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## Trends and Challenges in the Utilization of Web-Based Repositories for the Academic Colleges in the Chennai District

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### Abstract

*A study analyzed trends in information services accessed from university library websites and respondents' satisfaction with web-based information repositories. Researchers distributed questionnaires to students in Chennai, resulting in an 83.33% response rate. The collected data was then analyzed for results and discussions.*

### Keywords

Trends and Challenges, Web-Based Repositories, Utilisation, College students, Chennai district.

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## 1. Introduction

A web-based information repository is a technology that gathers multimedia information, including text, images, audio, video, voice, software, and scientific data. It then organises, preserves, and manages this information to provide high-speed access to the database. The technology should address intellectual property rights protection, access authority, and data safety issues. On the other hand, a web-based library is an information system that uses a database to organise web-based information and provide services to consumers over the network. Both commercial enterprises and public entities recognize the benefits of web-based libraries. They offer users improved access to electronic and audio book technology and new forms of communication, such as wikis and blogs. A significant advantage of web-based libraries is that they enhance accessibility to users. Users of web-based libraries can access them from anywhere worldwide without visiting the library in person. Round-the-clock availability: People can gain access to information at any time, night or day.

- Multiple access: Several institutes and patrons can access the same resources simultaneously.
- Information Retrieval: The user can use any search term (word, phrase, title, author or subject) to search the entire collection.
- Preservation and Conservation: Digitised collections and born web-based objects pose many preservation and conservation concerns that analogue materials do not.
- Space: Web-based repositories can store much more information simply because web-based information requires very little physical space to contain it, and media storage technologies are more affordable than ever.
- Added value: Certain characteristics of objects, primarily the quality of images, may be improved.

Technological standards change over time, and forward migration must constantly be considered in every Library. Migration means transferring an unstable web-based object to another more stable format, operating system or programming language. Migration allows retrieving and displaying web-based objects in danger of becoming extinct. But with the ever-changing nature of computer technologies, migration

enables this never-ending race to transfer web-based objects to new and more stable formats. The new platform may not capture the complete integrity of the original thing. This issue can dominate preservation policy and focus more on instant user access than physical preservation.

## 2. Profile of Study Area

Chennai district, previously known as Madras district, is one of the 38 districts in Tamil Nadu, India. It is the state's smallest district with the highest population density. The district is identical to the city of Chennai and is governed by the Greater Chennai Corporation. It is bordered by Tiruvallur district to the north and west, Kanchipuram district to the southwest, Chengalpattu district to the south, and the Bay of Bengal to the east. As of 2011, the district had a population of 67,48,026 with a sex ratio of 989 females for every 1,000 males. Most of the district's population has lived there since the 1st century CE to the Middle Ages. The district now has a diverse population. The area is home to only one civic body, which is the megacity of Chennai. It is the core and most prominent part of the larger Chennai metropolitan, also known as the Chennai Metropolitan Area. The district's boundaries were expanded in 2018, aligning with the newly expanded Greater Chennai Corporation, which included adjacent municipalities. It increased the area from 175 square kilometres (68 sq. mi) to 426 square kilometres (164 sq. mi). The district is divided into three revenue divisions and ten taluks.

## 3. Review of Literature

Balasubramanian and Santhanakumar (2022) conducted a study on the impact of digitised repositories on university libraries in Tamilnadu, focusing on information-seeking behavior. The study used questionnaire-based surveys to gather data on users' information-seeking behavior, revealing that members used various information sources for teaching, research, and academic work. The data revealed that some respondents preferred ICT-based library resources over print resources, indicating the availability and advancement of e-resources. Balasubramanian and Santhanakumar (2020) found that postgraduate students regularly used library resources and services, primarily for research materials. They were satisfied with library services but faced challenges such as time constraints. Sriivasa Rao (2020) examined Network Infrastructure facilities at National Institute of Technology (N.I.T.)

libraries in India, finding that most libraries have internet connections and 60% use leased connections. Hari Narayanan (2019) conducted a literature review to explore information use and knowledge-sharing methods in patient studies, emphasizing the importance of practical knowledge management across organizational and professional boundaries for improving public services.

## 4. Statement of Problem

A Web-Based Information Repositories is a collection of online resources. There are two primary types of Web-Based Information Repositories: institutional and disciplinary. Institutional repositories are collections of institution-specific resources. Web-based repositories are developing rapidly as a critical element of research cyber infrastructure. Even when research institutions grapple with difficult budget decisions in the current economic environment, they must have a strategy for providing repository services. Libraries are making diverse contributions to developing many web-based repositories, particularly those housing locally created web-based content, including new web-based objects or digitised versions of locally held works. In some instances, libraries are entirely managing a repository and its related services, but they are often working closely with other stakeholders at their institutions to develop repository services jointly. The literature review has highlighted that contemporary research focuses on technology-related matters and library service processes. It is essential to focus on the user perspective of this change to understand how to manage the web-based repository resources. A version of user experiences and expectations would enable library professionals to address this problem more effectively. Hence, the research is initiated under the title "Trends and Challenges in the Utilization of Web-Based Information Repositories in Academic Colleges in the Chennai District."

## 5. Objectives of the study

- To analyse trends in information services accessed from the college library websites in the Chennai district.
- To analyse the respondents' satisfaction with Web-Based Information Repositories in the sample unit.

## 6. Null and Alternative Hypotheses

**H<sub>0</sub>:** There is no significant association between the Respondents' opinions of web-based library

services provided by academic collegelibraries and their satisfaction

**H<sub>1</sub>** There is a significant association between the Respondents' opinions of web-based library services provided by academic college libraries and their satisfaction

**7. Scope of the study**

The scope of the study defines the area in which the research is being directed. The researcher selected five colleges in the Chennai district as sample units for the study. The target populations for this research are college students. The researcher analyses the trends in information services accessed from the college library websites and the students' satisfaction.

**8. Methodology**

The study surveyed students from five Chennai colleges using a questionnaire. Out of 150 distributed questionnaires, 125 responded, resulting in an 83.33% response rate. The data was analyzed for results and discussions.

**9. Limitations**

- The sample size is confined to 125 respondents.
- The researcher followed a cluster sampling technique to select the respondents.
- The research is confined to primary data collection, so secondary data has no scope.

**10. Data Analysis and Interpretation:**

**Table 1:** Frequency of the Library Visit

Sl. No	Frequency	No. of Respondents	Percentage
1	Almost daily	42	33.60
2	Thrice a week	31	24.80
3	Twice a week	24	19.20
4	Once a week	17	13.60
5	Occasionally	11	8.80
Total		125	100

Table 1 shows the segmentation of the selected respondents based on the frequency of visits to the university library. It is perceived that 34 per cent of students visit the library daily. It is interesting to find that 25 per cent of the users see a week thrice, 19 per cent twice a week, 14 per cent once a week and only

9 per cent of respondents use the library occasionally. Further, it is noted that a maximum of 33.80 per cent of respondents visit the library daily.

**Table 2:**Types of Information Sources Used

Sl. No	Frequency	No. of Respondents	Percentage
1	E-Books	23	18
2	E-Journals	18	14
3	Newspapers	25	20
4	Reports	11	9
5	E-Resources	48	38
Total		125	100

Table 2 reveals the type of information preferred by the academic users of the Chennai district. 38 per cent of the respondents use e-resources, 20 per cent use newspapers,18 per cent books, and 14 per cent use journals. Very few respondents (9 per cent) use reports.

**Table 3:** Types of Sources Used to locate the information

Sl.No	Frequency	No. of Respondents	Percentage
1	Magazine	13	10
2	Dailies	17	14
3	E- sources	39	31
4	Reading books	14	11
5	Watching T.V	6	5
6	Listening Radio	3	2
7	From Professors	15	12
8	Through their friends	8	6
9	Reports	3	2
10	Library Display	7	6
Total		125	100

Table 3 shows that 31 per cent of users have information from E- sources while 14 per cent prefer Dailies and 12 per cent from Professors for gathering the data. 11 per cent of respondents read books, and 6 per cent get information through their friends, respectively.

**Table 4:**Trends in information services are accessed from the university library website

Sl. No	Kinds of information services	WAS	Rank
1.	User Information	3.942	II
2.	New Arrivals Notification	4.163	I
3.	Library Circulars	3.647	IV
4	Web Link	3.795	III
5	Library Events	3.528	V
6	Other library-relevant information	3.143	VI

Table 4 shows the ranking of information services accessed from the university library website. The top three are "New Arrivals Notification", "User Information", and "Web Link", with weighted average scores of 4.163, 3.942, and 3.774, respectively. "Library Circulars" and "Library Events" are ranked fourth and fifth.

**Table 5:**Respondents' Opinions about the Ranking of Web Technologies

Sl. No	Web Technologies	Garret Score	Rank
1.	The World Wide Web	3.745	II
2.	E-Learning materials	3.984	I
3.	Chatting	3.344	IV
4	Web-based audio	2.875	VII
5	Web-based video	2.613	VIII
6	Webmail	3.582	III
7	Download software from the Web	3.076	VI
8	Social media	3.262	V
9	Social networking sites	2.417	IX

Table 5 shows respondents ranked web technologies based on their perceived importance. The top-ranked statement was "E-Learning materials," with a Garret Score of 3.984. The second rank was given to "The World Wide Web," while "Webmail" was ranked third. "Chatting" was assigned the fifth rank, with "Social media" in sixth place. Finally, the variable "Download software from the Web" was understood to be in fourth place.

**Table 6:**Respondents' Opinions about the Ranking of Web Resources

Sl.No	Web Resources	WAS	Rank
1.	E-Books	2.876	V
2.	E-Journals	3.468	II
3.	E – Databases	3.762	I
4	E - Thesis, Projects, Dissertations	3.421	III
5	E-portfolios	2.649	VII
6	Digital repositories	3.172	IV
7	Web Index & Web catalogues	2.753	VI
8	Others	2.465	VIII

Table 6 reveals the weighted average score-based ranking of respondents' opinions about the importance of web resources. The first rank is allotted to "Databases" with an average score of 3.762, followed by the second rank allotted to the variable "E-Journals. The third rank is assigned to Thesis, Projects, and Dissertations.

**Table 7:**Search technique used to access Web Resources

Sl.No	Search technique	Search techniques			WAS	Rank
		Always	Sometimes	Rarely		
1.	Basic Search	46	42	37	3.241	III
2.	Phrase Search	37	45	43	2.678	V
3.	Advanced Search	65	37	23	3.938	I
4.	Field Search	39	44	42	3.127	IV
5.	Direct search	59	44	23	3.410	II
6.	Others	46	42	37	2.584	VI

Table 7 indicates the Search technique used by the selected respondents to access the web resources. It is understood that the first rank was given to the "Advanced Search" with a mean score of 3.938, the second rank was allotted to "Direct Search" with a score of 3.410 and the third rank was assigned to the technique "Basic Search" with a mean of 3.241. Further, the fourth rank was allocated to the method "Field Search", the fifth rank was assigned to "Phrase Search", and the last was allotted to the other techniques in search.

**Table 8:** Association between the Respondent's opinions of web-based library services provided by the university libraries and their satisfaction

Variables	Unstandardised Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.603	.077		-7.826	< 0.05
E-mail based services	.060	.010	.090	5.816	< 0.05
Online Feedback form	-.012	.023	-.014	-.538	>0.05*
Online contact addresses	.453	.021	.520	22.041	< 0.05
Online subject gateways	.368	.024	.350	15.563	< 0.05
Online library news	.219	.025	.250	8.631	< 0.05
Online library holidays list	.259	.032	.289	8.091	< 0.05
Online helpdesk services/Ask-a-Librarian	-.081	.023	-.102	-3.556	< 0.05
Online general library policies	-.048	.056	-.041	-.861	> 0.05*
Online integrated push-based – services (e-mail-based)	.819	.043	.508	19.216	< 0.05
Web-based library tutorials	.299	.025	.304	11.983	< 0.05
Web-based user education/virtual- library tour	-.782	.035	-.759	-22.104	< 0.05
Online in-house library bulletins	.260	.038	.173	6.816	< 0.05
<b>“R”</b>			<b>0.849</b>		
<b>“R<sup>2</sup>”</b>			<b>0.721</b>		
<b>Adjusted “R<sup>2</sup>”</b>			<b>0.719</b>		
<b>“F” value</b>	<b>31.231</b>		<b>Sig. Value .000</b>		

According to Table 8, Regression analysis was conducted to determine the relationship between the opinions of web-based library services provided by university libraries in the Chennai district and their satisfaction level. The results showed that the "R" value, "R<sup>2</sup>", and adjusted "R<sup>2</sup>" values exceeded the required threshold level, indicating that the model is suitable for analysis. Additionally, the "F" ratio was 31.231, confirming that the model is fit for further analysis. The researcher considered twelve variables under the "Miscellaneous" category, of which eleven significantly impacted respondents' satisfaction. In comparison, two variables, namely online feedback forms and online general library policies, did not affect respondents' satisfaction with the web resources of the university libraries.

### 11. Findings

- It is perceived that 34 per cent of students visit the library daily. It is interesting to find that 25 per cent of the users see a week thrice, 19 per cent twice a week, 14 per cent once a week and only 9 per cent of respondents use the library occasionally. Further, it is noted that a maximum of 33.80

per cent of respondents visit the library daily.

- It is found that 38 per cent of the respondents use e-resources, 20 per cent use newspapers, 18 per cent books, and 14 per cent use journals. Very few respondents (9 per cent) use reports.
- The study revealed that 31 per cent of users have information from E- sources while 14 per cent prefer Dailies and 12 per cent from Professors for gathering the data. 11 per cent of respondents read books, and 6 per cent get information through their friends, respectively.
- The researcher considered twelve variables under the "Miscellaneous" category, eleven significantly impacting respondents' satisfaction. In comparison, two variables, namely online feedback forms and online general library policies, did not affect respondents' satisfaction with the web resources of the university libraries.

### 12. Conclusion

Libraries are essential communal places that contribute to the well-being of our community. They

provide education, relaxation, and affordable access to books, magazines, music, and movies. Moreover, libraries offer a secure environment for meeting friends, using the internet, or getting help with school assignments. People of all ages, including children, youth, and older, are welcome to visit libraries.

As sustainability becomes increasingly necessary, libraries are emerging as an important provider. Academic libraries are usually located on school, college, or university campuses. Their primary function is to serve students and faculty, but some academic libraries are partly or wholly accessible to the general public. These libraries contain books, newspapers, journals, research papers, articles, and question banks, including previous year's question papers. The Internet and the World Wide Web have become crucial in all academic activities to obtain information. Libraries can be a tool for easily outweighing implementing financial constraints and the creativity of teaching, the efficiency of learning, and the exercise of research. The possibility of the library's active role in providing information through web-based resources is an integral part of user service. Much of the technology diffusion library has focused on adopting information access and disseminating information about resources and services. Concerning web technology dimensions, the technology related to appropriate hardware and software, infrastructure security, standards through computerised library services, application-oriented regarding resource requirements, web-based application development for providing digital content, storage and access to abilities to learning requirements associated with the intention of technology innovation to libraries. Academic libraries offer specific course-related resources, such as copies of textbooks and article readings, which students can borrow for a short period. They also provide a quiet study space for students on campus and group study space, such as meeting rooms. Libraries serve as a gateway for students and researchers to access various print/physical and digital resources.

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