

INFORMATION TECHNOLOGY FOR PETROCHEMICAL INDUSTRIES

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Introduction

There have been revolutionary changes in storage, search & retrieval of information and day is not far when whole library could be carried in one's pocket. Even today, one can carry about 300 books worth of information in pocket.

Compact Disc (CD)

This is also called optical disc, laser disc and compact disc read only memory (CD-ROM). ROM can't be erased. 1 CD-ROM contains one encyclopedia equivalent of information or 33 books (Figure 1). Data bases are available on 1 to 4 CD-ROMs.

A CD-ROM can be used by one user at any time and is read by a CD-player attached to a PC. Use of CD-ROM is unlimited and it is easy to use accessing vital information as and when you require it. The retrieval software is more user friendly than that of on-line systems, CD-ROM user does not have to worry about telephone problems or connect charges.

Switch Over From Conventional Library to Electronic Library :

Figure 2 illustrates this and compares the two.

On-LINE Retrieval (Fig.3)

On-line service is liked flow of information on tap, or using telephone the longer you get information, the higher is your bill. Data bases can be used mostly for current awareness service. On-line set-up consists of PC, Modem, STD line and password. It can be hooked to INTERNET and Electronic Mail.

Conventional Library	Modern Electronic Library
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1 Information Sources:

Books, Journals, Encyclopedias, etc in Printed form	Books, Journals, Abstract & Encyclopedias on CD's(compact Disks Floppy disks) as data bases.
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2 Library Management:

(issue & return of Books patents&Translations, purchase of Documents, etc)	Done by computer Using specially written software for Libraries
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3 Space Required:

For document storage is very large and problematic	For reading material & documents on CD's and floppies is much less
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4 Documents Need Binding

Binding is not required

5 Information Retrieval

slow literature searches require hard, sustained manual effort	Much faster literature search can be quickly & accurately done either using in house databases or On-line(i.e Diallog)
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6 Duplication of Information:

Xerox Machine is Required	Xerox Fax and Modem will be required
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Comments:(1) one CD consists of 30000 page of written information (2) No. of pages of information in Dialog=45000 million(3) Databases are upgradable periodically.(4) Modern library will become portable hence decentralized.(5) Ten CD ROM's contain about 114 printed volumes of chemical abstracts.

Figure 3

In On-line systems data is transmitted directly between a computer and remote terminals (via a satellite). Because purchasing data bases for inhouse use is very expensive, search services emerged which had a collection of as many as 950 data bases(e.g., Dialog search). Information retrieval can be done in two ways (1) retrospective searches and (2) current awareness searches to keep abreast of

APPENDIX

	>RESEARCH NEWSLETTER
ACQUISITIONS	>CD-ROM SEARCH FACILITY
	>ON-LINE INFORMATION RETRIEVAL
	>CONNECTED TO I-NET
	>CURRENT CONTENTS ON FLOPPY DISKETTES
	>CA DECENNIAL INDEX ON CD-ROM (DATABASE) EXTENSION OF THE LIBRARY BUILDING
REVIEWS/ REPORTS	INFORMATION RETRIEVAL IN PETRO-CHEMICAL AND ALLIED INDUSTRIES
	CARBON FIBRES COMPOSITES
HARDWARE ACQUISITION	PC AT -386
	2 HITACHI CD DRIVES STD LINE
	I-NET NO (PASSWORD) MODEM
	ACCESS TO DIALOG, USA
INTEGRATION OF ABOVE	FUTURE PLANS
-	CONNECTIVITY TO INTERNET
-	UPGRADATION OF PC/XT TO PC/AT 486
-	DEVELOP LAN (LOCAL AREA NETWORK) WITHIN LIBRARY
-	TO RUN LIBRARY WITH LIBRARY MANAGEMENT SOFTWARE
-	PUBLICATION OF REVIEWS (READY)
-	INTERNET
-	HOW WINDOWS 95 MADE BILL GATES A BILLIONAIRE
-	ELECTRONIC MAIL
-	MORE DATABASE FOR CD-ROMS

HOW TO SEARCH DESPITE INFORMATION EXPLOSION :

Early man could transmit information only orally, hence, the art of memorization and recall became a highly prized skill. The development of alphabets about 5000 years ago made possible the storage of information on mud blocks, papyrus and animal skins. In turn these were replaced by papers. Before the development of the printing press with movable type at 1041 AD in China, scribes carefully created duplicate books.

The development of camera during 19th century and computer in 20th century has led to new ways of generating information and has contributed to the massive information of available knowledge. The total amount of knowledge doubles every 7 years. Computer-assisted information search is much faster.

Stereo music systems containing compact disc (CD) and CD player alone are available. The same CD technology has been used to produce unerasable records (CD-ROMs). One CD-ROM contains information equal to that in 33 books or 12 volumes of CA or a set of encyclopaedia. Since it is compact and contains condensed information, it is possible to carry library in your pocket. Our R&D library contains 2 CD players and 4 CD-ROMs (a database). A host contains several database (DIALOG host contains 950 databases). Since the cost of buying

CD-ROM database is between Rs. 40,000 to Rs. 3 lakhs, it is not possible to buy all but few database. Alternatively it is possible to carry on-line searches, where a combination of computer, telecom and satellite assisted search from any of DIALOG's 950 databases can be done on-line on your PC. A typical search lasts 5 to 10 minutes and the longer you search, costlier it becomes.

There are databases with on-line search topics : Polymers, Elastomers, Air pollution, Water pollution, Petrochemical industry, Chemical businesses, Speciality chemicals, Energy, Plastics, Plants, Equipment and processes, Industrial economics, Industrial furnaces and Process heating, etc.

CD-ROM and online ultramodem search facilities are available at R&D library.