STRATEGICAL PLANNING FOR INFORMATION TECHNOLOGY APPLICATION WITH SPECIAL REFERENCE TO BANGLADESH

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Introduction

In the present information society, possession of information is everybody's right. Information poor-a person or a group or a nation is always at advantageous state. There is always fear of being ignorant among information poor persons which contributes to infomania[1] (being afraid of looking stupid). This word was suggested to be replaced with igno rophobia[2]. The striking difference between developed and developing countries has been that former were always aware about the value of information whereas latter had passive attitude towards use of information resources. Information rich nations, therefore, made significant developments in various fields. In the electronic age, all sorts of information and their sources are available and easily accessible. This is causing information overload which shall have to be reduced for effective and purposeful utilisation of available resources. In this ocean of information, consumer is drowning and he does not know how to swim and find the desired bit of information. The profession is faced not with providing of more information but to reduce the number as much as possible and provide only that information which is pinpointedly relevant and required. It is not possible for human mind to process huge data due to enormous availability of information. This situation is reflected in laws of information given below[3]:

1) The information you have is not what you want ;
2) The information you want is not what you need (not even with the help of Internet) ;
3) The information you need is not available ;

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Where is information we are lost in Internet

Therefore, responsibility of filtering and synthesizing this glut of information in the present context is becoming increasingly important to obtain highest precision value. This is the implicit implication of information society.

Computer culture all over the world has been continuously and rapidly changing the library and information scenario. It is challenging professional duty and responsibility to assist its clientele to make utmost use of all the advances of information technology which are emerging fast. It is quite obvious that new skills, competence and professional capability are required to face the present challenge of coping with information revolution. The present trend is towards Digital Library and western world has already done some significant innovations towards the establishment of electronic libraries.

The developing countries with exception of a few have been lagging behind considerably in adopting new technology. But the present environment is favourable and it may not take much time to reach the stage where developed nations have already arrived. Now, advanced technology within affordable cost and competent manpower are available which can bridge this wide gap in a much faster speed. Moreover, the benefits of experiences gained by the countries which have been experimenting with new technology for the last three decades are adequately available in literature as well as could be obtained through inter-personal contacts. The profession shall have to stand to the occasion to serve and survive.

Bangladesh Scenario

The use of computer in Bangladesh started as early as in 1964[4] by Bangladesh Atomic Energy Commission followed by Bangladesh University of Engineering & Technology in 1968[5]. There after, many Governmental and non-governmental organisations started use of computers for administrative and other purposes. The creation of computer Engineering Department, Computer Centre by BUET and National High Power Bangladesh Computer Council in 1988 under Ministry of Science[6]. Today, wide spread computer culture in the country is quite evidently seen. Like many other developing countries, Bangladesh also was late to introduce

computer technology in libraries. It was during 1980's that some of the libraries took initiatives to apply computers in libraries. International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR'B) Library and National Agricultural Library & Documentation Centre were the pioneer to create some in-house databases[7]. Presently, quite a good number of libraries have begun computerisation of some of their operations. According to Sattar[8] about 50 libraries use computers and 15 are planning to introduce which by now might have been at functional stage. The use of CD-ROM databases is quite common in libraries. Libraries mostly use computer for word processing. Among library softwares use CDS/ISIS.[9] The use of Fox Pro and dBase-III plus /dBase-IV is by a few libraries. No. of Libraries using Computer applications are reflected below :[10]

Table Showing Use of Computers along with Range of Library Operations

S.No.	Range of Operation	No. of Libraries	%
01	11-20	16	32
02	8-10	11	32
03	4-7	12	24
04	2-3	12	24

As per statistics of BANSDOC[11] 1996; 2A, It was about 65000 records which were in machine readable format.

Role of LAB and Professionals

Library Association of Bangladesh (LAB) made certain attempts to bring awareness about the importance of computer applications in libraries. It has been organising meetings and seminars to generate professional enthusiasm among the professionals. Some of the following seminars held needs special mention:

1) National Seminar on Modernisation of Library Science Education and Library Services January, 1987.

2) Preparing the Libraries of Bangladesh for 21st Century 1993[12].

Role of BANSDOC

BANSDOC prepared a draft of National Science and Technology Information Policy (NASTIP) in collaboration with LAB. Quite a good number of professional literature on the subject were generated by the librarian of the Bangladesh which was a significant step towards bringing computer culture in the country. There has been active professional participation in drafting and improving this policy. Its implementation may solve many problems associated with adoption of new technologies in the country. This was a follow up action and a corollary to National Science and Technology policy announced by Govt of Bangladesh in 1986[13]. BANSDOC was proposed to be an apex body to implement the National S & T System implicit in the National Science and Technology Policy. The draft plan was submitted to the Govt in 1989. BANSDOC has the responsibility to coordinate and channelise national information resource. Its 3 years project to implement first *On-line Library and Information network*- Bangladesh National Scientific Library and Information Network scheduled to be completed by the middle of 1998.[14]

Late initiation of technological applications could be considered blessing in disguise as new technology is available to them. Those who initiated computer application during 1970-80 their all hardware configurations have gone absolutely out of date which are being replaced by new computers. The Internet has increased the prospects of global wealth available free at the touch of a key. Its application in Bangladesh too is going to be quite common in the near future. This may effect the use of local literature which could be unfortunate trend.

Indian Scenario

Computer applications in Indian Libraries began about two decades ago at Institutional level. However, some of the special Libraries were sensitive to the technological developments and introduced computers in their libraries. Indian National Scientific Documentation Centre (INSDOC) was pioneer in experimenting with computer applications. It opened Information Retrieval Cell in the year 1964[15] and began working on IBM 1620 mode. Bhabha Atomic Research Centre (BARC) Bombay, Tata Institute of Fundamental Research (TIFR), BHEL, IIT's, NAL and many other special libraries began to automate their library operations during 1970's or early part of 1980's.

National Information System for Science and Technology (NISSAT)

The significant development in improvement of Library and Information Service started after the formation of NISSAT in 1977 under the Department of Scientific and Industrial Research. During 7th Five Year Plan (1985-90) it was allocated Rs. 4.5 crores for improvement of scientific communication. Its present network structure based upon Sectorial Information Centre as given below:

Sectorial information centres set up by NISSAT are:

SL NO.	Name of SIC	Location
1.	National Information	Central Leather Research Institute, Madras.
2.	National Information Centre for Food Science (NICFOS)	Central Food and Technological Research Institute, Mysore.
3.	National Information Centre for Machine and Production Engineering (NICMAP)	Central Machine Tool Institute, Bangalore.
4.	National Information Centre for Drugs and Pharmaceuticals (NICDAP)	CENTRAL Drug Research Institute, Lucknow.
5.	National Information Centre for Textiles and Allied Subjects (NICTAS)	Ahmedabad Textile Industry Research Association, Ahmedabad.
6.	National Information Centre for Chemistry and Chemical Technology (NICHEM)	National Chemical Laboratory, Pune.
7.	National Information Centre for Crystallography (NICRYS)	Dept. of Crystallography, University of Madras, Madras.

Today other information systems are also functional some of them are :

i) Environmental Information System (Deptt of Environment)

ii) National Management Information System for Science and Technology (Department of Science & Technology).

iii) Biotechnology Information System (BTIS) (Deptt of Biotechnology).

iv) Nationally Networked Technology Information System (TIFACLINE) (Technology Information Forecasting and Assessment Council (TIFAC).

V) Agricultural Research Information System (ARIS) under ICAR.

INFLIBNET— Information and Library Network

UGC constituted a Committee on National Network System for University Libraries in 1988 under the chairmanship of Prof. Yash Pal, that time UGC Chairman. Its report was published in 1989 and began functioning since 1991.

Major objectives of the programme are:-

- to modernise libraries/information centres in the country;
- to establish a mechanism for information transfer and access to support scholarship and academic work;
- to facilitate pooling, sharing and optimisation of library/information resources;
- to organise library service at macro level at affordable cost and maximise benefits; and
- to provide speedy and efficient service to the users'.

The process of automation began funding only 54 University Libraries.

Its original target was to compile union catalogue of 9 million unique records of retrospective collection of 179 University Libraries and linking atleast 200 R & D institution to INFLIBNET[16]. Its achievements are much less than the fixed target. Other networks like DELNET (Delhi), CALIBNET (Calcutta), MALIBNET (Madras), BONET (Bombay), MYLIBNET (Mysore), BALNET (Bangalore) are functional. DELNET has made quite satisfactory progress during the last two years. It has also developed its Web page recently.

Both Bangladesh and India are passing through the similar situation. Most of the problems seem to be common, therefore similar solution could be thought of. Indian experiences in experimentation with IT may give some guidelines to Bangladesh. It has become essential for every country to develop its own national network forming part of global network.

Proposal for Strategic Action Plan

Considerable input has gone into the planning of Library network in Bangladesh. The connotation of the network in the present context is

accessing national and international information resources electronically. It is like other technologies; inert, neither a panacea nor an evil. It is also a catalyst of economic, political, social and cultural processes that inevitably affect the development of man's society[17]. Where technology is inert, it has to be initiated where it has already entered. It has to be further exploited to the maximum utility. What is required is concerted efforts of professionals (Library and Computer) and the authorities. It is the time to work out right priorities i.e. what to automate first and next. A network plan of yesterday may not hold good today, therefore, reviewing of earlier planning is imperative. We are in the era of digital/virtual library, which has imposed many added responsibility. IT would continue unabated. Librarians role is converging with computer professionals which requires new IT skill to meet the present and future need. The Librarian's competence would be evaluated in terms of his knowledge about Internet, Web page designing and information retrieval capability, developing databases etc. Computer and network Literacy have become basic professional qualifications. In such changed environment perspective planning in the light of the above scenario is required.

Retrospection

As discussed in the preceding paragraph, all earlier planning shall have to be reviewed. Even the findings of the feasibility study may need changes. Latest stock of the activities shall have to be taken. The hardware configurations of yesterday is entirely changed today. Recent research work of Dr Mannan and Dr Sattar call for professional attention. Their recommendations could be further discussed and crystallized to be included in the national document. Early planning and feasibility studies need a fresh look.

Information Policy

Bangladesh is no exception which does not have operational National Information Policy. There are many developing nations without this document. But many countries have made significant advances in information management even in the absence of information policy. US made National Commission of Library & Information Science in 1972[19] which does not mean that US progressed in the field of L & IS after 1972. Bearman who has been associated with information policy planning feels

that each nation readily has sets of information policies in a piecemeal fashion; some by legislation, others through executive orders, others through circulars, regulations and guidelines by various agencies. What is needed is a national policy with the mandatory provision of implementation approved by the highest authority in the nation.

National Information system(s)

Information Policy would give broad guidelines only and details can be worked out in the Information Systems. More work shall have to be done for designing workable systems in different disciplines. Whatever progress India has done in information management, it is mainly under the umbrella of NISSAT. Therefore, having a national information policy is not enough. National Information System still remains the pre-requisite.

Review of Network Plan

Being aware that considerable efforts have already gone into networking planning by BANSDOC and its committee/expert group etc. Still there would be scope for its review in the changing scenario. Obviously, many problems might have cropped up at implementation level. Not only computer literacy is important but network literacy is increasingly becoming essential. Experiences of successful network should be shared.

Standardization

There has been a least attention to develop national standards for bibliographical description of material and for other library operation. Every institution has to struggle out to evolve its own format whereas well tested formats are available. There are no guidelines from apex body. This is creating many problems for future when data shall have to be merged. Conversion of data from one format or software is not that easy as it appears to the expert. Therefore, basic principles of standardization shall have to be evolved.

Developing suitable manpower

How effective the planing may be, it needs appropriate manpower who are knowledgeable. Not only consortium of professionals are required but a team

of experts needs to be constituted with national responsibility to give proper guidance relating to automation operations and maintenance. This also would result in uniformity and consistency in the system. Their expertise should be made available as and when required by the participating institution. The team should also be involved in designing different databases. This team in consultation with other Statutory bodies should prepare a automation plan and explore the compatibility of network, and suitability of hardware and software etc. No institution under the system is expected to be without proper manpower.

Determining priorities

There are many Library operations where computerisation is required which cannot be initiated simultaneously. Therefore, priorities shall have to be worked out.

Retrospective Conversion

Accessibility to local collection is more important than global network. Influence of Internet may not take us away from our main responsibility of building databases of national resources and make them easily available to our local clientele. First and the foremost priority should be to convert total collection into machine readable format which is not being given due attention. Unless on-line library catalogue is complete it does not serve any purpose. Users don't have patience or time to go to different part of the catalogue (manual and computerized). The large collection may take decades to complete the conversion with the existing staff strength. Providing hardware facilities are not enouth. Special allocation of funds and manpower are required for the purpose. OCLC which has compiled Worldcat realised the importance of converting physical catalogue into MARC format at the right time. This has now more than 39 milion records.

Creation of Union Catalogue of neighbouring Libraries

If in-house bibliographical databases are completed, it would automatically results in union catalogues by merging different databases of different libraries. Such databases are pre-requisite for networking and resource sharing which need.

Conclusion

Professional forum like this can generate good deal of discussion on every aspects of information technology application contained in this paper or not. In the light of problem being faced by the libraries, certain recommendations could be made. Digital library would accelerate. In the future there would be more use of CD-ROM databases on line access databases, WWW sources. Use of printed material may decrease in favour of electronic media. This technological change shall have to be observed by the profession. Professional shall have to become proactive to these changes. Library schools shall have to change fast to prepare proper manpower. Only those librarians who are knowledgeable about Internet and other facets of information technology having innovative approach to face the challenge would be recognised by the society. In the present context carriculum of IT shall have to be introduced at every level of education from elementary to Ph.D.

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