Use of Electronic and Library Information Resources by Research Scholars at Periyar University: A Study

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ABSTRACT

The availability and use of electronic and library information resources play a critical role in shaping research practices in higher education. This study investigates the utilization patterns of electronic and traditional library resources among research scholars at Periyar University and examines their impact on research scope, quality, and productivity. Data were collected using a structured questionnaire distributed to scholars across multiple disciplines, and analysed through descriptive and inferential statistical methods. The study identifies the most frequently used electronic and library resources, purposes of their use, and the challenges faced by scholars in accessing relevant information. Findings indicate a high reliance on electronic resources for literature review, research methodology development, and publication activities, alongside continued use of print-based library materials. The results reveal that resource utilization has contributed to broader research perspectives, interdisciplinary approaches, and improved citation practices. The study underscores the importance of institutional support, user training, and enhanced access to electronic resources for maximizing research outcomes. This empirical analysis provides valuable insights for library management, policymakers, and academic institutions seeking to optimize resource allocation and support research scholars effectively.

KEYWORDS: Electronic Resources, Library Resources, Research Scholars, Digital Library, Academic Libraries, Resource Utilization, Periyar University.

INTRODUCTION

The rapid expansion of digital technologies and electronic information resources has transformed scholarly research worldwide. Academic libraries have evolved from being primarily repositories of printed materials to dynamic centres providing access to a wide range of electronic resources, including e-journals, e-books, online databases, and institutional repositories. Effective utilization of these resources is critical for research scholars, as it influences the quality, scope, and impact of their research outputs.

In higher education institutions such as Periyar University, research scholars face both opportunities and challenges in accessing and using electronic and library resources. While electronic resources offer speed, accessibility, and vast coverage of current literature, scholars must also navigate issues related to search strategies, resource selection, and information overload. Understanding how research scholars utilize both electronic and traditional library resources is essential for developing library services, training programs, and policies that support research productivity.

Previous studies have highlighted the importance of electronic resources in enhancing research quality and interdisciplinary approaches, but limited research has focused specifically on the patterns and impact of such usage among research scholars at Periyar University. This study aims to fill this gap by conducting an empirical analysis of resource utilization and its influence on research practices.

OBJECTIVES OF THE STUDY

- ✓ To examine the frequency of use of electronic information resources **among research scholars.**
- ✓ To identify the pattern of usage of different types of electronic information
- ✓ To study the preference of search engines for academic research **among research scholars.**
- ✓ To evaluate the perception of research scholars regarding the impact of electronic information access on their research skills.
- ✓ To suggest measures for improving access, usability, and effective utilization of electronic information resources based on the findings of the study.

METHODOLOGY

The present study adopts a **descriptive survey research design** to examine the use of electronic information resources by research scholars at Periyar University. This approach is considered appropriate for collecting systematic data on usage patterns, purposes, perceptions, and problems related to electronic information resources.

The **population of the study** comprises all research scholars enrolled in Ph.D. programmes across various disciplines at Periyar University. To ensure adequate representation from different faculties and research areas, a **stratified random sampling technique** was employed. The population was first categorized into strata based on discipline or faculty, and respondents were randomly selected from each stratum.

The **sample size** was fixed at **230 research scholars**, determined based on the total number of registered Ph.D. scholars and considered sufficient for meaningful statistical analysis and generalization of results.
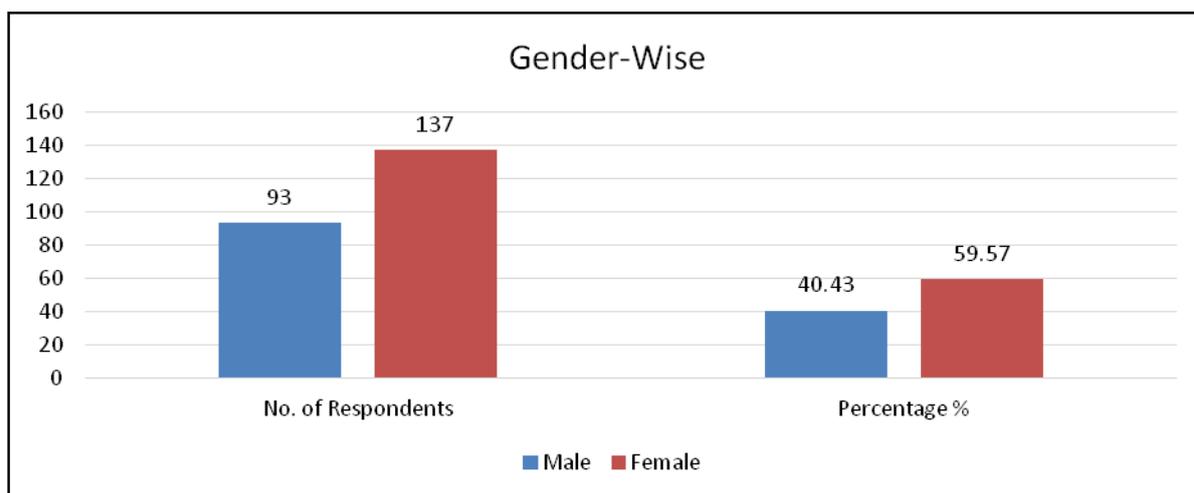
Data were collected using a **structured questionnaire** designed to gather information on demographic characteristics, frequency and pattern of use of electronic information resources, purposes of use, preferred search engines, perceived impact on research skills, and problems encountered while accessing e-resources. The questionnaire consisted of both multiple-choice and Likert-scale items to ensure clarity and ease of response.

The collected data were **coded, tabulated, and analyzed using appropriate statistical techniques**, such as frequency counts and percentage analysis. The results were presented in the form of tables and interpreted systematically to draw meaningful conclusions related to the objectives of the study.

DATA ANALYSIS

Table 1: Gender-wise distribution of respondents

Sl. No	Gender	No. of Respondents	Percentage %
1	Male	93	40.43%
2	Female	137	59.57%
	Total	230	100

The table1 presents the gender-wise distribution of the respondents selected for the study. Out of a total of 230 research scholars, 93 respondents (40.43%) are male, while 137 respondents (59.57%) are female. The findings indicate that female research scholars constitute a higher percentage of the total respondents compared to their male counterparts. This suggests a greater representation and participation of female scholars in the research activities at Periyar University. The balanced gender composition of the respondents adds value to the study by providing diverse perspectives on the use of electronic and library information resources.

Table 2: Frequency of using electronic information resources

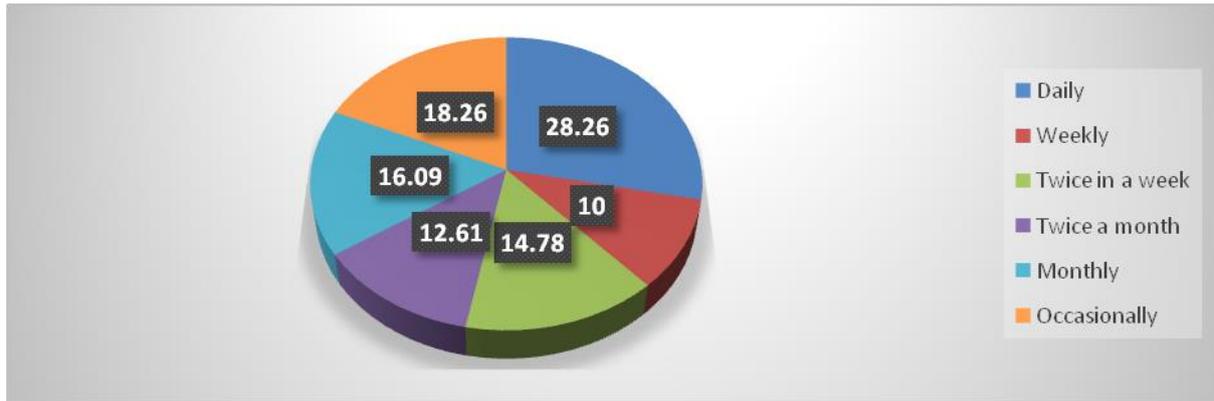| S. No	Frequency	No of Respondent	Percentage %
1	Daily	65	28.26
2	Weekly	23	10.00
3	Twice in a week	34	14.78
4	Twice a month	29	12.61
5	Monthly	37	16.09
6	Occasionally	42	18.26
	Total	230	100

Table 2 presents the frequency with which respondents use electronic information resources. The findings indicate that **regular engagement with electronic resources is a common practice among the respondents**. A substantial proportion of users **(28.26%)** reported accessing electronic information resources **on a daily basis,** reflecting their integral role in routine academic and research activities. In addition, **14.78%** of the respondents use electronic resources **twice a week**, while **10.00%** access them **weekly,** demonstrating consistent and sustained usage patterns. Moderate levels of use are observed among respondents who reported accessing e-resources **monthly (16.09%) or twice a month (12.61%),** suggesting periodic information needs linked to specific academic tasks. Notably, **18.26%** of the respondents indicated **occasional use,** which may reflect variability in research intensity, access constraints, or differences in information-seeking behavior. Overall, the distribution highlights **a predominance of frequent users,** underscoring the growing dependence on electronic information resources for academic purposes. The results suggest that electronic information resources have become an essential component of the scholarly environment, supporting continuous learning, research productivity, and academic communication.

Table:3 Pattern of Usage of Electronic Information Resources among Respondents

S. No	Sources	No. of Respondents	Percentage (%)
1	e-journal	125	54.35
2	e-Books	33	14.35
3	e-Dissertation and Theses	25	10.87
4	e-magazines	9	3.91
5	e-Newspaper	6	2.61
6	e-Database service	4	1.74
7	CD-ROM	8	3.48
8	e-mail	4	1.74
9	Online Public Access Catalogues (OPAC)	16	6.96
	Total	230	100

Table 3 illustrates the pattern of use of various electronic information resources by the respondents. The data reveal that e-journals are the most frequently used e-resource, accessed by 125 respondents (54.35%), indicating their critical role in academic and research activities. This is followed by e-books, used by 33 respondents (14.35%), and e-dissertations and theses, utilized by 25 respondents (10.87%), highlighting the preference for scholarly and research-oriented digital materials. The usage of Online Public Access Catalogues (OPAC) accounts for 6.96%, suggesting moderate dependence on library cataloguing systems. Other resources such as e-magazines (3.91%), CD-

ROMs (3.48%), and e-newspapers (2.61%) show relatively low levels of usage. The least utilized resources include e-mail services and database services, each reported by 1.74% of the respondents. Over all, the findings indicate a strong inclination toward **formal academic electronic resources,** particularly e-journals and e-books, while non-academic and auxiliary digital services are comparatively underutilized. This pattern reflects the respondents' research-centric information-seeking behaviour.

Table:4 Purpose of Using Electronic Information Resources

S. No	Purpose of using Electronic	No. of Respondents	Percentage (%)
1	To support academic coursework and assignments	31	13.48
2	To conduct research and scholarly writing	30	13.04
3	To access current and updated information	29	12.61
4	To prepare for examinations and competitive tests	22	9.57
5	To support teaching and instructional activities	17	7.39
6	To publish research articles and papers	47	20.43
7	To improve subject knowledge and professional development	19	8.26
8	To access reference materials (e-journals, e-books, databases)	24	10.43
9	For communication and information sharing	7	3.04
10	Other (please specify): _____	4	1.74
	Total	230	100

Table 4 depicts the purposes for which respondents utilize electronic information resources. The findings reveal that the primary purpose of using electronic information resources is publishing research articles and papers, reported by 20.43% of the respondents. This highlights the significant role of electronic resources in supporting research dissemination and scholarly productivity.

Academic-oriented purposes also constitute a substantial proportion of usage. Approximately 13.48% of respondents use electronic resources to support coursework and assignments, while 13.04% rely on them for research and scholarly writing. Furthermore, 12.61% of respondents access electronic information resources to obtain current and updated information, underscoring their importance in keeping pace with recent developments in various disciplines. Moderate usage is observed for accessing reference materials such as e-journals, e-books, and databases (10.43%), as well as preparing for examinations and competitive tests (9.57%). Purposes related to professional development (8.26%) and teaching and instructional activities (7.39%) reflect the supportive role of electronic resources in both learning and teaching environments.

Conversely, communication and information sharing (3.04%) and other purposes (1.74%) account for minimal usage, indicating that electronic information resources are predominantly utilized for academic and research-focused activities rather than general communication.

Overall, the results demonstrate a strong research-driven orientation among users, emphasizing the critical importance of electronic information resources in higher education and scholarly research contexts.

Table: 5 Distribution of Respondents by Preferred Search Engines for Academic Research

S. No	Search Engines	No. of Respondents	Percentage %
1	Google	97	12.17
2	Yahoo	27	11.74
3	Bing	39	16.96
4	DuckDuckGo	39	16.96
5	Baidu	24	10.43
6	Yandex	4	1.74
		230	100

Table 5: The data collected from the questionnaire reveals key preferences and trends in the use of search engines by research scholars. Based on the survey results, Google stands out as the most popular search engine, with 42.17% of respondents using it most frequently for academic research. This dominance is expected, given that Google has become a global leader in search engine technology and provides a highly accessible and robust platform for finding academic content, articles, and resources. Bing and DuckDuckGo both share a usage rate of 16.96%, making them the second most frequently used search engines for research purposes. Bing, with its integration into academic databases and Microsoft tools, likely appeals to researchers who are embedded in the Microsoft ecosystem. DuckDuckGo has gained traction due to its privacy-focused approach, which could be an appealing feature for scholars concerned about data security. The Yahoo search engine, with 11.74% of the respondents, reflects a steady but lower adoption rate. While historically a major player in the search engine market, its relevance in academic circles has diminished compared to Google and other specialized academic search tools. Baidu is used by 10.43% of the respondents, indicating its presence in regions where it serves as the dominant search engine, particularly in China. Its use in academic research could be attributed to researchers accessing Chinese-language resources or regional research databases. The least-used search engine is Yandex, with only 1.74% of respondents selecting it as their primary academic search tool. While Yandex is a popular search engine in Russia, its use for academic research is relatively limited outside of its home region, possibly due to fewer academic resources being indexed on the platform compared to other global engines like Google or Bing.

Table 6: Access to electronic information has improved my research skills

S. No	Access to electronic information	No. of Respondents	Percentage %
1	Strongly Agree	92	40.00
2	Agree	77	33.48
3	Neutral	23	10.00
4	Disagree	14	6.09
5	Strongly Disagree	24	10.43
	Total	230	100

The table 6 shows that a majority of respondents perceive electronic information as beneficial to the development of their research skills. Out of 230 respondents, 40.00% strongly agree and 33.48% agree that access to electronic information has improved their research skills, accounting for 73.48% of the total responses. This indicates a strong positive impact of electronic information on research skill development. However, 10.00% of respondents remain neutral, while a smaller proportion (16.52%) disagree or strongly disagree. Overall, the findings suggest that access to electronic information plays a significant role in enhancing research skills among respondents.

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Table: 7 Problem accessing electronic information resources

S. No	Problems	Always	Often	Sometimes	Rarely	No Opinion
1	Slow internet network Speed	37 (16.09)	34 (14.78)	77 (33.48)	48 (20.87)	34 (14.78)
2	Frequent electricity outages	49 (21.30)	33 (14.35)	52 (22.6)	80 (34.78)	16 (6.96)
3	Login / authentication problems	77 (33.48)	23 (10.00)	48 (20.87)	38 (16.52)	44 (19.13)
4	Limited access due to licensing restrictions	37 (16.09)	27 (11.74)	79 (34.35)	54 (23.48)	33 (14.35)
5	Too many advertisements or pop-ups	47 (20.43)	37 (16.09)	78 (83.90)	41 (17.83)	27 (11.74)
6	Scattered or unorganized information	38 (16.52)	29 (12.61)	109 (47.39)	39 (16.96)	15 (6.52)
7	E-resources are time-consuming to use	110(47.83)	49 (21.30)	52 (22.61)	12 (5.22)	07 (3.04)
8	Limited availability of required e-resources	68 (19.57)	77 (33.48)	49 (21.30)	33 (14.35)	03 (1.30)
9	Difficulty in searching and retrieving relevant information	88 (38.26)	44 (19.13)	64 (27.83)	30 (13.04)	04 (1.74)
10	Copyright and plagiarism concerns	33 (14.35)	14 (6.09)	80 (34.75)	88 (38.26)	15 (6.52)

Table 7 presents respondents' perceptions of various problems encountered while accessing electronic information resources. The findings reveal that users face both technical and content-related challenges, with varying intensity across issues. A significant proportion of respondents reported slow internet network speed as a recurring issue, with nearly one-third (33.48%) experiencing it sometimes and about 30% experiencing it always or often. This indicates that inadequate network infrastructure remains a key barrier to effective use of e-resources. Frequent electricity outages were reported less consistently, as the majority (34.78%) experienced them rarely, suggesting that power supply issues, while present, are not the most critical obstacle compared to connectivity-related problems. Login and authentication problems emerged as a serious concern, with 33.48% of respondents reporting this problem always. This highlights access control systems and authentication mechanisms as major deterrents to smooth utilization of electronic resources. Issues related to licensing restrictions were most commonly experienced sometimes (34.35%), indicating that access limitations imposed by subscription models hinder users from fully benefiting from available e-resources. The presence of advertisements and pop-ups was also reported as a moderate problem, primarily experienced sometimes. Such distractions may negatively affect users' search efficiency and overall experience. A considerable number of respondents (47.39%) indicated that information is scattered or unorganized, reflecting difficulties in navigating and synthesizing digital content. This points to the need for better information organization and user-friendly interfaces. Notably, e-resources being time-consuming to use was identified as one of the most critical problems, with nearly half of the respondents (47.83%) stating they always face this issue. This suggests a lack of adequate user skills, inefficient platforms, or complex search mechanisms. The problem of limited availability of required e-resources was frequently reported, with 33.48% experiencing it often, emphasizing gaps in collection development and subscription coverage. Similarly, difficulty in searching and retrieving relevant information was widely acknowledged, with 38.26% reporting this problem always. This underscores the

importance of information literacy training and improved search tools. Finally, copyright and plagiarism concerns were mostly experienced rarely (38.26%) or sometimes (34.75%), indicating moderate awareness but comparatively lower impact on access behaviour.

DISCUSSION

The findings reveal that while research scholars heavily rely on electronic resources, they face significant access barriers. Technical problems such as slow internet speed and login issues hinder smooth access. Additionally, the difficulty in searching and retrieving information indicates a need for better training in information literacy. Time-consuming nature of e-resources may also reduce efficiency and affect research productivity.

CONCLUSION

The study reveals that research scholars at Periyar University heavily rely on electronic resources for academic research. E-journals are the most used resource, and publishing research papers is the main purpose of use. Electronic resources significantly enhance research skills, research scope, and productivity. However, scholars still face challenges such as network issues, access restrictions, and limited awareness. The study recommends strengthening digital infrastructure, improving access, and providing training programs for effective resource utilization.

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