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Digital Libraries and Open Access: A Perspective in Scope of Digital Education in India

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Abstract: ***This paper emphasizes on creating awareness of open access among the research community. Many initiatives and guidelines are been undertaken to promote the Open Access throughout the world. This paper may help researchers & educator in understanding the various modes of publishing, policies & platforms available for open access in India.***
Keywords: Open Access, SPARC, Open Access Movement, Open Access Policies, UNESCO Open Access Publication

I. INTRODUCTION

In the year 1998, Digital Library Federation offered the following definition: "Digital libraries are organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities". Sun Microsystems (2002) defines a digital library as, “the electronic extension of functions users typically perform and the resources they access in a traditional library".
Here with the help of above two definitions we are describing the library in two perspectives i.e, as a service provider & its user perspective.

The Five law of Library Science given by the Father of Library Science in India Dr. S.R. Ranganathan are:

1) Books are for use.
2) Every reader his/her reader.
3) Every book its reader.
4) Save the time of the reader.
5) Library is a growing organism.

The five laws of Library Science were proposed by Dr. S. R. Ranganathan in the year 1931, and the Digital Library seems to fulfill all the five Laws of Library Science in the 21st century technology era. With the advent of technology, the role of the librarian has become a crucial in bridging the gap for scholar communities by providing them with the various e-resources like e-Journals, research articles, e-Books, audio lectures/video lectures. Libraries are no longer bound to limited space. Its purpose to provide the information to multi users as and when required can be fulfilled with the help of online platforms. It is an growing organism with no physical restrictions.
Although the technologies can take the libraries to a higher level as a service provider but at the same time considering the high cost of establishing digital libraries, cost of the scientific databases and online journals, makes it inevitable. Only if the libraries are having subscription to this journals and databases it can efficiently help its users without which the high costs make it almost impossible for researchers to get these articles which further affects a good research work.

A. Significance of the Study

As our society moves into an ever increasing digital landscape, the information available in digital format through various resources in unlimited hence to provide a proper platform, digital library is required. Also to maintain a just digital platform which aims to give access to maximum of literature/ research with the help of open access. The study will also help find out the gaps and potential platforms for Open Science.

B. Objective of the study

The objective of the study is to make awareness of Open Access Resources among research scholars to help enhance the Digital Education platform.

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II. WHAT IS OPEN ACCESS?

Open Access (OA) is a set of principles and a range of practices through which research outputs are distributed online, free of cost or other access barriers. With open access strictly defined (according to the 2001 definition), or libre open access, barriers to copying or reuse are also reduced or removed by applying an open license for copyright.

1) The author or copyright owner irrevocably grants to all users, for an unlimited period, the right to use, copy, or distribute the article, on condition that proper attribution is given;

2) It is deposited, immediately, in full and in a suitable electronic form, in at least one widely and internationally recognized open access repository committed to open access.

A publication is considered in open access if its content is universally and freely accessible, at no cost to the reader, via the Internet or other mode.

III. VARIOUS MODES WHICH CAN BE USED FOR OPEN ACCESS

A. Licenses

Transfer of copyright from authors to the publisher is the traditional way of publishing a paper which benefits both the parties, but the publisher retains major share as all rights are transferred to him. Hence to overcome such situation Creative Commons has where an author can put the research in open access after a certain period.

B. Funding

As open access does not charge any amount from its users, finance required to cover the costing is done through various other modes. Subscription based journals, dedicated Open access publishers likes Public Library of Science (PLOS) and BioMed Central are to name few. Institutional subscription like N-List INFLIBNET can also be one of the source.

C. Preprints

Preprints are research papers that are shared on an online platform prior to, or during, a formal peer review process. Preprint platforms have become popular due to the increasing drive towards open access publishing. It can be publisher or community-led, range of discipline-specific or cross-domain platforms also exist.

IV. BENEFITS OF OPEN ACCESS

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1) *Access:* Any one can access the articles which is beneficial for the researchers and those who do not want to spend or cannot manage to pay the high costs of subscribed journals.
2) *Impact and Citations:* The impact factor & citations for publications done in Open Access peer reviewed journals is found to be high and due to open access the research gets more citations.
   Visibility: Higher visibility due to open access.
3) *Cost Effective:* It is one of the cost effective mode of publishing and accessing as compared to limited access journals.
4) *Wider Collaboration:* It is a way of sharing intellectual literature is the utmost beneficial mode.
5) *Availability:* In the open-access model, research material need not be restricted to articles only, unlike traditional publishing. Any kind of digital content, including text, images, raw and processed data, audio/video and software can be part of a digital archive.

Brian Rosenblum, Advocate of Open Access Resources in a 2010 presentation, listed specific ways that librarians are currently supporting OA practices and policies and advising facultyin their roles as instructors, authors, and publishers.

a) Assisting with rights and permissions;
b) Maintaining scholarly communication websites;
c) Organizing workshops on copyright issues and digital scholarship;
d) Advocating through university governance and administrative channels, to shape discussions of open access policies;
e) Educating and training other librarians and students.

A. Objective of Open Access

1) Sensitizing the students, researchers, policy makers and general public about Open Access, Open Data and Open Education.
2) Development of community e-infrastructure, capacity building and framework for policies related to Open Access, Open Data and Open Education.

B. Open Access Movement

The foundation stone for open access (OA) was laid by Paul Ginsparg in 1991, he established the **arXiv** repository at the Los Alamos National Laboratory (LAN-L) in order to make preprints in physics freely accessible. The establishment of OA repositories and journals was facilitated by the development of the necessary open source software - for example EPrints and DSpace for building and operating OA repositories; Open Journal Systems (OJS) for managing and publishing OA journals; and Open Monograph Press (OMS) for managing and publishing OA monographs. In June 2009, The University of Kansas became the first U.S. public university to adopt OA policy regarding scholarly research in peer-reviewed journals.

1) *Centre for Open Science:* is a non-profit technology organization based in Charlottesville, Virginia with a mission to "increase the openness, integrity, and reproducibility of scientific research. The framework was initially used to work on a project in the reproducibility of psychology research, but has subsequently become multidisciplinary.
2) *SPARC (The Scholarly Publishing and Academic Resources Coalition):* SPARC is a global coalition committed to make Open Access the default for research and education. SPARC empowers people to solve big problems and make new discoveries through the adoption of policies and practices that advance Open Access, Open Data, and Open Education. Primarily academic and research libraries located in the U.S. and Canada use the resources and support provided by SPARC. It aims to actively promote Open Access to scholarly articles, the open sharing of research data, and the creation and adoption of Open Educational Resources on their campuses.
3) *UNESCO Open Access Publication: United Nations Educational, Scientific and Cultural Organization:* UNESCO's mandate is to build peaceful, democratic and inclusive knowledge societies across the world. Universal access to information is one of the fundamental conditions to achieve global knowledge societies. This condition is not a reality in all regions of the world. Hence, in order to help reduce the gap between industrialized countries and those in the emerging economy, UNESCO has decided to adopt an Open Access Policy for its publications by making use of a new dimension of knowledge sharing - Open Access. The UNESCO Digital Library is the repository of UNESCO's institutional memory and a source of high-quality information on UNESCO activities (in education, natural sciences, social and human sciences, culture, and communication and information), with more than 350,000 documents dating back to 1945. It includes the collections of the UNESCO Library and several documentation centres in UNESCO's Field Offices and Institutes, as well as the UNESCO Archives. The essential purpose of the UNESCO Digital Library is to share knowledge and to transmit it to future generations.

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C. Open Access Movement in India

In India, open access to scholarly communication has been developing for several decades. In May 2004, two workshops were organized by the M S Swaminathan Research Foundation, Chennai which laid the foundation for the Open Access movement in India.

D. Open Access India

'Open Access India is a community of practice advocating Open Access, Open data, Open education in India has been formed. the organizations and entities which are working for the establishment of Open Knowledge Society in India to join together to spearhead the Open Access movement in India.

E. Alliance for open Access in India

After the successful organization of the OpenCon 2018 Delhi satellite event, various initiative are taken to promote & form Alliance for the Open Access in India.

F. India Rxiv (India Archive) – Preprints Repository of India

IndiaRxiv.org (India Archive) a preprints repository for Indian researchers and other scholars is launched to share their research outputs or the scholarly works publicly. with the help of of peers to receive comments for improvement and collaborations for generating new knowledge. This preprints service is launched with the support of Centre for Open Science using their Open Science Framework.

G. Crowd Source project on mapping the ISSN Journals from India

The aim of this project is to develop a comprehensive database of all the Journals which has ISSN issued from the NISCAIR. This database would then be integrated with the databases like Sherpa/RoMEO which keeps the record of Copyright policies of all the publishers and journals.

H. AgriXiv – Preprint Repository for Agriculture

AgriXiv is hosted and managed by CABI (cabi.org), an international, inter-governmental, not-for-profit organization that is providing information and applying scientific expertise to solve problems in agriculture and the environment. By sharing preprints on agriRxiv, authors are able to make their findings immediately available to their scientific colleagues.

I. Major known initiatives towards Open Access

1) *Project Gutenberg:* Project Gutenberg is a volunteer effort to digitize and archive cultural works, as well as to "encourage the creation and distribution of eBooks." It was founded in 1971 by American writer Michael S. Hart, it is the oldest digital library. https://www.gutenberg.org/
2) *Internet Archives:* The Internet Archive is an American digital library, encouraging "universal access to all knowledge". It provides free public access to collections of digitized materials, including websites, software applications/games, music, movies/videos, moving images, and millions of books. https://archive.org/
3) *DOAJ:* The Directory of Open Access Journals (DOAJ) is a website that hosts a community-curated list of open access journals, maintained by Infrastructure Services for Open Access (IS4OA). DOAJ uses the Budapest Open Access Initiative's definition of open access to define required rights given to users, for the journal to be included, as the rights to "read, download, copy, distribute, print, search, or link to the full texts of the articles, or use them for any other lawful purpose. https://doaj.org/
4) *DOAB:* Directory of Open Access Books is a platform where eBooks are accessible free of cost. It is a community-driven service that indexes and provides access to scholarly, peer-reviewed open access books and helps users to find trusted open access book publishers. https://www.doabooks.org/
5) *Inflibnet NLIST:* The Project entitled "National Library and Information Services Infrastructure for Scholarly Content (N-LIST)", is jointly executed by the e- ShodhSindhu Consortium, INFLIBNET Centre and the INDEST-AICTE Consortium, IIT Delhi provides for cross-subscription to e-resources subscribed by the two Consortia,i.e. i) subscription to INDEST-AICTE resources for universities and e-ShodhSindhu resources for technical institutions; and ii) access to selected e-resources to colleges. The N-LIST project provides access to e-resources to students, researchers and faculty from colleges and other

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beneficiary institutions through server(s) installed at the INFLIBNET Centre. (With Nominal Annual charges) https://nlist.inflibnet.ac.in/

6) **Shodhganga** (A reservoir of Indian Electronic theses and Dissertation): The Shodhganga @ INFLIBNET Centre provides a platform for research students to deposit their Ph.D. theses and make it available to the entire scholarly community in open access. The repository has the ability to capture, index, store, disseminate and preserve ETDs submitted by the researchers. https://shodhganga.inflibnet.ac.in/

7) *National Digital Library of India:* The National Digital library of India is a project under Ministry of human resource development, The Government of India. The objective is to collect and collate metadata and provide full text index from several national and international digital libraries, as well as other relevant sources.

J. Challenges of Open Access

1) Promoting open access
2) To clear the misconceptions on open access
3) To convince the scientific community of the benefits of preprintrepositories.
4) Willingness of researchers to share their research work/ articles.
5) Intellectual divide: to Share or Not To share
6) Open access funding issues

V. CONCLUSION

Open access is paradigm shift in Digital Learning and education era. It requires awareness among the research communities to contribute towards the platform as well as more awareness towards usage of the platform. Many countries across the globe & Organizations have already started initiatives, policies and guidelines to develop the genuine model of providing education/ literature to all initiative. With more and more joint initiatives the platform will be created with best of the benefits to both the users as well as the scholar.

The purpose of this research was to analyze various initiatives conducted Globallyand how this can be used in spreading awareness among researchers to promote Open Access. There is vast area of research to do considering the numbers of information houses our country has and exploration it requires.

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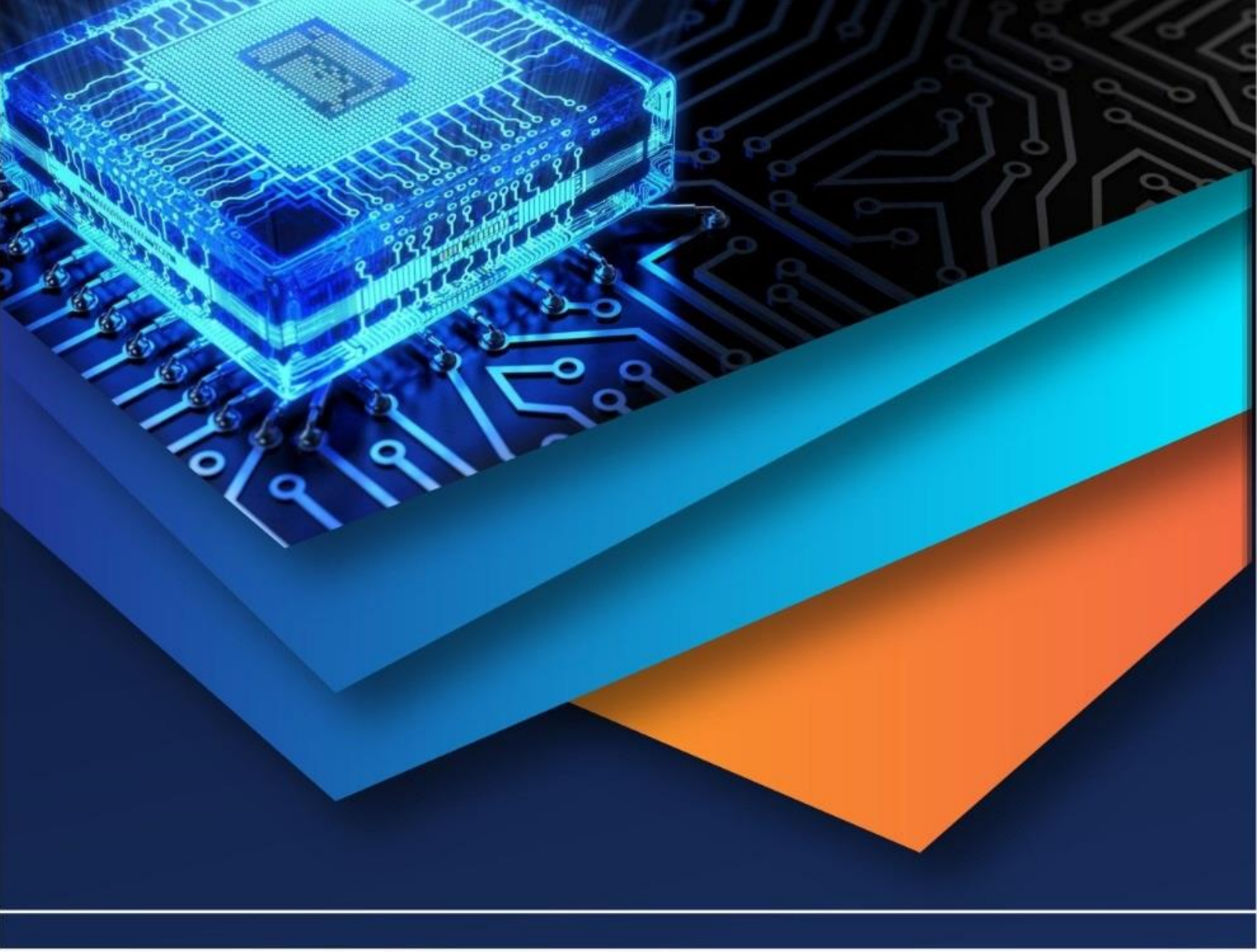

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