Digital information management

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Digital Information Management

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1. Almost everything about 'information management' is associated with 'digital' or 'electronic'

Digital v. Electronic v. Virtual Libraries

(Source:The Berkeley Digital Library SunSITE)

A library is an organized collection of items of various formats (books, journals, videos, CD-ROMs, etc.) along with the services

An electronic library consists of electronic materials and services. Electronic materials can include all digital materials, as well as a variety of analog formats that require electricity to use. For example, video tapes are an analog format that requires electronic equipment to view.

"Eelectronic library" encompasses all the material that can be held by a "digital library" and is therefore more inclusive. It is, however, out of style.

A digital library is a library consisting of digital materials and services. Example: U.S. Library of Congress American Memory collection

Both digital and electronic libraries can be "virtual libraries" if they exist only virtually - that is, the library does not exist "in real life." For example, a virtual library can consist of material from a variety of separate libraries that are organized in a virtual space using computers and computer networks. One of the best examples of a virtual library is the Networked Computer Science Technical Reports Library (NCSTRL)

2. Digital content is invading life and libraries

Libraries have about 15% digital content with 5% annual increase

3. Paper technology is remarkably stable

For centuries acidity and dust caused slow decay of paper based documents;

Preservation efforts restored and further slowed down decay;

Most of the contents were recoverable

How about digital decay?

Hardware, software and format caused recovery of contents difficult;

Efforts like Viking mission to Mars of NASA (1975) & Doomsday project of BBC (1986) to restore contents were tiring

Think of time capsule of 70s in microform

4. **While evaluating a service organisation, input is often used as a proxy measure of output (eg. expenditure)**

'Provision for access' is becoming a proxy measure for access, access for use and use for usefulness;

Visit and access statistics are misleading and abused;

Use vs. usefulness

5. **Content boom in digital environment diminished the traditional demarcation of published, unpublished and gray literature;**

Unpublished which was once outside the libraries acquisitions became important;

Informal source of Information (Tacit Knowledge) is entering organised storage and retrieval;

Web emerged as a large source of gray literature

6. **Digital technology has encouraged and acted as catalyst for the trio factors: accessibility, ease of use and perceived utility**

   Libraries have been access restriction champions with chained books, closed access, restricted membership and punitive measures;

   Ease of use in digital environment for specific information & book differ substantially;

   Perceived utility of computerised services are high;

   Among the factors, the accessibility and ease of use are considered to be stronger than the perceived utility, quality and amount of information expected from a source

7. ICT enabled instant access to enormous information anywhere anytime

Two important consequences of access to excess:

(i) The sequence of selection and access got reversed, and

(ii) The filtering responsibility (of the retrieved) got shifted to users

8. ICT has also greatly facilitated information sharing and collaborative working

Sharing is a complex human process subjected to psychology of individual and his professional and cultural environment

One important barrier to share corporate information is common IR tool (73%)

Technological gatekeepers and communication stars loosing ground?

Beyond ICT and libraries social sharing is negligible except car pooling

Cost of sharing and distribution of information is low and negligible

9. Digital Access Management

License agreement, price negotiation, offer evaluation, usage assessment, etc. became important

Need for risk tolerance for litigation also became necessary

10. E-publishing is happening at lower pace than expected

E-publishing models look like extension of traditional book publishing models; Only price models of print replacements are talked

Growth of e-journals is neither rapid nor significant as was initially expected; E-journals are not real e-journals; Only paper replacements from Societies and hybrid e-journals from commercial publishers (which require least social and cultural changes) are flourishing without full 'electronicity' journals; Without backward compatibility libraries are at the mercy of continually changing digital world;

E-books are yet to take off; DRM is the main issue and hence more and more of gray, copyright-free old books are digitised;

11. Disintermediation and identity crises

Libraries are inherently not mission-critical and do not deal with esoteric or essential aspects of life; Hence disintermediation and identity crises surface frequently;

Technology is causing a power shift and computers are becoming household; Libraries may become "intellectual commons" or community centers;

A survey revealed that libraries top among community services and the number of construction projects of library buildings have not changed

Excessive obsession of the profession with one tool or the other without long term holistic view, complete implementation, improvement and evaluation caused the dubious 'identity crises' slogan;

"Displays of excessive enthusiasm for particular new technology often end in tears" – The Economist editorial, 18-24 Nov 2006

12. Meaningless comparison of Google with libraries

Wishful prediction of end of libraries and 'why libraries when Internet is there'

10 Reasons Why the Internet Is No Substitute for a Library (Source:Mark Y. Herring, *Dean of library services, Winthrop University, South Carolina* in *American Libraries*, *April 2001, p. 76–78*)

Reading is culture; Intertopia among many non-librarian

1. Not Everything Is on the Internet: very few *substantive* materials are *for free 8%* of all journals are on the Web, and an even smaller fraction of books are there

2. The Needle (Your Search) in the Haystack: (the Web) vast uncataloged not searching the entire Web. not updated daily, weekly, or even monthly, regardless of what's advertised. not going to let you see them, not now, not yet, not until you've tried another search

3. Quality Control Doesn't Exist: vanity press publications are rarely, if ever, collected, vanity is often what drives the Internet. Any fool can put up anything on the Web

4. What You Don't Know Really Does Hurt You: full-text sites, while grand, aren't always full; articles on these sites are often missing, among other things, footnotes; tables, graphs, and formulae do not often show up in a readable fashion; journal titles in a digitized package change regularly; number of journals changes without notice; use must be a judicious, planned, and measured one, not full, total, and exclusive reliance

5. States Can Now Buy One Book and Distribute to Every Library on the Web—NOT! Since 1970 about 50,000 academic titles have been published every year. Of these 1.5 million titles, fewer than a couple thousand are available. What is on the Net are about 20,000 titles published before 1925. Why? No copyright restrictions. If you check out an e-book over the Web, I can't have it until you return it. you're late getting the book back It's charged to your credit card *automatically.*

6. Hey, Bud, You Forgot about E-book Readers: Using e-book reader for more than a half-hour causes headaches and eyestrain; cost of readers runs from $200 to $2,000; the cheaper ones being harder on the eyes; Will it change in less than 75 years? Unlikely!

7. Aren't There Library-less Universities Now? The newest state university in California at Monterey opened without a library building a few years ago. For the last two years, they've been buying books by the tens of thousands because they couldn't find what they needed on the Internet. California Polytechnic State University explored the possibility of a virtual (fully electronic) library for two years. Their solution was a $42-million traditional library with, of course, a strong electronic component. In other words, a fully virtualized library just can't be done. Not yet, not now, not in our lifetimes.

8. But a Virtual State Library Would Do It, Right? The cost of having everything digitized is incredibly high, costing tens of millions of dollars just in copyright releases. And this buys only one virtual library at one university. Questia Media spent $125 million digitizing 50,000 books released (but not to libraries!) in January At this rate, to virtualize a medium-sized library of 400,000 volumes would cost a mere $1,000,000,000! Then you need to make sure students have equitable access everywhere they need it, when they need it. Finally, what do you do with rare and valuable primary sources once they are digitized? Take them to the dump?

9. The Internet: A Mile Wide, an Inch (or Less) Deep: Looking into the abyss of the Internet is like vertigo over a void. But the void has to do not only with what's there, but also with what isn't. Not much on the Internet is more than 15 years old. Vendors offering magazine access routinely add a new year while dropping an earlier one. Access to older material is very expensive

10. The Internet Is Ubiquitous but Books Are Portable In a recent survey of those who buy electronic books, more than 80% said they like buying paper books over the Internet, not reading them on the Web. We have nearly 1,000 years of reading print in our bloodstream and that's not likely to change in the next 75. Humankind, being what it is, will always want to curl up with a good book—not a laptop—at least for the foreseeable future. The Web is great; but it's a woefully poor substitute for a full-service library. It is mad idolatry to make it more than a tool. Libraries are icons of our cultural intellect, totems to the totality of knowledge. If we make them obsolete, we've signed the death warrant to our collective national conscience, not to mention sentencing what's left of our culture to the waste bin of history. To claim that Internet is making libraries obsolete is as silly as saying shoes have made feet unnecessary.

13. Need for information consumption skills and information literacy vary widely among users and with respect to tools and services

Collaborative evaluation of content has become a marketing tool

Can technology learn users' likes and dislikes over time to dynamically and consistently deliver the right content mix?

14. Closed, rigid and intricate online catalogs are used mostly to access specific items rather than IR.

Severe subject search problems remain unattended

Partial match, relevance ranking, feedback based alert, autosuggestion of keywords, autocorrecting of spelling errors, intelligent stemming, term weighing, 'find similar search', etc.

Imitating collaborative evaluation on Web, personalising contents and product customisation based on usage and observed user behaviour are being attempted

Thank you

About the Author: Dr. M. S. Sridhar is a post graduate in Mathematics and Business Management and a Doctorate in Library and Information Science. He is in the profession for last 36 years. Since 1978, he is heading the Library and Documentation Division of ISRO Satellite Centre, Bangalore. Earlier he has worked in the libraries of National Aeronautical Laboratory (Bangalore), Indian Institute of Management (Bangalore) and University of Mysore. Dr. Sridhar has published 4 books, 83 research articles, 22 conferences papers, written 19 course materials for BLIS and MLIS, made over 25 seminar presentations and contributed 5 chapters to books.

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