The status of library automation in Pakistan

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Because of its outstanding efficiency, performance and ability to handle large volumes of documents, the computer is gaining popularity in the field of librarianship and information services. Many library and information routines are being performed proficiently by computers. The computer has proved its success in the fields of library acquisition, cataloguing, classification, circulation, serials control, and information storage and retrieval activities. Many new services like SDI and current contents service have been initiated with the help of the computer.

Library automation has become a burning issue, with pros and cons, among librarians throughout the world. We cannot mention present library literature or any conference without a reference to library automation.

The history of library automation is not a long one. It dates back to the 1950s and 1960s in America and Europe. In Pakistan, library automation was introduced in the 1980s and a number of libraries were computerized during or after 1987. The library literature in Pakistan does not provide much information about the current status of library automation in the country, although a few articles have been published. In this regard, our alumni Mumtaz Ali Anwar, Sajjad-ur-Rehman and Abdus Sattar have presented an introduction and basic guidelines for librarians wishing to automate their libraries, with special reference to Pakistan[1-3]. Bushra Riaz, in her article, has discussed the problems faced by library automation in the country[4]. In addition, other librarians have narrated their personal experiences in their individual libraries in different issues of the PULSAA and PLA newsletters.

Library automation has multifarious aspects to be discussed but this study is limited to the status of library software and library automation training in Pakistan.

Library software

What is software? Basically, software is the program that runs the computer to produce the required results. It is, in fact, the most important component of the automation process. Someone said, "A computer without software is similar to a man without his brain, or a library with neither books nor librarians". Therefore, on principle, the selection of software comes before hardware. When

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we talk about library software, we mean the software needed for library housekeeping routines and information retrieval services.

Hundreds of library packages have been developed and run successfully in advanced countries and there are many directories and other tools available that help librarians to select suitable software for their libraries. But the situation in Pakistan is disappointing. Very few attempts have been made in the country. The question is, what are the hurdles and obstacles to a progressive situation and how can these hurdles be removed? It is an accepted fact that we are an under-developed nation without necessary resources. With meagre budgets, our libraries cannot afford the cost of library automation as a whole. With only 26 per cent literacy, there is a lack of institutions for research and, because of our poor education system, students and teachers do not consider the library a necessity. Our librarians are not trained in library automation as library schools in our country do not prepare their students for this challenge. Some schools have included the subject of library automation in their syllabi but there is no facility for practical knowledge of computerization. Because of computer illiteracy, librarians hesitate to automate their libraries and, if they have to do so, they cannot play an active role in the automation process. People do not appreciate the requisites of library automation like system analysis, consultancy, staff training and equipment maintenance. Another problem is the growing trend of software piracy in the country. No software developed abroad is suitable for our libraries. Libraries that have been automated in the country have worked individually without having the benefit of the others' experiences. As standard library software is non-existent in Pakistan, library co-operation, which is one of the remarkable achievements of automation, is becoming extinct with the passage of time.

Pakistani libraries mostly use microcomputers. So, it will be useful to introduce briefly some database management systems for microcomputers being used in the country.

dBase

A number of libraries in Pakistan have developed their in-house library databases using dBase: dBase III+ (introduced in 1985) and dBase IV (released in 1989) are mostly being used. It provides an opportunity for relational databases, utilizes less free memory, offers keyboard macros and password protection and can be run on local area network[5]. As dBase is a standard database management system and is not meant especially for libraries, one cannot develop an application without proper understanding and training. The fixed length field is also a problem for the textual retrieval most libraries need[6]. Version 1.5 of dBase IV (released in 1992) costs about $800.

Foxpro

Following dBase, Foxpro is making inroads in Pakistani libraries. It is an application development dBase-compatible relational database package. It offers more facilities than dBase and is characterized by quick performance.

Application basics are very easy to acquire, but more complex development requires a great deal of time to learn. Version 2.0 (released in 1991) costs about $800[5, pp. 166-7].

INMAGIC

INMAGIC is used successfully in Lahore University of Management Sciences (LUMS), NWFP Agricultural University, Peshawar and some other agricultural libraries in the country. The software was originally developed for minicomputers in 1980. Since 1983 it has been available for use with IBM PC and compatible machines.

The package is powerful, flexible and relatively easy to use. Data are stored in variable length fields and each field may be repeated, which fulfils requirements for multiple authors, subjects, etc. in a bibliographic database. Fields may be indexed by keywords, term or both for quicker and easier retrieval.

Boolean operators (and, or, not) may be used to broaden or narrow the search. Comparison operators (greater than, lesser than, equal to) may be used in term searches. Searches may be stored and later recalled or modified. INMAGIC offers output of search results on screen, to the printer or to an ASCII file on disk. Field-wise sorting and subsorting are available.

It can design a database of up to 75 fields, of which 50 fields can be indexed. Its manual is clearly written, contains many examples and is well indexed. On-line tutorial is also available[7,8]. Field, record, and database size in INMAGIC are unlimited. A first copy of version 8.0 of INMAGIC PLUS (released in 1992) costs about $1,250[5, pp. 167-8]. This software is very suitable for Pakistani libraries but it is expensive and our libraries may not be able to afford it.

CDS/ISIS

A number of libraries in Pakistan are working on CDS/ISIS. The range of ISIS users includes all types of libraries. ISIS was developed by UNESCO and is being distributed free of charge. More than 5,000 libraries are licensed users worldwide. It is a non-numeric database specially designed for bibliographic records, and is multilingual. A database can hold 16 million records. It provides variable length fields, repeatable fields, and sub-fields. It has powerful indexing and searching techniques. It provides a stopword file. Advanced programming can be done in the PASCAL language. Data can be exchanged according to international standard ISO 2709. It can be run on local area networks. Well elaborated documentation is available. Its latest version 3.07 was released in December 1993. Although CDS/ISIS cannot perform all housekeeping operations easily, its use is rapidly increasing in the country. Various journals publish regular columns on the development in CDS/ISIS. Five Pakistan Library Association computer training centres offer regular courses on CDS/ISIS and hundreds of librarians have become trained users[9].

MINISIS

MINISIS can presently be used only on minicomputers but following the release of its PC-based microcomputer version, which was expected in November 1994, it will be able to satisfy all automation demands of our libraries. MINISIS, distributed by the International Development Research Centre, Canada, is currently being used in about 350 institutions in the world; the PC version of MINISIS, named version H, will be issued in English, French, Spanish, Chinese and Arabic languages. The integrated library system developed by MINISIS will include library accounting, acquisitions, cataloguing, online public access catalogue (OPAC), circulation, serials control and interlibrary loan. MARC will be followed in cataloguing[10,11].

Now some information about some library applications developed in Pakistan.

Kitabdar

Developed by Silicon Systems Ltd, Kitabdar is currently being used in five libraries in Lahore. Based on PASCAL, it is the first Urdu library software in Pakistan. It is specially designed for research and reference libraries. It can mix both Urdu and English in the same text field. Sorting is fast. It provides both speedy and complete search on 28 different fields. Though not based on any standard format, it is good for cataloguing. Acquisition and circulation functions are not properly designed. Its LAN version is also available[12].

Pak Library Software

Pak Book Corporation developed a package for medium-sized libraries. Using Foxbase version 2.0 the software was issued in 1992. The following functions were included in the package[13]:

- make searches on books from different angles;
- issue/receipt of books to/from members;
- issue reminders to members;
- make entries for new books;
- enlist new members;
- give the status of a book;
- give the individual records of members;
- reserve a particular book for a member;
- keep a record of periodicals.

Pak Library Software was not accepted by the librarians, so it has been discontinued.

LAMP

The Library Automation and Management Program has been developed by The Netherlands Library Development Project-Pakistan (NLDP-P), with the

collaboration of the Pakistan Library Association (PLA). It has been designed specially for Pakistani libraries. LAMP was developed entirely in CDS/ISIS with the help of PASCAL. It can handle the following library housekeeping routines[14]:

- *Acquisition*: budget control, ordering routines, payments record.
- *Cataloguing*: bibliographic information, printing cards, printing bibliographies, searching through various keys.
- *Circulation*: borrowers' records, check-in and check-out of items, reservations, fines calculation, SDI.
- *Serials control*: acquisition and cataloguing of serials, holding list.
- *Authority files*: publishers, subjects and name authorities for both serials and monographs.
- *Management reports*: statistical reports for acquisition, cataloguing and circulation.
- *Utilities*: data exchange, spell check, duplication check.

The first version of LAMP is currently being used in more than 25 libraries in the country including six legislative libraries of the Senate and national and provincial assemblies. After receiving feedback from library professionals, development of LAMP version 2 has been started.

Library automation training in Pakistan

The most important people in making library computerization successful are librarians. They know their job well and should be most qualified to decide which function should or should not be computerized. It must be realized that librarians will not be able to make any use of computer equipment until they are provided with the know-how required to use it. So, before providing the equipment, it is necessary to make training arrangements for the professional development of librarians.

In the first two or three years of library automation in Pakistan, a few librarians have been able to develop an acquaintance with the computer either through training abroad or by working with foreign consultants. Self-education was another method used by a small minority.

Library schools

There are six library schools in Pakistan which offer postgraduate courses on library and information science on a regular basis. It is their duty to keep their syllabi up to date with changing concepts in the profession. With regard to library automation training, the condition of library schools in the country is disappointing. The University Grants Commission (UGC) presented a revised curriculum in 1991 but unfortunately no library school implemented it. Another problem is that there are not adequate hardware facilities for training the students. The school at Karachi was first to have a computer, followed by the

school at Peshawar. Punjab University succeeded in having the maximum number of four computers[15]. NLDP also donated one computer to each library school last year, but the existing facility is still insufficient. Now the BCCInfaq, an NGO, has offered the six library schools a complete computer lab with 11 IBM PCs and other accessories. Following this achievement, we hope for a healthier situation in library schools.

Professional associations

With the emergence of library automation in the country, professional library associations showed an immediate response and took it as a challenge. After its revival, PULSAA arranged the first short course on the use of microcomputers in libraries in August 1989. The participants evaluated the course as excellent. PULSAA also arranged two other courses in 1990 and 1993 in which training on CDS/ISIS was emphasized.

The PLA (Headquarters) arranged a ten-day workshop on "Computer introduction, application and data management in libraries" in October 1991 at Lahore.

Librarians at Multan have also conducted a course with the sponsorship of NLDP. Fifteen librarians were trained in DOS and Wordperfect.

PLA computer training centres

With the help of NLDP, the Pakistan Library Association has established five permanent computer training centres at Islamabad, Lahore, Karachi, Peshawar and Quetta. The cases for Hyderabad and Bahawalpur are under consideration. The first PLA centre started functioning in November 1992 at Lahore. By the end of June 1994, PLA centres in the country had trained 500 librarians and other people in library automation[16]. The courses include "Fundamentals of computers", "Disk operating system (DOS)", "Wordprocessing using MS Word and Wordperfect", "Spreadsheet using Lotus and Quatro Pro", "Database management using dBase", and "Library automation using CDS/ISIS and LAMP"[17]. A special one-month course was also designed with the help of USIS at all the centres. The course was conducted by Dr Nelson, a library automation expert from the USA. At Lahore, to make students well-versed in a working automated environment, visits to automated libraries in the city have also been made an integral part of the courses.

Conclusion

In conclusion, it might be stated that library automation is in its infancy in Pakistan. No serious efforts have been made in the field of library software in a proper manner. With only six or seven years' experience in library automation, very few people have been trained well in library computerization. There is a lack of resourceful persons in the country. It is the duty of our professional associations and library schools to solve the problems of library software and its appropriate training in the country. PLA computer centres must play an important role in the selection and development of suitable library software for

our local needs. A MARC format for Pakistan should be developed. None of this can be done without the help of government. The Government should aid libraries and supervise their struggles for library automation.

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