

The University of Petroleum and Minerals: A Model for an Academic Library

The University of Petroleum and Minerals Library, located in Dhahran, Saudi Arabia, is a science-engineering library that strives to maintain high standards of library service. The library passed through four phases of development (1965-1981) under the administration of four American-trained librarians. The collection is organized according to the LC classification scheme and AACR. The current collection numbers 160,000 volumes with 75 percent in science and engineering and 25 percent in humanities and social sciences. In addition, there are more than 300,000 nonprint items and 3,800 periodical titles. The library offers access to external resources, photocopying, library orientation programs, and literature searching. DOBIS/LIBIS, an online, integrated interactive system, is being implemented now for the automation of all library functions. In the foreseeable future the library will be in a position to provide more efficient information services to the UPM community.

THE UNIVERSITY of Petroleum and Minerals (UPM) is a semiautonomous government institution of higher education, oriented to support the petroleum and mineral industries in the kingdom of Saudi Arabia. Located in Dhahran, UPM operates under an independent board of the university and is attached administratively to the Ministry of Higher Education. The university was established originally as a college on September 23, 1963, and was subsequently raised to the status of a university on January 17, 1975.¹

The academic program is based on the American model of higher education and is patterned after that of the Massachusetts Institute of Technology (MIT). It includes a preparatory year program, five undergraduate colleges (Applied Engineering, Engineering Sciences, Industrial Management, the College of Sciences, and most recently the College of Environmental Studies), and the College of Graduate Studies.

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The faculty is multinational, and English is the principal language of instruction with the exception of a few courses related to Islamic studies in which Arabic is the language of instruction.

The UPM Library stands today as a model for a modern university library. Located within short walking distance from most classrooms and laboratories, the library in 1974 occupied a building with a total area of 3,762 square meters (40,630 GASF). With the expansion completed in the summer of 1978, the library is now in a position to provide a very relaxing atmosphere for study and research. The expansion of the building has provided the library with a total area of 6,566 square meters (70,913 GASF). Major improvements included the addition of a fourth floor, which has increased book stack capacity by 100,000 volumes and raised the seating capacity to 13.4 percent of the current student body (3,047); the consolidation of book processing services (serials, cataloging, and acquisitions); the restoration of the auditorium for public use; improved lighting and fire safety features; a larger stairwell;

dual elevators; and an enlarged shipping and receiving room.

The acquisition program enjoys an excellent book budget with unrestricted funds. The library acquires current and recently published materials through three methods: "approval plans," "firm orders," and "standing orders."

The collection is organized according to the Library of Congress (LC) classification system. Cataloging is done under the *Anglo-American Cataloging Rules (AACR)* using LC subject headings. Beginning in 1981, the library will be implementing the new edition, *AACR2*. Cataloging of Arabic materials also follows *AACR*, except that all descriptive cataloging information appears in Arabic.

The current collection numbers 160,000 volumes, with 75 percent in science and engineering, and 25 percent in humanities and the social sciences. In addition, there are 250,000 microfiche, 60,000 reels of microfilm, and about 8,000 16mm films, cassettes, and other nonprint materials. Arabic books number about 15,000 volumes, and the periodical subscriptions total 3,800 titles with more than 800 titles on microfilm.²

The library maintains an open stack system to encourage browsing. To encourage and maximize utilization of library services, it operates with a minimum of regulations and restrictions.

Currently, the library has fifty-seven staff members, including twenty-eight professional librarians. The library staff includes many nationalities, including Saudis, Middle Easterners, Indians, Pakistanis, and Americans. The library employs some student assistants in its various departments.

The library serves a community of 4,497 people (566 faculty, 1,450 staff, and 3,047 students),³ and provides direct borrowing privileges to ARAMCO and King Faisal University in the eastern province of Saudi Arabia. Frequently, the library also extends its services to local government agencies and private institutions. Among its services are access to external resources (e.g., British Lending Library photocopy service), photocopying, instruction in the use of the library, and online literature searching of databases in the U.S. and Europe. Through its educational aids department, the library also offers

extensive audiovisual, graphics, and printing services.

Four American-trained librarians, with degrees from the Universities of Columbia, Michigan, Chicago, and Pittsburgh, have served as directors of the university library between 1965 and 1981. Under these four directors, the library has undergone four phases of "development." The first phase was related to the establishment of the library system.

Fred W. Harsaghy (1965-1969) established basic rules for collection development, cataloging, and the circulation of library materials. During his administration the library acquired 15,000 volumes and maintained 450 periodical titles. The library had only seven staff members, including the director of the library, who was the only professional librarian. The library at that time occupied a portion of the fourth floor of the old administration building, with floor space of approximately 700 square meters. Harsaghy preferred to do local cataloging of library materials, using DDC and the Sears List of Subject Headings.

In September 1970 Izzudeen Essaid, an Iraqi national, replaced Fred Harsaghy as director of the UPM Library. Essaid's administrative experiences at the Universities of Michigan and Chicago were reflected in the library. Essaid employed a modern approach to library service. His first priority was to convert the collection to Library of Congress classification (LCC) because of its flexibility and its capacity for future expansion. That same year Dr. William Dix, university librarian at Princeton University, was appointed a member of the American Consortium of Universities (of which UPM is a member) to advise the UPM administration on library matters.

Dix strongly supported the library director's requests for a more active role in the UPM administration and a larger book budget. Thanks to Dix's recommendations, the director of the library began reporting directly to the dean of the college in 1972. Aware of the remote location of UPM and the absence of local library support, Dix recommended a "five-year plan" to acquire 100,000 volumes in science and engineering between 1972-1977 and 25,000 volumes in the social sciences and the humanities.⁴ He also recom-

mended establishing technical and public services departments and suggested certain modifications to the library building. Between 1972 and 1976 Dix visited UPM several times and made periodic evaluations of the library. During this period the collection expanded tremendously. Airfreight shipping of books and periodicals, the approval plan, and standing orders for acquiring library materials were introduced. The library maintained a computerized list of the periodical titles available at UPM and participated in a union list of periodicals with regional libraries. At this time the library also developed two publications for the UPM community: *Library Scene* (1975) and the *Library Handbook* (1976).

During this second period the administration did a preliminary investigation of specific library automation systems, including DOBIS/LIBIS,* which was used at the University of Dortmund, West Germany. The library was also reorganized into three major divisions: technical services, reader services, and research services (see figure 1).

In the spring of 1976 Izzudeen Essaid resigned his post as director of the UPM Library and was succeeded by his assistant for technical services, Michael Moran. Moran concentrated his efforts on establishing standard policies and procedures. He established the *General Library Manual*, a collection of policy statements, and introduced certain important projects, including the descriptive cataloging of periodicals. However, library automation under Moran received low priority. He was of the opinion that the UPM Library was too small to be automated at that stage.

In June 1979, Moran resigned his post as director of the UPM Library. Upon his resignation the university administration decided to create the position of dean of library affairs. Consequently, in September 1979 the author, who served as assistant director of library services under Izzudeen Essaid (1971-73), was chosen to be the dean of library affairs. In his capacity as a dean he represents the library in the Council of Deans and maintains membership in university standing committees. The dean reports to the

vice-rector for research and graduate studies and is responsible for the administration and planning of all library services at UPM. At present the dean of library affairs has been delegated sufficient administrative and financial authority to ensure greater efficiency in the handling of the daily administrative activities of the library.

The library administration, under Ashoor's leadership, developed two major goals: to improve the organization and planning of library services and to maximize the utilization of library resources. Several projects were given top priority, including library automation, weeding of the collection, current awareness services, online searching of databases, and training of library staff.

The scope of library automation was carefully defined to encompass online searching of the catalog, acquisitions, cataloging, circulation, and management statistics. In late 1978 serious steps were taken to ensure progress toward library automation: the UPM Data Processing Center (DPC) conducted a prefeasibility study, and in March 1979 the Task Force on Library Automation (TFLA) was created, with the dean of library affairs as its chair. TFLA investigated various systems and eventually focused on the DOBIS/LIBIS system.⁵ In the fall of 1979, Dr. Ralph Shoffner, an expert on library automation, was brought in as a consultant. Shoffner checked DOBIS/LIBIS against other available systems, assessed the library and DPC capabilities, and concluded his study by recommending DOBIS/LIBIS as most suitable for UPM Library needs.

DOBIS/LIBIS is an online, integrated, interactive system that performs the major library functions of searching, cataloging, circulation, and acquisitions. It also has networking capabilities. DOBIS/LIBIS programs are written primarily in PL/I and operate on the main-frame computer available at DPC.

UPM decided that its major requirements for a library automation system were:

1. An online system
2. MARC compatibility
3. Integrated design
4. Locally maintainable
5. Compatible with other local DP systems such as student records, personnel, and accounting.

*Dortmunder Bibliothekssystem/Leuven's Integraal Bibliotheek System.

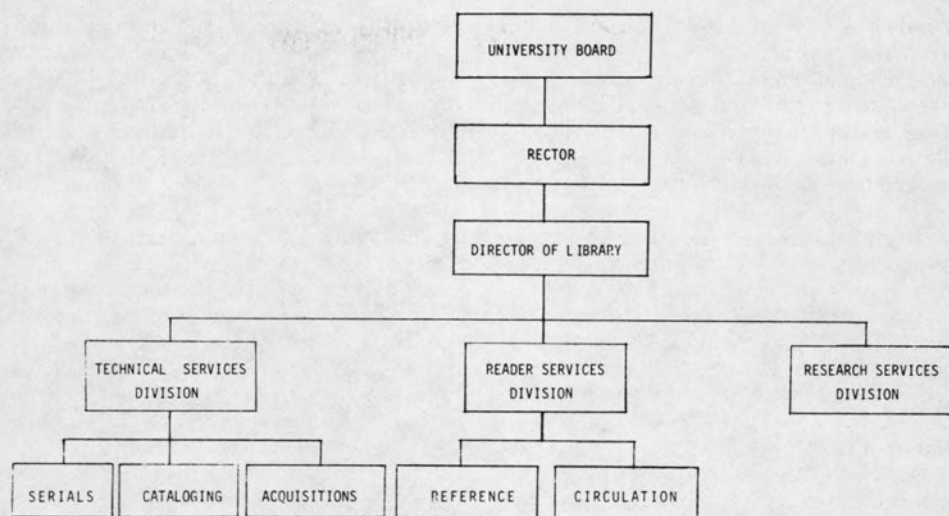


Fig. 1
UPM Library Organization Chart, 1975

In 1979, an implementation plan was finalized and the installation of the DOBIS/LIBIS system began in February 1981. The library automation project was divided into three phases:

- a) Phase-1 Operation of the Cataloging and Searching modules and conversion of existing records to machine readable form.
- b) Phase-2 Operation of the Circulation module and interfacing with Student Records and Personnel Payroll systems.
- c) Phase-3 Operation of Acquisitions module and interfacing DOBIS/LIBIS with Financial Accounting system.⁶

Estimates are that the automation project will take at least two years to complete. It is hoped that by the spring of 1983 the library's database will be accessible to queries from any terminal in the campus computer network. One of the major requirements of the UPM Library is that the system be able to manipulate files containing records in mixed scripts, in both display and hard-copy form. The system can be replicated elsewhere, leading to greater cooperation among Saudi Arabian libraries.

Recently, the library administration has placed heavy emphasis on updating reader services and promoting greater use of library facilities. Consequently, the scope of the li-

brary orientation program has been expanded to include library instruction to students in the Arabic language to broaden knowledge of the library's program. *UPM Library Accession List*, *Know Your Library Series*, *List of A. V. Materials: 16mm Films and Videotapes*, and *Periodical Printout* are published regularly. Library photocopying services were also made more efficient with the addition of three new machines. Online searching of databases has been expanded, and a computer terminal has replaced the university telex for faster data transmission.⁷

In view of increasing demands for library services and the consequent expansion of library functions the library administration has recently introduced a plan for reorganizing the library. Under this plan, related library activities will be integrated into four major departments: processing services, collection use services (print), collection use services (nonprint), and information services (see figure 2).

The second expansion of the library building, which will begin in 1985, will have a positive impact on library services. The technical services areas will be further enlarged to make room for staff offices and a larger conference room. An increase in the book stack and seating capacities will accommodate a growing collection, added academic pro-

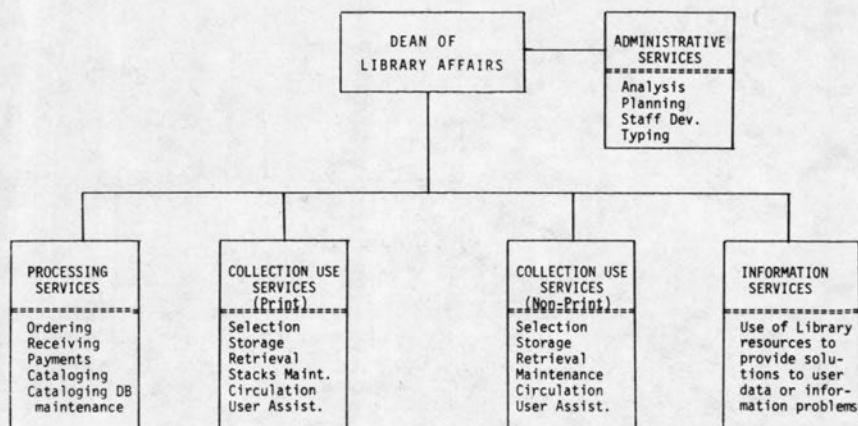


Fig. 2
UPM Library Organization Chart, 1981

grams, and a growing student body. Media Center services will be consolidated on one floor, and additional audiovisual and graphic production facilities are being planned.

With the completion of the library automation project in early 1983, we anticipate greater use of library resources. Users could save themselves the bother of walking to the library to consult the card catalog, as com-

puter terminals will be located in the various academic departments, providing decentralized, online access to the library's database. A series of new services is expected, including accession lists, SDI services, and subject bibliographies. With the Research Institute (RI) near completion, the library will be in a position to provide extensive online searching of international databases to meet the needs of the RI's research program.

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