Knowledge now determines the shape of the world; knowledge is the key commodity displacing categories like capital and labor. The production, distribution and consumption of knowledge now organizes the world.

James, The Political Unconscious

At the Crossroads of the Information Highway

T.S. Eliot's immortal line "where is the wisdom we have lost in knowledge?" logically leads us to asking further, "where is the knowledge we have lost in information? Where is the information we have lost in data?" We can mass produce incredible quantities of facts and figures, cannot mass-produce knowledge, which is created by individual minds, drawing on individual experience, separating the significance from the irrelevant. In the era of information technology, the INTERNET is a great milepost. If God embodies infinite wisdom (knowledge), we can reach Him through INTERNET—the omniscargoship overladen with information. The very concept of "global village" gets recognition thanks to the INTERNET. Truly, we have not exploited a fraction of its tremendous potentiality. Admittedly, anything printable can be posted in the INTERNET domain. In the information Highway, we often wonder to hear the term 'cyberspace'. What does it actually mean? Cyberspace, a term popularized by William Gibson in the 1994 novel Neuromancer, is derived from the word cybernetics (coined by Norbert Weiner in 1948). Cyberspace exits only as digital bits stored or travelling in a computer network. The closest thing we have to true cyberspace today is INTERNET. What is the classic 1990s cybervisionarism?

1. The classroom will be huge—the linking of information worldwide will cause a democratic explosion in the accessibility of knowledge;
(2) The classroom will be messy: the sense of information as an orderly and retrievable quantity will decline:

(3) There will be no teachers: "the controllers of information" censors, editors, and studio executives---will disappear. "It is a joyous anarchy" as observed by Louis Lapham.

At the extreme, the Internet becomes the world's biggest library. It is the electronic version of the incomplete Universal Bibliographic Repertory brought out jointly by Otlet-Fontane in 1917. Their attempt did not succeed due to the limitation of technology available then.

The population of Internet has soared to 20 million and rises 10 percent every month. If that rate were to continue, Internet would be greater than the population of the world by the year 2000. What do we require to link up with the Internet? What we need are a personal computer, a modem, and a subscription to one or more online services. The two main ways for individuals to reach Internet are through an online information service or through what's known as an access provider. An access provider typically charges a monthly fee for letting us go through its computer systems, using our own PC to linkup with Internet. In India, ERNET does the job of the access provider. It is for the universities and research institutes in India to get on the Internet Bandwagon.

The Electronic Library

The library has witnessed a pyramidal growth in the sense that there are three distinct pattern of growth characterizing its types of collections and modes of access: the Paper Library, the Automated Library and the Electronic Library. The electronic multimedia may not pose an immediate threat to the traditional library, but let there be no mistake that the library can no longer rely on the Paper Library for all information. The publishing industry has turned to the electronic multimedia for bringing about most of the reference works with enduring value. We should also make a note of it that certain publications are going to be available only in the electronic media. In terms of easy interactive access, compactness, and durability, electronic media have distinct advantages over the paper media.

The changes going on in the world now are literally a revolution in progress, a revolution that makes political revolution seem like a game.

Interactive multimedia hold vast potential for the companies that
in the next decades back the right products in the right formats. Reference works like dictionaries and encyclopedias, are in effect databases in book form. The hand cannot match a computer chain in accessing given references, which constitute the primary function of such works. The 1989 edition of the Oxford English Dictionary, the flag-ship publication of the 400-year old university press, sold four times as many copies in a new CD-ROM version as in its traditional twenty-volume book form. Columbia Encyclopedia is now made available both in book form and on CD-ROM. Interactive multimedia is a solution in search of a problem. Interactive video laser discs prove to be the perfect way of storing and retrieving visual databases of technical and cultural value. Teamed with a computer, the interactive laser disc is already widely used in industry and government. Its potential for consumers is limitless. For instance, the George Eastman House is storing its entire 6000,000 rare and historic photograph collection onto a handful of laser discs. Fifty thousand photographs can be transferred to each laser disc and, once stored, the pictures may be easily located by subject, process, or title. Microsoft introduced for Windows in 1991, an all-in-one tool in CD-ROM called Bookshelf: dictionary, encyclopedia, thesaurus, almanac quotations, atlas, chronology. The Electronic Library is an indispensable addition, but the benefits are not fully achieved until library users work electronically. The new information technology is transforming the use of library materials, with computer-based techniques for identifying, locating, accessing, transferring, analyzing, manipulating, comparing, and revising texts, images, sounds and data.

Mushroom Informatic Centres (MIC)

It has of late been witnessed that a project-backed individual or department ventures upon, as though a feather on one's research cap, informatic centre with E-mail facility. Apparently, intention of such a venture could never be questioned. When done at the expense of the principal information resource centre (library), there seems to prevail a wrong notion that the library is not competent enough to take up such a service. Several specific cases could be cited where the library's long-standing demands for technical infrastructure have been relegated or neglected while funds are being either mobilized or diverted to mushroom informatic centres. It is rather duplication or overlapping of information services expected of the library to deliver. It is a disturbing trend that will gain momentum if not suitable measures are mooted to arrest it. A
centralized collaborative information system is to be designed, developed and sustained within any research organization for effectively supporting ongoing research projects. It is not "privitization" but rather "democratization" that characterizes global information enterprises. MIC functions in quite contravention of the philosophy of "Information Audit" that every organization could ill afford to dispense with. It is an important tool to assess what information resources available in order to fulfil the needs, within the organization. Information mapping technique is employed to have a "shared view" rather than a "separate view" of the required information resources that are internally and externally available.

**Campus Network : Building Information**

Library forms the central nervous system of a research organization with several department branches. Pooling in the scattered resources to build up a centralized OPAC is a prerequisite for "networked resources". The best approach is to go from the local to the general. A library that successfully builds up a campus network wins the confidence of the organization and appreciation of the outside world. Taking advantage of the ready-made software packages available, the library can start in quite earnest the database creation. A software that does not provide minimum data-entry validation, that does not avoid redundancy, and that does not provide online help is not advisable. "Free" should not be the sole criterion to opt for a software. Software evaluation is a critical judgement in the process of automation. Big libraries can take advantage of the Library of Congress's MARC Distribution Services (MDS) for downloading the required records in the standard format. Many libraries get bogged down with retrospective conversion.

The basic functional requirements for a more general, networked, collaborative, or universal approach to library collections include the following:

1. The overall bibliographic coverage should be as complete as possible in providing access to the whole of human knowledge.
2. Multiple access points should be provided, minimally by subject as well as author.

*The role of library service is to facilitate access to documents: and the mission of a library is to support the mission of the institution or the interests of the population served.*

*Bucklund, Redesigning Library Services*
3. It should be a distributed system in that everyone should be able to have access to it and in that it should be possible for files to be partitioned and copied for efficiency.
4. Bibliography records should be correct, concise, correctable, and expandable.
5. This bibliographic universe should be built up piecemeal from existing sources.
6. Bibliographic records should state where copies of the documents are located.

The new "Search and Retrieve" (Linked System Protocol) standards (NISO Z39:50; ISO 10162/10163) are designed to facilitate just that. By making any remote catalog a temporary extension of the local catalog, a searcher is, in effect, creating not so much a union catalog but temporary adhoc unions of catalogs as and when needed.

Hence from a computer anywhere a library user should be able
(i) to search the global online accessible library system;
(ii) to search in bibliographies and to be able to locate the items listed, and to search in directories and reference works; and
(iii) to search for numeric data, images and texts. The librarian has to devise his own strategies for mobilizing funds by presenting a convincing account before the Authority. It is better that the librarian forms a committee consisting of sensible faculty members who are actively engaged in research and teaching and who are exposed to the modern technology. In a debureaucratizable academic institution, Bureaucratic authority may bow down to a committee recommendation rather than to an individual's plea. Here the academic community's solid support is required to sustain the campus network. All the spadework to be done by the library is left to the librarian's ingenuity.

Retraining and Retooling

Let not the library management be a one-man show or browbeating

The library "catalogue" is best seen as a series of concentric circles that include the holdings of the local library, of nearby, and of distant libraries. Within each catalogue category, the searcher should have the option of expanding a search to associated files: circulation records, incompletely catalogued materials, and files of materials that are on order.
bossism. It is the teamwork that transforms the corporate image. Let the librarian or information manager ponder over Total Quality Management (TQM) and adopt the essential tenets for improving the quality of services. Never before has it been realized so critically that quality is as important in service industries as in manufacturing firms, and that quality awareness should permeate organizations from top to bottom. The TQM objective is to analyze processes to identify barriers to quality, satisfy internal and external beneficiaries of the work performed ("customers"), and create an atmosphere of continuous improvement.

An organization can and must operate on the assumption that employees want to do their jobs well. People have "intrinsic motivation, self-esteem, dignity, and eagerness to learn. Our present system of management crushes all that our ... [by] replacing it with extrinsic motivation, by constantly judging people" (Michaelson, 1990:44). A well-managed organization must take advantage of all its brain power. Unless conscious concerted efforts are taken to retrain the technical personnel in the emerging technology, hightech will meet with hitches at every corner. An organization that does not encourage, support and provide for reward to the people, who seize every opportunity to enrich their skill and knowledge, prepares its own obituary note while alive. The greatest asset of any organization is its people.

References:


Quality must first come from within before it can be provided to those outside the organization.
Perfection is unattainable, but if we chase perfection, we can catch excellence Vince Lombardi.