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Information Management in Digital Environment: A Librarian's Perspectives*

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ABSTRACT

Digital invasion of recent years has shaken librarianship. This paper tries to look at some important issues of information management in libraries in the light of such invasion. The issues discussed are digital decay as against paper decay, accessibility interpretation in digital world, utility of e-journals, gray content boom, problems of access to excess, human dependence of information sharing and collaboration, disintermediation and identity crises problems of librarianship, drawbacks of OPACs, etc. as a consequence of digitisation in libraries.

Keywords: Digital resources, digitisation, librarianship, information management

1. INTRODUCTION

Library management, over the years has got itself transformed into information management, content management, and knowledge management. In the process, unfortunately, the service delivery in libraries has taken back seat. With many developmental changes in the information scenario, libraries are in the crossroads.

While some changes are cosmetic and in nomenclature, others are really significant with lasting impact on the working of libraries. An attempt has been made here to examine some issues related to libraries in the present day information management paradigm.

2. PAPER DECAY VERSUS DIGITAL DECAY

A search for information management in quotes retrieves millions of hits in the Internet and first 20 or so hits invariably are found to be associated with either electronic or digital information.

Digital content is all-pervasive and invading life and libraries. Most Indian S&T libraries already have about 15 per cent of their content in digital form and it is increasing at the rate of about 5 per cent per annum. Over centuries paper technology has remained remarkably stable. Residual acidity and dust might have

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caused slow decay of paper-based important documents, but preservation efforts of archivists have successfully restored their contents and slowed down decay. But, what about digital decay? Apart from physical deterioration, obsolescence of hardware, software and storage medium and failure to save crucial format information may cause digital decay and loss of entire content of a digital document. The tapes of 1975 Viking launch mission to Mars were recently found to have deteriorated despite careful storage.

The laser disc and the player used in 1986 BBC Dooms Day Project were long obsolete and specialist team struggled for more than an year to retrieve the data. Space Shuttle's obsolete software and storage media (6" flexible floppies) have even raised question about continuation of the present shuttle launches. Hopefully, digital archive experts will come out with a way to preserve and save enormous digital content being generated and stored today for a distant future. Think of a time capsule in microform buried in a deep well some 30 years ago! Who is going to use them, and do we expect appropriate microform readers to be available some 50 years later. Same thing may happen to our digital archives in less than 50 years time frame. We, yet do not have confidence to discard or destroy palm leaves or paper scripts after digitsing, but try to make a photocopy to preserve and/or use them.

3. ABUSED ACCESSIBILITY AND VISIT STATISTICS

Extensive research has shown that three factors, namely, accessibility, ease of use, and perceived utility, have profound effect on use of an information source. Digital technology has greatly facilitated and acted as catalyst on these trio factors. The information and communication technology (ICT) has successfully dismantled strong fences built around information sources. Traditionally, libraries have been champions of access restrictions with chained books, closed access, restricted membership and punitive measures for using books for longer than pre-decided duration. While evaluating a service organisation, 'input' is often used as a proxy measure of 'output'. For example, expenditure on R&D; library and welfare services quite often serve as output measures in assessing the respective system. Exactly the same way, in digital environment, 'provision for access' is becoming a proxy measure for actual access, the access for use and the use for usefulness. Use and usefulness need to be distinguished carefully.

A library may be used, but it may not be useful, another may be useful, but not used. The ideal is one, which is used and useful. The same should hold good for the Internet and digital libraries also. In other words, extensive visit or use of any source of information without utility or usefulness is futile. In this way visit and access statistics in digital environment could be misleading and also abused. More than 10 per cent bogus clicks in the present 'pay-per-click' model of Internet search engines is a good example of abuse.(By repeated clicking on ones own site generates revenue to the company and by repeated clicking on rival's site causes loss to them. After a prolonged legal fight, the new 'pay-per-action' model is being considered to replace the 'pay-per-click' model).

4. USE AND NEED FOR CONSUMPTION SKILLS

The second factor 'ease of use' is a concept, which is more subjective and person-dependant in digital environment. It varies widely from accessing specific information to a large collection of digital documents and databases. As such varied degrees of consumption skills are required to effectively access and use different sources of information. Need for information consumption skills and information literacy also vary widely among users and with respect to tools and services. Using Television does not need much of consumption skills, but using a database or a digital library does need.

5. PERCEIVED UTILITY VERSUS REAL UTILITY

The third factor 'perceived utility' does not refer to real utility of a source of information, but what the user might guess and feel about the source of information. Generally, utility and accuracy of computerised services are held very high. Whether a footpath astrologer or a high-tech hospital, the common man has high respect for the service delivered through a computer. In other words, it is widely believed that what comes out of a computer must be true. Hence, the digital environment is already in an advantageous position as far as perceived utility of the customer is concerned. 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 of information.

6. CONTENT BOOM

Content boom in digital form is diminishing the demarcation between published and unpublished as well as published and gray literature. More and more digital content is pouring in public domain without subjecting to editorial quality control or refereeing process. Unpublished, which was once outside the purview of libraries, has became equally important in today's libraries. In other words, what was once considered as informal source of information (the new label is 'tacit knowledge') is entering organised storage and retrieval arena. Most important is that the Web itself has emerged as a large source of gray literature. Unfortunately, most of gray literature (particularly technical reports) is even today distributed by clearing houses like NTIS in microform. At the same time, originating agencies have been posting many of their R & D reports on Web for free access.

With lakhs of microfiche reports in their collections, aerospace libraries are in a fix and unable to resolve the issues like whether to continue to build microfiche collection (as hard copies are expensive) or not. Inevitably, some are replacing microfiche reader-printers by scanners to digitise the existing huge collections.

7. E-JOURNALS AND P-JOURNALS

While the unpublished and the semi-published (gray) literature is receiving high attention in the digital world, the real e-publishing is happening at a slower pace than expected. The e-publishing models look like extension of traditional book publishing models. Only priced models of print replacements are talked about. Like systems theory definition of a system, anything and everything has become a model. Growth of e-journals is neither rapid nor significant as was initially expected. Today's e-journals are not real e-journals. Only paper replacements of societies and hybrid e-journals of commercial publishers (both require least social and cultural changes) are flourishing without full 'electronicity' journals. In case of e-journals, without backward compatibility, libraries are at the mercy of continually changing digital world. It has been well established that a typical researcher (scientist) uses 5 to 15 journals. But the consortia deals are boasting that they provide access to thousands of journals, usually 10 to 20 times more than the number of journals subscribed by a library. Like information on the Internet, this makes the useful to access ratio of journals (and information) drastically low when all our efforts of resource sharing is to optimise the use of resources. As far as libraries are concerned, access management consisting of handling license agreement, price negotiation, offer evaluation, usage assessment, etc. become important. Alongside risk, tolerance for litigation has also become necessary. Incidentally, e-books are yet to take off. DRM is the main issue. Having not been able to resolve the copyright issue, more and more gray literature like theses and dissertations and copyright-free old books are getting digitised.

8. ACCESS TO EXCESS

ICT has enabled instant access to enormous information anywhere anytime. But the two important consequences of this access to excess are quite serious. The first one is that the traditional sequence of selection and then access got reversed in the new

digital world; traditionally libraries were first selecting the material and then allowing their users to access them. Now the users have to access and retrieve a large chunk of material and then start selecting the required information from thousands and at times, millions of hits. The second consequence is that the filtering responsibility (of the retrieved) got shifted to users, which led to the loss of value addition of libraries. (It has been reported that 90 per cent of clips viewed on YouTube remain obscure and are shared among a few friends). In addition, top search engines have been challenged in courts for altering the rankings of hits. Unfortunately, common users are not bothered about the ranking procedures followed by the search engines and their inbuilt biases.

Information is activated by effective and efficient communication. i.e., information and knowledge become meaningful with their communication and use. Communication revolution in the recent past has tremendously increased speed as well as frequency of use. But the density (or value) of information communicated is inversely proportional to the speed of communication. The content passing through our recent media like e-mails and mobiles are highly diluted.

9. SHARING AND COLLABORATION

Sharing and collaboration are more dependent on people than technology. ICT has also greatly facilitated information sharing and collaborative working. Cost of sharing and distribution of information is low and negligible in digital environment. But sharing is a complex human process subjected to psychology of individual and his professional and cultural predisposition. According to a recent survey, one important barrier in sharing corporate information is lack of common information retrieval tool (73 per cent). Extensive sharing of information and collaboration are ok. Hither to popular 'technological gatekeepers', 'communication stars' and 'invisible colleges' are loosing ground and yet another kind of disintermediation; beyond ICT and libraries social sharing is negligible. The forces and objectives behind resource sharing among libraries and library consortia include: unutilised spare capacity of resources, optimum utilisation of resource; budgetary crunch; and duplication. In view of content boom (Web pages double every three months), enormous unutilised capacity of resources and duplication as well as huge additional expenditure incurred by agencies centrally paying towards consortia subscriptions It is difficult to say that the objective behind resource sharing have been better achieved in the new digital environment.

Though ICT has enabled information sharing and collaborative working, the collaborative evaluation of the content in the Internet has become a marketing tool. Amazon uses evaluation and views of customers to rate books and present to others to further its commercial interest. Imitating collaborative evaluation on Web, personalising contents and product customisation based on usage and observed user behaviour are being attempted. What information management community require is that technology learn users' likes and dislikes over time in order to dynamically and consistently deliver the right content.

10. DUBIOUS 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, at the outset, are spurious, not real and should not be taken seriously. With this changed scenario of technology causing a power shift and computers becoming household appliances, all kinds of information is in the reach of common man. Also, end of libraries is another question often being raised. Information is everywhere and everybody needs information. But as usual, libraries are being used by a small subset of the population. Yet, people are fond of comparing libraries with Google! With invasion of the Internet, the number of reference queries to libraries have declined and the innovative personalised service like 'Ask a librarian' on the Web has also been made redundant by auto answering services of the popular search engines.

One prediction is that libraries, particularly public libraries, may stay and become 'intellectual commons' or community centres in future. Another survey revealed that libraries continue to be graded as top among community services. Yet another study showed that there is no change in the number of construction projects of library buildings over the years. Then why suddenly the profession faces the voidness and identity crises in the digital environment! It may be due to the excessive obsession of the profession with one tool or the other without long term holistic view, complete implementation, improvement and evaluation. To cite a few obsessions, handicraft-like classification and cataloguing of 60s, prohibitively costly online trial access experiments and intricate indexing systems of 70s, prolonged library automation projects of 80s, sudden explosion of CD-ROM databases of 90s followed by much talked resource sharing, vendor-favoured consortia and grand digital library initiatives have all immensely preoccupied librarianship one by one blocking the vision for service management, the real core concern of the profession. To quote an editorial of The Economist (18-24 Nov 2006): *'Displays of excessive enthusiasm for particular new technology often end in tears'.* Library automation and development of commercial software for library management in this country were successfully delayed over a decade for obsession of free CDS/ISIS software.

11. ONLINE PUBLIC ACCESS CATALOGUES

The good old card catalogues have given way to online catalogues. Unfortunately so called OPACs, in spirit, are card catalogue replacements with closed, rigid and intricate outlooks. Like card catalogues, they are also used mostly to access specific items rather than information retrieval. Severe subject search problems remain unattended. To list a few, partial match, relevance ranking, feedback-based alert, auto suggestion of keywords, auto correction of spelling errors, intelligent stemming, term weighing, 'find similar search', etc. are still not found. Even Wikipedia has 'disambiguation' provision in searching. Library automation in general and OPAC in particular should have continued to receive serious attention of the profession and users alike. As a matter of fact, the current surge of digital library initiatives should have been logical extensions of OPACs.

12. CONCLUSION

In early as 1970s, experts have predicted that there will be a paperless society by 1990s. Now, there are a few wishfully predicting that libraries will die soon. Neither paperless society arrived nor libraries are going to extinct. The 'kick' given by the technology is so strong that occasionally it overpowers experience and maturity so that people jump to pronounce such predictions. Every technology has to become old and has to be modified or occasionally replaced by some better newer technology. But basic issues remain same with need for some refinement. Unfortunately change of nomenclature is happening much faster than the technological advancement. There appears to be no need to panic about the situation if one is a real user of libraries and a true professional.

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