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Positive Impact of Electronic Information Resources in the Library and Information Centre

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ABSTRACT

Electronic information resources (EIRs) such as e-journals, e-books, databases, institutional repositories and open educational resources have changed how libraries acquire, organise and deliver information. This paper examines the positive impact of EIRs on library and information centres, their users and the wider academic community. It is a conceptual review based on the published literature and on the national initiatives that shape electronic access in India, including INFLIBNET, e-ShodhSindhu, Shodhganga and the National Digital Library of India. The paper identifies six main areas of positive impact: wider and faster access to information; better use of time and space; stronger teaching, learning and research; more efficient library operations and collection management; cost-effectiveness through consortia; and inclusion of remote and differently-abled users. It also notes the barriers that limit these benefits, including inadequate infrastructure, low information literacy, licensing constraints and long-term preservation. The paper closes with recommendations for library professionals and policy makers. It proposes a framework that later empirical studies can test.

KEYWORDS: *Electronic information resources; E-resources; Digital libraries; Library consortia; Academic libraries; Information literacy; INFLIBNET; India*

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1. INTRODUCTION

Libraries have always changed with the media they hold. Clay tablets, manuscripts, printed books and periodicals each reshaped how knowledge was collected and shared. The development of computer networks and digital publishing brought a further change, in which much scholarly content is now created, licensed and read in electronic form. Lancaster (1978) anticipated this shift when he described a future of paperless information systems. Today that future is largely realised in academic and research libraries, where electronic journals, databases and e-books make up a large share of the collection and often of the budget.

Electronic information resources are materials that are accessed through a computer or network. They include full-text e-journals, bibliographic and citation databases, e-books, electronic theses and dissertations (ETDs), open access repositories, multimedia, and web-based reference tools. Unlike print, they can be searched at the level of a single word, used by many readers at once, and reached from outside the library building.

This change bears directly on Ranganathan's (1931) Five Laws of Library Science, especially the injunctions to save the time of the reader and to treat the library as a growing organism. EIRs give these principles a practical form. In India, national programmes over the past two decades have pooled resources and extended access to institutions that could not afford them alone. Understanding the positive effects of EIRs is therefore important for librarians who plan collections, for administrators who fund them, and for users who depend on them.

2. Review of Literature

A sizeable literature examines how electronic resources are used and what they change. Tenopir (2003) reviewed research on the use and users of electronic library resources and reported that access to electronic content increased the amount of reading and the range of materials consulted, while user

habits and disciplinary differences continued to shape how the resources were used. Earlier, Tenopir and King (2000) traced the movement of scientific communication towards electronic journals and discussed the implications for scientists, librarians and publishers.

Studies of researcher behaviour describe a preference for desktop access and quick discovery. Rowlands et al. (2008) examined the information behaviour of researchers in the digital environment and cautioned against simple assumptions about age and digital skills, noting that many users, including younger ones, need support in searching and evaluating information. Ellis and Oldman (2005) studied humanities researchers and found that electronic tools were valued but were used alongside traditional sources, not in place of them.

Work from developing countries stresses both potential and obstacles. Ani and Ahiauzu (2008) discussed the development of electronic information resources in Nigerian university libraries and pointed to funding, infrastructure and staff skills as decisive factors. Chowdhury and Chowdhury (2003) provide a broader account of digital library concepts, design and services that remains a standard reference for LIS students. Taken together, these works indicate that the benefits of EIRs are real but depend on infrastructure, training and sound management. This condition is central to the discussion below.

3. Objectives of the Study

The paper aims to:

- describe the main types of electronic information resources found in library and information centres;
- identify and discuss the positive impacts of EIRs on users, library services and institutions;
- outline the role of Indian national initiatives in extending access to EIRs;
- note the challenges that limit these benefits; and
- suggest strategies for maximising the value of EIRs in libraries.

4. Methodology

This is a conceptual and descriptive review. It draws on published literature in library and information science, on the documentation of Indian national programmes such as the INFLIBNET Centre's e-ShodhSindhu and Shodhganga, and on the National Digital Library of India, and on the author's professional understanding of library practice. It does not report new primary data. The impact areas identified here are therefore proposed as a framework and should be tested through user surveys or usage-statistics studies in specific institutions. Future empirical work could use questionnaires, COUNTER-compliant usage reports and interviews to measure these effects.

5. Types of Electronic Information Resources

Table 1 summarises the main categories of EIRs in library and information centres, with typical examples.

Table 1: Major types of electronic information resources

Type	Description	Examples
E-journals	Scholarly periodicals delivered online, often with full text and links to cited references	Publisher platforms, aggregator packages, consortium subscriptions
E-books	Books in digital form that can be read online or downloaded	Publisher e-book collections, open access book platforms
Bibliographic and citation databases	Indexes to literature, with abstracts, citation counts and analytical tools	Scopus, Web of Science, LISA, national subject databases
Full-text and multimedia databases	Collections of articles, standards, patents, images, audio and video	Subject-specific packages, streaming and video services
Repositories and ETDs	Institutional and national archives of theses and research output	Shodhganga, institutional repositories
Open access resources	Freely available scholarly and educational content	DOAJ, open access journals, open courseware
Web-based reference tools	Online encyclopaedias, dictionaries, reference managers and discovery services	Reference managers, library discovery systems

6. Positive Impacts of Electronic Information Resources

6.1. Wider and faster access to information

The clearest advantage of EIRs is access. A user can search across thousands of journals and books in seconds, retrieve full text, and follow links to related work. Access is not tied to opening hours or to the physical location

of the item, and several users can read the same title at the same moment. This directly addresses the reader's need for the right document without delay, and it extends the library's reach beyond its walls.

6.2. Saving of time and space

Powerful search, alerts, and table-of-contents services reduce the time spent on locating literature. For libraries, digital collections need much less shelf space than print, which eases the pressure on buildings that are already crowded. Space freed from stacks can be used for study areas, group discussion rooms, digital labs and other services that users increasingly expect.

6.3. Support for teaching, learning and research

EIRs put current research within reach of students and faculty. Access to recent journals and databases supports literature reviews, citation analysis and the tracking of new developments. Repositories of theses help researchers avoid duplication and build on earlier work. For teachers, digital content can be embedded in learning management systems, and multimedia resources can enrich classroom presentations. Evidence from the wider literature suggests that electronic access increases the amount and variety of material that users consult (Tenopir, 2003).

6.4. Improved library operations and collection management

Electronic resources enable usage statistics that show which titles and databases are actually used. Librarians can use this evidence for subscription renewal, cancellation and budgeting decisions, so that spending follows demand. Digital delivery removes many routine tasks such as binding, shelving, and claiming missing issues, allowing staff time to be redirected to user education, reference support and value-added services.

6.5. Cost-effectiveness through consortia and resource sharing

Consortium purchasing allows institutions to obtain access to far more content than they could afford individually. In India, national consortia have brought a large body of scholarly content to universities and colleges, including smaller institutions in remote areas, at negotiated rates. Resource sharing through consortia and open access repositories lowers the cost per use and reduces inequality in access between well-funded and poorly funded institutions.

6.6. Inclusion of remote and differently-abled users

Remote access through campus authentication or proxy services means that distance learners, off-campus researchers and those working from home can use the library's collections. Electronic text can be adapted for screen readers, resized, and converted, giving visually impaired readers options that print does not offer. In these ways EIRs support the idea that a library serves every reader.

Table 2: Summary of positive impacts and who benefits

Area of impact	Key benefit	Main beneficiaries
Access	24/7 remote, simultaneous, full-text access	Students, faculty, researchers, distance learners
Time and space	Faster retrieval; reduced shelf and storage needs	Users and library administrators
Teaching and research	Current literature; support for citation and literature review	Faculty and research scholars
Library management	Usage data for evidence-based decisions; less routine work	Library staff and management
Cost and sharing	Consortium pricing; wider content per rupee spent	Institutions, especially smaller ones
Inclusion	Remote use; accessibility features for print-disabled readers	Remote and differently-abled users

7. Indian National Initiatives

Several national initiatives have been central to the growth of EIRs in Indian libraries.

- INFLIBNET Centre, an inter-university centre of the University Grants Commission, coordinates library automation and networking in higher education and manages consortium access to electronic resources.
- e-ShodhSindhu brought together earlier consortia (UGC-INFONET Digital Library Consortium, NLIST and the INDEST-AICTE Consortium) to provide access to e-journals, e-books and databases for higher education institutions.

- Shodhganga is a national repository of electronic theses and dissertations from Indian universities, open to all, which supports research and discourages duplication.
- The National Digital Library of India (NDLI), developed under the Ministry of Education, is a single-window platform that aggregates digital learning and library content from many sources.
- The One Nation One Subscription initiative, approved by the Government of India in 2024, aims to provide nationwide access to scholarly journals for public higher education and research institutions. Readers should check its current status and coverage on official sources.

Together, these programmers illustrate the benefits described in Section 6. They pool purchasing power, make content available beyond major institutions, and provide open platforms for research output.

8. Challenges

A balanced view must recognize that the benefits of EIRs are conditional. The literature from developing-country contexts highlights several constraints (Ani & Ahiauzu, 2008; Rowlands et al., 2008):

- Infrastructure: unreliable electricity, low bandwidth and insufficient computers restrict use, especially in rural and smaller institutions.
- Awareness and skills: many users, and some staff, do not know what resources are available or how to search effectively. Information literacy is therefore essential.
- Licensing and access: subscription resources are usually leased, not owned, so access may end when payments stop. Licence terms also restrict copying, sharing and interlibrary loan.
- Cost pressures: prices of major e-journal packages tend to rise faster than library budgets.
- Preservation: long-term access to born-digital content needs planning, standards and investment.
- Information overload and quality: easy access makes it harder to judge reliability, and it raises issues of predatory publishing, plagiarism and misuse.
- Continued role of print: research suggests that many readers, especially in the humanities, still use print and electronic resources together (Ellis & Oldman, 2005).

9. Strategies for Maximizing Positive Impact

- Regular user education and information literacy programmes, delivered in person and online, covering search techniques, evaluation of sources, reference management and research ethics.
- Promotion and awareness through orientation sessions, newsletters, social media and discovery tools, so that subscribed resources are actually used.
- Evidence-based collection development using usage statistics, user feedback and cost-per-use analysis.
- Active participation in consortia and national programmes, and support for open access and institutional repositories.
- Investment in reliable network infrastructure, remote access systems and accessibility features.
- Continuing professional development for library staff in digital resource management, licensing, and data analysis.
- Preservation and policy planning for long-term access, including clear licence review and archiving arrangements.

10. Conclusion

Electronic information resources have had a strongly positive effect on library and information centres. They broaden access, save time and space, support teaching and research, improve management decisions, reduce costs through sharing, and include users who were previously left out. In India, national consortia and open platforms have extended these benefits to many institutions. The benefits, however, are not automatic. They depend on reliable infrastructure, information-literate users, skilled staff, fair licensing and planning for preservation. Libraries that combine these conditions with active promotion and evidence-based management will realise the full value of their electronic collections. Future research should test the impact areas proposed here through empirical studies of specific user groups and institutions, and should compare outcomes across types of libraries and regions.

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