Conceptualizing Information Dissemination

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Research Paper

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Abstract

This paper aims to conceptualize the information dissemination process. It also attempts to address critical issues regarding library access policies. It upholds user accessibility and dissemination of information that are essential components of library operations. The main purpose and goal of every library are to allow its users secure access to information holdings. Under no circumstances should library policies deter patrons from accessing library contents. Libraries should inspire readers from all walks of life to develop or cultivate the habit of learning. This paper addresses these issues with special regard to removing obstacles and barriers to access information in libraries.

Keywords: *Library access, information dissemination, obstacles and barriers to access, public libraries, knowledge, user education*.

1 Introduction

Access to knowledge and information is vital for its dissemination. This paper discusses the elements and concepts of information dissemination system (Chatterjee, 2016; Del Fiol *et al*, 2013; Baharuddin, Masrek, & Shoid, 2014) from the perspective of a librarian. It involves reflective analysis of how libraries perceive user access to information and what their roles are in knowledge dissemination. Some scholars posit the view that academic library policies place undue restrictions on public access to information (Wilson *et al*, 2019). The general expertise of libraries in information dissemination and use is well acknowledged (Lougee, 2002). The right to access information is linked to the universal 'right to use' knowledge holdings of public and academic libraries. According to Article V of the Library Bill of Rights states (ALA 1993),

"A person's right to use a library should not be denied or abridged because of origin, age, background, or views."

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Taking this right declared in Library Bill of Rights forward, we aim to gain a conceptual understanding of existing problems regarding information and knowledge dissemination linked to its universal access. Often, user access to information is denied on unreasonable grounds—which explicitly affect user sentiments. This phenomenon may result in obstacles to information access and use (Ugah, 2007) in libraries. In other times, some users are themselves prevented from accessing libraries. The goal of this research is to address the issues of access related to both physical libraries—and digital access to digital libraries. Hit by COVID-19 Pandemic, authorities have enforced temporary shutdown of libraries across the world, whereas digital access has been maintained in some public libraries to provide user access to library documents. However, libraries having been shut down hit by the pandemic, not all and every learner could access online libraries due to various restrictions imposed on user accessibility. Most library charters oppose creating barriers to entry and access to library resources and services provided by public libraries, and public funded libraries. Therefore, in such context, our research attempts to address the issues of *obstacles* and *barriers* to entry and access (Chatterjee, 2014) to library information holdings, which users often find difficult to overcome in developing countries (Ugah, 2007). This becomes more challenging when it affects acquisition and dissemination of new information.

Indeed, the perfusion, diffusion, and dissemination of information within and across societies have always remained challenging throughout history. Hard struggles were fought to gain access to information and knowledge throughout the history of human evolution. Much has changed, but few things still need to be reexamined regarding user access to information and knowledge in libraries. This is because libraries promote user education and, being the physical repositories of information, their function is to disseminate knowledge which has many practical applications in serving a variety of purposes (Echezona, 2007). Dissemination of information means "sharing". A library becomes a useless entity if it fails to disseminate its information resources amongst its users. Many aspects determine how the information ought to be disseminated. We discuss those factors that are necessary for the dissemination of information. Dissemination is *impossible* without "access". But there are necessary factors or conditions which must be met before any information gets disseminated. It is of utmost importance to oversee that proper dissemination of information is essential to derive any value or utility out of it. Indeed, humans have sought various ways by which to make information available. In the past, a handful presence of libraries formed the so-called "knowledge depots" holding written records on human annals of evolution and cognitive development. But *access* to libraries was much 'restricted' in the olden days so information dissemination was low. Low levels of literacy did not foster enough growth of knowledge organizations like libraries, schools, etc. Later, with the spread of education when public libraries were established with the view of making them accessible to people from all walks of life[1], they proved to be formidable means of building up knowledge societies. One logical explanation could be that the spread of education fostered library growth and development. It may be said that the

1. See the article on the gradual Origin and evolution of Public Libraries: Sibbald, A. T. (1883). PUBLIC LIBRARIES. Time, 9(56), 506-515

social changes which perceived knowledge as an essential ingredient of economic success, power, growth, and development ushered growth of knowledge organizations.

Libraries are indispensable arsenals of education, and education adds knowledge to libraries. Libraries nurture the culture of reading and individual learning. This complementarity in the association between library and education is interrelated. Today, libraries—digital and physical, help disseminate information that is a powerful means of social empowerment that drive community literacy and learning (Barugh, 1984; Aabø, 2005b; Chatterjee, Samanta & Dey, 2021). The function of Public Libraries is to facilitate universal "public access" to information towards supporting the culture of learning, and to stimulate public interest in reading (Kerslake & Kinnell, 1998). Another role played by public libraries is to inspire users (readers/patrons) to cultivate the habit of reading. But all these would rather be possible if and only if "access" to academic and public libraries are made hassle-free; i.e., fair without encumbrances, and equal for all and everyone. There shall not remain any obstacles or barriers to access information in libraries. This is a burning issue that must be addressed with care. We argue in favor of libraries providing their knowledge holdings free to access. This would be made possible if libraries and librarians take forward the initiative to approve shared access to information for users disregarding their user-origin, ethnicity, habitation, and domiciliary status.

2 Approach to Knowledge Organization: Concept of Dissemination

The effectiveness of information dissemination rests considerably on how it is shared and accessed. In reality, the organization of knowledge is essential for its storage to render its efficient access in the future to information seekers. Various factors determine the rate of information dissemination. How information is made available by the state and political administration for its public usage is also an important factor that modulates the way it diffuses across social echelons (Hayek, 1945). Other than this, libraries and databases support the dissemination of new knowledge as much as research which creates new knowledge which gets disseminated via periodicals/journals. A system that serves advanced dissemination of information must support its advanced and efficient retrieval too. For retrieval, its storage must be organized based on classification schemes that correctly specify where to place certain knowledge and in what categories or taxa (Blake, 2011; Hjørland, 2013).

Community building and the growth of knowledge societies are determined by free, fair, and equitable access to information and knowledge wherein public libraries play a crucial role (Jones, 1999; Scott, 2011; Asselin & Doiron, 2016). Public libraries are meant to provide equitable access to information. The more efficient the modes of access to information are, the faster it is for the users to retrieve it. Faster retrieval of desired information and knowledge accelerates the pace of learning and education. The pace of learning, therefore, is determined chiefly by the availability of desired information sought by learners. There goes the common adage; '*if you don't have fodder, you can't feed your flock'*. Information is the *nutriment* for the mind,

and so it must be made freely accessible to support and augment learning. This is necessary for fostering intellectual development and nurturing creative minds. Much of the whole process, therefore, depends on how information is retrieved, how efficiently the search procedure helps to retrieve information, and what systems and methodological approaches to knowledge organization facilitate better access to information. In Fig 1 below, we depict the topographical conceptualization of the information dissemination system in existence.

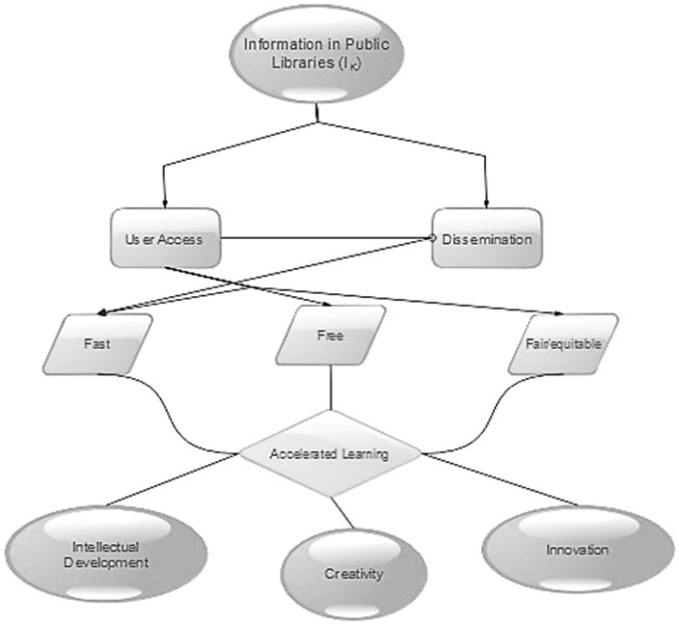

Figure 1. Conceptualization of the information dissemination

Public libraries (PLs)—or libraries in general hold information as knowledge. PLs disseminate information by allowing users to have access to their document holdings through the lending of books. Libraries organize knowledge by applying bibliographical classification schemes that must strive for fast and equitable access to information. Indexing is employed to structure collections of metadata. In this respect, Ranganathan's five laws of library science (Ranganathan, 1931) are relevant in determining how fast and efficient information should be accessed by users. Libraries, however, to revamp their operations and services should have dedicated user experience management schemes to attract patrons and increase readership. As delineated in Fig 1, the attributes of access—fast, free, and equitable dissemination of information in libraries—allow greater freedom in user access which supports accelerated (augmented) learning. Learning promotes intellectual and cognitive development, fosters creativity, and boosts innovation among students and learners.

2.1 User Access Policies

How far academic libraries are open to the general people? For libraries of any type to support user education, their patrons must have access to materials and should have the freedom of formal access to peruse necessary library documents for study

or research purposes. Some academic libraries follow such strict guidelines that invariably deter visitors or restrict user admittance. We agree that libraries should impose guidelines regarding the maintenance of library discipline and etiquette. But we also reinforce our claim that libraries should oversee user *convenience*, facilitate access, and provide necessary materials (information) on demand. Where "access" is the problem for academic libraries, it must be dealt with policies that support free and open user access to library materials (Wilson et al 2019a; Wilson et al 2019b). Open access policies benefit users to a great extent and help them secure knowledge that they usually search for. Again, to gain access to information in academic libraries for scholars of different origins and from diverse places, there are certain protocols usually followed by academic libraries which need to be relaxed for faster access and admittance. Otherwise, one may rightly question, "Are libraries openly accessible?" Dynamic search process employing digital kiosks supported by library automation software should be in place for users to search and browse library holdings. This is to ensure the provision of meaningful study materials. A measure of user-access time to search-and-retrieval of materials should be an indicator of user economy and efficiency in service delivery. Outlined below, these are the following innovations which libraries should aim for efficient service delivery towards satisfying the reading community:

i. Ensure proper membership norms in public libraries,

ii. Maintain open access policies for the academic community in academic and research libraries (Wilson *et al*, 2019),

iii. Allow users from different regions, states, or countries to access local knowledge,

iv. Allow students, scholars, and researchers from other universities/colleges to access resident public university libraries to get acquainted with indigenous knowledge,

v. Increase the ethnic diversity in library membership,

vi. Remove obstacles and barriers to accessing academic libraries by external/unaffiliated visitants (Wilson *et al* 2019),

vii. Promote knowledge exchange, and

viii. Make provision for fairness in information dissemination among users.

Librarians should take up the initiative to ensure universal access to information and its dissemination by encouraging knowledge development programs to facilitate learning among readers. Libraries should support continual user education and learning programs. Through widespread access to information and its broader dissemination, knowledge development should be the key priority and

objective of public university libraries to support social innovation and creativity.

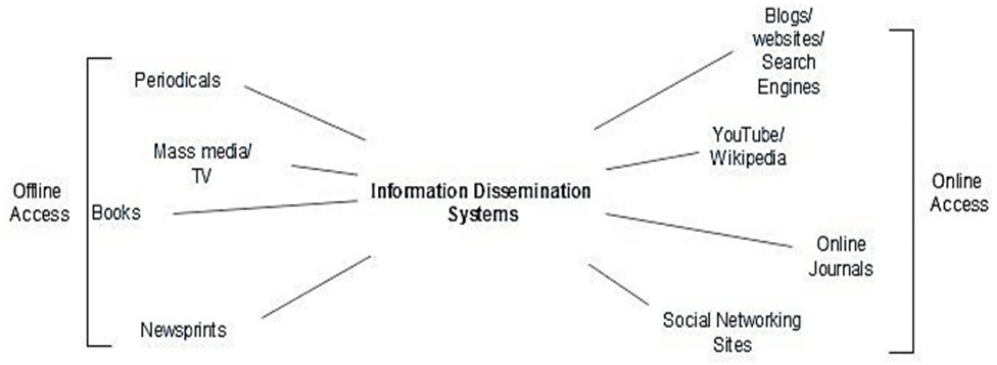

Figure 2. Typology of Information Dissemination Systems

Libraries should adopt novel information resource management (IRM) practices (Synnott & Gruber, 1981) in this age of digital access to compete with online services providing access to knowledge. Librarians must strive to remove barriers to knowledge sharing by making access to certain sections of their library holdings open to interested patrons, students, and researchers. In no way libraries should deter readers or frame policies that might create obstacles for users to access information (Chatterjee, 2014). The primary goal of library knowledge management personnel should be to encourage reading and attract readers. This should be in the tune of removing organizational obstacles to information dissemination and sharing.

2.2 Conceptual Understanding of Knowledge Organization in Libraries

Information is a resource for all libraries and so it needs to be managed. This management aspect encompasses three objectives;

i. Classification for organization,

ii. Storage for preservation, and

iii. Retrieval for access.

Now, in most libraries, the practical efficiency of the information retrieval process depends on how systematically it is classified for storage. Classification methods delineate the best possible way of arranging things accordingly and meaningfully for their fast and efficient retrieval. The speed, accuracy, and context-specific relevance in the matters of search process and retrieval are important factors in today's digitally driven information age (Chatterjee & Dey 2019). This could mean that—how *fast* and correctly the desired information could be accessed for retrieval. The matter of *relevance* is an important guide to efficient search and retrieval processes. Both *online* and *offline* modes of the search for information depend on probing strategies guided by algorithms and indexing schemes that undergo continuous refinement.

One should bear in mind that *change* is the norm—and there occur changes in user knowledge linked to the real-time search process. The efficiency of a search process is determined by how knowledge is *organized*, and how fast and correctly matching queries could provide the desired information which is to be retrieved. In libraries, knowledge is organized using formal classification schemes based on ontological theories, and often supported by hermeneutic schemes (Tennis, 2018). Classification gives us the power to distinguish things appropriately in an expressly designed system of *terminology.* A good classification system developed methodologically incorporating both rationalist and other approaches to define a field correctly should incorporate historical, social, and political issues as well (Hjørland, 2013).

We may look upon libraries as excellent examples of knowledge organization wherein knowledge is organized based on scientific, rational, and systematic methods of classification for storage. Libraries in the past utilized retrieval methods based on manual logic. Things can only be retrieved efficiently if they are stored unsystematically. In fact, before the era of computing and computer programs, classification, storage, and retrieval employed manual logic (Sukiasyan, 1998) where traditional card cataloging were used for systematic arrangement of books and periodicals in libraries. Library Classification system remains a formidable tool for categorizing knowledge into diverse terminology reliant on typology for ordered description of contents (books and periodicals, etc.). The more efficient the classification systems are, the faster things can be retrieved from storage. The more efficient the storage mechanisms are, the further it becomes easier for users to recover information. Modern-day computer-based Library Automation Systems (LAS) use computer programs whose fundamentals are underpinned by several principles of organized classification systems (CS) grounded on the following (See Sukiasyan, 1998);

i. Ontology-based novel taxonomical principles,

ii. Use of hermeneutic, interpretive and explanatory modules,

iii. Enumerative Classification System,

iv. Hierarchical modules,

v. Enumerative Hierarchical modules,

vi. Combinational Classification System, and

vii. Analytic-synthetic Classification system, among others.

Classification schemes improve the retrieval possibilities of things. Herein, the role of classification or a classifier is to define a domain by use of correct knowledge of subjects and their attributions. Organization of knowledge could be understood well in the light of subject knowledge ontogeny (Tennis 2018). In a modern-day context, however, web search engines are far more efficient than manual logical methods of the past since search engines employ powerful search algorithms to retrieve information

at a lightning speed. Therefore, this is the age of information retrieval beyond manual logic. Most libraries nowadays have computer kiosks running on library automation software like SOUL, LIBSYS, and KOHA, among others for search expediency. Every section of public and academic libraries should have a computer kiosk facility for user convenience; i.e., for search and retrieval of books and periodicals. Not only does it make libraries more useful to their patrons, but it increases search efficiency, saves time for the users, and helps retrieve information faster than ever—thus conforming to Ranganathan's Laws of Library Science. The overall process encourages information dissemination at a greater scale and magnitude than before. It shall be reckoned that libraries as centers of learning have always proved to be *caches* of educated societies. According to some scholars, libraries are "arsenals" of an educated society (Elizabeth & Tennis 2018). In reality, libraries are organized information centers that act as sources of information and knowledge. Information in libraries is organized scientifically, which follows typological classification schemes. Such planned and organized storage allows fast retrieval of information when required. Understanding public libraries as a medium of public edification within the purview of the theory of knowledge organization would help librarians go a long way towards achieving efficiency in organizational development.

3 Bibliographical Guide to Information Dissemination

The mode and mechanism of information dissemination depend much on how it is shared. This requires human intervention. Indeed, the use of technology can augment the process of dissemination, but for that to happen, there must also exist liberal means of exchange of information among the agents. Libraries play significant roles in propagating knowledge within and among societies. Libraries and archival have always played bibliographically important roles in disseminating information across societies as well. Some of the most prominent ancient universities of the world were built around a huge network of libraries that were either destroyed or lost in oblivion.

Dissemination means *diffusion* or *transmission* of ideas and information. Now whatever may be the ways—the idea remains the same: to disseminate information is to transmit it. The systematic way of disseminating information leads to its efficient distribution across different strata of social structure. Systems affect the efficiency rate of an operation or a procedure. Researchers have debated over several ways by which to conceptualize relationships between systems of information dissemination. They have classified information dissemination systems (IDS) by organizing ideas, objects, and things according to their attributes for fast and efficient retrieval. Attributes segment things and help differentiate various kinds of information dissemination systems. Today, information dissemination systems can be classified into their various components according to the core attributes of a system built to provide access to assorted forms of information. It shall be noted that "dissemination allows access—and vice versa".

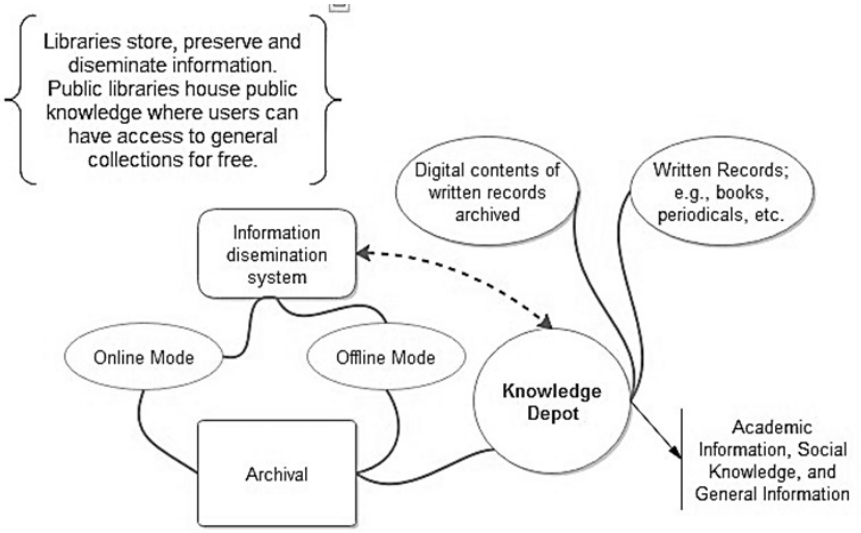

Figure 3. Libraries as Information Dissemination Systems

Typological classification has several advantages. It provides attribute-based perspectives on information dissemination systems. The use of *typology* to disseminate information also determines the nature of access to information.

4 The Conceptual Framework of Information Dissemination Systems (IDS)

One approach to the study of information dissemination systems (IDS) is by classification of systems applying "attributes". Classification serves to attribute special characters to objects, information, and things. Information dissemination systems (IDS) have been classified using various attributes that comprise a "typology" of different variants of the data transmission mechanism (Jones, & Tennis, 2012). Elizabeth and Tennis (2019) have provided a simple but interesting framework for classifying IDS using key sets of attributes that are hierarchically organized. It helps to differentiate a system and study how it grows. Different systems grew out of human needs and necessities at different times, having distinct attributes. Systems developed for the dissemination of information beckoned the progress of intellectual development and growth. Introducing mass media and communication technologies speed up dissemination and storage of information thus making it accessible to the people. The birth of the internet and digital networking technologies have changed these scenarios altogether. The ongoing large-scale digitization effort started by Google Books is an excellent example of an information dissemination system. Some public libraries have already initiated the digitization process for providing user access to their documents and holdings in readable formats, i.e., Portable Document Format. This has opened up a new domain of understanding that involves online classification, cataloging, and indexing of subjects for fast retrieval based on their ontogeny. It shall be kept in mind that public libraries (PLs) provide access to information to all and everyone, unlike academic libraries where information is circumscribed for the few. And this is rather undesirable from the point

of view of access to information and its dissemination, which restricts knowledge among the few. In figure 3 above, we describe the nature and essence of information dissemination systems in existence concerning offline and online modes. The illustration depicts different ways by which information is disseminated. The concept map shows that libraries (both academic and public) are categorized Libraries generally contain more knowledge than an individual user could apply, but it indeed provides access to specific information which users generally seek for.

PLs are public institutions somewhere users can use a general collection of books and other reading materials for free. The ease of access to information depends on how such information is disseminated, shared, or circulated, in what format it is disseminated, and how fast such information could be retrieved or accessed. For example, it is well accepted that a methodological approach toward solving a problem is more successful than an unsystematic approach to it. It is, therefore, the case that the nature of systems could affect to increase (or moderate) access to knowledge. Various techniques and systems modulate access to information. The faster such access to information is—the more efficient such systems become—and so, the better it transforms into expediency.

For example, the conceptual framework to study information dissemination systems may be structured on a rationale for comparing two dissimilar things. We may refer to systems of information dissemination that are,

i. Stable; e.g., books and periodicals, newsprints and magazines, etc., and

ii. Volatile, for instance, live streams that disappear. However, given today's technological advancements, some live streams could be recorded and stored in digital media formats.

But the transmission of information requires human interventions. On one end, information is created as a product (knowledge) while at the other end it is consumed after being transmitted. Now, any form of dissemination of information takes place by transmission. So, systems must be differentiated based on those that produce information and those that provide access to it produced by others (Tennis 2018).

5 Conclusion

Libraries are information resource organizations. Libraries must strive to fulfill the cognitive objectives of the reading community. Indeed, a variety of complexities may be noticed in a public-funded library regarding user access to information. Such complexities may generate barriers and obstacles to user access. The primary goal of librarians in such context should be to remove such preexisting or presenting barriers and enable free and fair access to information for all kinds of users. Libraries must maintain a high standard of open user access policy conforming to Article V of ALA's declaration that guarantees users access to a library and its information holdings regardless of their economic status, ethnicity, gender, and race.

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