

INVITED PAPER

Content-to-Context: A Built-in Culture of Librarianship*

H.S. Siddamallaiah

Principal Library and Information Officer, NIMHANS, Bangalore-560 029
E-mail: Sidda@nimhans.kar.nic.in

ABSTRACT

Collecting and connecting ideas is the basic mantra in all walks of information landscape including Content Management (CM), Knowledge Management (KM) and librarianship (traditional or digital). The spectrum of content on web, due to its read-write capabilities, varies from "least authenticated to most authenticated content" such as no-reviewed, peer-reviewed, open-reviewed and systematic reviews including meta-analysis (evidence-based) literature, both text-based and multimedia. This keynote covers various aspects of CM in 'science of traditional librarianship', 'digital librarianship' and 'web-based librarianship'. The keynote also discusses the integration (within and among) of technology, content, and users.

Keywords: Content management, knowledge management, peer-reviewed, meta-analysis, digital librarianship, web-based librarianship, digital information landscape

1. INTRODUCTION

The Digital Information Landscape (DIL) includes both structured and un-structured content on the web. The spectrum of content in web, due to its read-write capabilities, varies from "least authenticated to most authenticated content" such as no-reviewed, peer-reviewed, open-reviewed, and systematic reviews including meta-analysis (evidence-based) literature, both text-based and multimedia. Collecting and connecting of ideas is the basic mantra, even in routine-life decision-making and intellectual activities like learning, knowledge management (KM), and content management (CM) including science and service of librarianship (traditional or digital). Core activities of libraries are to collect, collate, organise, preserve, and add values to enable users to access and enrich the content. The core science of librarianship is CM, which is its built-in culture right from the pre-printing and printing era and now in digital/web-based era. In traditional librarianship, collection development was restricted mostly to peer-reviewed and authentic materials organised based on content (not on physical characteristics of the content) using content organising tools and techniques internationally standardised.

2. CONTENT MANAGEMENT IN SCIENCE OF TRADITIONAL LIBRARIANSHIP

Libraries, instead of simply placing the physical documents (content + print media) en masse on shelves,

should organise these into smaller and similar content (called class) and more manageable sub-class. The 'Science of Librarianship' creates linkages and symbiotic relationship between similar content through its tools (internationally standardised) such as classification, cataloguing, indexing, name authority lists, and controlled vocabulary terms. Libraries in digital environment are treading towards smart and automatic indexing. Still the application of name authority lists and controlled subject headings is necessary instead of simply providing access to information. Also, the tools and techniques of library science should enable the user to access relevant content, to put content to context and evaluate them.

3. CONTENT MANAGEMENT IN DIGITAL LIBRARIANSHIP

The digital librarianship (DL) was predominantly a hybrid librarianship where print, analogue, and digital media of information resources co-exist. DL was to connect content in various media (print, analogue, and digital). In fact, libraries are one among the first to apply Information Technology (IT) and have been adapting on par with the development/changing technology from time-to-time. The application of IT, started with automation of library functions and services including MARC (MACHINE-Readable Cataloging) development of bibliographic database for both print and digital resources, automated indexing techniques, free text searching and relevance

*Keynote address delivered by the author in National Conference on Content Management in Digital Era: Opportunities and Challenges, held at Kuvempu University, Shimoga, Karnataka on 12 March 2010.

ranking of search output, thesauri, and authority lists to bring like things together and to build a system of knowledge. Among the activities most popularly and essentially used are OPAC (Online Public Access Catalogue), bibliographic database, and digitisation (in compliance with copyright) of print and analogue materials. While the core principles of librarianship is collection, organisation, preservation, and dissemination, computer technology coupled with Internet has changed the way content is created, maintained, evaluated, and distributed. In case of born digital information, particularly on the web, the purpose was to bring together content and indexing technology for searching and enabling “relevancy ranking”. In web-based environment, the expectations of users have changed, and Google has become the gold standard.

4. CONTENT MANAGEMENT IN WEB-BASED LIBRARIANSHIP

It is well known that web encompass more information, more researchers, and more knowledge, where libraries have to focus on creating more automated tools to handle and process and to bring the community of users into the process of aggregating and using information. The content manipulation and management of these materials is dictated by technology, format, and licensing restrictions. In web environment, the content management is treading content to context to connectedness to intelligence where libraries represent a smaller player in the information universe and services are much less centralised. However, web-based librarianship, unlike in traditional libraries, is to provide users with link and access to required/relevant information. Of course traditional approach of library, which still holds good, is to systematically collect, organise, preserve, and disseminate all web-based content/e-resources. It is of interest whether search engines, users connectedness, semantics, and intelligence will replace libraries or not. The content aggregation and resource knowledge at the institutional-level are the important roles of library professionals to meet the needs of institution-level users for their learning, teaching, research, and practice. Also, to manage e-resources, librarians need to thoroughly understand various aggregated resources, licensing terms, and providing access including educating users about searching the appropriate resources. In traditional librarianship, libraries acquire resources as content + media, whereas in e-resources acquisition it is content + media + access rights + copyrights.

The content services of web-based resources in libraries were started by creating subject gateways and alphabetic list of e-resources for easy access to users. Later, Web 2.0 tools helped to connect users and supported creation of content. Libraries are also back to digital libraries solution where e-resources are integrated to library automation system for aggregating e-resources

and linking full-text content both on catalogue, subject directories and through bibliographic database. Also, libraries have deployed remote access technology to IP-enabled e-resources on institutional networks through Athens and EZproxy. Libraries are also providing simultaneous access to disparate resources through federated search engines (search-engine of search-engines) to search across all resources, internal catalogues as well as Open URL resolvers to provide article-level link.

It is to summarise that the access to web content has been evolved in consonance with the development of technologies like directories and keyword-based searching (web 1.0), community tagging and social networking (web 2.0), natural language searches and semantic search (web 3.0), and intelligent web with reasoning (web 4.0). The web-based librarianship is also related to Google age ‘Libraries in the Google Age’, and is moving “from collections to service”.

5. LIBRARIANS IN WEB-BASED ENVIRONMENT

Librarians have got opportunities to acquire and add value to the content by supporting users with what and where of content as users are poor in searching and resource knowledge. Librarians have been helping and teaching users about searching and imparting knowledge about appropriate knowledge repositories. Libraries add value to information using technology coupled with librarianship to suggest, advise, and support users in their quest for information and to encompass the ubiquitous supply of information. Librarians assign relevance (of course relevance is highly personal) based on the type of requirements like history or current development, factual or theoretical, peer-reviewed or provoking materials like blogs, etc. In fact, librarians add value by organising information, interfacing development, and synthesising information. Most appropriate value addition is to lead users “from finding to understanding”. In a way “search process is also a learning process”, where searcher need to identify and understand facets in the subject and search process.

Librarians are working like ‘middleware between content and technology; content, technology and users’. Also, librarians are like ‘cloud computing’—linking together large pools of disparate data and information including coverage of inter-disciplinary development (boundaries of subject is very thin). At the same time, users on their own manage personal content tools, publishable and subscribe-able RSS feeders, personal web pages, blogs, and by creating wikis. Of course main information flow matters to each person and is peer-to-peer. Librarians or user (on their own) creates awareness alert for needed information by understanding research and further guidance. Every user is unique in learning and

hence user interface cannot be generalised. It is found that “a user interface for everyone is an interface for no one.” There are many digital data tools that allow, perhaps even encourage users to interpret, disseminate and work with data and to be able to place it in context. As a result, librarianship would move toward providing users with “intelligent objects, not portals.” The development of technology is to ultimately be “able to present themselves rather than requiring intelligent systems to surround those objects for them to be presented.” Ultimately, it is collection of “intelligent objects not intelligent libraries”. Hence, library services must add value to work processes and must integrate information into workflow.

6. USERS IN TRANSITION OF LIBRARIES

Users are confronting the exponential growth of digital content including scholarly content by commercial publishers, open access publisher, and users content in read/write web environment. The knowledge of present users about the library is very poor and confuse as to what it offers like ‘library as space’ (physical as well as web space), ‘library as a resources centres’ (both physical and digital), and ‘library as a service centre’. Of course users are oriented better in traditional libraries to access peer-reviewed popular publications (print or digital)—like established books, journals and serials/monographs. They are poor in identifying the new resources and searching unfamiliar resources on web. Users are still a googlers in first place.

It is well known that users interact with the resources, add their thought and experience, come out with new ideas, things or thoughts. The connectedness among users (learners, teachers, researchers and practitioners) in web-based information system is through content to reader’s expertise, workflow and their use of special equipment. However, users are restricted proportionately to the accessible information, in digital information system, limiting researchers to work with whatever is digitally available—mostly last 20 years of digital information. Information, earlier to 20 years is yet to be digitised or linked to provide seamless access. Good model of future should incorporate lots of old information resources.

7. CONTENT-TO-CONTEXT

People are connected through instant messaging (IM), virtual meeting tools (desktop video real-time tools), open space hosting and facilitation; people are trying to find community-creating tools and multimedia interactive self-assessment tools. Web 2.0 enables people from know-what to know-who. The philosophy is to make contents in public presence (present everything inside on open and shared outside), unless it is confidential or have some legal constraint.

Content passionate people ‘to know with’, in virtual environment web 2.0 tools like twitters is about people at its root, not knowing whom to follow; RSS feeder allows to follow contents and get to know people. It is important to create context by connecting various content; create connectedness through content and context; whereas librarians work to achieve both using ‘science of librarianship’ including creation of users-profile, filtering information for relevance, add values by creating context for the content and linking/access. In the Google age librarians are struggling to add value and transform collection to service provision. In Web 2.0 environment users’ participate through their feedbacks, comments and openness.

In fact, the traditional librarianship and web-based librarianship (public digital space—Google and library digital space) are not moving parallelly and meeting at some point. To make these two parallel, will require many affinity affecters, sharing attitude, mind mapping, mash-up and open space technology, and virtual world collaborators. After all, context creation, for institution specific and activity specific, is very essential and necessary to align and create consistency with value proposition. The value proposition of web users is to make them understand (why and what of content) to improve understanding, connectivity and effectiveness in web-based environment, and content acquisition including tools and spaces.

8. DISCUSSION AND CONCLUSION

The discussion is presented in three components—libraries, web, and content in digital environment.

Libraries: are managing large amount of information, whereas other stakeholders in information landscape lack in specific data management expertise. Libraries are efficient in storage, preservation, metadata creation, and access for data. Library tools and technologies maintain important chain connections between publications and their data; data and scientific flow. Of course, librarians need the expertise in the area of open access/open data issues like licensing and data management

Web: is a network of nodes and links where users or developers can create, annotate, link together, map, and share information from variety of sources (nodes). Every individual has certain comprehension characteristics, and characterised by mental models on the process of trying to understand the document (irrespective of the media); there are some positive and negative influence which corresponds to facts and relations within the content and to maintain several tasks and trails at any one time. In web-based learning system there are two cognitive load, viz., coherence with related documents, and overhead in using the technology.

Content: is the output of thoughts, idea, and knowledge irrespective of the media or networks, whereas the web is the media to communicate, share, play, and work with others on networks around the world. In scholarly communication, users should not bother about features and functions of web not directly related to their core activities. In fact, the scholarly communication is enriched by creating/building the context and interactivity, where technology at the back end is more helpful. To build context and interactivity, for each and every piece of information, web has huge array of variables like organisation, menus, different types of content, user permissions, media types, report generation, audits, syndication, security, etc. In creating and making usage easier, web facilitates interactivity and enables customising access and linking to other content and integrating these with workflow of users (with no IT background). After all, users wants the information and

knowledge, not technology that works at the back end. Web provides richer users interface, supports more complex navigation of mechanism, which guides the user. Web as an interactive platform enables publishers and users to interact and respond on each of the article published whereby even periodical literature becomes encyclopedic in nature.

The fast technology development of Google emanates debatable questions like what if Google disappears or becomes monopoly or starts charging and becomes expensive? Adding intelligence on the web, may lead search to become redundant or superfluous; search will disappear artificial intelligence will surpass human intelligence. Web 4.0 is projected as web OS with built-in intelligence to act parallel to human brain, including the semantics of social connections and mind enhancement technologies.

About the Author

Dr H.S. Siddamallaiah is working in NIMHANS as Principal Library and Information Officer. He has been involved in various projects like development of National Neuroscience Information Centre (funded by DST, DBT, NIC, and NIMHANS); full-text electronic database of three Indian Journals on CD-ROM; integration of e-collections (e-books and 1710 electronic journals) to academic, research, and healthcare activities, etc. He is the expert member for the curriculum development at universities in Shimoga and Thailand. He has also published many papers in national and international journals and delivered lectures in various universities and national conferences.