

**ACADEMIC USE OF WEB 2.0 TECHNOLOGY
AMONG LIS RESEARCH SCHOLARS IN CENTRAL
UNIVERSITIES OF NORTHERN AND NORTH
EASTERN REGION OF INDIA**

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ABSTRACT

Introduction

This comprehensive thesis investigates the transformative impact of Web 2.0 technologies on Library and Information Science (LIS) research scholars in central universities of Northern and North Eastern India. It traces the evolution from Web 1.0 to Web 2.0, emphasizing the paradigm shift towards interactive and collaborative online platforms. The study explores the diverse applications of Web 2.0 tools, including social networking services, wikis, podcasts, and academic social networking sites, showcasing their pivotal role in reshaping traditional academic practices. The integration of these technologies is revealed to empower scholars in independent and collaborative research, personalized learning, and innovative methodologies, ultimately contributing to the cultivation of 21st-century skills. In conclusion, the adoption of Web 2.0 tools emerges as a transformative journey, equipping LIS scholars with essential skills for navigating the complexities of contemporary research and fostering a dynamic scholarly landscape.

Statement of the Problem

Web 2.0 is Internet based services which include social networking sites, wikis, podcasts, blogs, RSS, etc. These tools help Research scholars in creating networks, and help them in keeping up-to-date with nascent information. These tools help Research scholar to disseminate information and services to users. However, there is a no concrete data available about academic use of web technologies by the Research scholars of Library and information science. Keeping this point in mind, this study will aim to find the academic usage of web tools by Research scholars of Library and Information Science in Central Universities of Northern and North Eastern Region of India.

The advent of Web 2.0 has ushered in a range of internet-based services, encompassing social networking platforms, wikis, podcasts, blogs, RSS feeds, and more. These tools have emerged as indispensable resources for research scholars, aiding in the establishment of professional networks and ensuring they stay abreast of the latest developments in their fields. Moreover, these web technologies enable the efficient dissemination of information and services to a wider audience, enriching the scholarly experience.

However, despite the evident advantages offered by these tools, there exists a noticeable absence of comprehensive data regarding the academic utilization of web technologies by research scholars specializing in Library and Information Science (LIS). Recognizing this critical gap in our understanding, this study aims to address the problem entitled “**ACADEMIC USE OF WEB 2.0 TECHNOLOGY AMONG LIS RESEARCH SCHOLARS IN CENTRAL UNIVERSITIES OF NORTHERN AND NORTH EASTERN REGION OF INDIA.**”

This researcher seeks to bridge this knowledge gap by conducting an in-depth examination of how research scholars in the field of Library and Information Science employ Web 2.0 technology for academic purposes. Additionally, it aims to identify areas where improvements can be made and provide valuable recommendations to enhance the academic use of these web tools within the unique context of the Northern and North Eastern Region of India.

Objectives of the Study

The primary objective of this study is to scrutinize the utilization trends, inclinations, and cognizance of Web 2.0 technology among Research Scholars specializing in

Library and Information Science (LIS). The study's specific objectives are detailed as follows:

1. To assess the awareness of Research Scholar of LIS about Web 2.0 Technology.
2. To explore most preferred Web 2.0 Technology by LIS Research Scholars.
3. To ascertain Web2.0 proficiency in academic learning, communication, and discussion.
4. To explore Impediments in accessing Web2.0 Technology.
5. To explore the acquaintance of LIS Research Scholar about Web Technology
6. To explore about the devices, the Research Scholars are using to access and probable place to access the Web 2.0 technology.
7. To discover the possible factors that would influence successful implementation of Web 2.0
8. To identify the extent of use of Web 2.0 technology by LIS Research Scholar
9. To know about the benefits LIS Research Scholars are deriving from the use of Web 2.0 technology.

Hypotheses of the Study

Hypothesis can be understood as a formal assumption by the researcher that has to be tested.

1. The research scholars are using Web 2.0 technology significantly.
2. Research scholars Use Web 2.0 technology for Scholarly communication.
3. Mobile devices are highly used for accessing the Web technology.

4. Libraries are helping Research Scholars to enhance their skill regarding Web 2.0 technology.

Scope and Limitation of the Study

The scope of the study is limited to the research scholars of library and information science in Central University of Northern Region and North-Eastern Region of India.

1. Central University of Himachal Pradesh, Dharamsala, Himachal Pradesh
2. Banaras Hindu University, Varanasi, Uttar Pradesh
3. Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh
4. Aligarh Muslim University, Aligarh, Uttar Pradesh
5. University of Delhi, Delhi
6. Central University of Punjab, Bhatinda, Punjab
7. Central University of Haryana, Mahendragarh, Haryana
8. Mizoram University, Aizawl, Mizoram
9. North Eastern Hill University, Shillong, Meghalaya
10. Assam University, Silchar, Assam
11. Tripura University, Agartala, Tripura

Research Methodology

Research methods encompass a range of approaches, including qualitative, quantitative, mixed methods, action research, case studies, and ethnography, each offering distinct strengths for investigating research questions. In the present study, a survey method was adopted, a commonly used strategy in descriptive social science research to gather data from participants. For this purpose, a structured questionnaire was meticulously prepared to capture insights relevant to the study's objectives.

The purpose of this study is to investigate the extent and patterns of the use of Web 2.0 technology by Research Scholars in Library and Information Science in Central Universities of Northern and North-eastern Region of India. The study aims to understand the role of Web 2.0 technology in scholarly communication and the support provided by libraries in enhancing research scholars' skills in this domain. This report presents the methodology and findings of the survey conducted to collect data from the target population.

Target Population and Sampling Strategy

The target population for this study comprises research scholars in library and information science enrolled in Central Universities of Northern and North-eastern Region of India. To ensure diverse representation, a sample of participants was selected through purposive sampling. The selection process aimed at inclusivity from various universities in the region.

Questionnaire Design and Validation

The structured questionnaire was designed based on research objectives. The questionnaire featured both closed-ended and open-ended questions, covering aspects related to Web 2.0 technology usage and library support. The expert validation was sought to enhance the clarity and effectiveness of questionnaire.

Data Collection and Entry

The questionnaire was disseminated to designated participants through Google Forms via email, moreover hand-delivered in printed form and facilitated by departmental heads and academic deans of the department. A specific timeframe was provided for completing and returning the questionnaires. Collected data underwent meticulous entry into a spreadsheet and coding for analysis. Data cleaning and validation procedures were employed to ensure accuracy.

Data Analysis

The section highlights the data analysis process using statistical methods, including descriptive statistics and inferential analysis. Software tools such as MS Excel, SPSS, and MS Word were employed for a comprehensive examination of the findings.

Presentation of Findings

The findings of the study are presented comprehensively, covering key research questions and objectives. This includes an overview of research scholars' usage patterns of Web 2.0 technology, preferences for scholarly communication medium, and perceptions of library support in enhancing skills related to Web 2.0 technology.

Significance of the Study

The study is significant for the following reasons:

1. The study highlights the use of Web 2.0 Technology in academic purpose.
2. The study highlights the role of Web Technology in research.
3. The study helps to know about the awareness and use of Web 2.0 Technologies by Research Scholars.
4. The study provides a factual data on academic use of Web 2.0 Technology by Research Scholar in Central Universities Northern and North Eastern Region of India.
5. The study helps in knowing the efficiency of research scholar in using Web2.0 Technology and this competency of using the technology will help them in provide better services to users and will apply and implement this technology in future libraries where they will get employed.

Structure of Thesis

The section detailing the organization of the thesis outlines the structural framework, presenting a roadmap that guides the reader through the sequential arrangement and interconnection of various chapters, providing a comprehensive understanding of the research layout.

Chapter 1- Introduction

The introduction chapter of the thesis sets the stage by providing a concise overview of the research, defining its scope, and outlining the key aspects that lay the foundation for the subsequent exploration.

Chapter 2- Review of Literature

This chapter critically examines existing scholarly works and research relevant to the thesis topic, offering a comprehensive synthesis of key theories, methodologies, and findings to establish the research context and identify gaps in the current knowledge.

Chapter 3- Central University of Northern and North-Eastern Region of India: A Profile

This chapter delves into the profile of Central Universities in the Northern and North-Eastern Regions of India, offering a detailed exploration of their institutional characteristics, academic offerings, and unique attributes to provide a contextual backdrop for the study.

Chapter 4- Data Analysis & Interpretation

The Data Analysis & Interpretation section, engages in a thorough examination of the collected data, employing analytical methods to derive meaningful insights and interpretations that contribute to the overarching objectives of the thesis.

Chapter 5- Findings, Conclusion and Suggestions

Findings, Conclusion, and Suggestions, encapsulates the culmination of the research journey. It presents the key discoveries from the study, draws conclusions based on the findings, and offers insightful suggestions for future research or practical applications, providing a comprehensive and conclusive outlook to the thesis.

The thesis concludes with the list of bibliographic, reference and appendices

Major Findings

1. The survey achieved an overall response rate of 70%, with some universities achieving 100% response rate, and the majority of participants were in the 26-34 age group pursuing a Ph.D., with 44.3% having 0-2 years of research experience.
2. The majority of respondents 90 % are aware of Web 2.0 technology and use it frequently, while 10% are aware but use it less often; among those aware, 44.32 % use it very often, 32.47% use it often, and 15.97% use it only sometimes, and 7.21% use it rarely, reporting never using it.
3. The top 5 most preferred Web 2.0 technologies are social networking sites (99.4%), academic social networking sites (92.7%), reference management systems (90.7%), instant messaging (93.8%), and blogs (46.90%).
4. The most common purposes for using Web 2.0 tools are finding and disseminating relevant information which accounts for 99.48%, to locate useful and up-to-date information which accounts for 99.48%, communication which accounts for 99.48%, research/academic activities which accounts for 91.75%. the least used purpose was discussion forum which accounts for 10.30%.

5. Web 2.0 technology is widely used among scholars for their academic activity particularly for scholarly communication and enhancing work productivity embraced by 98.45% each, academic networking by over 97.45% of respondents, while, though collaborative spaces for shared interests and provide an interactive forum show comparatively lower utilization at 33.5% and 29.38%.
6. Among research scholars, social networking sites are extensively used by 99.4% respondents among them 53% use them very often for various academic activities, with high usage in socializing by 193 (100%) respondents, data collection by 186 (96.37%) respondents, sharing files by 182 (94%) respondents, research networking by 178 (92%) respondents, and scholarly communication by 174 (90%) respondents while Facebook by 184 (95%) , YouTube by 179 (92.70%) and are the most popular social media platforms used by research scholars in their academic activities.
7. Academic social networking sites are widely used by research scholars (92.7%), with "very often" and "often" by 40.5% and 45% respectively being the most common frequency of use, among those who use Google Scholar, Academia.edu, and ResearchGate are the most widely used platforms (100%, 98.3%, and 97.2% respectively), for the purpose of finding and downloading relevant and keeping up to date with the current research trends i.e., for 180 (100%) and Sharing information with fellow by 161 (89.44%) were most common purpose.
8. The data indicates that 46.9% of research scholars use blogs, with varying levels of engagement, with 53% having never used blogs of those who use it only 13% of scholars use it very often; in academics Blogs are widely utilized in

academics for reading, staying updated, accessing expert opinions, and raising awareness. In Library and Information Science (LIS), platforms like LIS Information portal, Library Soup, and Library and Information Science Friends are preferred, each receiving 100% and 97.8% endorsement. Other platforms like moveable and livejournal exhibit lower usage rates, with only 2.10% responses, respectively.

9. In case of Wikis, especially Wikipedia, have limited usage among scholars at 21.6%, yet among users, they are predominantly employed for reading information, finding research material, learning, and accessing resources, underlining their substantial role in academic activities and collaboration. Notably, Wikipedia is universally adopted (100%) by research scholars, while other wikis like TermWiki, PBwiki, and MediaWiki exhibit lower adoption rates, indicating nuanced preferences within a subset of respondents.
10. The data demonstrate that instant messaging (IM) is widely used among research scholars, with 94% of respondents among them 90 i.e., 49% using it very often; among those who use Whatsapp is the most preferred by 100% respondents, followed by Telegram by 79% and Messenger by 78%, and scholars primarily use IM for online chatting, data collection, sharing links and files by 91.75% each respectively, and seeking advice from supervisors by 85.71%, showcasing its popularity and importance in academic activities and collaboration.
11. The study presented that 60% of research scholars use social bookmarking sites, with a balanced frequency of usage 33% use it very often, but a substantial proportion (39.7%) use them rarely or never; however, among those who use these sites, they play a significant role in building personal libraries with

94.91%, finding and organizing academic resources with 83.89%, and organize and classify the information by topics with 83%. LibraryThing i.e., 77%, Del.icio.us and Pinterest i.e., 66% each being the most popular platforms for academic resource management.

12. The data illustrates that 47% of research scholars use podcasts, with a significant portion utilizing them for personal use by 100% research learning by 60.86%, listening to expert lectures by 48.91%, accessing webinars by 46.73%, and other academic activities, demonstrating the widespread adoption of podcasts in the academic community.
13. The key findings reveal that 90.7% of research scholars use reference management software (RMS) of those who use 30% use it very often, with Mendeley by 99.41% being the most popular choice, and RMS is extensively utilized for various research activities such as storing and creating citations, organizing references by 88.63%, and inserting citations into research papers by 88.63%, highlighting its significant role in academia for facilitating citation management and research organization.
14. The key findings from the data are that laptops by 96% and mobile devices by 92% are the most widely used devices for accessing Web 2.0 technology in academic activities, with home by 80.90% and library by 84% being the preferred location for access by a large majority of research scholars, and the majority of scholars dedicating a moderate amount of time (1-5 hours) to using Web 2.0 tools, indicating their significant value in research activities.
15. Among 194 surveyed students, 66% actively engaged in web literacy programs, varying across universities, with DU having the highest total participation but also more non-participating students, while some universities demonstrated

complete participation indicating a significant recognition of the importance of equipping patrons with web literacy skills, though the impact on research scholars' abilities in utilizing Web 2.0 technology and online resources requires further investigation.

16. The study indicates that most research scholars acquire Web 2.0 technology knowledge primarily through digital media (74.74%), teacher guidance (66.49%), and peer interaction (59.79%), while formal training and external courses are less preferred (14.94% and 15.97%).
17. Participants overwhelmingly favor interactive features such as document sharing, chatting, and online interaction, each with a 72.68% each and 69% utilization rate, underscoring the pivotal role of these Web 2.0 technologies in facilitating collaborative communication and information exchange.
18. The study reveals that among participants, popular utilities of Web 2.0 technologies include document sharing, online interaction (69%), chatting and photos/videos sharing (72%), emphasizing the platforms' role in communication, collaboration, and information exchange.
19. The data indicates that research scholars find Web 2.0 technology attractive due to its support in staying connected with fellow scholars/ friends (80.41%), , staying updated (63.40%) and ease of use (62.88%) in their field. Additionally, technology in academic and research activities offers benefits such as ease of use, facilitating communication, collaboration, data analysis, and staying updated, which significantly empower researchers and enhance productivity in their academic pursuits.
20. Research scholars widely benefit from Web 2.0 technologies, notably for ease of use and flexibility (92.78%), interaction communication and collaboration

(90.20%), time-saving (84.53%), aiding data collection and analysis (82.98%) keeping up to date with the latest trends (77.83%) and collecting response from respondents (73.71%)

21. The key findings from the data points out that research scholars face common obstacles in accessing Web 2.0 technology, including internet connectivity issues (62.88%), information overload (47.42%), time constraints (36.69%), security and privacy concerns (32.98%), and lack of training and resources (25.25%).
22. The majority of research scholars (57.7%) are completely satisfied with using Web 2.0 technology for their research, indicating its perceived value as a valuable tool for their academic pursuits.
23. The findings indicate a prevalent positive sentiment among research scholars toward Web 2.0 technology, with 57.7% expressing complete satisfaction, 22% reporting some satisfaction, and only 3.03% expressing dissatisfaction.

Conclusion

The survey results reveal that Web 2.0 technology has become deeply integrated into the academic activities of research scholars. With a high overall response rate of 70%, it is evident that the majority of participants, especially those pursuing a Ph.D. in the 26-34 age group with limited research experience, are well aware of and frequently use Web 2.0 tools. Social networking sites and academic social networking sites emerge as the top preferences, serving various academic purposes like socializing, data collection, and scholarly communication. However, it is observed that Wikis, podcasts, and social bookmarking sites are relatively underutilized. The study highlights the significance of instant messaging and

reference management software in research endeavours. Overall, researchers find Web 2.0 technology attractive for its user-friendliness, collaboration features, and support in staying connected and updated. Though challenges exist, the majority of scholars are satisfied with these tools, indicating their immense value in advancing academic pursuits and fostering productivity in research and communication.

Suggestions

In the light of finding of the present study, researcher have come up with following suggestion after concluding the research:

- Research scholar should exploit more web tools for their research purpose such as collection of data, conducting surveys, finding literature related to their study, and for being up to date, and for scholarly communication.
- Research scholars must embrace the responsibility to stay abreast of technological advancements to access the cutting-edge resources and services to the academic community.
- Libraries should leverage the technology being at the forefront of intellectual growth, inquiry, and discovery, facilitating lifelong learning for all.
- Library should organize training sessions and workshops for researchers covering literature searching, data management, online collaboration, and research communication.
- Researchers should have encouraged to integrate Web2.0 tools into research methodologies, including social media for data collection and online surveys.
- Libraries must promote awareness about data security and privacy concerns associated with Web2.0 tools, emphasizing ethical guidelines.

- Researcher and libraries should facilitate in adoption of collaborative platforms designed for research groups to streamline communication, document sharing, and task allocations.
- Researchers and libraries should foster cross-disciplinary collaboration by connecting researchers from different fields through online forums, social networks, or thematic groups.
- Researcher should be pushed to utilize Web2.0 tools for data visualization and analytics to gain deeper insights from research data and present findings compellingly.
- Libraries should advocate for open access publishing models to increase the accessibility and visibility of research findings.
- Encourage researchers to use multimedia content (videos, infographics, podcasts) for effective communication of research findings.
- Libraries should create a sense of community among researchers through online events such as webinars, virtual conferences, or discussion forums.
- Libraries should promote the use of repositories and data archives for long-term preservation and accessibility of research data, contributing to reproducibility and credibility.

Implication of study

The study's implications reveal that Web 2.0 technology holds the potential to revolutionize academia and research practices, facilitating enhanced collaboration, efficient research communication, knowledge dissemination, and citation management. By embracing these tools, research scholars can benefit from continuous learning, cross-disciplinary collaboration, and improved academic

resource management. Addressing challenges related to connectivity, information overload, and data security can further optimize the integration of Web 2.0 tools, empowering scholars with digital literacy and fostering a more interconnected and productive research community.

Areas of Further Research

1. Web 2.0 in Healthcare and Public Services in India
2. Exploring User Behaviors, Motivations, and Perceptions: A Study on Web 2.0 Adoption, Usage Patterns, and Platform Engagement among Students and Faculty
3. Examining the Influence of Social Media on Academic Integrity: Insights into Plagiarism, Information Authenticity, and the Spread of Misinformation among Researchers and Students of Central Universities of India.