A Comparative Analysis of User Preferences and Usability of E-Resources Versus Print Resources in Jawaharlal Nehru Library, Kurukshetra University, Kurukshetra and Vivekananda Library, Maharshi Dayanand University, Rohtak

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***Abstract*—Increased information and communication technology has transformed the pattern of access and use of information resources by academic communities. To offer a combination of the traditional print and electronic resources (e-resources), university libraries and other knowledge centers have been established. The provided paper is comparative analysis of the preferences of the users coupled with ease of using of e-resources and print resources in two leading university libraries, i.e. the Jawaharlal Nehru Library, Kurukshetra University, Kurukshetra and the Library of Maharshi Dayanand University, Rohtak. It will also be interested in how such resources will be used by the students, by the research scholars and faculty members, how easily they can be used, how much they are readily available, how reliable they are and their satisfaction with the use. To collect data about a representative sample of users, the structured questionnaire and personal contacts were the main tools of data collection in both universities. The results indicate that, although it is known that e-resources are more acceptable due to the attributes of ease of access, time saving, and broad coverage of up-to-date information, print resources might still be in the spotlight vis-a-vis in depth reading, authenticity, and long-term reference. Ease of navigation, availability of internet and digital literacy was reported as the usability factors which have a direct impact on the effectiveness of the e-resources. Quite to the contrary, space, availability and handling practices were the reasons that influenced the use of print materials. The comparative analysis shows that the best model of academic libraries is the combination model where the e-resources and the print resources are complementary. The research offers practical advice to library administrators on how they can structure user-friendly resource management to promote performance in learning and research.**

***Index Terms*—E-resources, Print resources, User preferences, Usability, University libraries Information access, Resource management.**

I. INTRODUCTION

Since it is a teaching, learning and research institution, the academic library has been considered the core of a university. Back in the days, hard copy materials such as books, journals, theses, and reference books would be stored in university libraries. But the coming of information and communication technologies has changed the look of a library and given rise and fast proliferation of electronic resources (e-resources). Those are e-journals, e-books, online databases, online repositories, and other web-based information services that allow persons instant and distant access to academic content. The searchability, convenience and up-to-date nature of e-resource information has played a key role in influencing information-seeking behaviour among students, researchers, and faculty members ("Scholarly Journal Information Seeking and Reading Patterns of Faculty at Five U.S. Universities | Request PDF," 2025). Even after this change the print resources do not vanish in the academic setup. Many users still find the print books and journals popular because of the dexterity, portability and reliability in the regard of massive reading, taking notes and lengthy reference. The content offered through print does not need technological devices like the internet, software, and digital literacy that occasionally restriction to e-resources is in an effective way ("(PDF) Electronic Resources," 2025). Such a two-fold need suggests that moderate facilities should be

provided in academic libraries. E-resources are convenient with respect to speediness and coverage where at times print resources are considered valuable with respect to richness and convenience to the user. Integration of e-resources and traditional print collections is becoming more and more popular within the Indian context of university libraries. Two prestigious ones are the Jawaharlal Nehru Library, Kurukshetra University and the Library of Maharshi Dayanand University, Rohtak, where the two formats coexist and find its way to fulfil the different needs of its users. There are many undergraduate, postgraduate, research and faculty students in such libraries and comparison of their preferences in different libraries may help in determining how successfully the services of such libraries are being operated, their areas of weakness and ways in which they can be using their resources ("(PDF) Electronic Resources," 2025). In this study, the researcher shall carry out comparative analysis of the preferences of the users and ease of use of e-resources and print resources in the two libraries. It is concerned with issues like accessibility, ease of use, satisfaction and academic usefulness. The aim of this research paper is to offer insights into the changing role of academic libraries in the age of information as seen and experienced by the users in the two universities. These results will be useful in enabling library administrators to develop policies that are user friendly and systems that are easy to use in order to unify resources which can maximize academic value but introduce a certain level of equity in accessing information regardless of the media

II. LITERATURE REVIEW

One issue that has caused a lot of controversy in the literature is whether e-resources are more applicable than print resources in academic libraries. This is because other research has highlighted that e-resource adoption has transformed the way users search, retrieve and access information ((PDF) Use and Users of Electronic Library Resources: An Overview and Analysis of Recent Research Studies, n.d.). E-resources have become an inevitable component of learning and research due to their accessibility, the availability of materials, and their broad and efficient searching capabilities. A research by students and researchers at the Annamalai University revealed that e-resources played a critical role in the improvement of their studies by enabling them to access easily the remote information which might not always be present in the print materials of the library ("(PDF) Use of E-Resources by the Students and Researchers of Faculty of Arts, Annamalai University," 2025). Conversely, we see many studies that demonstrate the continuity of print materials. An example of this would be the fact that despite the increasing popularity of online databases, books and journals printed still are popular among learners of Indian universities who need to study and understand the material at a level that is study able. Print resources were also widely used in situations where digital literacy is non-existent or the internet is unavailable at all times. This implies that the convenience also influences the choice of the user as well as the institutional framework and personal reading practices (Kumar et al., 2024). The research tendencies of the whole world also reflect the same tendencies. Nicholas et al. (2017) said that even with the rapidity and the volume of access, the e-resources are still regarded as the favorite ones, yet users still want to use the print paper when reading an urgency and/or long information(2017 Guidelines of the American Thyroid Association for the Diagnosis and Management of Thyroid Disease During Pregnancy and the Postpartum | Thyroid®, n.d.). This is likewise echoed by Rowlands and Nicholas (2008), who have observed that younger users are more likely to quickly adapt to using digital resources whilst older members of the faculty are likely to continue using print as they are familiar with it and comfortable with it. In an attempt to find a compromise between the two categories of resources, some form of hybrid between university libraries is gradually becoming popular in the Indian system of higher education ("Library Resources and Services in the Selected University Libraries of Haryana, India | Request PDF," 2025). In this model, it is portrayed that no one format can meet all the requirements of the users flawlessly. This will necessitate comparative studies like the ones done in Kurukshetra University and Maharshi Dayanand University to ensure that the gaps that exist in the service delivery are identified and therefore user satisfaction is enhanced. The literature review reveals that despite the disruptive advantages of e-resources utilization in terms of accessibility and usability, print materials did not lose their value especially in terms of academic rigor, lengthy reading processes and archiving. Academic libraries therefore must embrace

mixed strategies where one format is known to be strong and the other known to be strong.

III. OBJECTIVES OF THE STUDY

The transformation of university libraries into hybrid center of knowledge has created the need to carry out the systematic evaluation of the perceptions and use of the e-resources and print materials by the users. Despite some general conclusions about user behavior in the past, comparative analysis of the Indian case has not been carried out on an institution-specific basis ((“Use of E-Resources and Services by Users at Indian Institute of Management Lucknow,” 2025). Libraries such as the one in Kurukshetra University and Maharshi Dayanand University, Rohtak, where libraries serve diverse user populations and where there is a mix of digital subscriptions and traditional collections, would be the ones to do such analysis.

The research primarily focuses on the comparison of user preferences and usability habits of e-resources and printed materials between students, researchers and faculty of the two universities. This will help the research to determine how much of each of the types of resources are engaged in academic and research activities.

More specifically, the study seeks to:

1. Examine the frequency and purpose of use of e-resources versus print resources by different user groups.
2. Assess user satisfaction levels with both formats in terms of accessibility, reliability, and usability ((PDF) Assessing User Satisfaction in the Era of User Experience: Comparison of the SUS, UMUX and UMUX - LITE as a Function of Product Experience, n.d.)).
3. Identify challenges and barriers faced in the utilization of e-resources, such as internet connectivity, digital literacy, and technical support.
4. Evaluate the continuing role of print resources, particularly for extensive reading, long-term reference, and archival purposes.
5. Provide recommendations for enhancing the integration of both resource types to meet the evolving academic needs of users in Indian university libraries (“Collection Development of Electronic Resources in Management Libraries of India | Request PDF,” 2025)

By addressing these objectives, the study not only contributes to the growing body of literature on library resource usage but also provides practical insights for library administrators. These findings can guide policy formulation, collection development, and service design to ensure that both e-resources and print materials remain complementary and user-centric in higher education

IV. RESEARCH METHODOLOGY

The present study adheres to a comparative survey research design in determining the preference of the users and the difference in usability between e-resources and print resources in two large university libraries i.e. Jawaharlal Nehru Library, Kurukshetra University and Library of Maharshi Dayanand University, Rohtak. The comparative strategy was chosen because the two Universities are two of the leading institutions of higher learning in the state of Haryana and the libraries will be the best base to understand how the users are utilizing the hybrid resource systems. The sample population included undergraduate students, postgraduate students, research students and faculty. Proportional representation of all groups of users was attained through the stratified random sampling technique as the information requirements of the various levels of academics might not be equal (Haynes-Brown, 2025). A structured questionnaire that contained both closed-ended questions aimed at capturing quantitative data in the study and open-ended questions aimed at capturing qualitative data was the primary source of quantitative data in the study. The two-facet approach helped the research study to be able to measure the trends, and simultaneously be able to measure the unquantifiable user experiences. The surveys were supported by personal interviews and informal contacts with the sample respondents. The quantitative responses were also assessed by the descriptive statistics (percentages, frequencies, and means) to code the qualitative data according to the thematic approach and demonstrate the similarities and tendencies of the responses (Bryman, 2016). This two-sided methodology offered a mediocre estimate of not only the measurable constitutive factors of usability, but also the affective tendency of the users. The results are credible, plausible and representative of the

diversity of academic requirements that pervades the university setting because of the approach.

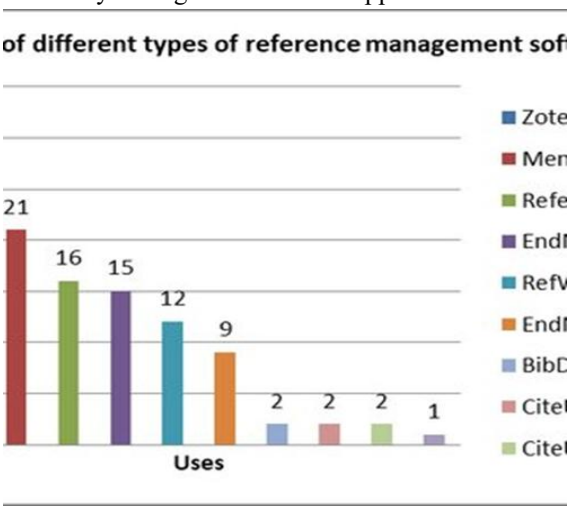

Figure.1: Research Methodology

V. USER PREFERENCES

As has been mentioned specifically in previous studies, speed is the most common factor that leads to popularization of the application of e-resources, coupled with their convenience and updated information (Pranckutė, 2021). Similar opportunities were achieved in the present work as a significant proportion of the research scholars and other members of the faculty recognizes that they have become so dependent on electronic journals and other online databases to complete their academic assignments. E-resources were particularly valued as they assist in advanced research, writing dissertations and keeping abreast with latest developments in the areas of specialization. At the same time, print materials are not reducing because the undergraduate students represent one of the most substantial consumers of physical reference resources, course materials, and textbooks. It was also claimed that print books were more comfortable to read in the long run and easier to write down. This tendency is what is in line with what Sathe (2018) reports and adds that the media that is used by the users of Indian universities to promote their knowledge and prepare them to the exam is one of the central tools, print-based media.

It also discovered that there were intergenerational differences in its tastes. The young generation of students had become more used to electronic formats and the older faculty were used to reading long academic publication in print. The findings also substantiate Rowlands and Nicholas (2008) who assume that the information seeking behaviour depends on age and academic maturity. By doing so, user preferences are not broadly generalized but are rather based on the user background, intent and technological comfort.

VI. USABILITY OF RESOURCES

The usability question was also considered a resource selection/contentment factor. One of the factors that have the greatest impact on user-experience in e-resources is believed to be interface design, search functions, navigation tools, and download options (Kumar and Verma, 2019). Searches based on a search word and access to a wide range of sources within a relatively short time frame were all the features that were appealing to the respondents who would not have done them on print. The usability issues were listed, nevertheless. The problems that were identified by the users were as follows: people did not have a good connection to the internet, the interface to the database was complicated and needed to be trained to become digital literate. Many students had been complaining about authentication and off campus access limitations to licensed databases (Kato et al., 2021). Such problems will be likely to limit effective application of e-resources by individuals who are not highly technological users, particularly. By contrast, the print resources were considered more convenient and stable to deal with since they did not assume any mediation of technology. Touching the books and the access to shelves were all mentioned as advantages. Nevertheless, certain limitations such as inability to access all the editions, inability to duplicate all the copies and spend some time in the process of searching the physical copies reduced its overall utility. E-resources thus are fast and effective; print materials reliable and convenient, therefore the need of the complementation of two types.

VII. ACCESSIBILITY ISSUES

One of the determinants of resource utilization is accessibility. To the surprise of many, e-resources received applause because of the 24/7 offsite access that made students and scholars access information even in hostels and homes and even when using mobile devices (Kato et al., 2021). This was an

advantage in that it minimized working time at the libraries and gave the option of when research and study would be held. Regardless of these benefits, there were still accessibility issues. The unprivileged students with a rural or impoverished background also did not have a consistent internet connection and personal devices, which limited their opportunities to use the e-resources ("(PDF) Rural Schools and the Digital Divide," 2025). The subscription was also limited, not every database could be used because it would be expensive to license. Conversely, the print resources suffered a physical availability problem. One of the most common reasons that respondents would cite repeatedly was that the necessary textbooks were either out of stock, or old because they had been used a lot. Moreover, access was not possible because space and time were not available to access the new editions at the library (Kankam et al., 2024).

The results demonstrate the importance of accessibility not just in the availability of resources, but also in infrastructural, affordability, and management-linked issues. Until all of these problems are handled, none of these forms will be able to serve academic communities effectively.

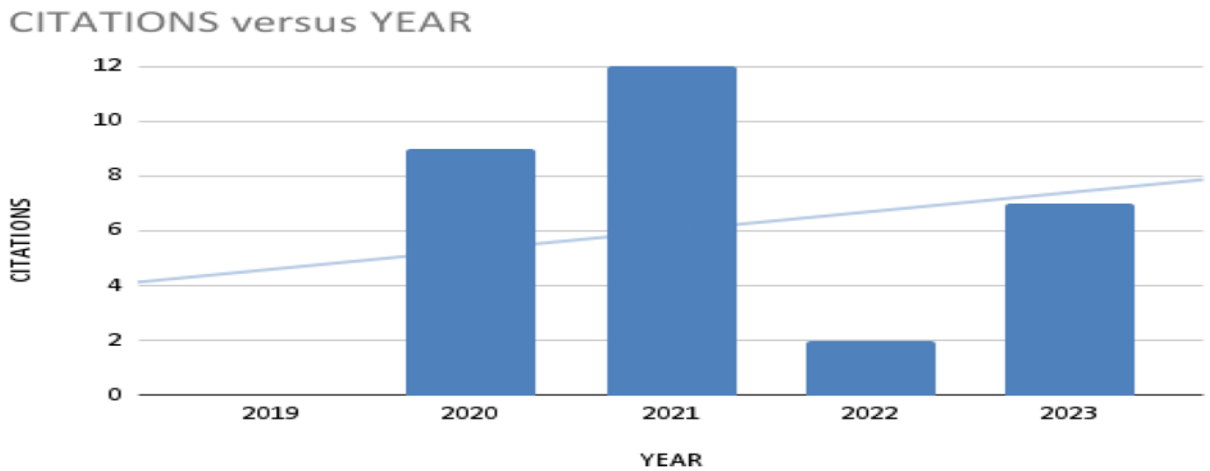

Figure.2: Accessibility Issues

VIII. IMPACT ON ACADEMIC PERFORMANCE

The e-resources and the print resources were cited to play a significant role in academic performance in one way or the other. Research productivity (in terms of speed of access to scholarly articles, citation tools, and more recent data) was directly correlated with the use of e-resources. Research scholars have testified that electronic databases have enabled them to remain up to date in their fields of specialization and to write dissertations to a higher level. Students emphasized that e-resources made it easier to write assignments, presentations, and prepare competitive exams because they could use a greater range of information. The second benefit of e-resources that the faculty members considered to be helpful was the use of the e-resource to help in instruction, to prepare lectures and to assist student research.

Print resources, in their turn, were related to a more profound insight and consideration. The users stated that they retained more and became less distracted when reading print material. Most of the students also complained that they were tired after reading intensively on the screen and that intensive reading on the screen should be done on print. Therefore, e-resources added to the speed, growth and productivity and print resources to the richness, comprehension and concentration. Academic performance is, thus, complimentary to these two formats.

IX. CHALLENGES AND BARRIERS

Nevertheless, both of these types of resources have some troubles. In the case of e-resources, knowledge about the available databases, inability to understand more sophisticated methods of searching and authentication-related issues were the most common

barriers. Poor Internet access, limited subscriptions and technical snags also interfered with proper use.

Print media were facing other issues. The most common barriers that respondents mentioned were outdated versions, broken books, and poor copies. The fact that space was limited in libraries also made browsing inconvenient. Another issue was the lack of time connected with the order of new materials, so sometimes print collections lagged anywhere behind any modern advancements. The barriers render further investment in user education and awareness and balanced collection management significant. Without the use of maximum potential of print and electronic resources such restrictions cannot be broken.

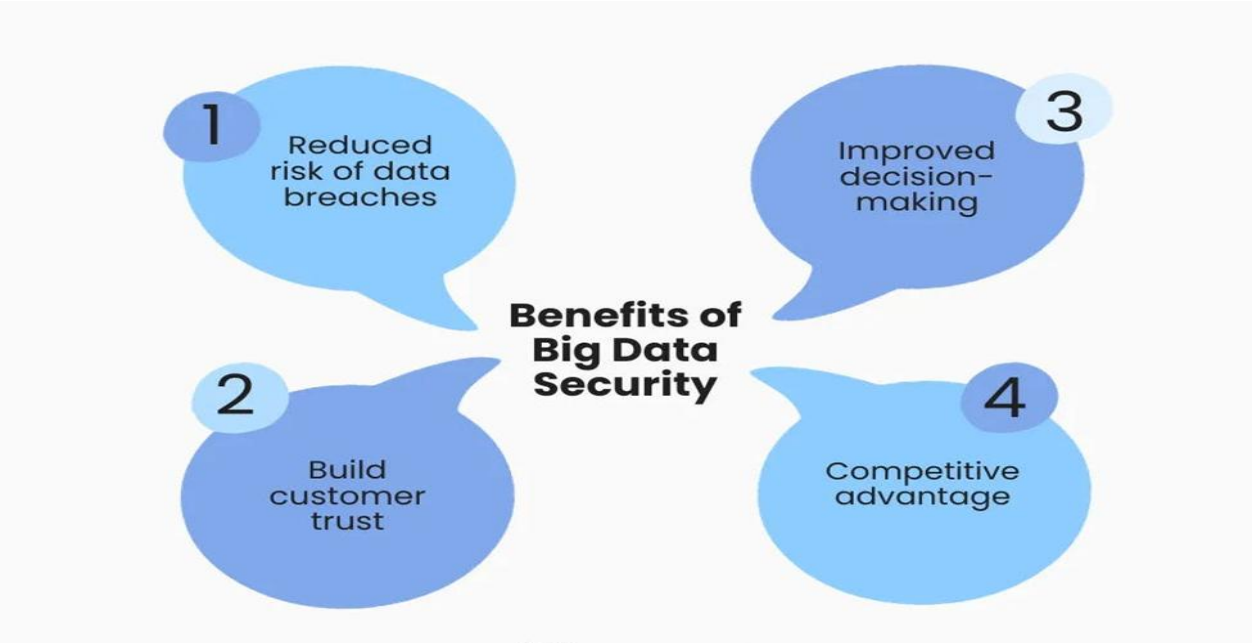

Figure.2: Challenges and Barriers

X. IMPLICATIONS FOR LIBRARY MANAGEMENT

The implications of this work are of very high value to the management of the library. The university libraries will have no option but to shift towards the hybrid model of resources development where both the e-resource and print collection shall be complementary in their development. ICT infrastructure and a regular internet connection with digital literacy training are required to take advantage of the benefits of e-resources (Kaur and Singh, 2020). In the meantime, libraries (particularly of the most popular textbooks, core reference material, archival documents, etc.) should hold some useful print collection. Online subscriptions and sales of printed materials, will be balanced by evaluating customer needs on a regular basis (Alzate et al., 2021). Other innovative ideas that librarians' administrators need to consider are remote authentication systems, e-learning and digitization of rare print materials. These programs will not only increase their accessibility, but will also save them valuable resources that can be utilized later. The paper concludes by suggesting that a more user-oriented approach, whereby the two formats are more tightly integrated, will lead to more learning and research findings.

XI. FUTURE PROCESS

The present comparative analysis between e-resources and print resources provides a foundation for understanding user behavior and preferences in two major university libraries. However, further steps are required to enhance the scope and applicability of the study:

1. Expansion of Sample Size

Future research can involve a larger and more diverse group of respondents, including faculty, research scholars, and undergraduate students across multiple universities to ensure broader generalization of findings.

2. Inclusion of Qualitative Approaches

While this study relies primarily on survey-based quantitative data, subsequent studies can include in-depth interviews, focus group discussions, and case studies to capture nuanced insights about user experiences.

3. Longitudinal Study Design

A longitudinal approach may be adopted to observe the gradual changes in preferences toward e-resources and print resources over time, especially with the rapid advancement of digital technology.

4. Technological Usability Testing

Future research can incorporate usability testing of library portals, e-databases, and digital platforms to assess ease of navigation, accessibility, and user satisfaction in real-time.

5. Comparative Institutional Study Beyond Two Universities

To enhance generalizability, the research can be expanded to include other state and central universities across India, thereby identifying regional differences in information-seeking behavior.

6. Impact of Hybrid Resource Models

With libraries increasingly adopting hybrid models (print + digital), future studies should evaluate the effectiveness, efficiency, and sustainability of such systems in academic settings.

7. Integration of Emerging Technologies

Future research may also explore how artificial intelligence, machine learning, virtual reality, and advanced search tools can transform resource usage and user preferences in university libraries.

8. Policy Recommendations

The findings of further studies could be used to propose concrete policy measures for library resource allocation, subscription management, and digital literacy programs.

9. User Training and Awareness Programs

Studies can evaluate the impact of structured orientation and training programs on students' ability to effectively utilize both e-resources and print resources.

10. Cross-Disciplinary Analysis

Future research may investigate how preferences differ across academic disciplines, such as sciences, social sciences, and humanities, providing discipline-specific recommendations for library resource management.

XII. CONCLUSION

The aspects of academic information behavior that were changed are relative study of preferences and usability of e-resource in comparison with print resource in Jawaharlal Nehru Library, Kurukshetra University and Maharshi Dayanand University, Rohtak. The findings of the study show that many of the research scholars and postgraduate students are now increasingly using e-resources due to their convenience and ease of access and they offer a powerful search mechanism. Nevertheless, the print material remains applicable to the context of extended reading, authenticity and the unhindered accessibility of the materials, not limited by the use of technology (Alzate et al., 2021). There are minor strengths and weaknesses of the two formats, which are shown in the paper. Those topics still require printing materials to be supplemented with e-resources that offer flexibility and urgency when the digital era presses on (Madhusudhan, 2010). It is an indication that a mix of resource management between the two extremes is required in university libraries. Information awareness training and development is also needed so that the digital collections can be utilized to their full extent ((PDF) Exploring the Impact of Digital and Physical Resources on Accessibility and Efficiency in College Libraries, 2025). With the digital technologies evolving and transforming libraries need to evolve and provide the same access to everyone and diversify collections. In this way, the survival of academic libraries can be ensured by integrating both print and electronic materials in a tactical way to support the various and new needs of the end-users.

REFERENCE

[1] 2017 Guidelines of the American Thyroid Association for the Diagnosis and Management of Thyroid Disease During Pregnancy and the Postpartum | Thyroid®. (n.d.). Retrieved September 4, 2025, from https://www.liebertpub.com/doi/full/10.1089/thy.2016.0457

[2] Alzate, M., Arce-Urriza, M., & Cebollada, J. (2021). Online Reviews and Product Sales: The Role of Review Visibility. Journal of Theoretical and Applied Electronic Commerce

Research, 16(4), 638–669. https://doi.org/10.3390/jtaer16040038

[3] Collection development of electronic resources in management libraries of India | Request PDF. (2025). ResearchGate. https://doi.org/10.1108/CB-04-2016-0007

[4] Haynes-Brown, T. K. (2025). The role of sampling in an explanatory sequential mixed methods study: General applications of the transformative paradigm. Methods in Psychology, 12, 100176. https://doi.org/10.1016/j.metip.2025.100176

[5] Kankam, P. K., Acheampong, L. D., & Dei, D. J. (2024). Dissemination of scientific information through open access by research scientists in a developing country. Heliyon, 10(7), e28605. https://doi.org/10.1016/j.heliyon.2024.e28605

[6] Kato, A., Kisangiri, M., & Kaijage, S. (2021). A Review Development of Digital Library Resources at University Level. Education Research International, 2021(1), 8883483. https://doi.org/10.1155/2021/8883483

[7] Kumar, V., Ashraf, A. R., & Nadeem, W. (2024). AI-powered marketing: What, where, and how? International Journal of Information Management, 77, 102783. https://doi.org/10.1016/j.ijinfomgt.2024.102783

[8] Library Resources and Services in the Selected University Libraries of Haryana, India | Request PDF. (2025). ResearchGate. https://doi.org/10.14429/djlit.35.1.7967

[9] (PDF) Assessing User Satisfaction in the Era of User Experience: Comparison of the SUS, UMUX and UMUX LITE as a Function of Product Experience. (n.d.). Retrieved September 4, 2025, from https://www.researchgate.net/publication/279179170_Assessing_User_Satisfaction_in_the_Era_of_User_Experience_Comparison_of_the_SUS_UMUX_and_UMUX__LITE_as_a_Function_of_Product_Experience

[10] (PDF) Electronic Resources: Their Importance, Characteristics, Types, Issues and Challenges and Comparison with Print Resources an Analysis. (2025). ResearchGate. https://doi.org/10.37591/njabm.vi0.450

[11] (PDF) Exploring the impact of Digital and Physical Resources on Accessibility and Efficiency in College Libraries. (2025, March 31). ResearchGate. https://doi.org/10.13140/RG.2.2.28339.95520

[12] (PDF) Rural Schools and the Digital Divide: Technology in the Learning Experience. (2025). ResearchGate. https://doi.org/10.3776/tpre.2021.v11n1p25-39

[13] (PDF) Use and Users of Electronic Library Resources: An Overview and Analysis of Recent Research Studies. (n.d.). Retrieved September 4, 2025, from https://www.researchgate.net/publication/254714771_Use_and_Users_of_Electronic_Library_Resources_An_Overview_and_Analysis_of_Recent_Research_Studies

[14] (PDF) Use of E-resources by the Students and Researchers of Faculty of Arts, Annamalai University. (2025). ResearchGate. https://doi.org/10.5923/j.library.20120101.01

[15] Pranckutė, R. (2021). Web of Science (WoS) and Scopus: The Titans of Bibliographic Information in Today's Academic World. Publications, 9(1), 12. https://doi.org/10.3390/publications9010012

[16] Scholarly Journal Information Seeking and Reading Patterns of Faculty at Five U.S. Universities | Request PDF. (2025). ResearchGate. https://doi.org/10.1087/2009208

[17] Use of E-Resources and Services by Users at Indian Institute of Management Lucknow: A Study. (2025). ResearchGate. https://www.researchgate.net/publication/314902457_Use_of_E-Resources_and_Services_by_Users_at_Indian_Institute_of_Management_Lucknow_a_Study