Content Analysis of Contributors of Higher Educational Institutes of Gujarat: with reference to NDLI

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Abstract

The purpose of the current study is to analyse the contents of National Digital Library of India (NDLI). The study also searches organisations that have formed their institutional digital repositories and take part through their links to National Digital Library. NDLI is a single window for all digital content and resources. The user according to his educational level can choose the learning material. The searches can be refined by picking diverse options like type of learning resource, educational degree, file formats, languages, etc. The paper's analysis is based on a content analysis of the resources contributed by higher educational institutions in Gujarat to the NDLI platform. To commence the present study, data were collected from the website of NDLI (http://ndl .iitkgn.ac.in) in between 20th and 27th February 2023. The findings of the study will provide insights into the extent to which the NDLI project is being utilised by educational institutions in Gujarat, and the potential impact of the project on the academic community in the region. It is identified from the study that the majority of the resources are uploaded by IIMA. It is also identified from the study that more numbers of institutes have participated by sharing their resources through IDR.

Keywords: Content analysis, Digital library, Higher educational institute, Institutional digital repository, National digital library

1.   Introduction

The National Digital Library of India (NDLI) through its National Mission on Education through Information and Communication Technology (NMEICT) project coordinated by Central Library, IIT Kharagpur, West Bengal is an initiative visualised to educate, allow and empower new India with quality knowledge and learning resources globally, using the strength of digital technology. There are several institutes including higher education institutes are content contributors through their institutional digital repositories. This Institutional Digital Repository (IDR) was created using open source software and the same maintained by the respective institution. This IDR has been merged into the NDLI so the contents uploaded by the respective institution can be accessed globally through NDLI.

NDLI boosts contributors or content partners for example educational boards, government institutes, private organisations

to upload their content, metadata and allow them to retrieve their intellectual property in the attentiveness of the people. All the contributors have a directive to create an Institutional Repository (IR) using digital library software if possible Dspace, set their metadata on Institutional Repository (IR). At the same time, it is also noted that NDLI does not store any content it only provides metadata to access. The respective source delivers the full text content.

The NDLI currently has more than 22 lakh subscribers and can also accessed through the NDL app in three different languages English, Hindi and Bengali. To obtain the copyright issue, the NDLI provides access only to the metadata of the e-content which is free from copyright restrictions.

2. Review of literature

It can be observed that several studies have been presented and published on NDLI.

Anasane (2022) highlighted various services offered by NDLI to access to various learning and information sources as well as different languages involved, and different types of files and formats in the content available in the NDLI. In this regard, Biswas and Das Biswas (2023) mentioned that at present NDLI is the best source of OERs in India.

Ashkar, Sarasu and Jelani (2020) tried to find out how students and research scholars of Central University of Tamil Nadu used digital resources and services offered by NDLI.

Bansode and Nikose (2019) described various embedded repositories on one platform which were developed for a specific purpose like Shodhganga, Krishikosh, NPTEL, Libri Vox, NDLI with use cases, NDLI service architecture, embedded LIS resources features in NDLI, social and professional sites and NDLI at a glance.

Bashir, Nasreen and Loan (2019) provided an overview of the NDLI to know its advantages, features and assemblage in the global digital space.

Mangurkar and Chaudhari (2018) presented an analysis of NDLI content. They emphasised various types of information sources facilitate to access for the community and also highlighted language wise distribution, arrangement of subjects in NDLI, and list of educational degrees covered in NDLI. They also did the institutional sources wise analysis of contents and unique facility to choose knowledge material.

3. Significance of the study

This study is significant because it offers information and analysis on the content contributors of higher education institutions of Gujarat and the digital resources contributed by those institutions through their IDRs. As well as to encourage other higher educational institutes to develop the IDR and contribute their contents on NDLI.

4. Objectives

The core objective of the present study is to analyse the content contributors of higher educational institutes of the state of Gujarat.

- To analyse overall content contributors out of all from the higher educational institutes in the state of Gujarat

- To analyse the learning resource contribution types of the higher educational institutes of the state of Gujarat

- To analyse various education levels involved by the content contributors of higher educational institutes in the state of Gujarat

- To analyse the different files and

formats available by contributors of the higher educational institutes of the state of Gujarat

- To find out and analyse the languages used by content of the higher educational institutes in the state of Gujarat

- To encourage the other higher educational institutes of Gujarat to contribute their content for benefit of all stakeholders

- To identify the different subjects available and contribute on NDLI of higher educational institutes of Gujarat

- To explore the various organisations that have provided access to their institutional repositories.

5. Research methodology

To commence the present study, data were collected from the website of NDLI (http://ndl. iitkgn.ac.in) between 20th and 27th February 2023. The data was collected with the help of browse option of home page of NDLI.

The present study is limited to 6 content contributors of higher educational institutes of Gujarat state. The collected data were categorised, analysed and presented by using simple statistical methods.

6. Scope and limitations

Content contribution in NDLI by the higher educational institutes of the state of Gujarat has been assessed in the study. There area total of 252 content contributors in India from all over India and 6 higher educational institutes of the state of Gujarat have participated as content partners. These 6 higher educational institutes are: The Maharaja Sayajirao University of Baroda (MSU), Dhirubhai Ambani Institute of Information and Communication Technology (DAIICT), Indian Institute of Management Ahmadabad (IIMA), Indian Institute of Technology, Gandhinagar (IITG), Navrachana Univesity, Vadodara (NUV), and Parul University, Vadodara (PU).

This study covered only higher educational institutes in Gujarat. Total content contributors are 08 from Gujarat, i.e., 6 higher education institutions mentioned above and Gujarat Secondary Educational Board and INFLIBNET Centre have been excluded in this study.

7. Data analysis

Table 1: Higher educational institutes as content contributors

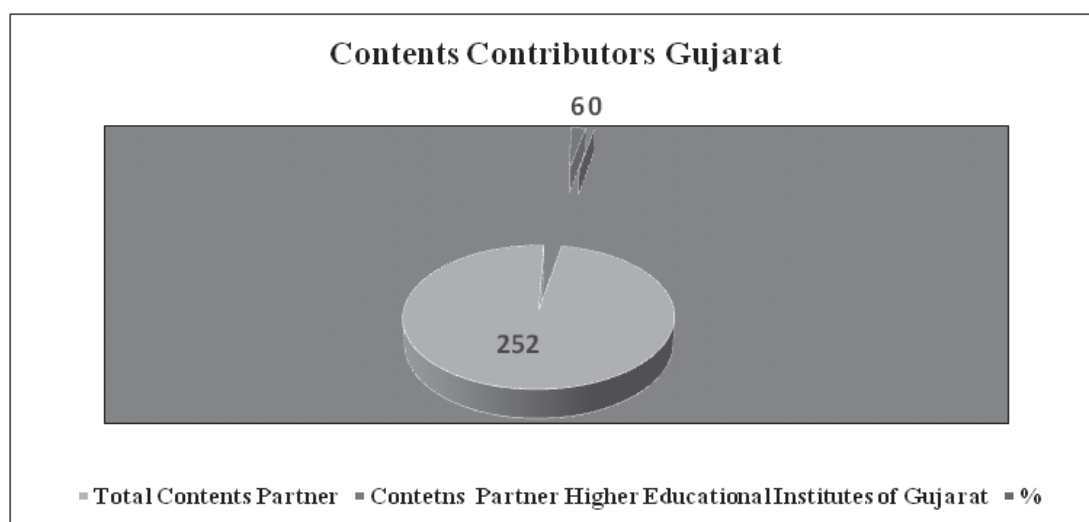| Sl. No.	University/Institute/Colleges	Total Contents	%	Rank
1	Indian Institute of Management Ahmedabad	10950	47.35	1
2	Parul University, Vadodara	6951	30.06	2
3	Indian Institute of Technology Gandhinagar	3842	16.61	3
4	Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar	602	2.6	4
5	Maharaja Sayajirao University of Baroda, Vadodara	543	2.35	5
6	NavrachanaUniversity, Vadodara	238	1.03	6
		23126	**100%**	

The above table 1 shows that there area total of six contributors from higher educational institutes in Gujarat as content partners of National Digital Library of India. It is found that contents contributed by institutes in the following ways: IIM-A (47.35%), Parul University, Vadodara (30.06%), Indian Institute of Technology Gandhinagar (16.61%), DAIICT Gandhinagar (2.6%), MSUB, Vadodara (2.35%) and Navrachana University, Vadodara (1.03%) respectively. However, as per analysis of the contents, it is found during access of NDLI website that one higher educational institute shows maximum contents but majority of contents are not accessible.

Table 2: Total contents partners

Total Contents Partners	Contents Partners Higher Educational Institutes of Gujarat	%
252	6	2.38

Figure 1: Contents contributors of Gujarat

Table 2 and figure 1 represent the content contributors in NDLI. It is identified thatout of a totalof 252,06 higher educational institutes of Gujarat have functioned as content contributors/partners.

Table 3: Education level

Particular	DAIICT	IIMA	IITGN	MSUB	NUV	PUV	Total	%
UG and PG	0	9925	0	543	238	6951	17657	**94.17067**
Master of Technology	509	0	400	0	0	0	909	**4.848**
Master of Design	55	0	0	0	0	0	55	**0.293333**
Doctor of Philosophy	24	0	82	0	0	0	106	**0.565333**
Master of Science	14	0	9	0	0	0	23	**0.122667**
Total	**602**	**9925**	**491**	**543**	**238**	**6951**	**18750**	**100%**

As per table 3, it is indicated that different contents are available for various education levels, and from the analysis, it is also found that maximum contents are available for UG and PG (94.17%) and minimum contents are available for Master of Science in particular (0.12%).

Table 4: File format

Particular	DAIICT	IIMA	IITGN	MSUB	NUV	PUV	Total	%
PDF	602	9985	671	543	220	6941	18962	93.11987
JPG/JPE	0	962	1	0	14		977	4.797918
MPGE	0	3	0	0	4	306	313	1.537102
HTML	0	0	103	0	0		103	0.505819
Others	0	0	8	0	0		8	0.039287
							20363	100%

The homepage of NDL mentions that educational material is available in different file formats. The study has tried to identify all the file formats available from contents contributed by higher educational institutes of Gujarat. The study has further analysed and found that the maximum file format (93.11%) content is in the form of PDF and the minimum file format is in the form of HTML (0.50%) followed by other files (0.039%) available.

Table 5: Language use

Language	DAIICT	IIMA	IITGN	MSUB	NUV	PUV	Total	%
English	602	10950	3839	472	238	6948	23049	99.66704
Others			3	71	0	3	77	0.332959
Total	602	10950	3842	543	238	6948	**23126**	100%

From analysis, it can be seen from table 5 that the majority of educational material is available in English (99.66%) and the minimum in other languages (0.33%) like Gujarati, Sanskrit and very feware in other languages available in the contents contributed by higher educational institutes of Gujarat.

Table 6: Content resource type

	DAIICT	IIMA	IITGN	MSUB	NUV	PUV	Total	%
Annual Report	69	48		0	3		120	0.631878
Technical Report/Manual	509		5	0	15		529	2.78553
Article	0	2756	2938	3	174	387	6258	32.95245
Book	0	1352	87	216	3		1658	8.730451
News Paper Article	0	168	2	0	0		170	0.895161
Notes/Presentation	0	2271	245	0	0		2516	13.24838
Thesis	24	291	491	324	28	531	1689	8.893686
Video Lecture					18	306	324	1.706071
Question Paper						5687	5687	29.94576
Others						40	40	0.210626
Total							**18991**	**100%**

The above table 6 shows that there are a total of 10 types of content contributions available from these higher educational institutes of Gujarat including articles (32.99%) followed by question papers (29.94%) as the maximum content resource types. However, it is also identified that question papers available in the institutes are not accessible properly or not open even though it is indicated as open access files by the respective institute. As well as minimum resource type found as annual reports (0.63%) followed by (0.21%) other resource type contents contributed by higher educational institutes of Gujarat.

8. Findings of the study

The present study highlights a statistical picture of the content contributors from the higher educational institutes of Gujarat.

- It has been identified that the maximum contents contributed in NDLI by IIM-A (47.35%) out of all 6 higher educational institutes from Gujarat.

- The breakdown shows that very few higher educational institutes from Gujarat participated as content partners.

- The analysis indicates that different contents are available for various education levels and found that maximum contents are available for UG and PG levels (94.17%).

- It is identified that the maximum file format (93.11%) content is in the form of PDF and the minimum file format is in the form of HTML (0.50%) followed by other files (0.039%) available. So, the commonly accepted file format is in PDF format.

- As per finding, it is shown that the majority of educational material is available in English (99.66%). Hence, the medium of maximum content is in English language and the minimum in other languages including Gujarati (0.33%).

- As per the analysis, it is understood that there is a total of 10 types of content contribution available from these higher educational institutes of Gujarat including articles (32.99%) followed by question papers (29.94%) as maximum content resource types.

● As per the NDLI website's source tab, one university identified that 90% of contents are not available or links are not accessible from its institutional digital repository.

9. Recommendation

The study focuses on contributions made over a specific period and aims to identify trends and patterns in terms of the type of resources contributed, the subject areas covered, and the frequency of contributions. The findings of the study will provide insights into the extent to which the NDLI project is being utilised by educational institutions in Gujarat, and the potential impact of the project on the academic community in the region.

Today's libraries and information centres are facing various kinds of difficulty at every level in the new digital environment and to solve the said problem NDLI has been formed and thus NDLI is the strongest single window platform for academicians, researchers, and for total learner community. The study highly recommended that all the intellectual content information and knowledge sources should be needed to be uploaded at the local level Institutional Digital Repository and also should be a part of the first respective institute IDR and this IDR has to be merged with NDLI for the benefit of all community and the society at large.

Higher educational institutes should take care of copyrights of the resources that are uploaded either on IDR or on NDLI. It is also recommended while uploading the contents on IDR that unnecessary resources should not be uploaded on IDR. It is found while accessing the NDLI website and from the resource link available that few educational institutes uploaded metadata of subscribed physical periodicals and their name only. It is also recommended to recheck the content and its accessibility after or before uploading the resources on IDR or as and when it's merged with NDLI.

Overall, this paper contributes to the growing part of the contents on the NDLI project and its impact on higher education in India. By analysing the contributions of educational institutions in Gujarat, the study sheds light on the potential of the project to support education and research in the region and the challenges that need to be addressed to realise this potential. The findings of this study have important implications for policymakers, educators, and researchers interested in leveraging digital technologies to enhance access to education and knowledge.

10. Conclusion

In the current era due to information overload, users' demands and the current development of ICT, digital content is very important for sharing the same globally. NDLI has continuously increased e-contents/e-learning resources by developing at various levels e-libraries/digital repositories for the benefit of users as well as at the same time for libraries and information centres. The NDL India is currently one of the major pearl troves in the global cyberspace containing information on any branch of knowledge for any user at anytime from anywhere in many languages and formats. At last, the study concludes that all the institutional contents available with the institutions of the state of Gujarat need to be shared on the NDLI platform for the benefit of the user community to enhance their research and academic improvements.

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