

# USE OF IT BY SPECIAL LIBRARIES IN THE ARAB WORLD: AN OVERVIEW

**Ramadan Elaiees**

Dept. of library and information science  
University of Benghazi, Libya  
E-mail:ramelaiees@gmail.com

## Abstract

Enabling technology has contributed to the transformation of library services from traditional services that depend on card catalogues, traditional sources, and face-to-face reference services to new revolutionary services that include electronic sources, virtual services and on line services. The pace of technology innovation in libraries has steadily accelerated over the past decade to make work more efficient. The advent of the internet and World Wide Web has also brought not only a dramatic change in library sources and materials but has also changed the way of providing library services and meeting user expectations. The advent of the Internet has not only developed library services but also has contributed to the design of new tools such as the Intranet, which have made real and noteworthy changes in the provision of library services. This paper aims at exploring the state of IT usage by special libraries in the Arab World. It intends to provide an overview over the current state of IT utilization in special libraries in the Arab regions.

**Key words:** Special libraries, Electronic library services, Information technology

## Introduction

During the twentieth century, all types of libraries dealt with printed information sources particularly books and periodicals. Audio-visual materials have been part of library collections since the 1930s and then came the magnetic disk to store machine-readable information in the

1960s with the entry of computers to libraries. Subsequently CD-ROMs of all kinds and forms / Multimedia CD / DVD, which spread during the 1980s and 1990s, have become also part of library collections. All of these materials have presented challenges for libraries and librarians particularly with regard to indexing, cataloguing and classification. Nevertheless, libraries and librarians managed to overcome these hindrances and managed to deal with them step by step by adopting and using technology and by appointment of well- qualified and skilled staff. The evolution of electronic publications and the ability to print Full text, Images and the techniques of hypertext coupled with the development of research methods and strategies for

searching full text in a remarkable way resulted in achieving flexible and effective search.

The advent of the internet and World Wide Web has also brought not only a dramatic change in library sources and materials but has also changed the way of providing library services and meeting user expectations. Library patrons nowadays expect the following (Moyo, 2004):

- Faster service
- Service availability
- Easy access
- Virtual reference service librarian available online 24/7
- Easy-to-use Web resources permitting self-service
- A librarian who knows all subjects and all databases
- Everything should be in electronic format
- Several alternatives to choose from

This shift in user requirements and needs in the new electronic environment has obliged libraries of all types to develop IT infrastructure to cope with user demands.

Kebede (2002) states that library users prefer convenient, easy-to-use information media and technology that is easily available and requiring skills that they already possess. The reason for these new requirements and demands may be related to positive experiences with new technology which has offered time saving in information search and delivery. In addition to enlargement of the scope of resources used regardless of negative consequences that are associated with information overflow and problems in using new services due to the lack of skills required to get the utmost benefits of electronic services (IFLA proceedings, 2005).

Kasarab (2006) confirms these user expectations. He points out that we live in a world where speedy delivery is essential as a consequence of the internet and electronic sources, which have created expectations amongst users that everything can be found electronically. Library customers cannot always understand that not everything exists in electronic form or can be available in electronic form. Therefore, librarians will have to give access to more electronic resources in order to satisfy the growing demands for digital materials.

The impact of the recent expectations of library readers on information professionals and librarians has massively changed the way they perform their job and put them under continuing pressure. In the light of this fact they have to improve their professional skills and to keep up to date with advanced tools to be able to cover the growing demand of electronic information. Marshall (2003) embodied these new challenges in what she refers to as the three-paradigm shift:

The first shift is the transition from paper to electronic media as the dominant form of information storage and retrieval. Linked to this transition is the convergence of previously separate media, such as text, graphics, and sound, into multimedia resources.

The second shift relates to the increasing demand for accountability, including a focus on customers, performance measurement, benchmarking, and continuous improvement. All of this is taking place in an era when the financial resources available for providing library and information services are shrinking.

The third shift comes from new forms of work organisation such as end-user computing, work teams, job sharing, outsourcing, downsizing, and re-engineering.

### **1. Information Services in the Electronic Environment**

Despite previously mentioned challenges there is no doubt that any new development in the form of containers and sources of information has advantages and benefits to both the library and users. We have seen the effects of rapid technological developments over the past two decades, which have affected most of the activities of library procedures, and the nature of services provided to library patrons and the way services are provided to users. Electronic journals for example which can be considered as a major development in the field of electronic publishing have had a positive impact on library users. An increasing number of e-journals are now available as online open access, requiring no subscription. Commercial journals are also available online as subscription-based. Electronic journals assisted libraries and users in many ways. The following is a summary of the advantages and benefits of electronic journals and their impact on libraries in general and special libraries in particular (Ashcroft, 1999):

- Electronic journals help libraries to be rid of the problem of theft of periodical pages and the problem of storage associated with paper versions.
- Electronic journals help libraries to reduce expenditure associated with the purchase of furniture for shelving and keeping the old volumes.
- E-journals help libraries to reduce expenditure required for binding, repair and maintenance.
- E-journals help many libraries to reduce the problem of tracing articles required by patrons and the problem of loss and late arrival of some issues and so on. In fact, there is no longer a need to wait for days or weeks in order to obtain the required articles from a magazine or a journal.

**In terms of user advantages, E-journals have helped library patrons in many ways. The following are some of the user benefits:**

- Users are offered direct, permanent access, and constant access 24 hours a day, 7 days a week. It has become possible for users to satisfy their research need without being restricted to the opening hours of the library.
- Multi-user access, where the same article and research papers can be accessed at the same time; this was and still is difficult with paper-based forms.

- Fast access, many electronic journals are available on the web a week or two before the emergence of the printed version.
- Flexibility in the way of accessing the articles or research papers: either printing them directly (access to a hard copy) or downloading them or e-mailing them as file attachments. This method resolved the problem of users having to create photocopies of a paper as most libraries do not circulate their journal collections and do not allow issues outside their premises(Cargille, 1999).

Enabling technology has contributed to the transformation of library services from traditional services that depend on card catalogues, traditional sources, and face-to-face reference services to new revolutionary services that include electronic sources, virtual services and on line services. The pace of technology innovation in libraries has steadily accelerated over the past decade to make work more efficient. Neil McLean, the librarian of Macquarie University, stated in a keynote address to a UK/Australian seminar on cooperation in London in July 1997 that the new service paradigms will include the following (as quoted by Moyo, 2004):

- The capacity to influence both the form and makeup of information consumed.
- The personalization of information/communication services.
- Location should not be a distinctive barrier to access.
- Transparent access is expected to a range of information resources.
- The ability to access a number of remote information sources at the (same) time.
- The ability to mix different media in real time.
- The provision of a choice in suppliers; and
- The ability to interact with other colleagues in a collaborative-networked environment.

Virtual references services (VRS) have massively changed the way of providing reference services to library users. However, the traditional service is the basis of the latter, and the latter is the inheritance and development of the former. Because of the advantages associated with VRS almost all libraries which have the ability to shift to electronic services that need a solid base in technology infrastructure have moved to the electronic environment and begun to provide VRS in the beginning of the new millennium. Moyo (2004) suggests that virtual reference services offer the following advantages:

- Service is easily accessible wherever there is Internet access.
- Capability to reach both remote and local library users.
- Increases accessibility of librarians to library users.
- Provides point-of-need assistance to users and;
- Convenient for those users who cannot otherwise come to the library (e.g. mobility impaired, invalids, etc.)

## 2. The Impact of Integrated Systems on Special Library Services

An integrated library system was defined by Saffady (2000) as an interrelated suite of computer programs that automates multiple library operations. Automated library systems have been in use for more than two decades (Farajpahlou, 1999). Future developments are expected in technical service functions following the same trends, as well as changes that will provide ways to manage emerging electronic products (Bills, 2000). By 1992 more than 1,300 large integrated library systems had been installed in the EC (European Community) member countries (Larsen, 1992). Special libraries across the world have implemented integrated library systems over along period to improve their technical services, as the effects of such systems can be significant and benefits are well documented. Ebenezer (2002) summarized the advantages and impacts of integrated systems on technical services as follows:

- Improving the efficiency of internal operations, through improving internal workflow and sharing catalogue data.
- providing access to local library resources, through the provision of OPACs and through retrospective conversion of card catalogues and;
- Providing access to resources outside the library.

In the Gulf region, some libraries have introduced only CD-ROM and online literature searching. Others are in the process of planning the implementation of automated systems and the integration of electronic information sources into their services (Ashoor, 2000). Over the last two decades, a number of special libraries and information centres in the Arab world have introduced electronic resources into their library services. Very few have implemented automated and integrated systems. By implementing integrated library systems, special libraries would be capable of enhancing their technical services to the required standard and would be able to provide services that are most frequently required by end users.

The United Nations has supported a number of different approaches to assist developing countries to leapfrog to the rank of developed nations by adopting some programs that can help in achieving the targeted goals. This was addressed in the Geneva Declaration of Principles and Tunis Commitment (World Summit on the Information Society. 2005) The recommendations of both summits emphasize the following;

- Adoption of Information and Telecommunication technologies, which are considered the corner stone required for supporting the process of the transition to an information society.
- Developing human capacity by designing of training programs and workshops in order to improve information literacy.
- Establishment of national information policies to enhance the current state of information infrastructure.
- Establishment of digital content and long-term preservation strategies of the information created, purchased, and harvested in a digital form.

There are various free integrated systems supported by the UNESCO such as WEBLIS and GENISIS that can be used and exploited by special libraries and information centres to develop the services presented to end users. WEBLIS is a free-of-charge Web based Library Integrated System based on CDS/ISIS. This software consists of the following modules:

### **Cataloguing system**

#### **OPAC search LOAN module Statistical module**

GENISIS is also a free of charge system. There are two versions of the tool: GENISIS Web, for web publishing and GENISIS CD for developing CD Rom interfaces for CDS/ISIS databases.

In addition to these software packages there are many other freely available software that can assist in developing technical services in special libraries such as CDS/ISIS, MINSIS, and DOBIS/LIBIS.

Regarding the Arabization of library systems, automated library systems in the Middle East have gained a foothold mainly through local initiatives involving conversion of two western products: DOBIS/LIBIS and MINISIS. Collier (2002) states that the Arab market is however receiving considerable attention from many commercial suppliers who claim that their products are readily convertible to Arabic.

The advent of the Internet has not only developed library services but also has contributed to the design of new tools such as the Intranet, which have made real and noteworthy changes in the provision of library services. The industrial and technological revolution has had an effect on the creation of specialised libraries in the present century in order to satisfy a great variety

of research needs through the services provided by these information centres (Garcia, 1997). Digital libraries, which have emerged as a result of the evolution of technical technology, have dramatically changed the way users search and obtain information in flexible ways all over the world. This considerable change will lead to the library of the future and will dominate the future of online searching. Digital libraries will offer a much richer set of services to their users than the traditional library and a large variety of multimedia text, images, and audio-video materials to satisfy user requirements and demands.

### **3. Use of IT by special libraries in the Arab world**

There are four sub-regions of the Arab world which differ mainly in terms of wealth and size but which share common characteristics such as religion, customs and values, history, and language. These sub-regions are as follows (Aladwani, 2003):

1. Arab North-African countries (Algeria, Egypt, Libya, Morocco, Mauritania, and Tunisia)

2. Arab East-African countries (Comoro Islands, Djibouti, Somalia, Sudan, and Yemen)
3. Arab heartland (Jordan, Lebanon, Palestine, Syria, and Iraq) and finally
4. Arab Gulf countries (Kuwait, Saudi Arabia, United Arab Emirates, Bahrain, Qatar, and Oman)

Because of the difficulty of covering what has been written on the topic in every country, only the status of IT in some countries in different regions was reviewed. Special libraries in the Arab world were divided into different regions, and then a number of special libraries in different countries in each region were selected for review according to the availability of resources.

Syria started providing electronic mail in early 1999. The project was aimed at providing e-mail as well as internet services via FTP. Two types of subscription were offered, one for e-mail and another one for browsing the internet (Askhita, 2000). Different problems and obstacles were encountered at the beginning of the project but were overcome later on. In 1998 the Al-Assad National Library put its national databases on the National Data Communications Network Syria Pac and allowed access over the network to users from all over the country (Askhita, 2000). Saudi Arabia started using computers in the late 1970s (Ramzan, 2004). Libraries in Bahrain implemented electronic checking systems for books and started using CD- Rom databases in late 1980. Automation of library operations in Saudi Arabia began in the 1980s. This included integrated library systems and the use of on- line databases. Internet and networking followed in special libraries and academic libraries in the early 1990s (Ramzan, 2004).

A recent study of Jordanian libraries (Younis, 2002) revealed that libraries in Jordan and in particular special libraries use either integrated Arabized information systems, such as the MINISIS and CDS/ISIS software packages, or a customized system. Aladwani (2003) states that there is considerable difference in terms of number of hosts per 1,000 people across regions: “The Arab Gulf region once more dominates the top rankings. On average, there are approximately 1.5 hosts per 1,000 people in the six countries compared to an average of 0.05 hosts per 1,000 people in the remaining Arab countries. Not surprisingly, the Sudan, Djibouti,

and Yemen sub-regions have the least number of hosts among all sub-regions of the Arab world with 0.02 hosts per 1,000 inhabitants. In terms of the absolute number of Internet hosts, United Arab Emirates comes first with more than 34,000 hosts and Djibouti comes last with only one Internet host”.

It would seem that special libraries in the Arab world have more similarities rather than differences as there are no significant differences between special libraries and information centres in most of Arab countries in terms of services presented to end users. However, ICT usage differs from one special library to another according to existing circumstances such as financial support, levels of education and awareness of library managers, the direction and support of the parent institutions, and the awareness of the importance of ICT in different regions. In order to get a clearer view of the current state of special libraries in the Arab world a number of studies that have been conducted in

those countries to shed light on special library services in certain Arab states were reviewed in order to establish the level of those institutions with regard to the services provided to end users and to shed light on how IT influences the improvement and development of the services offered.

In a PhD study covering special law libraries in Egypt (Mohammed, 2004) the researcher discussed the status of nine law libraries and information centres. The study was aimed at evaluating the services provided by law libraries along with technical services. Technical services in this context means, the job that is usually done behind the scenes with materials and/or systems such as classifying and organizing materials and describing and indexing resources. The results of the study revealed that law libraries in Egypt were in poor condition as the basic components of law libraries such as buildings, equipments, resources, and staff were not up to the level, which prevented those libraries from being able to serve end users.

The researcher found it necessary to follow the recommendations made by the study to improve the services provided by law libraries in Egypt. Amongst the most important recommendations were:

- There is an urgent need to develop ICT strategy along with ICT infrastructure.
- Library collections were found to be inadequate in terms of quantity and quality.
- Therefore, there is a need to develop an appropriate policy for acquisitions in law libraries.
- Law library staff were not found to be in a position to provide adequate services to users because of a lack of the skills required and an inability to understand the needs and requirements of users served by law libraries.

Another study was conducted in the same country into the pharmaceutical sector (Amar, 2000). This study focused on the status of information services in pharmaceutical information centres in Egypt through a field study of a sample of medical information centres in thirteen specialised libraries.

The study covered several pharmaceutical information centres that provided services to end users. It discussed current awareness services, selective dissemination of information services, indexing and abstracting services, translation services, bibliographic services and user training. Some of the study findings were as follows:

- Most of the libraries and information centres in the selected sample were not able to provide translation services and the level of selective dissemination of information services was very weak.
- There is a notable lack of a plan or policy to guide workers about better ways of providing information services using appropriate methods.
- There is a lack of the necessary financial resources to provide required services in addition to a lack of cooperative programmes between libraries and information centres of medicine. The study recommended a number of steps to improve the condition of libraries covered by this sector. The most important of these were:

- There is a need to provide adequate financial resources to cover the cost of information services.
- There is a need to speed up the provision of current awareness service and selective dissemination of information services through finding suitable ways to provide these types of services.
- There is a need to speed up the creation of a cooperative action plan between libraries and pharmaceutical information centres for the delivery of high efficiency services.

Libraries in the Gulf region, which comprises the six states of Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, and the United Arab Emirates (UAE), started using the first generation of library automation systems such as MINSIS and DOBIS /LIBIS in the 1980s (Khurshid, 2003). These systems were Arabized to handle Arabic script. In 1990, many other systems were implemented and used in academic and special libraries in this region, such as AMICUS, DOBIS/LIBIS, Horizon Millennium, OLIB, Q Series, Unicorn and Virtual/VTLS. Since 1991 the Horizon system has been

implemented and used by many special libraries. According to a survey of market share of library systems in the Arabian Gulf region in December 2002, Horizon systems were found to be used by 30 special libraries from a total of 59 special libraries in that region (Khurshid, 2003). Despite the fact that the Gulf region is a very wealthy region and was the first region to implement and use automated library systems the performance of special libraries in that region has not been good. A study was conducted to reveal the current status of the services provided to end users at the King Faisal information centre for research and Islamic studies (Almasned, 2003). The objective of the study was to determine the impact and the benefits of information services which the centre provides to end users by exploring categories of users, the nature of the most frequently required documents, and users' interests. After the researcher had assessed the present condition of this centre the researcher implemented a number of recommendations produced from the study which focused on drawing up a plan for collecting data and documents that satisfy user needs and suit the objective of the centre. He also found that there was a desperate need for preserving and maintaining existing databases with regard to subject coverage, information updating, and exploiting the latest developments in ICT. He also extended services for users such as the current awareness service and selective dissemination of information.

Another study was conducted within the same region with the aim of discovering the status of special libraries and information centres in Bahrain (Alremhy, 2003), their basic structure and any obstacles and constraints that faced these institutions. The following points summarize some of the results:

- Information centres have undertaken the first steps towards developing ICT infrastructure in order to provide users with electronic data and information in all sectors.
- Electronic catalogues will be constructed in order to be able to provide users with full bibliographic data.
- There is a lack of standards pertaining to the construction and building of special libraries and information centres in Bahrain.

**The study recommended the following:**

- There is a necessity to start building a national library.
- There is also a need to establish a national information bank
- Establishment of comprehensive networks to facilitate access to information and access to international networks is a fundamental issue.

Another study was conducted in 39 companies and corporate in Kuwait, which is a small state in the Arabian Gulf with the second largest petroleum reserves, to investigate the conduct of information operations in companies covered by the study (Laila Marouf, 2003). One of the most significant findings of this study was that the majority of Kuwaiti corporate companies are engaged in a number of information activities but none of these corporates had any professional who had formal education and training in information studies. It was also noted that there was little activity with respect to indexing, filing, tagging, classifying, and categorizing internal information. A number of papers have been published and various studies have been conducted in the Arab heartland region, which comprises Jordan, Lebanon, Palestine, Syria, and Iraq. A study of the use of computers in the field of information services in Iraq (Kandligny, 2000) was aimed at assessing the Iraqi experiment into the use of computers in information services. This study reviewed different types of information services and highlighted computer use in the field of information services in some Iraqi institutions. The study focused on on-line search services and identified the types of databases used in these institutions. The study made a number of proposals related to financial support to improve the use of computers in the area of information services and documentation in scientific institutions in Iraq in order to improve the overall services.

**References**

- Aladwani, A., 2003. Key internet characteristics and e-commerce issues in Arab countries. [online] Available at: <<http://www.alia.org.au/>> [Accessed 10 November 2008].
- Ali, S., 2004. Special libraries in Libya. Benghazi: University of Garyounis Publications.
- Almasned, M., 2003. Information services of King Faisal information centre for research and Islamic studies. *New Library Trends*, 2(4), pp. 82-106.
- Almasned, M., 2003. Information services of King Faisal information centre for research and Islamic studies. *New Library Trends*, 2(4), pp. 82-106.
- Alremhy, A., 2003. Special libraries and information centres in Bahrain. *Arab Journal of – Informatics*, 10(8), pp. 15-32.
- Arms, W., 2000. *Digital libraries*. Cambridge: MIT Press.
- Ashcroft, L. and Colin, L., 1999. Electronic journals and university library collection. *Collection Building*, 18(3), pp. 105-112.
- Ashoor, S., 2000. Planning the electronic library: suggested guidelines for the Arabian Gulf region. *The Electronic Library*, 1(2), pp. 29-39.
- Ashoor, S., 2000. Planning the electronic library: suggested guidelines for the Arabian Gulf region. *The Electronic Library*, 1(2), pp. 29-39.

- Ashworth, W., 1967. Handbook of special librarianship and information work. London: Aslib.
- Askhita, H., 2000. The internet in Syria. *Online Information Review*, 24(2), pp. 144-149.
- Australian Library and Information Association. Guidelines for Australian special libraries.
- Aziz, Y., 2000. National information systems. Benghazi: University of Garyounis Publications.
- Chowdhury, G., 2004. Digital divide: how can digital libraries bridge the gap. *Journal of Information Science*, 4(12), pp. 56-63.
- Chowdhury, G., 2002. Digital libraries and reference services: present and future. *Journal of Documentation*, 3(58), pp. 33-39.
- Collier, A., 2002. Arabization of library and information systems. *Program*, 4(28), pp. 19-24.
- Ebenezer, C., 2002. Trends in integrated library systems. *Library Trends*, 4(32), pp. 129-135.
- general conference. 14-18 October 2005. New York: United Nations.
- *Information Technology & People*, 16(3), pp. 9-20.
- Ingrid, S., 2003. Libraries a voyage of discovery. In: Proceedings of annual meeting of IFLA.
- Ingrid, Y., 2005. Digital library evaluation: progress and next steps. In: Proceedings of annual meeting of the American Society for Information Science and Technology. 24-27 May 2005. Charlotte, N.C.
- Kebede, G., 2002. The changing of information needs for users in electronic information environment. *The Electronic Library*, 1(20), pp. 14-22.
- Khurshid, Z., 2003. A survey of the Arabian Gulf library automation marketplace. *Electronic Library and Information Systems*, 37(4), pp. 56-61.
- Khurshid, Z., 2003. A survey of the Arabian Gulf library automation marketplace. *Electronic Library and Information Systems*, 37(4), pp. 56-61.
- Labyed, S., 2007. Technology level in Libya. [Onlin] Available at: <<http://Ltt.ly/english/index.php>> [Accessed 26 October 2007].
- Laila, M. and Sajjad, R., 2003. Information operations in the Kuwaiti corporate sector: an analysis. *Electronic Library and Information Systems*, 37(1), pp. 31-37.
- Law, D., 2007. Beyond the hybrid library: libraries in a web 2.0 world. London: Springer.
- Moyo, L., 2004. Electronic libraries and the emergence of new service paradigms. *The Electronic Library*, 3(22), pp. 13-29.
- Ramzan, M., 2004. Levels of information technology applications in Muslim world libraries. *The Electronic Library*, 22( 3), pp. 274-280.
- Saffady, W., 2000. The status of library automation at 2000. *Library Technology Reports*, 1(36), pp. 51-58.
- Younis, M., 2002. The perception and administrative effect of internet usage in Jordanian university libraries. *Online Information Review*, 26(3), pp. 193-208.