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# Challenges and Problems in Transferring an In-House System based Digital Catalogue into Open Source System (KOHA) A case study of Bait ul Hikmah Library, Pakistan

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Challenges and problems in transferring an In-House System based  
Digital Catalogue into Open Source system (KOHA)  
A case study of Bait ul Hikmah Library, Pakistan

by

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ABSTRACT

Now a days many Libraries in process of transforming the manual catalogues into a database in form of Digital Catalogue. KOHA, because of it is an Open source and contains a complete integrated system is the preferable choice of librarians of the developing countries. But there are many challenges and problems occurred and made the task difficult. Presently the Bait AL Hikmah Library of Hamdard University is also in process of converting its in-house based digital catalogue and library system and services into KOHA. The paper is a case study of the existing system, there drawbacks and limitations, reasons for choosing KOHA, and finally the challenges and problems being faced in the process.

**KEY WORDS:** Databases; Digital Catalogue; LIS School– Pakistan; Library Automation,  
Bait ul Hikmah

Introduction: -

Today, the Libraries are completely changed from the manually preserved and organized collection, kept on shelves in four walls building and limited rights of access into a highly technologically managed hub of knowledge and information without boundaries, accessible from anywhere to any seeker of knowledge and information.

Long time efforts for compilation of Universal Bibliography, now has been materialized in form of Databases and digitalized catalogues of Libraries for all the fields of Knowledge, in almost all languages in which knowledge records are being produced in any format and accessible by a click of a finger.

The use of computer technology is very common in all types of services and systems in developing countries as well. Software and computers applications (imported or locally developed as per the specific needs) are now supposed to be an integral part of the management and infra-structure of any organization.

Unfortunately, this is not the scenario of Library and Information Services and Systems (LISS) in under developed or developing societies. When it comes to the Libraries this task is not as simple and easy as it is for all these organizations. Due to the enormous reasons libraries has not been modernized or technologically developed as other contemporary institutions in these societies. The problems are not related to the use of Information communication Technology (ICT) or linked with the Information searching or getting access in available Databases.

Because the use of computers in the Libraries of these societies is now a common practice even in the libraries of remote areas for official work, records keeping and every so often for on line searching if Net facilities are available.

The problem emerges when a library decides to develop its own database by transforming its card catalogue into Digital catalogue. The reason! Simply the Computer or System Department of the organization believes that this is their propogative to develop software. They are not ready to trust librarian's computer skills or accept them as a partner when it comes to the software development planning. Although the Library Schools are doing their best to provide as technology-oriented education and training in the field as could be possible. Most of the schools has developed curriculum based on the use of technology in every aspect of LIS teaching & training.

## Computerization Of LIS in PAKISTAN: An overview

Karachi University School of Library Science (The first post graduate Library school in the country) took the lead and in 1962 started teaching of new courses in its Master's curriculum. Prof. Dr. Anis Khurshid, Head of the Department at that time being a visionary person as he was, foreseen the emerging force of automation & technology in Library system and services and added the Documentation and Documentation centers as a part to the course of Special Libraries, and an elective course on Library Service in Science and Technology was also introduced in cooperation with the Pakistan National Scientific and Technical Centre (PANSDOC) Karachi (now called Pakistan Scientific and Technological Information Centre, (PASTIC).

Semester system was introduced in 1973 at the University of Karachi, this gave the opportunity to the Library Science Department to insert much needed courses even though as optional courses i.e. Information Storage and Retrieval, Data Processing and Libraries, Index & Indexing, and Library Automation, at Master's level. By 1983 the number of courses were increased up to 12 courses of 36 credit hours. The foundation courses on Information Storage and Retrieval with related course on Information Networks & Data Banks and Systems taught as compulsory.

“These attempts at inclusion of information technology courses at

Karachi Library School to begin with was regarded as an attempt towards modernization of the library science courses in Pakistan by the UNESCO Consultant, A.C. Foskett, who visited Pakistan in 1987” (Khalid 1998)

Prof. Dr. Anis Khurshid justly called “father of the modern librarianship in Pakistan”

The term “Information” was became a part of Library Science in 1982 when the Department of Library Science at University of Karachi embraced the standard Library Science syllabus prepared in 1974 by the Curriculum Revision Committee of University Grants Commission (UGC) and was approved in 1980. The Department was renamed as suggested by the Committee, as the Department of Library & Information Science and the nomenclature of the Bachelors in Library & Information Science (BLIS) and Masters in Library & Information Science (MLIS) were introduced instead of Diploma in Library Science and Masters in Library Science. The first ever computerized cataloguing Lab for training purpose was established at the Department in 1984. Although the supplier in coordination with the Department develop its own software for cataloguing and serial and provided the training to the teachers in its use, the proper computerized training started much later, because the overall condition and status of librarianship was not very promising. Almost all libraries of every type were functioning on

conventional system of librarianship and no demands were made by the readers or the society for any enhanced or improved system or services.

Lack of Government interest worsen the situation in all types of libraries. There was statuesque in the field of librarianship in every aspect, either in system or services, on the part of the professionals or in the demand and use at the part of the readers. Libraries which are directly linked with the education and learning and considered as hub of all academic activities remained a neglected commodity. Unfortunately the education itself was never on the priority of any government. Obliterated textbook based education system had no use of academic libraries. Routine practices and following of a set pattern of services did not arouse any thirst for seeking information, and learning current trends in the collection of special libraries, and finally in a society of a very low literacy rate where could public libraries stand?

On the other hand the global scenario of library and Information system and services has completely transformed, not only preservation but the whole Library management systems were begin converted in to technology based setups.

In Pakistan, after the initiative steps taken by the Library School at University of Karachi other Library Schools got implement the new syllabus and Information management became a part of library training,

The actual change in the professional field was seen when in 1985 the catalogue of Lahore University of Management Sciences (LUMS) was computerized.

Ms. Bushra Almas Jaswal, librarian of the NUST, used the in-magic software for the development of database. Efforts were made by Ms Shahnaz Zubairi (she herself was not a professional Librarian) for the computerization of National Agriculture Research Council (NARC) catalogue but it was not materialized till 1995. However, from NARC platform chain of training workshops for the use of computers in cataloguing for librarians was started. The NARC library has been declared by HEC as the National Library of Agricultural Sciences during 2003-06, is fully computerized and its catalogue is available on line.

Netherlands Library Development Project (Pakistan) and the Pakistan Library Association developed a Library Management System, LAMP, which somehow accelerated the transformation process. The Computerized Documentation System/Integrated Set of Information Systems (CDS/ISIS) sponsored by UNESCO, available, free of cost distribution for use in libraries all over the world was the most commonly used software; other popular packages used include ORACLE and In-Magic. Some indigenous systems have also been developed, but without much success. Most of the libraries used IBM 386 and IBM 486 because of their compatibility (Haider, S J, 1998)

In a span of ten years by 1995 a number of libraries (mostly special and university) developed automated catalogues. PASTIC compiled the Union Catalogue of Scientific Periodical holdings in 1987, but many problems, even today making hindrance in the process that is why still the rational, nontechnical libraries are evident in the country.

In the beginning the ignorance of the Information technology and computer illiteracy of the librarians provided an open field for the computer technologist to play with the library management systems with the blessing of the executives.

This leave the librarians out of their own domain regarding the computerization. A conflict started between the librarians and the system departments within the organizations, unfortunately in many cases it does exist even today.

Some other problems were identified are: non availability or shortage of suitable and compatible software, poor planning due to lack of sufficient knowledge of the task in hand, time and cost involve in the conversion of retrospective records or files, no efforts were made to develop standards according to the local needs like MALMARK of Malaysia on the pattern of USMARK or UKMARK (Riaz, Bushra Almas, 1993)

THE Current Scenario: -

Presently, Library automation, use of digitalized sources and development of online accessible databases are common practice in almost all of the higher education institutions, Universities and specialized libraries as well as in the well-established chains of private schools. All library schools providing latest and modernized LIS education. Alumnus of these schools has found many groups and associations to support the profession and provide continuous professional training and guidance via workshops, Short courses, Conferences and Seminars.

Pakistan Library Association Pakistan in collaboration with NLDP created the atmosphere to bring the changes in the traditional librarianship, formulation of Library Automation Group (PAKLAG) introduced the new horizon of software development as per local needs. Now in Pakistan the libraries are also using ILMS pattern for complete digitalization like the international trend of librarianship.

At present many groups are working the field, some are open to help and guide any type of libraries and some are focused on the development of specific types of libraries. However the situation is promising as they are working like KOHA Community Pakistan in close collaborative context and helping each other in creating a modern digitalized LISS in the country.

### Literature Review:-

In the past years a huge amount of literature is being produced in Pakistan on the need and importance of automation and digitalization of LISS. Most of the articles were published in 1993-1998 mainly focused on the problems and challenges faced by the librarians in application of technology.

The trend has been changed and the writers have focused on the selection of appropriate software, finding the solutions and offering suggestions and recommendations for the enhancement and improvement.

Mirza, M. S. & Arif, M. (2016) identified the challenges in adoption of technology faced by the university libraries in Pakistan. The study pointed out the same deficiencies of professional which were indicated by Riaz, Bushra A (1993) "lack of training opportunities for LIS professionals and lack of IT skills among the majority of LIS professionals" however after so long a period and in the present scenario of advancement of research and training in the field it is a debatable observation. Mirza, Muhammad Sajid and Khalid Mahmood (2014) this is a comprehensive study on the IT infrastructure of university libraries in Pakistan.

Unlike other articles the study focused both on the hardware and software problems. Suitable and compatible configuration of hardware is must for perfect results.

Saeed Ullah **Jan** and Sheikh, Rafia A (2013) revealed that other than Islamabad and Punjab universities in the other part of the country are deficient in the field of technological development. But it is reassuring that they are willingly and devotedly working to achieve the goal. Arshad Ahmad (2014) concluded that implementation of KOHA is a good choice for an ILMS in Pakistani libraries and because it is a free open software source it is easy to implement without financial burden. Farasat Shafi-Ullah and Saima Qutub (2010) the paper pointed out the issues and their solutions important in the process of migrating data and observed that how the process can be quickened with the help of local support groups. The findings are reliable because one of the author was involved as consultant in the project and has firsthand experience. Muhammad Ramzan and Diljit Singh, (2009) A first comprehensive study regarding IT applications computers and other common hardware, software, e-mail, internet, other information access technologies, applications and online resources of academic libraries in Pakistan with statistical data. Muhammad Ramzan, (2004) article deals with the attitude, level of IT knowledge of librarians and their willingness for implementation of IT in their libraries.

### Implementation Of KOHA In PAKISTAN:-

As stated by many authors that the one of the many basic problems faced by the librarian in getting computerized their libraries was the availability of suitable, low cost and compatible

software so that not only nationwide but global sharing of knowledge & information can be made easy.

KOHA brought that solution for most of the libraries in Pakistan. As an open source for integrated library management developed in 2000 and first time implemented in University of Management and Technology in Lahore in 2006.

Now most the university libraries in Pakistan either already implemented or in process of doing so. It has also been adopted by special libraries school libraries.

Recently the management of Hamdard University, Karachi also accepted the suggestion to implement KOHA for computerization of whole library system instead of in housed developed software CMS. The process has been started, in this paper the problem and faced by the library in the process has been discussed.

#### BAIT AL-HIKMAH LIBRARY:-

The Sun of 12th November 1989 witnessed the rebirth of Bait al-Hikmah. The symbol of wisdom and knowledge of Muslims. History reveals Establishment by Caliph Abu Jafar al-Mansoor in Baghdad, destroyed by Halaku Khan.

He created Madinat al-Hikmah, the city of Culture, Education, Science and Learning, spread over an area of 350 acres some 40 km. from the city center Karachi.

#### Treasure of Recorded Knowledge:-

A scholar and a firm believer in power of knowledge Shaheed Hakim Mohammed Said knew that Books lead the path towards knowledge-wisdom-enlightenment, thus The Bait al Hikmah Library (BHL) came into being.

The Library with all technical aids and all the modern library equipment in its possession, books and non-book material as well as technical and experienced hands to furnish whatever is needed by the seekers of knowledge, biggest privately managed library of South Asia, stretched over an area of 127,000Sq.ft.

The beautiful building of BHL has a capacity to house about five million (500,000) books in it. At present the main building of the Library holds about 300,000 (three hundred thousand) volumes of significant content, rich records of knowledge in forms of books, rare books, manuscripts and in many other forms.

Besides Urdu and English, the Library also holds books and records in other national languages i.e. Punjabi, Sindhi, Baluchi and Pashto etc., as well as in Arabic and Persian.

Although the books in Library collection, covers a variety of subjects concerning Social Sciences, Humanities, but especially the collection on History, Islam, Pakistan, Urdu Literature, Legal studies, Tibb (Eastern Medicine), Medical Sciences is remarkable.



There are about 450 translations of Holy Quran in 66 different languages, 40 manuscripts written by famous calligraphers on beautifully decorative gold edges paper. About 1738 rare manuscripts have been acquired and preserved in this section of BHL. It consists 1025 Persian, 536 Arabic, and 138 Urdu. Six hundred fifty seven (657) original handwritten manuscripts have been acquired from the contemporary writers and preserved in this section.

IN HOUSE Developed Software:-

Oracle 6: BHL software designed by Oracle Corporation IN 1989 on Oracle 6 Run thorough Terminal. This System was upgraded from oracle 6 to oracle 7 in 1997, The designed Staff Interface on Power Term especially for the Library covers all the expected modules required

the software had following flaws:

- Not user friendly
- Only trained staff is able to run the system with the support of software experts
- Power Term interface was not activated due to non-technical staff deployed on the system
- The staff faced many problems regarding report module and space due to the growing collection
- OPAC is not available

POWER TERM ORACLE 6

Img:1 Main Menu



Img:2 Search Menu



### Central management system (CMS)

In 2016 the system department decided to transfer the power term data to the in-house software CMS on Oracle 11 which was initially designed for Admin Department of the Hamdard University. System department designed a book searching and book entry module in CMS without consultation of library staff. Due to this reason the software is:

- Inappropriate for library routine task such as Circulation, Acquisition, Serials and Reports.
- Report is active but is not enough to fulfil the library staff requirement
- Not compatible with other library software being used in contemporary Institutions
- In-house software is restricted to the university and staff users only. Library is unable to extend or facilitate its services through this system to its distant national and international scholars, Researchers and academicians.

Many problems which are being faced in BHL are the common problems faced by the Librarians anywhere when adopting technical changes and has been reported time and time again by the librarians i.e.:

- Lack of support from the Government

- Nonexistence of Standards as per local needs
- Deficiency of training facilities of new methods and techniques for the Professional and Semiprofessional staff
- Lack of strategic planning
- Non cooperative attitude of System/ Computer department
- Provision of sufficient funding from the parent organization
- Administrative changes in system department of the organization affects the technical assistance in use of software in library operations.

#### WHY KOHA

BHL housed a vast collection diversified in subjects, languages and formats. While using the in house developed systems the problems faced, a completely Integrated Library Management system was needed, a system which must be:

- A complete integrated System plus Free open source
- Best for a centralized system in a Library with several branches
- Strong and diverse report generation
- Multi lingual choice of collection like in BHL
- As an Open source it can be customized as per local needs
- BHL has a large collection in many formats, KOHA supports individual coding
- Provides collection code and shelving location for each book
- Multiple options for advance searching

Keeping in view the above-mentioned requirements, available soft wares were analyzed. After careful searching it was decided that the KOHA is the ultimate choice.

However, the task is still not easy and straight forward; when converting the catalogue developed on CMS more problems and hurdles emerged:

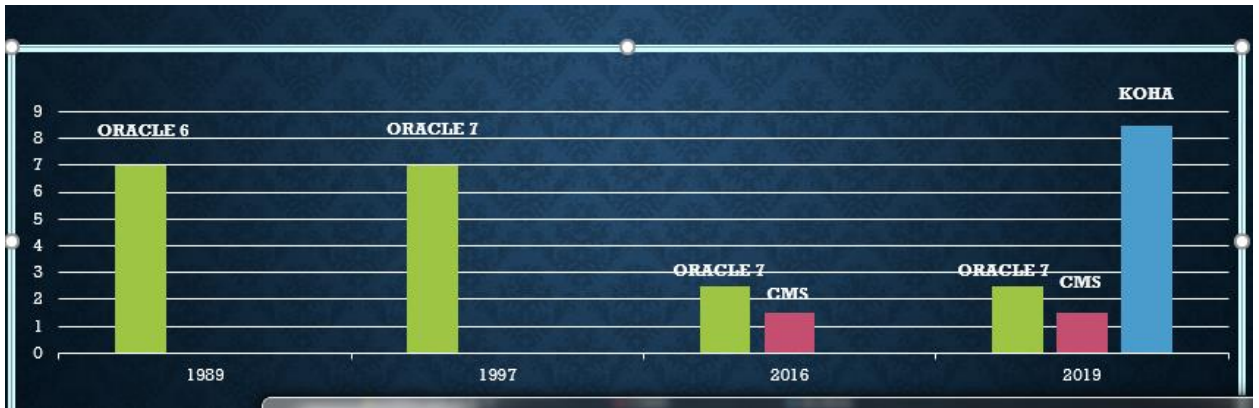
Compatibility problem in Library Modules circulation, report and serials

- Data tables' fields exist and needed to process in new system were not added in the CMS
- Dual system for a different functions were running in the Library because the CMS is not an Integrated system
- KOHA does not allow duplicate accession, because of the Barcode unique ID is mandatory

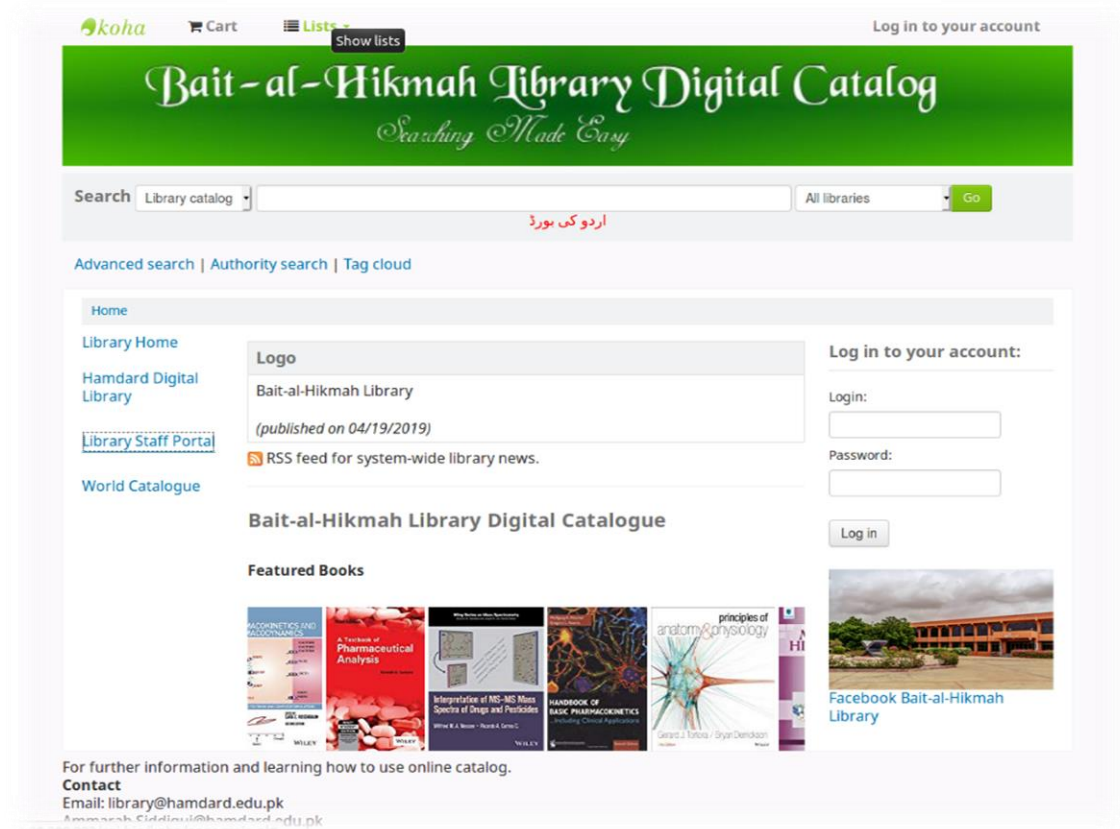
Although the Library was supposed to be functioning as Centralized system there was no check on the collection housed in the Faculty libraries, faculty libraries were performing their circulation task through the serial number rather than accession number allotted

by central library, resulting the issue of duplication in sequence of the accession number. All faculty libraries started the sequence of serial no from 1.

- Another challenge faced by library is in data retrieval in required format from CMS & Oracle 6 database.
- Insufficient data retrieve from the system due to Lack of trained technical staff and Library software experts at the time of development.



Img:3 Bait ul Hikmah Digital Catalogue Time Line



Img:4 Library catalogue Transfer into Koha

Conclusion: Changes are inevitable in this digital age but getting the essential support to face these challenges and turn them into opportunities is the biggest challenge of all.

Suggestions:

- Data uniformity is the only solution for easy data transfer .
- Librarian consultation should be mandatory in designing library software
- For effective planning and coordination between librarian and system experts must be made sure
- For successful implementation of any software, beforehand technical training is essential for even an professionally qualified staff
- Although free open source system like KOHA do not build financial pressure, but the provision of required and suitable Hardware could be a burden, management must be persuaded to provide the same for sharing experiences and consultation for solving problems, professional organizations must provide platforms for the librarians

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