

An Evaluation of National Institutes of Technology (NITs) Library Websites

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ABSTRACT

Advent of internet technologies specially, website is considered as a most efficient medium to catch and disseminate diverse kind of information, thus, every institution has its own website and is using this medium for imparting variety of information to the targeted users. This study aims to evaluate and analyse the services, facilities and other information available on the library websites of 28 National Institute of Technology (NITs) between February 1-28, 2015, by using a checklist. The results of this study revealed that the majority of NIT library websites are providing information with regard to their name, logo, about library book collection, electronic resources, accuracy, diverse services and sections, but, lacking of library mission statements, currency, reliability search interfaces, Web 2.0 applications and cutting edge technologies like cloud-based services. It is also discovered from this study that most of NIT library websites need to improve. This study will be helpful to judge the quality and diverse facilities present on the 28 NIT library websites in India.

Keywords: National Institute of Technology (NIT), library website, content analysis

1. INTRODUCTION

In an academic institution, the library is known as knowledge and learning resource centre where the users gather information from various information sources as per their information needs. Owing to origin of different internet technologies, environments and demand of the users, libraries are changing their shapes and modes in which libraries are transforming from traditional libraries to digital-libraries, virtual-libraries, mobile-libraries and cloud-based libraries. Subsequently, offline information available within libraries is converting into online information that is imparting through various resources and accessible on 24x7 platform and in different formats. Among various types of web-resources, website is treated as a most imperative web-resource therefore every institute has been developed its own website and puts all the information to their users, study performed by Arshad and Ameen¹ revealed that library websites are heavily being used by different kind of users within campus and outside the campus as well. On the other hand, National Institutes of Technology (NITs) of India known as institutions of national importance in the area of science, engineering and technology and have developed their library websites by using various tools and techniques that is providing information regarding various facilities, resources and services offer to their users in order to fulfill the information needs. Dragulanescu² stressed on the necessity

of critically assess the quality of websites to meet information needs of the users in real sense. Thus, an endeavour is made to assess the services and other facilities available on the library websites of 28 NITs established in India by using predefined criteria specially developed for this study.

2. LITERATURE REVIEW

Different studies conducted on various issues of the library websites evaluation, content analysis and other areas as well, in which, Gbaje and Kotso³ evaluated the contents of 40 federal university libraries websites through a checklist of six broad categories and discovered that very few libraries websites provide general and contact information about library and large numbers of library websites need to redesign as well as require to include more contents in connection to make Nigeria academic library websites more effective and informative. Sarkar⁴ discovered that how can interactivity dimensions applicable and effective to library websites quality point of view and found that four interactivity dimensions, viz., reciprocal communication, connectedness, information collection and playfulness have great impact on the quality of library websites. This study further proposed a model of online interactivity dimensions which may be helpful in developing the interactive library websites. In another study conducted by Berendsen⁵ in which the content analysis of 50 state library agencies of USA

made by applying 28 criteria and discovered that main coding were OPAC links, search engines, what's new information, mail to links, counters, internal search engines, address, hours, forms and mission statement. Lown⁶, *et al.*, assessed the library users' search behaviour particularly in single search box option available on library website. Wilson⁷ conducted content analysis of Alabama academic libraries in connection to evaluate their services, content, design and accessibility standards and discovered that most above said library websites fail to implement basic web-design and accessibility standards. Blakiston⁸ stressed on developing effective strategies for academic libraries website in respect to make these websites contents useful, usable and findable. Blummer⁹ and literature review focusing on academic library websites design and navigation issues and suggested that libraries should develop an effective webpage for optimum use of contents of the academic library websites. Rocha¹⁰ conducted a framework study based on three dimensions such as contents, services and technical quality of the websites with aims to propose framework for quality evaluation of the websites at global level.

Shulka & Tripathi¹¹ assessed 20 central universities library websites and 19 institutions library websites of National importance including Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs) by using methods of Overall Website Performance Calculation (OWPC) and Criteria-wise Website Performance Calculation (CWPC). Chu & Goh¹² studied the usage of Web 2.0 applications in 120 public and academic libraries' websites of the North America, Europe and Asia and found that libraries are using Web 2.0 applications at large level for enhancing their library services quality and benefiting users as well. Raward¹³ urged to pursue user-centric design while developing an academic library website. Madhusudhan & Ahmed¹⁴ assessed IIM library websites based on specific criteria consisting of 11 features of qualitative aspects and 135 points of quantitative assess part and also rank the IIMs library websites based on their features identified during the conduction of this study. Vijaykumar & Mestri¹⁵ done content analysis of library services, facilities and web resources on the library web portals of Indian Institute of Technology (IITs) and found that there is scope for developing cooperation, linking and educational network among the libraries of the IITs. Hence, there are many studies conducted on various issues of library websites but so far, no study has been done on evaluation of NIT library websites.

3. OBJECTIVES

The objectives of this study are to:

- Analyse NIT library websites of India

- Identify criteria to assess 28 NIT library websites for this study
- Examine the status of library related information, services, resources and other facilities available on NIT library websites
- Evaluate the 28 NIT library websites on the basis of criteria developed for this purpose
- Rank the NIT library websites based on their respective features
- Suggest measures for the improvement of NIT library websites.

4. METHODOLOGY

Search is made by Google search engine using a term "NITs in India" to identify the website of all NITs. Search from above search engine and keyword, 30 NIT library websites, were discovered. Out of identified 30 NITs library websites, 28 NIT library websites found suitable for the study as two library websites of "NIT Goa and NIT Punducherry" do not have library website/ webpage. Further, each selected NIT library website thoroughly examined and navigated. A checklist of 120 points was prepared in order to analyse and evaluate and collect data on various services, resources, facilities and other information available on the selected NIT library websites of India, in which two points namely language and type/genre counted as Yes and written as (.ac. in/.net.in) and E= English & H= Hindi & O= other languages respectively in table no. (1). Apart from this, the coding method was also used (i.e., Yes =Y which counted as 1 number and No = N that is counted as 0 number) and abbreviation form of NIT(s) names is used to analysis and assess data for this study. This study is conducted on basis of information available on 28 NIT library websites by using predefined criteria during a period from 1 February 2015 to 28 February 2015. The study is only done of NIT library websites and retrieved through Internet but those services and facilities which disappeared, accessible, fail to retrieve, governing through intranet and not accessible on internet were not included in the evaluation of 28 NIT library websites.

5. ANALYSIS

5.1 General Information About the Library

Table 1 depicts information regarding NIT library websites which includes name of the NIT, contact address, languages, library staff, library hours, library floor structure, type/genre, opening hours, library committee, rules, news and updates, library collections, library membership details, plagiarism check, information regarding various library sections, and services, frequently asked questions (FAQ) and

other details as well. Table 1 demonstrates out of various general information available on library websites, (90 %) are available on NIT Rourkela library websites, followed by almost (77 %) criteria available on NIT Silchar library website and about 72 % indicators present on MNIT Bhopal library website. While, only (15 %) criteria are present on NIT Arunachal Pradesh and NIT Maghalaya library websites, respectively and lowest (8 %) found on NIT Patna library website.

On the other hand, indicators such as institution name, about library, contact address and opening hours, found on most of NIT library websites, whilst, points namely plagiarism check facility, walk-in user facility, floor plan/map, newsletter, web counter and visitor number discovered from very less number of NIT library websites. But, out of selected twenty eight NIT library websites, none NIT Library website is imparting information with regard to job opportunities.

Though, all NIT library websites are providing information in English language but NIT Jalandhar and NIT Srinagar are providing information in Hindi languages also. Three library websites NIT Warangal, NIT Utterakhand and NIT Arunachal Pradesh are providing option to view their information in around 21 languages by clubbing 'Google Translator' tool. It is also discovered from this table that out of total 28 NIT library websites, maximum 27 NIT library websites are build on academic domain name except NIT Srinagar library website.

5.2 Evaluation Criteria for NIT(s) Library Websites

Table 2 provides availability of indicators with regard to authority, intended audience, purpose, coverage, currency, relevance, accuracy, reliability, navigation, structure linkage and search interfaces. These are established criteria for any kind of website and every website should cover all essential criteria to make a quality website, Golding¹⁶, *et al.* also provides guidelines for building quality contents to library websites.

It can be seen through Table 2 that majority of NIT library websites could not reach up to 80 % criteria in which only NIT Rourkela library website got highest criteria and eight NIT library websites have cleared 50 to 60 % criteria. Rest NIT library websites cleared only up to 48 % criteria in which lowest criteria below 10 % found on NIT Mizoram library website and NIT Patna library website. Large numbers of NIT library websites are suffering from currency, reliability and search interfaces which are essential criteria for maintaining quality of the library websites. It is also observed that NIT library websites which developed in 2010 year cleared less numbers of criteria listed in above table in comparison to other NIT library websites.

Criteria like spelling and grammar errors, actual coverage matched with intended mission, every webpage has option to return to the home page of the website and all hyperlinks retrieving checked manually and search facilities provided through cloud environment noted by information or cloud-based products available on the NIT library websites.

Apart from above, most of NIT library are member of Indian National Digital Library for Engineering, Science and Technology (INDEST) consortium in which some libraries have membership of J-GATE consortium and subscribing various technical electronic resources form INDEST consortium and also from other e-publishers. Maximum NIT library websites are using LIBSYS software for library automation. Further, two essential features of the website, viz., webmaster e-mail address and Boolean search facility are not available on any NIT library website chosen for this study.

5.3 Web 2.0 Applications

Web 2.0 so called Library 2.0 in library and information science domain. In present time, Web 2.0 applications are playing worthy roles in the libraries for gathering, storing and disseminating information with many flexibilities and web environments. Gerolimos²¹ study explored the benefits of tagging in library setting specially for finding the desired information and resources.

Table 3 depicts that only NIT Jamshedpur library website and NIT Rourkela library websites are using Web 2.0 applications in majority (25 %) equally and three NIT(s) library websites namely NIT Patna NIT Surathkal and NIT Sikkim are containing lowest percentage as these NIT(s) are using only one application of Web 2.0. It is surprising to note that among rest 24 NIT library websites, none of are NIT library website got any Web 2.0 application into their respective library websites. It is interesting to observe that among eight Web 2.0 applications listed in Table 3, 'Social Networking Sites (SNS)' especially Face Book used in maximum quantity nearly (11 %) by three NIT library websites and 'Wiki' is present on two NIT library websites. But, blog and RSS feeds each used at lowest level about (4 %). While 4 Web 2.0 applications such as "Book Marking/Tagging, Instant Messaging, Podcast/Vodcast and Calendaring are not found on any NIT library websites. Therefore, social networking sites (SNS) are mostly used in comparison to other Web 2.0 applications.

5.4 Ranking of NIT Library Websites

For determining ranking of the NIT library websites selected for this study, a quantitative five-point ranking scale developed that is ranging from 'excellent' to 'need for improvement' separately.

Table 1. General information available various library

Inform-ation about library	NIT Delhi	NIT Jai-anhar cut	NIT Cali-abad	MNNIT Alah-abad	MNNIT Dur-gapur	MANIT Bhopal	NIT Hamir-pur	MNIT Jaipur	Jam-shedpur	VNIT Nagpur	NIT Patna	Rour-Kela	Sil-Schar	NIT Srin-Surathkal	NIT Tiru-chira-palli	NIT War-Agar-tala	SVNIT Surat	Kuru-kshe-tra	NIT Uttara-khand	NIT Sik-pur	NIT Rai-land	NIT Miz-oram	NIT Mani-pur	NIT Arun-achal	NIT Prad-esh	NIT Me-gha-laya
Name of NIT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Contact ad-dress	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E-mail	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fax No.	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Phone No.	Y	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Language of website	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Browser-related infor-mation	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Type / Genre	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in	.ac.in
Plug-in required	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Opening hours	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Library staff	N	Y	Y	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Library rules	Y	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
News & updates	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
About library	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Mission statement	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
FAQs	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Floor map/plan	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Newsletter	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Web counter	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Visitor No.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Library Committee	N	Y	Y	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Library services via website	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Plagiarism check facility	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

KAUSHIK: AN EVALUATION OF NATIONAL INSTITUTES OF TECHNOLOGY LIBRARY WEBSITES

Member-ship details	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Library fine structure	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
No. of library cards	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Newspaper clippings	N	Y	Y	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N
IT infrastructure	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Membership guidelines	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Book collection	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Printed journal collection	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Audio visual collection	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Journals back vol. collection	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
New arrival list	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Technical section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Acquisition section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Circulation section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reference section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reprographic section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Current journal section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bound volume section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Stack room section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
SC/ST book section	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Book recommendation form	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Special collection	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 2. Evaluation criteria for NIT(s) library websites

Evaluation criteria	NIT Delhi	NIT Jai andhar cut	NIT Cali- andhar cut	NIT MNNIT Alah- abad gapur pal	NIT Dur- Bho- gapur pal	MANITNIT Bho- Hamir- pur	MINIT Jai- pur	NIT Jamsh- edpur	VNIT Nag- pur	NIT Patma Kela char	NIT Rour- Sij- agar	NIT Srin- agar	NIT Sural ngal tala	NIT War- Agar- tala	SVNIT Surat	NIT Kuru- she tra	NIT Uttara- khand	NIT Sik- kim	NIT Rai- pur	NIT Naga- land	NIT Miz- orampur	NIT Mani- Prades	NIT Achal ghaya	
Authority, intended audience/purpose, coverage, currency, accuracy, relevance, reliability, structure, navigation, linkage, search interface.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sponsored body	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Official logo	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Website development responsibility	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Webmaster e-mail	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Purpose	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Targeted audience	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Actual coverage matched with intended mission	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Subject coverage matter extensive	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Is website update date given on homepage	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Is website update date given on other webpages too?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Any spelling and grammar error found	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Is familiar terminology used in website	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
All hyperlinks retrieving	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
All hyperlinks appropriate and relevance?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
All hyperlinks reliable	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Copyright status clearly stated?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Privacy statement	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Disclaimer statement	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Navigation options clearly labeled	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Is website easy to navigate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Is every webpage has option to return to the home page	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

The ranking calculation conducted on the basis of total number of points obtained by individual NIT library website out of total 120 points included in Table 1, 2 and 3, respectively. The ranking scale developed for above said purpose is given below: 97-120: Excellent; 73-96: Above average; 49-72: Average; 25-48: Below average; and 01 -24: Need for improvement.

It can be seen from Table 4 that majority (39 %) NIT library websites got 'average' rank and nine NIT library websites (32 %) secured 'below average' rank. While, 6 library websites of NIT Patna, NIT Agartala, NIT Mizoram, NIT Manipur, NIT Arunachal Pradesh and NIT Meghalaya required 'need for improvement'. A very few (7 %) scored 'above average' rank out of 28 NIT library websites in which NIT Rourkela library website is just short to get 'excellent' rank. Further, It is surprising to note that out of selected 28 NIT library websites,

none NIT library website received 'excellent' rank. Hence, majority of NIT library websites need to upgrade in terms of information regarding library facilities and web 2.0 applications to maintain the quality of NIT library websites.

6. FINDINGS

The following findings received on the basis of analysis of the results of this study:

- (a) Maximum NIT library websites do not contain essential features such as mission statements, library floor map, walk-in users facility, plagiarism check facility, FAQ, ask librarian facility and link to other important resources on their respective library websites.
- (b) Majority of NIT library websites are not providing information about update date of library websites on their homepages and other webpages available within respective NIT library websites.

Table 4. Ranking of selected NIT library websites

S. No.	Name of NIT library websites	Total score (T1)	Total score (T2)	Total score (T3)	Total score (T1+T2+T3)	Ranking of NIT(s) library websites
1.	NIT Rourkela	54	39	2	95	Above average
2.	NIT Silchar	46	33	0	79	Above average
3.	NIT Calicut	32	24	0	56	Average
4.	MANIT Bhopal	43	24	0	67	Average
5.	NIT Hamirpur	32	22	0	54	Average
6.	NIT Jamshedpur	33	30	2	65	Average
7.	VNIT Nagpur	40	28	0	68	Average
8.	NIT Surathkal	35	29	1	65	Average
9.	NIT Tiruchirapalli	27	22	0	49	Average
10.	SVNIT Surat	31	29	0	60	Average
11.	NIT Kurukshetra	32	27	0	59	Average
12.	NIT Sikkim	23	28	1	52	Average
13.	NIT Raipur	36	27	0	63	Average
14.	NIT Delhi	25	19	0	44	Below average
15.	NIT Jalandhar	26	22	0	48	Below average
16.	MNIT Allahabad	23	22	0	45	Below average
17.	NIT Durgapur	20	26	0	46	Below average
18.	MNIT Jaipur	17	25	0	42	Below average
19.	NIT Srinagar	18	20	0	38	Below average
20.	NIT Warangal	23	14	0	37	Below average
21.	NIT Uttrakhand	13	14	0	27	Below average
22.	NIT Nagaland	21	11	0	32	Below average
23.	NIT Patna	5	6	1	12	Need for improvement
24.	NIT Agartala	13	6	0	19	Need for improvement
25.	NIT Mizoram	10	3	0	13	Need for improvement
26.	NIT Manipur	11	6	0	17	Need for improvement
27.	NIT Arunachal Pradesh	9	1	0	10	Need for improvement
28.	NIT Meghalaya	9	15	0	24	Need for improvement

- (c) Webmaster's e-mail address, privacy, disclaimer and website map indicators were not found in some NIT library websites.
- (d) Link to librarian personal home page, IRs, search engine, facility of customisation of search results against user query, how to search options and cloud-based search facility were not available on large number of NIT library websites.
- (e) Very less NIT library websites are using Web 2.0 applications on their respective websites.
- (f) Large number of NIT library websites are using LIBSYS software for library automation and also have membership of INDEST consortium.
- (g) Only two NIT library websites received 'above average' rank, whilst, none NIT library website reached up to 'excellent' rank.

7. SUGGESTIONS

The following suggestions are being made on the basis of findings of this study:

- (a) Every NIT library website should incorporate clear mission statement, floor map, walk-in users' facility, plagiarism check facility, ask librarian facility, FAQ and link to other important resources at appropriate places on their individual library websites.
- (b) It is highly suggested that every NIT library website should include upgrade date on their respective library website homepage as well as on other web pages connected with particular website.
- (c) Important features such as webmaster email address, privacy, disclaimer and website map must be incorporated on every NIT library website.
- (d) Linking makes website informative, decorative and one stop point for catch desired information, therefore, important links such as link to librarian and subjects expert, link to institutional repositories, search interfaces specially customisation of search results, how to guides, cloud based search interfaces should be added at appropriate places.
- (e) All NIT library website may incorporate Web 2.0 applications as these tools facilitate users to upto date information.
- (f) More cutting edge technologies such as cloud based services, Web 3.0 and others may be included as per need.
- (g) Majority of NIT library websites have acquit need to upgrade in various corners in connection to meet quality parameters.

8. CONCLUSIONS

This study provides an insight about the information, services, web resources and facilities available on 28 NIT library websites. It is found that contents and information are varying in NIT library website so and almost every NIT library website is a member of INDEST consortium and subscribing e-resources through this consortium as well as from other e-publishers. Aside from this, majority of NIT library websites are suffering from clear mission statement, currency, reliability, effective searching interfaces and Web 2.0 applications which are very essential indicators as far as quality of a library website is concerned. Therefore, there is need for improvement and development of contents of the library websites especially for those NIT library websites which do not have essential criteria on their respective library websites. On the other hand, to make NIT library websites effective, decorative, dynamic and informative in real situation, users' survey and feedback techniques may be employed and comparison and adoption of contents and information may be done time to time from fully developed library websites of other institutions of national importance such as Indian Institutes of Technology and Indian Institutes of Management and so on, to maintain the quality of the library website.

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