of university library Web sites in English speaking countries. *Online Information Review*, 25 (3), 150-165.
8. Verma, M. K., & Devi, K. K. (2015). Content Analysis of Central Universities Library Websites of North Eastern States of India: A Survey. *Journal of Research in Librarianship*, 2 (5), 48-59.
9. Verma, M. K., & Devi, K. K. (2016). Web Content and Design Trends of Indian Institutes of Management (IIMs) Libraries Website: An Analysis. *DESIDOC Journal of Library & Information Technology*, 36 (4), 220-227.

