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SIC 8231

LIBRARIES

This category encompasses establishments primarily engaged in providing library services, including the circulation of books and other materials for reading, study, and reference. Establishments primarily engaged in operating motion picture film libraries are classified in **SIC 7829: Services Allied to Motion Picture Distribution.**

NAICS Code(s)

514120 (Libraries and Archives)

Industry Snapshot

During the early 2000s, 117,418 libraries provided services to the public and to specialized audiences. Libraries offer printed matter, electronic services, audio and video recordings, CD-ROM, lectures and similar adult programming, concerts, puppet shows, as well as reading hours for children, bookmobiles, and many other services.

In addition to public libraries (9,074), there are academic libraries at colleges and universities (3,658), school libraries (93,861), special libraries (9,170), armed forces libraries (329), government libraries (1,326), as well as corporate libraries and collections tailored to specific needs like hospitals, religious organizations, and museums.

Probably the most visible libraries are the public facilities located in communities across the country. Americans borrow more than 1.7 billion items each year from such libraries, which total 16,298 including branch libraries. In addition to books, Americans borrow magazines, sound recordings (both tape and CD-ROM), videotapes, DVDs, games, artwork, computer software, and other materials.

Of all adults over the age of 17, some 64 percent use public libraries. Similarly, almost 75 percent of children between the ages of three and nine visit a public library each year, and more than 40 million elementary and secondary school students use their school libraries each week.

Public library circulation in fiscal year 2000 reached 1.7 billion items, a per capita total of 6.4 per year. Total visits numbered 1.1 billion. According to a study commissioned by the American Library Association (ALA), a majority of the population (84 percent) is satisfied with public libraries. In addition, more than half believe funding in support of libraries should be increased.

Public, academic, and special libraries alike face great challenges. Libraries usually are the first to bear the brunt of budget cuts, whether in the public domain, at universities, or in corporations, despite their importance to users. Struggling to keep up with rapidly evolving, costly, yet necessary technology, while striving to operate within budgets, libraries find themselves walking an increasingly fine line.

In recent years, library budget cuts have received widespread press coverage. Libraries also have begun purchasing greater proportions of new content in digital format. Nonetheless, overall these institutions remain an attractive market to book publishers. Libraries continue to purchase more diversified materials in order to keep up with the demand for information. In an effort to economize and make the most of existing funds, many institutions participate in cooperative arrangements known as interlibrary loan systems. Such programs enable school, public, and academic libraries to borrow materials from other libraries nationwide. As more libraries computerize their holdings, these arrangements will increase and sharing will become faster, economically workable, and more practical, enhancing efforts to reduce costs and increase library offerings and services.

Organization and Structure

The American Library Association (ALA) divides the country's libraries into several main categories. These include government, public, academic, school, and special libraries.

The nation's largest library is the Library of Congress, which contains more than 83 million items, including approximately 24 million volumes, pamphlets, and other printed materials. Created in 1800, beginning with Thomas Jefferson's collection of some 6,000 volumes, the library's first priority is to serve the U.S. Congress; it also provides many services to the nation's other libraries as well as to the general public. The Library of Congress publishes the *National Union Catalog,* a guide to the location of books in more than 1,200 libraries across North America. In addition, the library compiles bibliographic data for published books that is made available to other libraries on magnetic tape or machine-readable cataloging (MARC) for use in their cataloging processes.

The National Archives houses documents and records of the nation's history to be used for research and study. In addition to textual documents, such items include photographs, audio and video recordings, and maps. Since about 1770, the archives has housed all aspects of the federal government, encompassing domestic and military activities as well as foreign relations. The National Archives is also responsible for organizing and preserving the items and making them available to the country's citizens.

The National Library of Medicine holds the distinction of being the world's largest research library devoted to a single scientific area, although material on such topics as physics, chemistry, botany, and zoology are also collected. The library developed an online network available to major libraries across the country that allows virtually instantaneous searches of more than 5 million bibliographic citations from current journals in the health sciences.

The National Agricultural Library has been at the forefront of librarianship since it was founded in 1862 as part of the Department of Agriculture. The institution began printing a card catalog in 1899. A photocopier was developed in order to provide fast and inexpensive copies of materials, and it was the first library to test the feasibility of automated information storage and retrieval.

Establishing libraries in other countries is just one aspect of the United States Information Agency's objectives in promoting mutual understanding between Americans and citizens of foreign countries. The collections of such libraries introduce patrons to U.S. history, culture, and technology as well as American literary classics. Such libraries also serve as an example of the value of public libraries and free access to information.

School libraries play an expanded role in education by offering enhanced methods of learning via audio and videotapes, printed materials, CD-ROM, the Internet, and reference volumes formerly unavailable in more remote areas. Automation of libraries continues to make these services more widely available.

Academic libraries provide more specialized information for the benefit of scholars. Typically, a group of libraries focusing on various disciplines is linked together within a college or university setting to provide materials to students seeking specific information. The Harvard University Library, the second largest library in the United States (founded in 1638), contains more than 14 million volumes. Harvard's library system includes branches specializing in topics ranging from music to divinity, as well as a renowned law library.

The United States began the practice of providing all of its citizens access to public libraries and still strives to ensure that library services are made available to every-one. This goal was made more attainable by the Library Services and Construction Act, which made money available for the purpose of establishing libraries in smaller towns and rural areas. Similarly, branch libraries provide library service to neighborhoods in larger cities. Public libraries provide a myriad of services to their community of users. In addition to making books, periodicals, and audiovisual materials available, these libraries offer information and referral services. Voter registration, tax, employment, health and family services, and other assistance is also available, and librarians guide citizens to various agencies.

As the largest public library in the United States, the New York Public Library has a total of 85 branches. It was established in 1895 when the Astor and Lenox libraries and the Tilden Trust were consolidated. The library contains more than 42 million catalog items, including 14 million books and a large number of manuscripts, microfilm, CD-ROMs, DVD, video, audio recordings, and sheet music.

BACKGROUND AND DEVELOPMENT

Libraries have played an important role in preserving the history of civilization since the invention of writing. Alexandria, Egypt, was the site of the most comprehensive ancient library, where scholars could study manuscripts in Greek, Ethiopian, Persian, Hebrew, and Hindi. In Rome, educated citizens maintained personal libraries, and there were 28 public libraries in Rome by the beginning of the fourth century A.D.

During the Middle Ages, the libraries of monasteries preserved copies of Greek and Latin classics. During the Renaissance, collectors, kings, and noblemen preserved many works of literature and philosophy in their personal libraries. These collections became the foundations of some of Europe's great scholarly libraries.

Books received a larger circulation after Johannes Gutenberg invented the printing press in the mid-1440s. Prior to this invention, manuscripts were written by hand, an inefficient method. In addition, few members of the public were literate or had the leisure time to read books until the Industrial Revolution and other social changes in the eighteenth and nineteenth centuries. Because of these advances, libraries changed from institutions that preserved valuable works with a limited sphere of elite users to educational facilities for the common people.

In 1731, Benjamin Franklin and some of his friends organized the Library Company of Philadelphia, the earliest library of its kind in the American colonies. The first free public library supported by public funds opened in Peterborough, New Hampshire, in 1833. Additional libraries were soon opened in many other cities in the United States and Great Britain. By 1876, there were 342

public libraries in the United States, and by 1920, the number had grown to more than 6,500 institutions.

As the twentieth century came to a close, libraries were being used by record numbers of American citizens. However, funding from government at the local, state, and federal levels was becoming increasingly difficult to secure, especially in certain geographic regions. In some places libraries have closed; in others, new libraries are being built, stocked with print materials and connected to the Internet.

Electronic information services began to play an increasing role in serving library users. Massive amounts of information were contained on database systems, and people used the library as their primary source for health, employment, financial, educational, as well as entertainment needs.

In markets serving populations of 100,000 or more, the following computer-related services were available to the public in a majority of the centers: CD-ROM databases (71 percent), remote database searching (71 percent), microcomputers (62 percent), software (57 percent), and online public access catalogs (OPACs). Increasingly, libraries offered access to the Internet, enabling libraries to serve those who do not otherwise have computer access—by providing information as well as instruction in the use of computers and other equipment.

The Internet. The biggest change in libraries during the 1990s was the rapidly increasing availability of access to computers generally, and to the Internet in particular. Nowhere was the change more dramatic than in the nation's schools. Through the efforts of local communities and upon the urging of the President, ''Net Days'' made possible wiring and connections to the Internet for many of the nation's schools and especially school libraries. By 1998, 89 percent of public schools were connected to the Internet.

As of 1997, the American Library Association (ALA) reported that library staff had access to the Internet in virtually all academic libraries. Users had access to the Internet from terminals in the libraries of 93 percent of doctorate-granting institutions, 82 percent of master's colleges, 76 percent of baccalaureate colleges, and 61 percent of associate of arts colleges.

The World Wide Web became a significant vehicle for distributing information. By the late 1990s, Web home pages had been developed by 87 percent baccalaureate-granting universities, 62 percent of master's colleges, 51 percent of baccalaureate colleges, and 26 percent of associate of arts colleges.

According to the ALA, 74 percent of public libraries offered public access to the Internet during the late 1990s.

Of libraries serving populations greater than 100,000 people, 85 percent provided Internet access.

Of the 461 public libraries that served populations of 100,000 or more in 1998 (the libraries that served 57 percent of the U.S. population), 99.4 percent offered Internet access to library staff; 65 percent offered Internet access for their patrons with a staff member in attendance; 85.4 percent offered direct Internet access to their patrons; and 31.1 percent offered modem access to the Internet from outside the library.

In ''A Digital Metropolis,'' a *New York Times* Internet edition column by Jason Chervokas and Tom Watson, the New York Public Library was used as an example of the ''Quiet Revolution'' taking place in libraries. Eighty-three branch libraries were equipped with 220 Internet-ready computers; the most (17) were located in the Mid-Manhattan branch. In the four research centers the library maintained, there were 110 Internet-equipped computers; the most (95) were in the Science, Industry, and Business Library. The New York Public Library's extensive catalogue was available online through the Library Entrance Online (LEO) system. The system was made available in November of 1995 and by June of 1996 was recording nearly 30,000 visits a day.

Electronic media owners, seeking to protect their rights to the information in their databases, tried to control access to data by selling the use of the material, unlike the one-time sale of a book or periodical. This forced some libraries to charge users for access to this information—despite the basic tenets of the public library ensuring free and equal access to its patrons—based on relatively arbitrary fee structures.

Public libraries' budgets rose by 4.4 percent in 1998, for the fifth straight year. Funding for these libraries was provided by local tax dollars (78 percent), state sources (12 percent), and donations (9 percent). Less than 1 percent of funding came from federal tax dollars.

CURRENT CONDITIONS

The United States has the most extensive public library system in the world, with almost 16,300 outlets, including branches. Weak economic conditions—made worse by the terrorist attacks against the United States on September 11, 2001—presented grave challenges to these institutions during the early 2000s. While many libraries saw their budgets fall, some were forced to periodically close their doors to reduce expenses. Among the less fortunate were the Seattle Public Library, which closed down for two one-week periods during 2002. Academic libraries also fell victim to state budget cuts. In its December 2002 issue, *Library Journal* proclaimed that more challenging times were ahead in 2003 and that libraries would need to employ creativity and decisiveness when administering their budgets.

Despite the challenging times, *Library Journal* reported that more than 100 new libraries were constructed in 2002, along with another 111 addition and renovation projects. Together these projects cost in excess of $788 million, the majority of which came from local sources (87 percent). Included were some truly spectacular buildings, including the 330,000-square-foot Central Library of the Memphis & Shelby County Public Library and Information Center, constructed at the cost of more than $65 million. Although these figures are encouraging, the publication explained that 2002's project count tied for the third lowest in 14 years.

As the economy struggled, libraries saw utilization levels rise. In order to substantiate a long-held belief that an inverse relationship exists between these two variables, the ALA conducted a study in conjunction with the University of Illinois Library Research Center (LRC). According to the ALA, the study evaluated ''library use over the last five years at the 25 U.S. public libraries serving populations of one million or more. Using data from 18 of those large libraries, the study found that circulation has increased significantly since March 2001, when the National Bureau of Economic Research pegged the beginning of the latest recession. Using statistical analysis, the LRC found that circulation in March 2001 was 8.3 percent higher than would be expected from the trend observed since January 1997. Following the events of September 11, circulation in October 2001 exceeded the trend by 11.3 percent.''

As libraries headed toward the mid-2000s, an increasing amount of attention was being given to the so-called ''library of the future.'' The growing universe of digital content was at the heart of discussions about how libraries would change as they became increasingly virtual, offering content to a larger, more geographically dispersed user base that demanded instant access to information. In early 2003, *Online* reported that 52 percent of the content purchased by libraries was digital. This figure was expected to soon increase to 58 percent. In response, many leading book publishers began offering their content in both print and electronic versions. Some observers argued that libraries increasingly would become centers of collaboration, as opposed to serving mainly as depositories of printed matter. In this scenario, librarians' roles would become more consultative and advisory than ever before.

WORKFORCE

There were approximately 136,000 librarians employed in the United States in the early 2000s, the vast majority of whom were required to have a master's degree in library and/or information science. About 66,471 worked in school libraries; 29,519 in public libraries; 24,815 in college and university libraries; and 15,307 in special libraries. More than 272,000 technical and clerical staff members supported the librarians' labors.

The number of jobs is expected to increase more slowly through the first decade of the 2000s than the average for all occupations. The number of new positions decreased somewhat in the 1980s and is on the rise as information becomes a more valuable and vital commodity. Librarians who have special qualifications such as expertise in computerized systems, data searching, foreign languages, or children's services may expect an optimistic forecast for employment opportunities. Numerous career opportunities exist in libraries, including positions as library administrators; public service, reference, and acquisitions librarians; and catalogers, online data entry, information designers, and systems planners.

There are also many technical and clerical positions available that do not require library school training. For those who choose to pursue a career as a librarian, a background in liberal arts serves as a strong base for library science. So too, is an undergraduate degree in computer science as libraries become an aspect of the information available to users of the World Wide Web. After completing undergraduate studies, library science students study for at least a year in one of the approximately 56 schools in the United States that are accredited by the American Library Association.

RESEARCH AND TECHNOLOGY

Computers are increasingly important in the library as networks linking public, college and university, school, and special libraries are expanded. Librarians maintain records on computers, and card catalogs are now nearly all replaced by computer terminals that allow online access to the library's holdings, as well as data, abstracts, and texts contained in periodicals and journals. The electronic network enables libraries to economically facilitate interlibrary loans, thus expanding their collections, controlling cost, and improving service to users.

New software allows research to be completed and followed with a request for an interlibrary loan. David Churbuck predicted in *Forbes* that a system consisting of thousands of main libraries and branches will become obsolete with the advent of more sophisticated computer programs that allow users to obtain full-text versions of the volumes they need. In addition, Churbuck believes that librarians will be replaced by programmers and database experts. The use of libraries as a prime source of access to the Internet for those who otherwise do not have access continues to grow.

In order for such complex networks of the future to become reality, printed books must be digitized through the technique of scanning—an electronic procedure that translates material into a digitized format. Project Guten-

berg, a program for digitizing books, is the creation of Michael Hart, professor of electronic text at Illinois Benedictine College in Lisle, Illinois. The Library of Congress is also digitizing its collection, and much is now currently available on the Internet. In addition, many periodicals have online editions.

Electronic resources will continue to enhance the information available to library users. Online mediated searching, CD-ROM, and various databases provide references that were previously unavailable. Online searching is the most common electronic option and was the first electronic reference service to be offered by research librarians in the 1970s.

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SIC 8243

DATA PROCESSING SCHOOLS

The data processing schools category encompasses establishments primarily engaged in offering data processing courses or training in computer programming and computer peripheral equipment operation, maintenance, and repair. Schools offering an academic degree in computer sciences are classified in **SIC 8221: Colleges, Universities, and Professional Schools.**

NAICS CODE(S)

611420 (Computer Training)
611519 (Other Technical and Trade Schools)

INDUSTRY SNAPSHOT

Data processing schools are profit-making institutions that teach specific skills required for computer-related jobs. The types of schools range from residential vocational training schools to correspondence school programs. The U.S. Census Bureau showed that there were 10 exclusive establishments in the data processing schools industry in 1992. By 1997, 2,785 establishments were listed as offering computer training, but not all were data processing schools exclusively. Most were headquartered in California, Connecticut, Illinois, New Jersey, New York, Pennsylvania, and Wisconsin. Several schools were subsidiaries of larger corporations.

Computer consulting and training is a multi-billion dollar industry. The growth of this industry, however, does not necessarily translate to the data processing schools industry, which is limited by competition from computer-related training in secondary and other post-secondary schools and the availability of self-tutorials. On the other hand, the market for data processing schools could increase as employers demand specialized skills from their workers and other post-secondary education becomes more expensive. Successful marketing of data processing schools as a less expensive and more job-specific alternative to college and university education is essential for growth.

INDUSTRY LEADERS

The National Education Training Group (NETG), a subsidiary of National Education Corporation, which was acquired by Sylvan Learning Systems in March, 1997, is the global leader in information technology and interactive media-based learning. Its broad area of training ranges from programming to networking. NETG has been successful due to its diversified offerings, including multimedia products to train information technology professionals and end-user clients. NETG courses also include training to prepare professionals for vendor certification exams. NETG students may choose to combine media-based courses with classroom instruction. In February, 1997, NETG was selected by Microsoft Corporation to provide computer-based training to its employees.

WORKFORCE

Most instructional staff members of data processing schools hold bachelor's degrees and have worked in the data processing field prior to becoming instructors. According to U.S. Census Bureau information released in 1999, employment in the industry in 1997 was listed as 28,848 people—from 8,200 in 1987. Industry payroll