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IMPACT OF DIGITALISATION OF ACADEMIC INSTITUTIONAL LIBRARIES ON RESEARCH IN INTERNET AGE: A STUDY

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Abstract *Research and development in different discipline are the core activities of institutions of higher education. Researchers and teachers carrying research require essential, relevant, and authenticate information to write their research papers, dissertations, and theses without wasting time. The academic libraries across the world have been digitalised by their respective organisation with the use of computers technology known as "automation or digitalisation or digitisation". Digital libraries have digitalised their in house collection in electronic format, that too with the help of Internet technology can be accessed all over the world either free or licensed depending upon the policy of the library. Digital libraries provide access to e-resources, e-consortiums, online bibliographical databases, online full text databases, online catalogue (OPAC) search of its own collection, and OPACs of other participating libraries across the world. Digital libraries also provide different search strategies such as author, title, subject, ISBN, keyword search to find relevant resources required by the research scholars. In addition, digital library also provide web links to essential websites subscribed by it. Library professionals keep themselves up to date with latest developments in digital libraries technologies to provide best search practices and supply of relevant sources to its clientele. Digitalisation of academic libraries have proved boon for both, the library professionals and research community' across the world.*

Keywords: *Digitalisation, Databases, Conducting Research, E-resources, Search Strategy, Digital Library, Internet, Digitisation*

Introduction

Today we are living in high technological environment. Digitalisation is a concept which has brought a drastic change in handling of data in computer format. Digitalisation means to convert an image, data, object, text, video into electronic format that can be transferred to all over the world through communication technology.

Digitalisation is a very important and a crucial process as it has a property of high level processing, great storage and large transmission of data in almost all kinds of formats that can be transferred across the world with great efficiency as compared to analog format. Digital signals are easier to modulate and transmit as compared to analog signals.

Research and development activities in higher academic institutions are important part of learning and teaching process. Writing dissertations, theses, research articles are the core activities taken in higher educational institutions. On the other hand, symposiums, seminars, and conferences also bring out large literature in different disciplines from time to time. Such activities often remain essential part of institutional educational curriculum across the world. One can understand how much literature and first-hand information is generated globally. In order to cope with and to control such large information and literature, digitalisation of such literature generated is must. Academic libraries of higher learning have provided answer to this by getting them automated or digitalised. Automation means applying computer technology to carry all the library operations such as accessioning, classification, cataloguing, indexing, abstracting, circulation, serial control, CAS, SDI, and other reference work. Digitalisation or automation are different literary terminology used for same ICT concept in libraries. Libraries across the world have challenge to cater to the needs of researchers/ teachers in different disciplines and in different formats. Digitalisation of libraries and use of internet technology have provided solution to this challenge. Internet means 'Network of Networks'. The revolutionary development on the Internet is 'World Wide Web'. Internet is a mode of exchange of stored information in computer with other computers across the world. Internet is not owned by any individual or organisation. In any country, any organisation does not own the Internet, but owns servers and routers. These licensed organisation are called ISP i.e. Internet service providers. Some special rules are followed to establish connectivity between two computers. These are called protocols, often known as TCP/IP protocols. Internet facilitates email, chats, online access, surfing through browsers and search engines. Thus digitalisation of libraries

and use of Internet have given a pace to the research and development activities throughout the globe to great extent.

Purpose of the Study

The purpose of the study is to know "how far the digitalisation of academic libraries and the usage of Internet has served and eased the research activities in higher academic world".

Research in Higher Education

The research in higher educational institutions is generally based on primary research and secondary research. Primary research is basically a study with first hand investigation that covers conducting interviews, laboratory experiments, surveys and in-depth analysis of facts whereas secondary research is examination of studies that other researchers have conducted on a particular discipline. There can be different approaches to write research papers. Writing theses, dissertations on particular topic is a tedious process. It requires time and review of literature to avoid duplication and make research viable and authentic. The research scholars require maximum relevant resources on topic of research.

Role of Digitalised Libraries in Resource Providing

Libraries provide resources that are to be evaluated by library professionals for authority and quality. Since the research process is time bound phenomena, proper sources are to be provided in print or electronic form. The electronic form sources or the digitised sources deliver pace to the research. The digitalised libraries provide computers with Internet connections and printers to their clients. These libraries also digitalise their in-house collections to cater to their users need. Resources required to carry research are indexes on subjects, bibliographies on subjects, collection of abstracts, and guides to research. These sources provide data on research. Encyclopaedias, dictionaries, biographical sources, yearbooks, almanacs, atlases, gazetteers, statistical sources etc. provide basic information on the subject.

Digitalised service provided by libraries to its clientele includes:

Online Catalogue (OPAC) Search

Libraries provide online catalogue search to its own collection through its own OPAC and also provide access to OPACs of other participating libraries across the world. e.g. OPAC of National Library in India, Access to Library Catalogue in Belgium, AMICUS in Canada, INFIBNET OPAC of participating Universities in India, NISS-Higher Education Research Library Catalogue OPAC in United Kingdom, Australian Library Gateway etc. These OPACs serves as good tool to search relevant sources to conduct research.

Institutional Digital Repository service

It provides online access to institutional Ph.D. theses that have undergone plagiarism check test before submission of theses for award of degree through anti-plagiarism software. It also provides access to e-resources such as e-journals, previous years' papers, videos, lectures, abstracts of Ph.D.s, archives of conference, seminars, workshops, book fairs etc.

Bibliographical Database Search Service

These are lists of publications classified by subjects and guide researchers to journals and websites, books, magazines, reports, keywords, abstracts etc. Examples:

(a) **MathsSciNet**: is the database of reviews in mathematical science covering over 2 million items and nearly 70000 direct links to original articles.

(b) **ISID**: It covers index of 125 social science journals (http://www.isid.org.in).

(c) **Web of Science**: It is world's leading citation database with articles from 10000 journals and from over 45 different languages in subjects covering science, social science, arts, humanities etc. (http:/isiknowledge.com/).

(d) **International Bibliographical Database on Higher Education**: It is maintained by International Association of Universities since 1988.

Full Text Database Search Service

Digital libraries subscribe to these databases and recommends website with links. Examples: ACM Digital Library, Annual reviews (vol. 1 and issue 1), Elsevier Science Direct (vol. 1 and issue 1), Current Contents (Online), Emerald (Online), LISA (online), Ulrich's Plus: Periodical Directory, SCI Index. Sci Pathfinder, JSTOR etc. On the whole these databases cover large amount of journals in different disciplines with full articles on the topic.

E-Consortia Access Service

E-consortia are the collection of e-full text databases and e-bibliographical databases that cover thousands of e-journals, abstracts, and other sources subscribed by the libraries to serve its research scholars. The basic purpose

of consortia formation is to reduce cost and to provide all sources at one single platform. Example: N-List by Inflinet that covers thousands of journals by different publishers, UGC-Infonet Digital Library consortium covers e-full text databases, bibliographical databases and open access resources, E-journal consortia by National Science Library etc.

Search Strategy offered by Digital libraries

Search for relevant resource is key to conduct research. Digital library software provides different search strategies to make search easy and relevant. It provides: (a) author search: search by author's personal name, surname, or corporate name.

(b) Title search: It provides the list of all works on the title.

(c) Subject heading search: If one do not know author or title, he can make search by using subject heading such as LCSH.

(d) Call Number search: If one knows the call number, he can locate the source.

(e) Keyword search: An online catalogue helps to locate the sources on particular subject by using keywords.

(f) Advance search: It needs concrete information of author, title and subject to make search for relevant source.

(g) Web sources search: Researchers can make use of useful sites recommended by the library on particular subject. Digital library professionals recommend essential web links to particular sites to serve their research scholars. Some gateway sites provide links to other sites in addition to link provided by the library.

Professional Updating

In order to control the Digital library collection and providing digitalised services to its clientele in today's high technological environment, it has become necessary for the library professional to keep them updated with latest changing scenario of digitalise services. Technical workshops, refresher courses, seminars, conferences, symposiums at national and international level on various aspect of information technology and its application in library world have helped the library professional community to keep them updated with latest developments in field.

Conclusion

Research activities across the world are being carried in different educational institutions. Researchers require relevant and first-hand information on their subject. Search for authenticate and appropriate sources is a tedious process. Digital libraries have provided answer to this problem by digitalising their collections and providing access to online e-resources, websites, links, online access to subscribed databases, e-consortia with different search strategies that have helped the researchers to conduct viable research. Digitalisation of libraries using latest library software has been proved a boon for the research community and library professionals across the world.

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