

ROLE OF INFORMATION TECHNOLOGY IN LIBRARY AND INFORMATION SERVICES WITH SPECIAL REFERENCE TO INDIA

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INTRODUCTION

For any country whether it may be developed or developing, the information is considered as one of the important resources. Information explosion, a phenomenon of the present day has created so many problems in proper handling of information which can only be solved with the help of newly developing technologies. Thus fusion of information science and technology has given birth to a new discipline called information technology. We can define information technology as the scientific, technological and engineering disciplines and management techniques used in information handling and processing; their applications; computers and their interaction with man and machines; and associated social, economic and cultural matters. The need of this technology arose partly due to the concept of multi-media documents, i.e. the conventional printed book also taking up other forms such as microform, sound records/cassettes, computer tapes, video cassettes/films which require special equipment for their processing and partly to meet the requirement of fast and accurate information and its transfer over long distances.

DEVELOPMENTS IN INFORMATION TECHNOLOGY

Information is transitory unless recorded. It is usually printed in books and journals which serve as documents or records in libraries. It is also recorded in discs and magnetic tapes which facilitate quick retrieval. Developments in computer and communication technology have brought about a new dimension to the programme of information handling. The introduction of micro-processor and mini computers has made things much easier. All these developments facilitate better and quicker service to the users. 'On-line' searching of the desired information, Selective Dissemination of Information (S D I) system based on the users' interest profiles and information analysis and evaluation system are saving the precious time of the scientists and research workers.

Each country is expected to take into consideration the developments in information technology, and the ways in which they could be implemented and utilized for a better information service and products. The developments in information technology relate to : (i) processors, memory and input/output channels, (ii) micro-mini and large scale computers, (iii) mass storage technology, (iv) data communication, networking and distributive processing, (v) data entry display and response technology, and (vi) software. The new information storage devices being widely used in information storage and retrieval include: (1) magnetic disc tape drum, (2) optical fiche, film-disc, holographs, (3) bubble, and (4) semiconductor. In the area of communication technology fibre optics is relatively a new technology that permits data transmission at a high speed.

A number of on-line information services are available today on commercial and institutional level. The reproduction technology has advanced to a considerable extent so that we are having great number of choices for selection and adoption in information work.

IMPACT ON LIBRARIES AND INFORMATION CENTRES

The role of information technology is primarily to improve overall efficiency of library and information services. The basic concept in the use of information technology is to free the library personnel from the routine jobs like acquisition, classification, cataloguing, circulation control, which can now be entrusted to computer. The time thus saved can be utilized for serving the user. This can be best done by studying requirements of the user and acquiring adequate knowledge of the contents of library collection and information sources available around. The librarian's role will be that of an intermediary who will be involved not merely in providing information but in editing, assessing and providing subject analytical and evaluative input.

As the videotex becomes popular, there will be lower utilization of the libraries, as the patrons can sit at home and get answers to their queries on their TV sets. On-line access to databases has generated the concept of 'libraries without walls'; because the literature reported in the on-line searches is scattered in many libraries, some of which may be located in far away countries. The library field will depend more on the network, of which they will form a part and share the resources among themselves.

The use of information technology will involve initial capital investment on computer system, microform reader-printer, xerox copier etc. which will pay dividends in the long run in the form of saving in manpower and space, and improvement in services.

In order to operate the information technology based services, the staff will need training and development of learning skills which they will have to pursue enthusiastically. For example, the formulation of search queries in on-line searching requires intelligence and, if done properly before hand, can cause considerable reduction in the search cost. Such jobs as profile construction, database creation and formulation of search strategy are highly professional and demand due training.

A future library system could be a Local Area Network (LAN) with microcomputer work stations for reader services and house keeping shared printing facilities, shared file storage and shared database and catalogue functions. Gateway accessible from any point in the network will give it direct access to national/international databases.

INDIAN SCENE

India is just on the threshold of the era of computerization and use of microforms. Some of the libraries, mostly of the old generation are pessimistic about the utility of computer and other electronic gadgets but they can no longer hold against the wave of modernisation.

Information is today a vital resource and an essential ingredient in decision making. The scientific and technological progress in India has been quite rapid in comparison to the other developing countries. It is now essential for India to process new scientific knowledge rapidly and comprehensively. During the past few decades, India has been trying to accelerate its information activities and new information centres are being

set up in different areas of science and technology.

The idea of establishing a 'world system of scientific information' which later concretized as UNISIST was first mooted on the Indian soil. At the eleventh General Conference of the International Council of Scientific Unions (ICSU) held in Bombay in January 1966, such a proposal was considered, which ultimately resulted in the formulation of proposal was considered, which ultimately resulted in the formulation of UNISIST. India has been actively participating in UNISIST programmes right from the beginning.

Releasing the urgency of a strong national information system, India made an appeal to UNESCO for a short term mission of a consultant to advise the INSDOC in these matters. Accordingly, UNESCO deputed Dr. Peter Lazar during 1972, who after a thorough study recommended for the establishment of National Information System for Science and Technology (NISSAT). The NISSAT network comprises of : (1) Sectoral System with Sectoral Information Centers; Local Information units; (2) Regional System with Regional Centres; and (3) Specialised services.

India is in-putting to the international systems like INIS (by BARC, and AGRIS (by ICAR). Since 1975 INSDOC has been providing computerized SDI service to various scientists and technologists all over the country.

SUGGESTIONS

The development in information technology needs to be studied continuously. The selection and adoption of suitable technology at appropriate levels according to our specific needs and requirements have to be made and determined by a competent body. While the country should not lag behind in the development of information technology, at the same time costly system should not be adopted indiscriminately in the name of modernization. Right technology at appropriate level at right time with adequate preparation should be adopted and introduced in the country.

Our science and technology planners are aware of the information network and its importance in the handling of information. We do hope that in future India will have some system of information network. In Europe, there is European Information Network revealing the concerted effort of bringing resources together for and to

the user, which has resulted in Europe's having more records available on-line. On similar lines the information scientists in India do conceive of INDONET. Developing an effective national information network for organising knowledge within a country like India is a responsibility jointly borne by the government policy-makers and information scientists.

The institutions to which libraries/information centres are attached, should encourage the use of information technology for modernisation and efficiency and provide them with necessary funds for this purpose.

The Government of India should subsidize the purchase of computer system, microfiche reader printer, xerox copiers etc by the small and medium size libraries/information centres.

The development in electronic input of text, data and on storage of information; is recall, display and printing has been rapid in the last decade. A great deal has been written as well. But unfortunately these do not add up to a coherent approach by those who will be most affected, i.e. the authors, university authorities/librarians, information officers and readers. The complete electronic system is not with us still, nor will it be in the immediate future. These changes necessitate to identify, study and define user needs; review technical developments in information technology; study comparative costs and consideration of those standards which must be established to avoid a plethora of incompatible systems and equipment; educate authors and readers on how to use new technology.

CONCLUSION

In conclusion I must say that the information age has recharged our profession. We have/will have to become active partners in the 'information flow'. Technology is dominating every sphere of human activity, whether it is electronic technology, computer technology or industrial technology. The information technology in itself is a vague term and it is difficult to provide a specific definition. The technology is now a major factor and is offering a number of choices in its application to the acquisition, storage, retrieval

and dissemination of information. Every now and then we hear of information revolution and information based society. This has been due to tremendous developments in computer, communication and information systems and centres, so that information could be channelised and geared towards the actual and potential users.

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