Impact of Information Technology on the Knowledge and Skill Base of Library Staff in IIT-Bombay : A Study of Management of Change

V. SASHIKALA SUBBARAO
Central Library, IIT-Bombay, Powai, Mumbai-400 076

Abstract

Information Technology (IT) has radically changed the nature of work, and as a consequence the context and skill base of many jobs in a library require evaluation and redefinition. Keeping the libraries in institutions of higher learning, such as the IIT-Bombay in mind, the author has mentioned the approaches for developing new skills demanded by the introduction of IT in the libraries. The IIT-Bombay library staff have responded positively to the changing environment, maintaining a satisfactory balance with traditional printed based information sources and services. It is well recognised that there is a substantial educational role for the librarians in familiarizing users with the networked learning environment and it is already possible to carry out many of the activities associated with this role in cyberspace.

Introduction

In an institute of higher education such as the IIT-Bombay, the rapid growth in the demand for electronic based information services to support research and teaching has required library staff to develop new and extended professional skills. In recent years the IIT-Bombay has recognized the need to review the organization and structure of its central library to ensure that it can best meet these new challenges. This has obviously forced a reappraisal of the traditional division between some of the roles of library and computing professionals, as well as support staff.

Skills for Library and Information Science Professionals

Libraries in institutions of higher learning, such as the IIT-Bombay, have started recruiting staff with a high level of IT skills into system related functions. It is now acknowledged that it is necessary to demand appropriate IT skills for a much wider range of functions. The precise nature and type of those skills, the manner in which they relate to more traditional information skills, and the ways in which they

might be acquired is often less clear. In library services with a strong IT focus, the definitions between library and computing skills is often poorly defined, and the ideal candidate for many library positions would appear to be some kind of a professional hybrid.

An approach in developing skills of library and information services professionals consists of the following :

(a) define the nature and type of IT skills required by library and information services staff to support the research, teaching and learning in higher education in IIT-Bombay;

(b) evaluate and classify these requirements in terms of a job definition, scope, level, skills, and experience;

(c) produce guidelines which will identify the aptitude and mindset for development of existing staff and explore the impact the library and information science professionals have on the management and development of library services.

Distributed environments for library and information services

In an Information Technology environment within a library an applications framework that enables the effective management of distributed collections of autonomous, heterogeneous information resources and services now needs to be constructed. Services for catalogues and bibliographic services, ordering, archiving of electronic and print materials and circulation have to be developed and integrated. The development of distributed library and information systems are complex and many layered. One can identify several lines of strategic services development, such as :

(a) libraries and the Internet;

(b) resource discovery, databases and metadata;

(c) managing access to distributed library resources;

(d) distributed document discovery and supply;

(e) integration of electronic and print resources.

Treated singly, the development of robust sustainable services in each area presents major technical and organizational challenges and has to be supported by a detailed programme of work.

The aim of the programme of work is to bring together scenarios of integrated services provision and to facilitate the development of a shared view of preferred developments.

Management of organizational change

As an agent of change Information Technology (IT) is almost unparalleled. However, the central library of the IIT-Bombay is affected not only by technological changes but also by unprecedented change in higher education itself with increasing student numbers, financial stringency, changing emphasis between teaching and research, amounting indeed to a radically different educational infrastructure and environment. The convergence of information with computing and telecommunications technologies, with associated cultural implications for library staff, also adds to the importance of the situation. The IIT-Bombay library staff have recognized the need to respond to the changing environment; part of that response has been to embrace the electronic library, while maintaining a satisfactory balance with traditional print based information sources and services.

A major problem while developing and implementing information technologies is the necessity to focus on the human factors in the change process, as the most important resource in a library is its staff. It is essential to investigate the social, organizational and cultural impacts on academic library staff of working in an increasingly electronic environment.

A methodological approach to understand change in academic libraries consisted of the following steps:

(a) monitor change and focus on the key issues in assessing the impact on people of an electronic library;

(b) investigate the impact of the electronic library on faculty, staff and students;

(c) investigate the impacts on library and information services of resource based research, teaching and learning;

(d) monitor the impact of the educational development for library staff in an information technology environment.

Such an approach has helped in key deliverables such as :

(a) A macro level approach to monitoring change associated with electronic library in an educational environment;

(b) Monitoring of the general effects of staff training and development programmes under the electronic library;

(c) A basis for more informed decision-making and a clearer picture of the role of academic libraries in the context of national teaching and learning initiatives and in support of research;

(d) A knowledge base for teachers of information and library science as they equip students for work in a changing environment.

Training and awareness in library and information networking

Training and awareness programmes in library and information networking as attempted at the IIT-Bombay seek to improve the quality of teaching and research staff output by identifying staff information needs, and developing their information skills. It aims to emphasize to the end-user academics, and thus ultimately to the students, the benefits which can be gained by an understanding and awareness of networked information resources appropriate to specific disciplines. It is essential that library staff are equipped with appropriate teaching and network skills to support, train and advise academic staff and to help them evaluate the best resources for teaching and research. Academics drive the educational process and teach the students with support from the library and information staff. How well or quickly they adapt to the use of IT resources depends to some extent on the institutional infrastructure and the importance attached to a strategic plan for IT development. It also depends on the academic leadership within the academic departments, the nature of the subject and the perceived role, status, and calibre of library staff.

It has been found that the training and awareness programme in networking has fostered a changed culture in IIT-Bombay and the exploitation of networked information resources is clearly a permanent task, requiring constant re-spilling so that the deliverables will be reproducible and transferable world-wide and across disciplines.

Conclusion

The paper aims to respond to the growing need throughout the higher education community to provide effective end-user support for the use of networked information resources in research, teaching and learning. It is well recognized that there is a substantial educational role for librarians in familiarizing users with the networked learning environment, and it is already possible to carry out many of the activities associated with this role in Cyberspace. Current developments in networked communications technologies mean that there is significant potential for the development of computer-mediated delivery methods for end-user training and support services, and likewise for computer-mediated delivery of training and awareness programmes for library staff responsible for delivering such services.

References

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