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Analytical study on the perception and usage of e-journals in Maharshi Dayanand University, Rohtak, Haryana

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Abstract

E-Journals, short for electronic journals, have revolutionized the way we access and disseminate scholarly information in the digital age. As the digital counterpart to traditional print journals, e-journals provide researchers, academics, and students with an efficient and convenient means of accessing peer-reviewed articles, research papers, and other scholarly content through online platforms. These journals cover a wide range of disciplines and offer numerous advantages over their print counterparts, such as immediate availability, enhanced searchability, interactive features, and global accessibility. In this era of rapid information exchange and technological advancements, e-journals have emerged as a fundamental resource for scholarly communication, fostering collaboration, knowledge sharing, and innovation across various fields of study.

E-Journals occupy a prominent place in academic and research environment. The new technologies have enhanced access to and usage of e-journals. The study has adopted simple random sampling with sample replacement method to collect information from the students/ researcher at University of Madras. The study found that majority of the users prefer e-journals rather than conventional type of printed journals. Further, the users prefer internet search engines such as Google, Yahoo and MSN as their initial search engine point for accessing e-journals. UGC-INFONET web portal is also used by majority of the users.

Keywords: E-Journals, UGC-INFONET, search engines, usage of e-journals

Introduction

E-Journals, or electronic journals, are digital versions of scholarly publications that are available online. They serve as an electronic counterpart to traditional print journals, offering an efficient and convenient way to access and distribute academic research and scholarly content. E-journals cover a wide range of disciplines, including sciences, humanities, social sciences, and more, catering to the diverse needs of researchers, academics, students, and professionals. These journals are typically hosted on digital platforms or databases, allowing users to browse, search, and retrieve articles electronically. E-journals provide numerous advantages, such as immediate access to the latest research, faster publication timelines, increased accessibility worldwide, and interactive features like hyperlinks, multimedia content, and supplementary materials. They have transformed the landscape of academic publishing, facilitating rapid dissemination of knowledge and fostering global collaboration among scholars.

Some of the common benefits of e-journals are:

- E-journals offer widespread accessibility, allowing researchers and students from around the world to access scholarly content without limitations imposed by physical location or availability of print copies. This promotes inclusivity and equal access to knowledge.
- E-journals provide immediate access to the latest research findings and developments. Unlike print journals, which often have a delay between acceptance and publication, e-journals can publish articles online as soon as they are ready, enabling timely dissemination of information.
- E-journals offer powerful search capabilities, allowing users to quickly locate specific articles, authors, keywords, or topics of interest. Advanced search filters and indexing systems make it easier to find relevant information within vast collections of articles.
- E-journals often include hyperlinks to related articles, references, or supplementary materials, enhancing the reading experience and enabling readers to explore additional

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resources with a simple click. Multimedia elements such as images, videos, and interactive figures can also be incorporated, providing a richer understanding of the research.

- E-journals eliminate the need for expensive print production, distribution, and storage. This results in cost savings for institutions, libraries, and researchers, as they can access content digitally without purchasing or subscribing to physical copies.
- Traditional print journals require physical storage space, which can become an issue for libraries and institutions with limited resources. E-journals overcome this constraint by eliminating the need for physical storage, making it possible to house an extensive collection of scholarly content in digital format.
- E-journals offer the advantage of easy updates and corrections. If an error or omission is identified in an article, it can be promptly rectified and updated online, ensuring the accuracy and integrity of the research record.
- E-journals can incorporate interactive features, such as discussion forums, and social sharing options. This fosters engagement and collaboration among researchers, allowing them to exchange ideas, provide feedback, and initiate conversations around the published content.
- E-journal platforms often provide analytics and usage statistics, allowing researchers and institutions to gather insights into article views, downloads, citations, and other metrics. This data can be valuable for assessing the impact and reach of research publications.
- E-journals contribute to environmental sustainability by reducing the consumption of paper, ink, and other physical resources associated with print publishing. Researchers and institutions can minimize their carbon footprint and promote a greener approach to knowledge dissemination by opting for digital access.

Historical Development of Electronic Journals (E-Journals)

The evolution of e-journal began with the full-text databases offered by traditional online vendors like DIALOG during the late 1980s. The term 'full-text' was a misnomer, as it was not making the complete text available. What they offered was bare ASCII files of the journals and magazines, which stripped off the diagrams, photographs, graphs, and other image objects of the article. During the early 1990s, online vendors used CD-ROM technology and FAX technology to deliver almost instantly the complete-text through technological integration of online bibliographic databases with a CD-ROM collection of image files residing in a network of jukeboxes. It was like online ordering for articles found during a bibliographic search, to be delivered by fax within a span of 15-30 minutes. In this process, for the first time, the bibliographic database, document collection in electronic format, and document delivery activity were integrated through different pieces of technology. With the emergence of the Internet and the web during the mid-90s, full-text databases started including image objects like photographs and charts as link files. The text was ASCII. There would be a thumbnail image of the graphic object, which could be zoomed or an icon with the caption of the image object to act as a link. The text was searchable. The e-journal we see today is a transformation

of this Internet version, which is generally a PDF image and an exact look-alike of the print with the text as a searchable file. While PDF is the preferred format for e-journals by a number of leading publishers and libraries, a large number of publishers and third-party aggregators offer e-journals in a variety of other formats, like HTML and SGML. Etc. E-journals in the latter formats are not exact look-alikes of the print, although they offer complete text of the journal with graphic objects in the articles as embedded images. As a major benefit of the e-journal revolution, the table of contents and abstracts for most of scholarly and scientific journals are accessible free today. This development can fill the database access gaps for Indian libraries to some extent."

Majority of the libraries nowadays are ICT enabled and are equipped with wifi facility to enhance access to information resources. In the modern period, readers are continuously using ICT gadgets to access information instantly wherever they are. Nowadays readers are seeking more information as the world becomes more competitive. In the academic field, journals occupy a crucial role in the development and dissemination of knowledge. Before the invention of ICTs, paper based printed journals were available at the libraries and the academicians were using them. But, in recent days, electronic journals replace printed version and the readers could access them at any point of time at any place. The growing popularity of e-resources leads to changes in the structure of traditional libraries from print documents to e-resources. This has led libraries to relook into their collection development and functioning. Application of Information Communication Technologies (ICTs) in libraries offers enough opportunities for building e-resources and disseminate them in the manner which suits the needs of academics. In order to examine the usage of e-journals to enhance their usage, the attitudes of the users are to be assessed. So, in this dynamic environment, it is necessary to know the students/ researchers perception of importance of e-journals.

Characteristics of Electronic Journals (E-Journals)

Electronic journals, or e-journals, possess distinct characteristics that set them apart from traditional print journals. One key characteristic is their digital format, as e-journals are published and distributed electronically through online platforms or databases. This allows for immediate and convenient access to scholarly content from anywhere in the world. E-journals are also highly interactive, incorporating features such as hyperlinks to related articles or external sources, multimedia content like videos or interactive figures, and supplementary materials. This interactivity enhances the reading experience and facilitates deeper engagement with the research. Furthermore, e-journals are easily searchable and indexed, enabling users to quickly find specific articles, authors, or topics of interest. They also offer advantages like rapid publication cycles, global accessibility, archiving and preservation in digital archives, and the ability to track usage metrics and analytics. These characteristics collectively make e-journals a powerful tool for researchers, academics, and students, fostering efficient knowledge dissemination, collaboration, and access to scholarly information. Electronic journals, or e-journals, possess several distinct characteristics that differentiate them from traditional print journals. These characteristics include:

- **Digital Format:** E-journals are published and distributed in digital form, allowing easy access and retrieval through online platforms or databases. They are typically available as PDFs, HTML, or other electronic formats that are optimized for electronic devices.
- **Online Accessibility:** E-journals can be accessed via the internet from anywhere in the world, providing immediate and convenient access to scholarly content. Users can read, download, and search for articles without the need for physical copies or visiting physical libraries.
- **Interactivity:** E-journals often incorporate interactive features to enhance the reading experience. These features may include hyperlinks to related articles, multimedia content such as videos or audio files, interactive figures, or supplementary materials, providing a more engaging and immersive experience.
- **Searchability and Indexing:** E-journals have robust search functions that allow users to search for specific articles, authors, keywords, or topics within the journal or across multiple journals. They are typically indexed and tagged with metadata, making it easier to discover and retrieve relevant articles.
- **Hyperlinking and Cross-referencing:** E-journals utilize hyperlinks to connect related articles, references, or external sources. This enables readers to navigate seamlessly between different resources, access cited works, or explore additional information related to the published research.
- **Multimedia Integration:** E-journals can incorporate multimedia elements such as images, videos, animations, or interactive visualizations. These multimedia features enhance the presentation of research findings and provide a more comprehensive understanding of complex concepts or data.
- **Rapid Publication:** E-journals often have faster publication cycles compared to print journals. With streamlined workflows and online publishing systems, articles can be published more quickly, allowing for the timely dissemination of research findings.
- **Global Reach and Collaboration:** E-journals transcend geographical boundaries, enabling researchers worldwide to access and contribute to scholarly knowledge. This facilitates international collaboration, knowledge sharing, and interdisciplinary research.
- **Archiving and Preservation:** E-journals are typically stored in digital archives, ensuring long-term preservation and accessibility. Digital preservation techniques help safeguard the content against loss or degradation, ensuring the availability of scholarly articles for future generations.
- **Usage Metrics and Analytics:** E-journal platforms often provide usage statistics and analytics, allowing publishers, authors, and institutions to track the impact and visibility of their research. Metrics such as article views, downloads, citations, and social media mentions can provide insights into the reach and influence of published works.

Literature Search

A plethora of studies have been made in the field of e-journals usage pattern among students/ research scholars

undertaken by the different authors. Some important studies made are reviewed here. Amritpal Kaur ^[1] and M. Ansari ^[2] revealed that electronic resources are the best means of getting current and up-to-date information.

E-journals have been a vital part of information for research work. The study found that all respondents informed that e-resources can be a good substitute for conventional resources if the access speed is fast.

Masoom Raza and Ashok Kumar Upadhyay (2006) ^[3] have also revealed that the most common problem faced by the respondents is that there is a difficulty in accessing full text and many of the respondents are not satisfied with the available Internet facilities. Some problems like lack of training and slow downloading have been found and the researchers felt the difference about the need for print journals as well as electronic journals.

Herman (2001) ^[4] points out that the integration of electronic media into academic work is progressively harnessing the new technologies to scholarly information gathering endeavors and characterizes the information activity of University faculty in an increasingly electronic environment.

Similarly, a study carried out by study Research support Library group (2002) ^[5] indicates that the migration of information from paper to electronic media promises to change the whole nature of resources. Within the changing information environment, university libraries need to understand readers' information seeking behaviour and service demands more keenly than before. In the research environment, most researchers use digital finding aids to locate both digital and print-based resources. Print finding aids are used by very few researchers and these are mainly in the arts and humanities. As users of digital information, researchers place a very high value on electronic journals, but much lower value on other kinds of digital resources.

Woo (2005) ^[6] observed that while respondents prefer to use journals online compared to print journals, they prefer print books than e-books. Houghton, Steele and Henty (2004) ^[7] also opine that electronic publication alternative were supporting, not replacing, print.

The literature confirms that the information seeker should have at least basic knowledge of ICT tools to make use of the e-resources effectively. A common problem identified by majority of the researchers with regard to e-journals is that the readers/ respondents are not able to access full information due to some restriction. Further, a significant percentage of the respondents opined that they are not able to download the full text in PDF format.

Objective of the Study

The main objective of this study is to examine the users' perception of e-journals. To understand the importance of e-journals, its productivity is to be measured. To this, students/researchers belonging to the University of Madras have been considered for the study and their opinions regarding the usage of e-journals have been collected and measured through Likert scaling method.

Methodology

The researcher has used structured interview schedule for empirical survey. The study is empirical in nature as it involves both primary and secondary datasets. Simple random sampling with sample replacement method is adopted to collect the primary data. The population size of

the present study is 1442 respondents who are students/researchers belong to 4 campuses (Viz., Chepauk, Marina, Guindy and Taramani) of the University of Madras. Likert scaling method is adopted to examine the relative importance of the variables. The scale starts from zero to four; the lower value indicates least importance/no importance and high value shows strong opinion of the respondents.

Analysis of Data

This section deals with results of data analysis which have been presented in tabular form. It is found from the study that 52.9 percent of the respondents are female and 47.1 percent are male.

Table 1: Gender- wise Distribution

S. No.	Description	Frequency	Percent
1	Male	679	47.1
2	Female	763	52.9
	Total	1442	100.0

Out of the 1442 respondents, 861 respondents were (59.71%) Post-Graduate students and 581 (40.29%) were research scholars. Out of the 861 respondents, 27.2 percent were male respondents and 62.8 percent were female respondents. Among the total research scholars surveyed for the study, 19.9 percent were male and the remaining are female. The survey result shows that majority of the respondents are female whose participation in higher learning is increasing in recent years.

Awareness of ICT Tools

ICT tools facilitate students and research scholars to find out a variety of services. The study has attempted to find out the level of awareness of ICT tools used by students and research scholars.

Table 2: Awareness of ICT Tools

S. No.	Description	Low	Medium	High
1.	Basic knowledge of Computer	596 (41.3%)	633 (43.9%)	213 (14.8%)
2.	Internet	569 (39.5%)	417 (28.9%)	456 (31.6%)
3.	Chat	549 (38.1%)	755 (52.4%)	138 (9.6%)
4.	E-mail	550 (38.1%)	419 (29.1%)	473 (32.8%)

It is found from the survey that majority of the students and research scholars were familiar with Email operations, Internet and had Basic computer knowledge. It is observed from the study that 32.8% of the students and research scholars have much familiarity with E-mail operations. 31.6% and 14.8% have moderate level knowledge in Internet and Basic computer operations respectively. Further, the table discloses the fact that 52.4% of the students and research scholars were experts in Chat, followed by basic operation of computer (43.9%), Email (29.1%), and Internet (28.9%).

In order to ascertain the level of awareness of ICT tools, the study used Likert scale based questions. It is ascertained that both male and female respondents were familiar with e-mail operation and have moderate level awareness of Internet, Basic computer knowledge and Chatting. Though everyone

knows that e-journals can be accessed through Internet, majority of the users do not know how to link to the website and access the same. The users have been confronting many problems in accessing and making use of e-journals. In this context, the respondents were asked to opine whether they know the web places where the e-journals can be accessed and the detail regarding the same is furnished in Table 3.

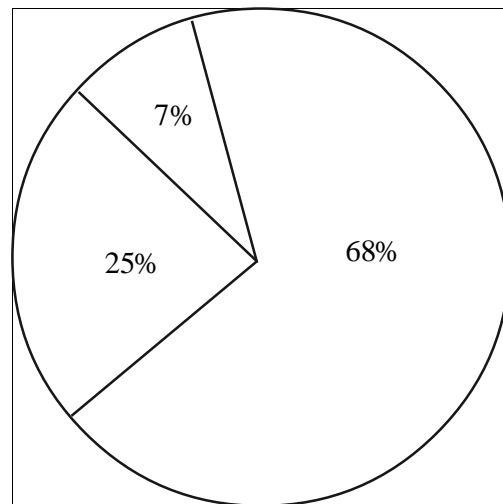


Table 3: Place of Accessing E-Journals

It is found in the study that majority of the students and research scholars prefer to access e-journals in the Library followed by Department, and via Wi-Fi-Connection. It is indicated in the table that 80.1% of the students and research scholars prefer to access e-journals in Library, and is followed by Department (29.4%), and Wi-Fi-Connectivity (8%). Accessing e-journals through Wi-Fi-Connectivity is least preferred among the students and research scholars. Majority of the male students and research scholars have given high priority to Central Library for accessing e-journals. It is found that 80.3% of female students and research scholars preferred to access e-journals in Library than the male students and research scholars (79.8%). It is observed that 30% of the male students and research scholars have highly preferred access to e-journals from Department than male students and male research scholars (28.8%). It is seen that Wi-Fi-Connectivity is least preferred place as reported by male and female students and research scholars. The standard deviation is very less it ranges from 0.26 to 0.43.

Frequency of E-Journal Usage

E-journal is an important part of scholarly communication. It is found from the study that majority of the students and research scholars said that they use e-journals regularly.

Table 4: Frequency of Accessing E-Journals

S. No.	Description	Responses
1.	Daily	1106 (76.7%)
2.	Rarely	866 (60.1%)
3.	Monthly	530 (36.8%)
4.	Weekly	904 (62.7%)
5.	Never	861 (59.7%)

Source: Sample survey

Note: Numbers in parenthesis denotes percentage

The results in the table reveal that majority of the students/ research scholars were using/ accessing e-journals regularly.

Further, it is found from the study that 76.7% of male respondents and 76.8% of female respondents have informed that they access or use e-journals regularly. It is also to be noted from the study that around 61% of the female respondents and 63.9% of male respondents have recorded that they use/access e-journals rarely i.e. weekly once. A very few margin of the respondents have informed that they use/ access e-journals monthly. Age-wise cross clarification reveals that respondents belonging to the age group of below 25 years were using e-journal portals regularly.

Preferred Method of Accessing Journals

Now days, majority of the libraries are equipped with computers. It facilitates access to e-journals and also able to retrieve information. But, it cannot be presumed that all readers or users of the libraries will be computer savvy. Such readers will continue to depend on printed materials. Based on, that the study examined the readers’ preferred format. The results of the same are shown in table 5.

Table 5: Preferred method of Accessing Journals

S. No.	Description	N
1.	Printed Materials	1136
2.	Online Materials	1101

Source: Sample Survey.

It is found from the Table that about 78.8% of the respondents reported that they use online journals (e-

Table 7: Search Starting Points

S. No.	Description	SD	DA	UD	A	SA	WAS	Rank
1.	UGC- INFONET	81 (5.6%)	295 (20.5%)	214 (14.8%)	244 (16.9%)	608 (42.2%)	3.70	2
2.	Search Engines	81 (5.6%)	55 (3.8%)	218 (15.1%)	899 (62.3%)	189 (13.1%)	3.74	1
3.	Journal Websites	162 (11.2%)	298 (20.7%)	163 (11.3%)	271 (18.8%)	548 (38%)	3.52	3
4.	Online citation Index	81 (5.6%)	354 (24.5%)	164 (11.4%)	600 (41.6%)	243 (16.9%)	3.40	4
5.	Open Access Journals Domain	274 (19%)	245 (17%)	217 (15%)	190 (13.2%)	516 (35.8%)	3.30	5

Source: Computed (SD=Strongly Disagree; DA=Disagree; UD=Undecided; A=Agree; SA=Strongly Agree)

It is identified in the study that there are five tools that are used by the respondents. These include UGC-INFONET, Search Engines, Journal Websites, Online Citation Index and Open access journals domain. It is found in the study that 1088 respondents have strongly agreed that their search point will always be search engines such as Google, yahoo, MSN, etc., Next, search point is UGC-INFONET report by 852 respondents and online citation index is the starting point for 843 respondents. About 50% of the respondent search e-journals through open access journals Domain. Weighted Average Score method is adopted to compute the average response score for the reader’s opinion on the questions. WAS method applies to measure the relative importance of search engine points. The WAS value is obtained by applying the formula

$$WAS = \frac{\sum_{i=1}^n Xi}{N}$$

Xi is the response variate ranging from 1 to 5, as the low value signifies least preference and a high value is high

journals) for their academic purpose and 76.4% of the respondents reported that they are using printed journals. It is to be noted from the findings that though the ICTs dominate in the academic field, a significant proportion of the readers still follow conventional method of reading or reference.

Reasons to Prefer Online Methods

Table 6: Reasons to Prefer Online Methods

S. No.	Description	N
1.	Free to me	1188 (82.4%)
2.	They eliminate photocopying	1086 (75.3%)
3.	Physical convenience	929 (64.4%)

The respondents were asked to mention the reasons for preferring online method of accessing ejournals. The reasons are furnished in table. It is found from the table that majority of the respondents have informed that it is free to access (82.4%); photocopying of the text is restricted (75.3%).

Search Starting Points

Generally, all the online users start their searching through Google web platform only. In this context, the study intends to examine the search point used by the students/ researcher scholars. The response regarding the same is displayed in the Table.

preference. Table 7 shows the WAS, which reveals that majority of the respondents prefer search engines (Google, MSN, etc..) their initial search point. The next priority has been given to UGCINFONET and is followed by journal website.

Conclusion

University libraries play an important role in promoting research and development in the country. The electronic resources are directly impacting the nature and quality of research across the globe. The technological developments are also influencing readers’ information seeking behaviour and tools and techniques of information searching. Though, readers’ preferences are leaning towards using resources, they are constrained by the limited availability of the same. It is the responsibility of the university libraries to provide information to the researchers. They need to maintain information resources both in print and electronic formats. There should be a separate digital section in the library with trained staff to guide the researchers to access electronic resources. The libraries should venture to provide remote and web-based access to the e-resources available with them

and links to other important resources available globally in order to satisfy the research needs. The scope of the electronic collection in UGC- INFONET consortium has to be improved; particularly in humanities and social science disciplines. Further the university libraries need to organize effective training and information literacy programmes at regular intervals on how to access and use the electronic information resources and services. The regular introspection on the availability of library facilities and services through feedback from the research community is also essential to identify their changing needs.

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