Reflections on library management in the advanced computer age

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1. Introduction

The computer age is characterized by frequent and continuous changes which affect all library areas. The basic duties of the library have not been changed, but they are expanding gradually. The library still distributes knowledge and information to its readers but more sources are located outside the library and more readers use the library from remote locations. The relatively rapid changes are in the tools which are required to perform library duties. Technology offers a wide range of possibilities to improve the service: the speed and efficiency of supplying information is mainly a function of the advanced technology used by the library.

The expression "Advanced library" refers to a library which uses computerized equipment, software and communications on a wide scale. Libraries at the end of the 20th century must use technology to perform their duties. Advanced techology is characterized by frequent changes: introducing new versions or modules of software, equipment renewal or addition, and improvements in communication systems. Each of these components requires investment of budget and skilled manpower.

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2. External factors which dictate the rate of change

The rate of change is often dictated by external factors, not always according to a timetable chosen by the library. A new version of software, acquired from a commercial vendor, is usually supplied when it is convenient to the vendor. Implementing it might demand additional equipment or special manpower effort. Here is an example: The academic libraries in Israel which use the "Aleph" integrated system usually receive the yearly updated version in the autumn, too close to the beginning of the academic year. This timetable is very pressing if preparations or local modifications are needed. Last summer the situation was close to a crisis - librarians refused to introduce the new version in which there was a major change in the search module; screens and commands were totally different from the present ones. Senior librarians would have invested much time, work and effort in rewriting screens. There was a danger of impairing the libraries' system at the beginning of the academic year, a risk which could not be taken. Finally, the implementation of the new search module was postponed and the vendor agreed to continue the support for the previous version until the libraries were ready to implement the new one. In this case only the united position of the libraries enabled them to control the change according to their ability to absorb it.

The progress of other libraries towards new services and technologies is also an important factor which pushes the library forward in the same direction. Remaining with old systems when everyone else moves to new ones creates pressure on the library: mounting CD-ROM databases on the campus network is a good example. Most academic libraries in Israel are investing their efforts and budgets in this direction but the results are still partial, because of budget limitations and the complexity of the technical problems.

Pressure from university authorities to develop a certain area affects library progress too. Sometimes such demands force the library to invest efforts in a less important area from the librarian's point of view.

3. Defining priorities

The library director is faced with the problem of controlling the absorption of the innovations within the library. It is difficult - almost impossible - to progress slowly on one project at a time: it is necessary to plan and push more than one project simultaneously. On the other hand, most libraries are restricted by the amount of resources which can be put into new projects. It is necessary, of course, to prepare a strategic plan which defines the goals that the library plans to achieve, but within it, priorities must be defined. Priorities are usually a result of practical attitudes; errors in defining priorities can be expensive in terms of budget, manpower and reliability. Sometimes it is necessary to invest efforts in a less prestigious project with higher priority.

An example of this occurred about two years ago when the Technion library invested an enormous manpower effort in computerizing the acquisitions of books and periodicals. This module is a part of the "Aleph" integrated system which has been completed after years of delay and debates with the vendor. The implementation also included on-line budget control, accounting, payments and reports to the twenty departmental libraries and to many research budgets. The project employed the central library's best personnel for more than one academic year. This was the first priority at that time as a result of pressure from the Technion administration and further delay would have cost the library a loss of reliability in the eyes of the Technion management.

During this period the library could not afford another large-scale project which would demand skilled manpower investment. There were librarians and researchers who criticized the fact that the project of bibliographic databases did not receive the first priority. Only after completing the acquisition project could the library invest its main effort in the prestigious project of databases networking. One of the benefits of the delay of the networking project was that, a year later, Israeli companies could supply better technical solutions. That year was also used to convince the Technion administration that funds should be allocated to the expensive project of CD-ROMs on the campus' communications network.

4. Knowledge - the tool for decision making

In order to control library development and its entrance into highly technological areas the library director must stay close to these fields and learn as much about them as possible. The library director who is qualified to make the right decisions should be a person with a high level of professional knowledge, including technical understanding, in library applications. Personal knowledge is an important tool in the evaluation of information and recommendations received from senior library staff, vendors, consultants or other sources. The modern library director cannot deal only with fund raising or university politics: decisions regarding the practical aspects, planning and development of the library cannot be left to others.

It is recommended that the library director, as well as other librarians, invest time in continuous study of new developments. This can be achieved both officially and unofficially. Learning is acquired by reading, taking special courses, participating in seminars and by exchanging ideas with colleagues within and without the library.

The director who invests time and effort in acquiring more knowledge will enjoy an additional benefit - that of professional appreciation from colleagues and better cooperation with them. The modern director cannot rely on authority alone. If the senior librarians accept him as a professional leader he can perform his duty more efficiently.

The above qualifications are also of value when representing the library in university committees. Knowledge is an important tool in convincing university authorities of the library needs, especially when advanced projects are being discussed.

5. Trained staff - the key to progress

In the advanced computer age the quality of manpower is sometimes much more important than quantity.

A small team of highly qualified librarians acquainted and experienced with the technical aspects of library applications are the entrance key to progress into new areas. Such people must be curious enough to learn and gather information on innovations on their own initiative. For the library director these people are an important source for new ideas; they are the backbone for introducing innovations.

At the Technion library, for instance, such a person leads projects which are based on using various possibilities of Internet or electronic mail for acquisitions and reference services on a larger scale. The most highly trained librarians are usually surrounded by groups of librarians with less knowledge who learn from them gradually. This is the unofficial way of spreading new knowledge.

There is a danger that the power gained by key-librarians will be used contrary to library priorities. There is also a danger of becoming too dependent on, or led by them. It is the duty of the library director to be involved in new projects and to be able to change orientation if needed. Administrative authority is not enough. Again, knowledge and the ability to lead a team are required tools.

6. Professional leadership

One of the serious questions that the library director faces in the advanced computer age is whether to take the lead in implementing technological innovations. Leadership means being the first to introduce new equipment or software, whereas the other possibility is to adopt them at a later stage, after they have been examined and tested by others. Being the first does not necessarily mean in the world, it can be first in a country or among a group of libraries with common interests. The library which decides to be a pioneer in a certain area has to invest in qualified manpower and a budget, since previous experience cannot be employed and results are not always as expected. The temptation of being the first is great but prestige and leadership has a price. The director of the library has to decide on which projects to take the lead according to his library priorities: taking the leadership for prestige only might be too expensive. After all, the first priority of the library is to serve its institution. When a new project fits into the priorities or is considered important to future development of the library, then it is worthwhile to take the lead and invest in experiments.

Here is an example: Two years ago the academic libraries in Israel decided to improve the document delivery service between them. This was based on introducing new computerized equipment and software: PC, scanner and laser printers using the inter-university communication system. The Technion

library decided not to take leadership in implementing this project for the following reasons: most of the photocopied articles are supplied to the Technion from foreign sources and not from other Israeli libraries; the project demanded much time and investment of highly qualified manpower, which was needed for other projects according to the library's priorities; the library could not afford to take leadership in this project.

Libraries and computer centers

In the early computer age the library could own its computer and work autonomously. In the advanced computer age, where networking is a main issue, library computerization must be linked to university systems.

Many libraries depend on the technical support received from the university computer center. Today the support is needed not only for the maintenance of the computer but for the communication systems as well. The library relies on the campus' network in distributing its catalog and other databases and for access to external sources through a national network or through Internet.

The advanced computer age is characterized by large-scale cooperation between libraries and the computer centers. In the past the library was sometimes a necessary burden on the computer center, today they are equal partners. There are common projects which are carried out by libraries in cooperation with university computer centers. At the Technion, mounting bibliographic databases on the campus network and introducing access to international databases through Internet are common projects, which are prestigious for both partners.

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When entering into a new project, the investigation, preparation and performance are done by both partners who share the information, the difficulties and the decision making. Computer center people have learned to appreciate librarians and librarians realized that, in order to be an equal partner, they must widen their technical knowledge.

The status of the library in the advanced computer age is higher. The university library of today is an important client of the computer center.

Conclusion

Towards the end of the 20th century, academic librarians are part of the hi-tech surroundings, and the progress towards the virtual library is rapid. Technology creates the possibility of getting information from international or local sources without visiting the library. Librarians must adjust themselves to the environment of constant change in attitudes, as well as in equipment, and it is important to encourage innovative thinking.

New ideas should be examined but decisions should be made according to the library's ability to absorb change. Project management becomes a greater part of the senior staff work in order to introduce new methods or new equipment to the library. Higher levels of professional experience is needed and it is necessary to study new methods continuously.

All of the above are part of the characteristics of the new professional era in which we already live.