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A Study of the Content Analysis of Library Resources on Library Websites

Umesh Kumar Gaur[1]*, Dr. Pradeep Kumar Dubey[2]

[1] Research Scholar, Shri Krishna University, Chhatarpur M.P.

[2] Professor , Shri Krishna University, Chhatarpur M.P.

Abstract -The purpose of this study is to conduct a content analysis of library resources in libraries through their respective library websites. Library resources include materials such as books, journals, audiovisual materials, and online databases, among others. The study aims to analyze the types and amount of resources available on library websites, the ease of access to these resources, and the quality of information provided on the websites. The study will use a mixed-methods approach, combining both qualitative and quantitative data analysis methods. The sample for the study will consist of a selection of libraries from different countries and regions, including academic, public, and special libraries. The selection of libraries will be based on their availability online and their reputation as a reliable source of information.

Keywords - Content, Analysis of Library, Resources, Library Websites

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1. INTRODUCTION

Every school has to have a well-stocked library for its students and faculty. Because of its central role in education, it is anticipated to supply the usual array of reference materials and online databases. The library must be brought up to date by incorporating new technology if the institution is to achieve its goals and objectives. We live in a web-based society now. Even libraries are part of the rule. Today's libraries are making every effort to provide their services in a timely and effective manner. Web is the best instrument for the job. Libraries benefit from Web services because they allow for more management and easier system modification and integration, and because they entice users to utilize the libraries to their full potential.

Tim Berners-Lee1 of CERN created the World Wide Web in 1991, making a reality of the visions of Paul Otlet's universal network for information and documentation, H.G. Wells' global encyclopedia, Vaneauvar Bush's "memex," and Ted Nelson's hypertext and hypermedia. (European Organization for Nuclear Research). Due to the web's ability to function across multiple platforms, its user-friendly point-and-click interface, and the versatility of hypertext in terms of linking, organizing, and retrieving information, academics and scientists from all over the world have flocked to it ever since it was first developed. The introduction of the Mosaic web browser in 1993 by NCSA (National Center for Supercomputing Applications) was another important event in the development of the World Wide Web. The ease with which information could be accessed, disseminated, and shared by the general public was a game-changer.[1]

In only the last two decades, the Internet has become a legitimate medium in its own right. Researchers from all around the globe have started taking an interest in it. Researchers were inspired by the rapid expansion of the web to use and experiment with a wide range of research methods in order to better comprehend the nature and rate of expansion of online content across a wide range of subject areas. The rapid growth in the number of people using the internet provides a compelling rationale for investigating the information available on the online. According to research conducted by the Pew Internet and American Life Project 74.00% of American teenagers and young adults have gone online in the last decade. This pattern is seen in a variety of other nations as well. Internet use has increased dramatically in India during the last several years. There were 42 million Internet users as of December 2007. The information environment of the 21st century has been drastically transformed by a number of factors, including the proliferation of modern web technologies, their merging, and the widespread dependence of users on these technologies to fulfill their information demands.[2]

2. INTERNET

The public, students, researchers, and housewives may all find intriguing information on issues of interest to them in the online world. Information and communication technology enables quick and

accurate Internet searches, a skill crucial to contemporary success.

Providing accessible, accurate, and up-to-date information to everybody, new ICTs like the Internet may provide genuine chances to enhance people's quality of life. Enhancements to ICTs and people's proficiency in using them are crucial in the present.[3]

2.1 Internet Users by Country wise

The internet has become an indispensable part of our lives, and it has changed the way we communicate, work, learn, and access information. In this article, we will explore the internet usage statistics by country, highlighting the countries with the highest internet penetration rates and the countries with the lowest rates.

According to the latest data from the World Bank, as of 2021, there were approximately 4.9 billion internet users worldwide, which represents around 63% of the global population. The number of internet users has been increasing steadily over the years, and it is expected to continue to grow in the coming years.[4]

When it comes to internet usage by country, China has the largest number of internet users, with over 989 million people using the internet. India comes in second place, with over 687 million users, followed by the United States, with over 292 million users. Other countries with high internet penetration rates include Brazil, Indonesia, Japan, Russia, Mexico, Nigeria, and Germany.

The countries with the lowest internet penetration rates are mainly located in Africa, where access to the internet is still limited due to various factors, including poor infrastructure, high costs, and low levels of literacy. Some of the countries with the lowest internet penetration rates include Eritrea, Somalia, Burundi, Guinea-Bissau, and South Sudan.[5]

It is interesting to note that despite having the largest number of internet users, China's internet penetration rate is still relatively low compared to other countries. As of 2021, only around 73% of China's population had access to the internet, which is lower than the global average of 63%. This is due to the country's vast population and the fact that a significant portion of the population lives in rural areas, where access to the internet is limited.

India, on the other hand, has seen a rapid increase in internet usage in recent years, thanks to the availability of affordable smartphones and the government's push towards digitalization. The country's internet penetration rate has more than doubled in the last decade, from around 10% in 2011 to over 50% in 2021.

The United States has a high internet penetration rate, with around 89% of the population having access to the internet. This is partly due to the country's high level of economic development and the fact that the internet has been widely available in the country for several decades.

In Europe, countries like Germany, the United Kingdom, and France have high internet penetration rates, with around 87%, 96%, and 89% of the population having access to the internet, respectively. These countries have well-developed internet infrastructure and are known for their high levels of internet usage for e-commerce, online banking, and other digital services.[6]

In Africa, the situation is different, with many countries still struggling to provide their citizens with access to the internet. In countries like Somalia and South Sudan, the internet penetration rate is less than 3%, which is a significant barrier to economic growth and social development.

2.2 Composition of internet subscription in India

India is one of the fastest-growing digital economies in the world, with a rapidly increasing number of internet users. The internet penetration rate in India has been steadily increasing in recent years, thanks to the availability of affordable smartphones and the government's push towards digitalization. In this article, we will explore the composition of internet subscriptions in India, highlighting the various types of internet connections and the trends in internet usage.

As of 2021, India has over 687 million internet users, making it the second-largest internet market in the world after China. The vast majority of internet users in India access the internet through their mobile phones, with over 98% of all internet users in the country using mobile devices to go online. This is due to the availability of affordable smartphones and the relatively low cost of mobile data plans.[7]

In terms of internet connections, there are several types of internet subscriptions available in India, including broadband, Wi-Fi, and mobile data. Broadband is the most popular type of internet connection in India, with around 23% of all internet users in the country using a broadband connection to access the internet. Broadband connections offer high-speed internet access and are suitable for heavy internet users, such as businesses and households.

Wi-Fi is another popular type of internet connection in India, with around 10% of all internet users using Wi-Fi to access the internet. Wi-Fi is commonly used in public places such as cafes, hotels, and airports, where people can access the internet using their smartphones or laptops. Wi-Fi connections offer high-speed internet access and are suitable for users who need to download or upload large files.

Mobile data is the most commonly used type of internet connection in India, with around 67% of all internet users using mobile data to go online. Mobile data plans in India are relatively affordable, and many telecom operators offer unlimited data plans at affordable prices. This has made mobile data the go-to option for many people in India, especially in rural areas where access to broadband and Wi-Fi is limited.[8]

In terms of internet usage, social media and messaging apps are the most popular among internet users in India. Apps such as WhatsApp, Facebook, Instagram, and Twitter are widely used in the country, with millions of users accessing these apps every day. Online video streaming is also gaining popularity in India, with platforms such as Netflix, Amazon Prime Video, and Hotstar seeing a significant increase in subscribers in recent years.

E-commerce is another sector that has seen rapid growth in India in recent years, thanks to the availability of affordable smartphones and mobile data plans. Online marketplaces such as Flipkart and Amazon are popular in the country, with millions of users buying products online every day.

The government of India has also launched several digital initiatives to promote digitalization and increase internet penetration in the country. The Digital India initiative, launched in 2015, aims to transform India into a digitally empowered society and knowledge economy. The initiative includes several projects, such as the BharatNet project, which aims to provide high-speed broadband connectivity to all gram panchayats in the country.

According to Figure 1, most people go online via their mobile devices. From March to June of 2014, the estimated number of internet users increased from 251.59 million to 259.14 million. During this quarter, growth was 3%. There were 18.55 million people who used a wired connection, and 240.60 million people who used a wireless connection.

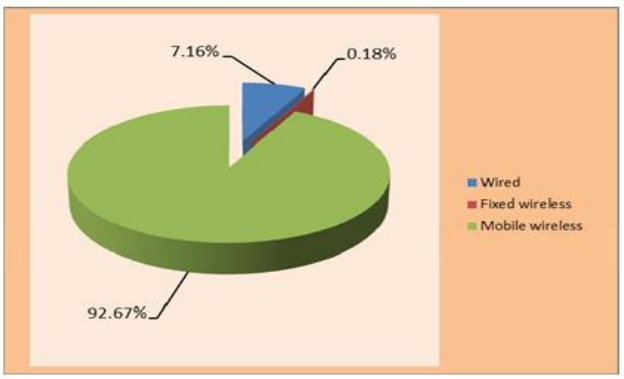

Figure 1: Report of Indian Telecom Services Performance Indicator for the Quarter Period ending 2014 June

3. WEBSITES

The website is an Internet-hosted, hypertext-based location that users may view whenever they choose. A website is a crucial resource for disseminating information about a business, institution, group, or person. In most cases, visitors to a website will get all the information they need right on the homepage. A web page is an online document that is constantly available to everyone, wherever in the world.[9]

3.1 Classification of Web Pages

There are two main types of websites: static and dynamic.

- **Static Page**

Once a user does a search, a static web page does not undergo any significant changes. The site's content and layout will not alter with each request unless the webmaster makes changes to the pages manually.

- **Dynamic Pages**

The content and design of dynamic web pages change in response to the user's search query. Each search-related input or activity will cause an immediate shift in the system's configuration (user, time, database modifications, and so on). The server-side dynamism is written in scripting languages like ASP, JSP, Perl, PHP, Python, etc., and is compiled and maintained by the server.

3.2 Library Websites/Webpages

The Library Websites are designed to aid information patrons by efficiently disseminating data both within and outside the library.

UNESCO places a premium on document distribution and dissemination at the community level. It reaffirmed the significance of library websites as hubs for worldwide information exchange and active use.

Several libraries now have informational websites built on content management systems, reflecting the growing importance of websites as a method of providing access to information (CMS). Informational clearinghouses may be found on library websites. Hence, it is crucial that library websites be regularly updated and feature highly in search engine results. It is equally important to follow copyright laws. In this case, the librarian's job description also includes "Web content manager."[10]

Poll (2007) found that novice library patrons spent an average of 35 seconds on the homepage, whereas seasoned patrons spent an average of 25 seconds there. It implies users, whether novice and

seasoned, should be able to get the necessary data in that time frame.

4. CALS APPROACH AS COMPARED WITH OTHER INFORMATION SYSTEMS

Coming to core study approach we can analyze that, different information systems have been the subject matter of previous investigations. A consideration is therefore, needed to delineate characteristics of CALS to permit positioning of CALS in a comparative scheme. This would allow a more informed comparison of a CALS with other IS. The characteristics imparted here can be confirmed by appraisals of introductory material and textbooks in the field as well as a review of the information provided on the web by the vendors, and libraries' websites.

CALS are widespread enterprise information systems that are used in libraries throughout the world. The CALS accessible on the market can differ from each other based on their technical abilities and the type of library that they execute. On the other hand, some of the obtainable systems can be personalized to meet the needs of different types of libraries and can function on numerous hardware platforms allowing the use of various operating systems and other third party products. That is to say, the same product can be tailored to match different technical environments and user needs. Moreover, CALS are used in both very small libraries as well as sizable libraries withtens of branches, situated in diverse geographical locations. In recent times, it has even become common for a number of libraries to come together and use the same CALS in a consortium to administer their joint collections and activities.

Libraries normally provide varying types of users, each with different needs, necessitating a high level of sophistication in indexing, classification, and information reclamation. CALS are adaptable and demeanor a range of different errands from ordering and financial accounting to keeping record of the schedules for regular and irregular serials and loan transactions, to supervise information and more. In addition to these, convenience to other internal and external resources and services, stipulation of portals, and self- service functions are universal.[11]

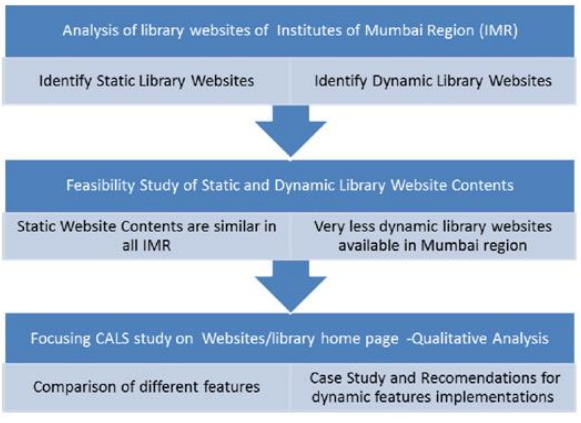

Figure 2: CALS approach utilized for present research work

5. LITERATURE REVIEW

Harpel-Burke, P. (2015) conducted research analyzing the content of art library websites. Data components for the design features included things like text color, background color, font style, links, images, and navigational functionalities. The research looked at a variety of content elements, including critical material (address, phone number, hours of operation, etc.), additional content (OPAC, journals and indexes, subscription database, etc.), linkages, content assessment, and update date. The findings demonstrated that many of the art libraries had professionally designed and organized websites. There have been several concerns voiced about the online art libraries. One of them had to do with how up-to-date the information was that could be obtained on art library websites. The other one dealt with website upkeep. conducted research on European nations' national library websites. The research showed that the majority of European national library websites had common features in terms of both content and appearance.[12]

Clyde, L. A. (2016) analyzed the content of 107 ARL (Association of Research Libraries) webpages. The research analyzed how academic and research library websites now stand. Based on the existing literature, this research established criteria for rating library websites. This research took a look at the ARL member libraries' websites to see whether Web 2.0 elements have been adopted. The websites of ARL member libraries made use of a variety of cutting-edge online technologies, such as the incorporation of RSS feeds, a connection to Google Scholar, and a citation linker. Building reliable library websites is something advocate. "user centered web-based interfaces not only provide patrons with access to online catalogs, subscribed resources, and other electronic content, but potentially create virtual environments which enables patrons to personalize the selection and presentation of these collections, to channel the delivery of value added services, to engage in two-way communication with library staff and, in some cases, to collaborate with other libra". The study was crucial in assisting with the development of a code sheet for the content features of library websites being used in the current investigation. [13]

McMillan, S. J. (2020) There are a number of connections and parallels between the aforementioned research. Unlike the previously discussed studies, research resulted in the creation of an evaluation tool for assessing academic library websites. For the purpose of critiquing academic library websites, a set of 68 important indicators was devised.. Two sets of criteria are proposed in the research for assessing the quality of academic library websites. Both the larger academic libraries

and the smaller academic libraries may use the longer list of criteria. the criterion may be used to a wider variety of websites than only library ones. Seven health-related websites were analyzed for their content. The goal of the research was to establish criteria for evaluating online health resources. To gauge the breadth of online health resources, a semi-structured interview with librarians was undertaken. The research recommended using natural language for communicating health information and creating interactive websites.[14]

Mundle, K., Huie, H. (2015) did a study in which she compared and contrasted the most effective features of 10 separate school library websites. She recruited her participants using the Delphi method (in which a group of experts selected the top 10 resources for school libraries). The Delphi method was used to create a set of criteria for assessing the usefulness of library websites. This study analyzed the evolution of library websites after Clyde. The 10 different school library websites we researched varied greatly in terms of both depth and breadth. The school library's online presence is changing to become more interactive and student-centric. To provide "alternative communication methods," blogs were included into the design of school library websites. study may serve as a guide for developing quality online resources for academic libraries. [15]

Nachmias, R., (2018) In her longitudinal study tried to evaluate the current status of school library websites. This study expanded upon two previous ones that Clyde had done, in 1996 and 1999. In 2002, researchers looked for signs of progress in an area where similar studies had been undertaken in 1996 and 1999: websites maintained by school libraries. Her prior studies in 1996 and 1999 overlooked crucial details that were revealed by her 2004 study. Some of the features that were found include: online databases, a site search engine, lists of reading programs, a collection development plan, a list of new journals, a virtual museum and interactive form, a camera, etc. Clyde's investigation revealed, without a doubt, the evolution of school library websites between 1996 and 2002. Clyde's research on school library websites was contrasted to studies done in Texas. The state-of-the-art in school library websites was shown by Clyde's longitudinal research although Texas school libraries' online presences are quite different from those. Several Texas school libraries lacked basic resources like search engines and current reference materials. [16]

6. CONCLUSION

The study was carried out with objectives of findings the library information available on institution website /homepage through the CALS (content analysis of library services) study. A checklist of various features like multimedia features, link to online resources, e journals, special collection, rare books / manuscripts information etc. were prepared to evaluate the website. Date of access is mandatory while accessing the website because today the website is available and tomorrow it may not. Sometimes content may also change or overall layout of the website may change any time. Therefore it is always necessary to write the date of access of that particular website.

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Corresponding Author

Umesh Kumar Gaur*

Research Scholar, Shri Krishna University, Chhatarpur M.P.