ABSTRACT: This paper presents an overview of the shifting issues in library management, from pre to post electronic access to information. Beginning in the 1940s through the 1970s, research libraries were faced with an information explosion and the rapid growth rate of their collections. The issues confronting library administrators during that period were mainly physical management involving shelving and weeding of materials, storage space, users' in-house access to the collection, and preservation of the print materials.

From 1980s to date, due to rapidly evolving information technology, advent of information in electronic format, electronic delivery of information and high user expectations, the issues facing library management has shifted outside the confines of the physical environment to the following:

- Setting up technology infrastructures to provide seamless remote access to information for users. Thus, library administrators find themselves in relatively unfamiliar arenas, such as grappling with new issues of licensing, authentication, digitization, user instruction within electronic environments, and changing skill and competency requirements of librarians and staff.

- Developing ways to reach technophile users who are sophisticated in their ability to use technology, are accustomed to the convenience, speed, and gargantuan retrievals from Googles and are unconcerned about the accuracy, legitimacy, and currency of their information sources.

- Convincing users who have unshakable faith in the Internet being able to provide all needed information sources, that libraries not only can supply the information they need, but the information supplied by the libraries are from sources that are valid, uncorrupted, and as complete, current, and authoritative.

- Reallocating financial resources to absorb the costs of upgrading and replacing hardware and software that continuously become obsolete as new technologies emerge almost yearly.

The decades following World War II were years of unprecedented prosperity for libraries(1). In the United States, rapidly growing funding for scientific research, combined with increased student enrollment driven in part by the availability of tuition support to veterans through the GI Bill, produced a reliable and steadily growing revenue stream for universities.

The trend continued through the 1960’s as a result of the space race and NASA’s massive expenditures in the race to the moon. Libraries benefited because collections and personnel to service them and to support students and faculty were seen as vital parts of the academic enterprise. Libraries were seen as a fundamental means of managing the output of the information explosion being fueled by research, as evidenced in part by the free library depository programs of NASA and the Department of Energy and its predecessor agencies.

Library management issues in those prosperous times involved managing rapid growth:

- How can you buy materials fast enough to satisfy demand?
- How do you acquire backsets of journals for colleges that had never supported advanced research but that now were being redefined as research universities?
- How do you buy enough books to satisfy the demands of so many students in so many different subject fields?
- Where do you find enough library subject specialists to understand and respond effectively to research-level questions?
- How do you squeeze the rapidly growing collections into a small building?
- How do you raise funds for a new building?

Few librarians were dismayed at dealing with problems of prosperity, though some older librarians probably missed the quieter atmosphere of earlier days when time was not of the essence.
The prosperity brought on by the expansion of higher education in the 1960's ended abruptly in the early 1970's. Man had landed on the moon and the American public was no longer so anxious to fund research in an unquestioning manner. Suddenly Ph.D.'s in the sciences were a glut on the market. Library administrators wrote articles about the opportunities for attracting surplus doctorates from many fields into librarianship. (2-4)

As funds for acquisitions decreased or remained static, the rate of information production and price of publications in various media formats continued to increase. Library administrators were faced with a decline in purchasing power. Library management issues changed markedly in the 1970's, becoming the opposite of what they had been:

- Cancelling journal subscriptions that could no longer be afforded.
- Squeezing materials into buildings that had been filled by the earlier prosperity.
- Managing librarians disappointed by the sudden end of prosperity.
  1. Librarians who once delighted in purchasing new subscriptions and every new book they could find were suddenly asked to justify the cancellation of journals once thought vital.
  2. Librarians were asked to weed from the collection books previously thought to be of permanent value.

This malaise in the library profession continued into the late 1970's and into the 1980's, when the profession was rejuvenated by the personal computer revolution. While funds for books and journals might have been lacking, and library buildings might have been overcrowded, there was money to purchase computers. Many librarians became enthusiastic about the potential and use of these devices to manage their work and information. It seemed computers could eliminate much of the tedium of library work, leaving librarians more time for higher-level intellectual activities. As the cost of computer hardware fell by the mid-1980's, libraries were able to operate processing functions online and users had direct online access to library resources. The increasing availability of computer systems initiated a gradual shift in library mission from a focus on collections to a focus on access to information. This shift from building exhaustive locally owned collections to providing access to information as needed is a consequence of higher service expectations on the part of a technologically savvy user community.

Information access rapidly expanded from terminals in the library buildings to terminals on university and organizational networks, to dial-up access by modem, and currently to internet access. This rapidly evolving information technology and superficially easy system for electronic delivery of information led to high user expectations for convenience and speed, and this resulted in academic libraries no longer being the de facto resource of first choice for information seekers, prompting library management to shift focus outside the confines of the physical environment. Library management issues shifted dramatically away from the former goal of acquiring and preserving the record of the past.

- In the area of collection development, electronic journals have become increasingly commonplace within the past decade. According to the Ulrich's Periodicals Directory, over 80% of today's active peer-reviewed journals are now available in digital formats. The Association of Research Libraries Supplemental Statistics Report indicated that reporting libraries had increased their expenditures for electronic serials from approximately $15,000,000 to over $117,000,000 between 1996 and 2001.
- In the area of information access and document delivery, library administrators find themselves having to set up technology infrastructures to provide remote access to information for users. In the process they find themselves in relatively unfamiliar arenas grappling with new issues of licensing, remote user authentication, and digitization.
- In reference service, they are:
  1. developing ways to market and reach technophile users who are sophisticated in their ability to use technology and accustomed to the convenience, speed and massive retrievals from popular Internet search engines, but often unaware of questions about the accuracy, legitimacy, and currency of their information sources.
  2. convincing users that the information supplied by the libraries is from sources that are valid, uncorrupted, complete, current, and authoritative, contrary to the behemoth amount of information on the Internet that is unchecked for accuracy and authenticity.
  3. surmounting challenges of providing both electronic delivery and the traditional reference services.
- In recruitment of library personnel, they are seeking such competencies as:
  1. skill and experience in digital library technology.
  2. ability to handle and keep up with an environment that changes rapidly and continuously.
  3. ability for assessment, to put aside preconceptions and misconceptions when analyzing, and evaluate the information environment and library user information-seeking behavior.
4. interest and curiosity in experimentation with new technologies to provide new and to enhance existing services.
5. willingness to invest time needed to learn and experiment.
   - In budget management, they have to reallocate financial resources to absorb the costs of upgrading and replacing consumables, such as hardware and software that continuously become obsolete as technologies rapidly evolve.

Having seen how radically library management issues have changed in our lifetime, we are tempted to pontificate about library management issues in the following decades.
   - We are seeing the emergence of open access publishers, such as BioMed Central whose articles from over 100 journals are immediately and permanently available online without charge or any other barriers to access. They are also available in PubMed and archived without delay in PubMed Central. If this unusual business model continues to be viable, the impact on library management will be significant.
   - Another management issue in the future is the continuing loss of personal contact between librarians and library users, as the latter interact with the library almost exclusively through electronic means such as the World Wide Web and interactive chat services such as LiveRef. Library users might never develop the kind of close relationships with librarians that have characterized research methods in the past.

It is easy today to imagine that the existing library environment was somehow inevitable and therefore predictable. But it is worth noting that in 1990 librarians never predicted that by 1996 the World Wide Web would be their consuming interest. Indeed, it was not until the release of Windows 95 that Microsoft provided convenient means of accessing the Internet under Windows. So even Microsoft did not predict the importance that networking would assume in our daily lives. So could we predict what would be the library management issues in the next decades? Our response is: It is impossible to predict, one can only speculate.

References