Managerial Change for the Survival of Library and Information Centres in Information and Communication Technology Era

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Abstract
Fast-paced change in technology particularly the origin of Information and Communication Technology (ICT) and social, political, economical changes require an appropriate managerial change in Libraries and Information Centres (LICs) to survive the LICs in twenty-first century. In this context, managerial change towards structure, technology, task, people, library policies, objectives and functions of information system and process of managerial change in LICs are discussed and it is concluded that ‘Change Management’ is the only feasible solution to overcome all the difficulties and problems created in ever changing environment for the overall development and progress of LICs in the ICT era.

Keywords: Change Management, Structural Change, Technological Change, Change in Library Policy, Process of Managerial Change.

Digital Library and its Impact
The origin of ICT (Information and Communication Technology) has changed the performance and service pattern of every institution and organization, library is not excluded from it. Impact of ICT has transformed the ‘traditional library’ into ‘automated library’. ‘Digital library’ and ‘virtual library’ are also the gift of ICT. Many libraries have been serving as hybrid libraries (co-existence of digital library/automated library and manually operated traditional library).

A library digital is an organized collection of electronic resources. Digital library is a very complex and dynamic entity. It has brought phenomenal change in the information collection, preservation and dissemination scene of the world. It is a complex entity because it is completely based on ICT systems and the concept is of recent origin. Its main aim is to provide ready access to the required information at a right time to the right user with right information. The collection of digital library are not limited to document surrogates they extend to digital artifacts which cannot be represented or distributed in printed formats.

Therefore, digital library is not a single unit, but a complex of multiple units that provide instant access to all information, for all sectors of society, from anywhere in the world. Therefore, in this context, the digital library must cope up with the changing technology, information seeking behaviour of its user, user needs etc. The day has come to adopt change management at par with information management in the library (Vijaykumar & Sekar, 2008).

Changes in Library and Information Centres Management
Due to fast-paced technological change and new skill requirements, information professionals are increasingly required to renew their skills and practice in order to gain an awareness of technological advances. As a result, the profession itself exists in a state of flux alongside these emerging technologies, with traditional roles being increasingly subsumed by new skills and working environments, and, therefore, job descriptions (Ashcroft, 2004).

Thus, information professionals are now expected to be aware of and capable of using and demonstrating emerging ICTs (Nwakanma, 2003). There is a need for additional training to augment the traditional skill and knowledge base with a competency in ICT use. Information professionals must be flexible, and adopt traditional skills to incorporate the requirements of technological advances (Biddiscombe, 2001; Sharp, 2001). Given the current situation, wherein ICTs are being continuously updated or introduced and traditional formats are being replaced or supplemented by digital formats (such as e-journals and e-books), it seems likely that there will continue to be a need for regular training for information professionals.

There is also an increased focus on communication skills, with more people involved in the electronic information environment. Information professionals are being called upon to work closely with ICT users and
providers – including IT (Information Technology) staff – and to work in collaboration with others in the profession (Wittwer, 2001). Some groups of users lack the necessary IT skills to obtain quality information (Stubbings and McNab, 2001) and information professionals will therefore be called upon to act as both educators and intermediaries (Sharp, 2001). Given these circumstances, information professionals are required to have additional teaching and communication skills.

Thus, it is vital for those in management positions to recognize the imperative of continuing professional development (CPD) and ensure that the staff is proactive in maintaining up-to-date levels of expertise.

The significance of CPD in this milieu has been acknowledged by both the United Kingdom’s Chartered Institute of Library and Information Professionals (CILIP) and the United States’ American Library Association (ALA).

Certain active roles are necessary for change management to:

- Establish the quality goals of the library: Library and Information Centres (LICs) should aim to establish the quality goals for qualitative service to its user community.
- Provide the resources to their library: LICs should provide all necessary resources suitable in the ICT era (e.g. e-books, e-journals and other e-documents etc.) to manage the LICs in a better way.
- Provide the quality-oriented training to the library staff: New generation library staff are almost trained with ICT applications to LICs but old staff and others who are novices in such applications need quality training because without quality training library staff are unable to provide automated services.
- Stimulate quality improvement in the day to day activities of library: This is the age of competition. Like other organizations, to survive the LICs, top management should stimulate the staff for quality improvement in the day to day activities of LICs.
- Review progress of the library activities: Higher management should review the progress of library activities to maintain the quality and quantity of assigned job to the staff.
- Give recognition to library staff: Top level management should recognize the operational level library staff for quality performance, without which they will be demoralized to perform the job in a better way.

With the change in environment the objectives need to be revised to face the challenges of future. Over a period of time, due to the impact of technological advances, research and development, economic, social and political factors, the objectives also tend to change. To adopt these changes, it is essential to state objectives and functions of information system in changing context. For this purpose the following steps should be followed.

Structure Related Changes

The structure related changes in libraries and information centres may include:

- Change in the work design: The work design of a traditional library is not similar to modern automated library, so a change in the work design is compulsory for the success of automated library.
- Change in the basis of departmentalization: There are various departments in university and research libraries. In case of automated library, book acquisition (requisition, ordering, acquisition etc.), classification and cataloguing, circulation, serial control (requisition, ordering, acquisition etc.) assignments are being done through computer with specific software instead of doing manually. Besides these departments, modern library has other departments like barcoding, RFID tagging, OPAC/web-OPAC, e-journals, e-books, CD-ROM, digital library, touch screen kiosk, server maintenance etc.
- Change in the number of operation levels to perform various activities, routine work of library staff: As there is a major change in the processing and service departments a change in the number of staff in the lower level or operational level management has become essential.
- Change in the plans, programmes, policies and procedures to and improving integration among various sections: Due to change in the pattern of service; plans, programmes, policies and procedures and integration within various departments it is very essential to cater to the service in a better way.
- Change in the span of management and levels of management for effective co-ordination mechanism and flow of task: Since the nature of job of modern automated library is more complex than traditional library, it is very difficult to manage large number of operational level staff under one middle level manager. In view of this span of management should be narrow and levels of management should be changed because top and middle level management have to be directly linked with every department to perform each department’s functions in a better way as well as for effective co-ordination mechanism with every department.
- Change in line-staff and functional authority, work group relations between people and functions to improve their ability: Line positions are responsible for accomplishing the organization’s
primary objectives; they have final authority to make decisions. Staff positions, on the other hand, provide suggestions and advice for the line positions but cannot, theoretically make decisions for the line positions. An organization seeks to keep authority for decision making in the positions accountable for results and to preserve a clear chain of command from the top to the bottom of the organization. But in the automated library system there should be no hurdle between line and staff position because anyone who is aware about a particular system can give his advice. It helps to improve the work group relation as well as the ability of the all levels of management.

Structural changes affect relationships among the organizational positions and in the interactions among internal departments, the reporting mechanism, interactions of all sections in the library and the functional relationships.

Changes for Technological Advancement

The technology refers to the sum total of human knowledge providing ways to do the things in a better way with the help of techniques. It may include inventions and techniques affecting the ways of doing things. Thus, technology related changes may include:

- Use of new machines and equipments for developing new services or modifying existing services: Many new machines and equipments, e.g. computer, server, barcoding equipments, RFID tools are necessary for developing new services or modifying existing manual services. So the awareness about the use of new machines, equipments and tools is very essential.

- The procedure of doing things which may result in change of work process: The methods and procedures of doing new tasks should be changed in context of old library system. So that the work process is not disrupted.

- Introduction of technological devices like computers and computer related technologies: Introduction of technological devices like computers and computer related technologies is necessary for automated library. Without computers and related technologies, we are unable to cater to services in automated library system.

- Change in the existing techniques for making or doing the things in effective way or adoption of new techniques for creative work: Automated library is ICT oriented and some technique is involved in every work. So existing techniques of traditional library management should be changed and adoption of new techniques is very essential to carry out every task and service in automated library environment.

- Change in the methods of using new tools equipments and products: In the traditional library system, there are only a few equipments like fumigation chamber, catalogue cabinet, book rack, cardex, journal display rack etc. But now computer terminals, server, barcoding equipments, RFID tools etc. equipments and products are being used, so it is very natural to change the methods of using new tools, equipments and products.

The change in the technology affects the nature of work and activities, organizational structure, the processes and the people’s behaviour.

Task Related Changes

Technology related changes determine the ways to complete the task effectively and efficiently. Task related changes helps to achieve major gains in terms of cost, service and time. Task related changes may include:

- Identifying the steps involved in performing tasks: It is very necessary to organize meeting with library staff at all levels to identify the steps to perform the tasks effectively.

- Task identification: Every task should be identified to depute the staff who is efficient in that work. So, proper task identification is the key factor to perform the task properly and to serve the user community in a better way.

- Significance of task related changes in attaining the organizational and institutional objectives: As the nature of library has been changed so it is very significant to change the task which is relevant in changed atmosphere to attain the organizational and institutional objectives.

- Identifying the skills and abilities required for the changed task: It is very natural to identify the skills and abilities required for the changed task and to assign the specific job to the specific staff that is suitable for that particular job.

- Improving both quality and quantity of work/service: For the satisfaction of our customer we should improve our quality as well as quantum of day to day work/service.

- Bringing cost-effective solutions through maximum use of available resources: Cost-effectiveness is concerned with the value. It asks, “This is what the service costs. Is it worth it?” (that is, “Is it effective”). So effectiveness of the resources is the key to maximum use of available resources.

- Improving the work performance: Quality training of staff is very essential to aware the task of each and every personnel effectively which improves the work performance.

People Related Changes

Change in any factor has an impact on human resources and human behaviour. In the context of Library and Information Science, the people related categories include:
The library staff (employees)

In case of library staff, it requires the corresponding changes to be made in the skills, abilities and the performance of the employees. According to Jones, Gareth R. 'Typical kinds of change efforts directed as human resources include…

- New investment in training and development activities so that employees acquire new skills and activities: New skills and activities are required in automated library system so new investment in training and development is essential. Library can get the fund from UGC for this purpose by making a systematic and comprehensive proposal accordingly the change may include –

- Socializing employees into the organizational structure so that they learn the new routines on which organizational performance depends…. (Jones, 2004): Top management should meet with middle and operational level management to become aware about the every bit of work with theory and practical and to assign the job to every personnel as well as time required for this purpose. Through socializing the employees organizational efficiency can also be increased.

Accordingly the change may include –

- Change in skill levels of the workforce: Skill levels of each and every employee should be changed to cope up with new task.
- Change in the training programmes to improve performance levels: Training programme should be organized in a scientific way to sensitize the employee about every practical aspect of work and service. So change in training programmes is essential to improve performance levels of the staff.
- Change in attitude and values: Change in attitude and values is a must for better performance in work and service in the changed library environment.
- Change in behaviour and interaction pattern: As the library scenario has changed from traditional to automated one, behavioural and interaction pattern regarding work and service should also be changed.
- Change in technology requires different skills of the operator: Presently, library is technology controlled. To cope up with this change, the library personnel requires different skills to carry out their own task because it is very difficult to work properly for a unskilled staff.
- Change in the structure requires change in their position, their authority, responsibility etc.: Due to shift from traditional to automated library, structural change is required. For this purpose positional, authoritative and responsibility change is necessary for better performance.

- The readers: Readers/users/customers are our prime focus. To serve the right user to the right information at the right time, we have to organize our resources systematically through which they can collect their information himself/herself. Such a systematic arrangement helps us to work and serve the users with less human resources.

Any change in the processes demands that it should be communicated to the readers to enable them to adjust to these changes. Readers are ultimately getting the benefits of all the technological advances, procedures, services, activities as well as other resources for their satisfaction in the libraries and information centres.

Changes in Library Policies

Change in the objectives and functions of the library and information system by the planning body would directly impact the existing plans and policies of the library. Accordingly, change in plans and policies become essential. The developmental plans and policies should be in conformity with the objectives and functions of library and information system as well as the institution it serves.

Changes in Objectives and Functions of Information System

The information system in the changed environment shall aim at:

- Ensuring maximum use of all available resources: Top management should ensure maximum use of all available resources (print and non-print) through cost-effective solutions.
- Promotion and development of all units in the library: In the automated library, to cater the service to the users in a right way, it is very essential to develop all units in a proper way.
- Better communication of ideas to achieve the objectives in an ever changing environment: To communicate every new ideas to all levels of management is essential to achieve the objectives in constantly changing environment of library work and service.
- Minimizing the time, cost and efforts involved in all the activities, processes and functions: Top level management should plan with with staff at middle and operational level for proper co-ordination of every function with minimum time, cost and efforts because duplicity of activities, processes and functions increases the time, cost and efforts.

In order to achieve the newly stated objectives as per the requirement of changing circumstances, certain functions are to be carried out. These functions may relate to adoption of latest technologies, use of modern tools and techniques, updating professional skill, ability and knowledge through education and training, future prospects of change in goals, objectives and functions etc.
"Librarians will need to be ready for competition and prepared to find new ways to make their skills and services distinct from those offered by the competition from media companies, publishers, internet companies, intermediary service providers and also from technologists parking on traditional library territory with technical names for old fashioned library ideas". (Deegan and Tanner, 2002)

Process of Managerial Change in Libraries and Information Centres
The various steps involved in a planned change are:

- Identifying need for change: In the changing scenario of library (from traditional to automated), it is very essential to identify every need of users for effective planning and execution.

- Elements to be changed: It is very natural that the elements in traditional library and automated library are different. So top level management should foster awareness about every element of change and communicate the relevant elements to every unit.

- Planning for change: Every organization/institution plans the total work procedures for proper execution. So, for the sake of efficiency all the steps for success in the changing scenario.

- Assessing change forces: It is very essential to assess the change forces for success of the new project/assignment.

- Change actions: Each and every action should be changed for proper functioning of every unit for better work and service.

- Feedback: This is very important aspect of every organization/institution. Without feedback system, an organization/institution cannot assess their customer needs and information seeking behaviour as well as their satisfaction level. (Prasad, 2005)

Above steps in a planned change can be applied for managing the changes in libraries and information centres.

Identifying Need for Change
Various external and internal factors necessitate change in libraries and information centres. This change may be made in staff, library building or internal layouts with infrastructural facilities, the hardware and software requirements, activities and services etc. While identifying the need for change, the following should be considered:

- How the change will have an effect on the system, space, staff, services, activities etc.?

- What will be the frequency and nature of change?

- How it will impact use of information sources for study, research and development?

- How it will impact users information requirements?

- How it will have an effect on the procedures, policies and programmes?

Identification of need for change depends on:

- Readers’ expectations;

- Changing objectives of libraries and information centres according to changing environment;

- Policies and programmes to be implemented to achieve these objectives; and

- New challenges created by change in technology.

These steps will determine the rationale why change is essential and if change will be made, whether it will create problems or not.

Elements to be Changed
What elements of the libraries and information centres should be changed is to be decided for managing the change. It will be decided on the basis of the need for the change as well as the objectives of the change.

The identification of need for change (Step 1) will determine the base for why change is essential whereas this step will specify what elements in the system are to be changed. Generally change is required in the structure, technology, hardware and software requirements, database design, IT infrastructure, skills of the staff, and nature of library services etc. The nature and extent of change in the elements will further depend upon the nature of problems being faced by the libraries. Sometimes a change in one element may require change in another element e.g. a change in any activity from manual to machine may require change in staff and their skills but at the same time change in the structure of the libraries may also be required.

Planning for Change
Planning for change includes deciding in advance about:

- When to bring change?

- Who will bring change? and

- How to bring change?, Etc.

In the libraries and information centres change is usually required in the structure, technology, staff and services. Careful planning for bringing change in these elements is essential because “Planning looks at how the librarians and information scientists can develop the means to locate the resources which are most relevant to the need of users community, integrate these resources into their infrastructure, adopt the necessary technology and finally to anticipate the future trends in changing circumstances”. (Sutar, 2007)

Accessing Change Forces
Various internal and external forces enable us to bring change. To manage the change effectively, it becomes necessary to ensure the co-operation of the people to
create an environment in which change will be accepted by all. Change force, both internal and external, is an important consideration to anticipate and respond properly for the problems in the existing system. Success in managing the change is possible only when we assess change forces and their impact on the efficiency and effectiveness of the existing system. If the effect of these change forces can be accessed, it becomes possible to take necessary actions for change.

**Actions for Change**
A distinguished social psychologist, Kurt Lewin, developed what he called ‘Action Research’ which happens to be a more motivational approach and a more evolutionary one. According to him ‘since most change efforts flounder because carefully expected plans are ignored or sabotaged’, this first step is critical:

- Seek change when the people who are going to have to effect the changing are distressed and feel they have a problem.

The next step involves getting them to accept some procedure for exploring how the problem can be solved. The manager...gets the department to establish a study or mini research project on the problem:

- What kind of information is needed?
- Who will collect it?
- Who should analyse it and how; what is secret and what can be openly discussed?

The manager may have to help to get the project underway. It may require some outside technical aid, a survey, a review of old records, interviews with people in the departments

This step means the manager must:

- Get consensus on what kinds of data and what method of collection and assessment the group will accept as valid for evolving a solution to its problem.
- Make feedback then, the critical element; it becomes a catalyst to the people who will have to change, emphasizing the discrepancy between what they believed and the reality of the situation.
- Aid people in coping, skill transfer, experimenting with new methods.
- Then the cycle is repeated.

Usually, the initial efforts won’t be roaring successes; there will still be unresolved problems, and some innovations won’t work as planned or hoped. So the group which is the focus of change is encouraged to continue:

- Research/study the work flow problems – by collecting data
- Evaluate and feedback
- Consider further innovations
- Get help in implementing these
- Then check how these are working.

The manager’s role is one of felicitato, so that the individuals will be motivated to change, in contrast to being told to change; Further, the process is, or ought to be, a continuing one'. (Sayles, 1979)

The Lewin model has suggested that every change requires three steps – “the first step is unfreezing – individuals who will be affected by the impending change must be laid to recognize why the change is necessary. Next, the change itself is implemented. Finally, refreezing involves reinforcing and supporting the change so that it becomes a part of the system.

These steps can also be effectively applied in library and information centres to manage the change. At first step, the library staff as well as the reader community have to be informed about why change is essential to improve efficiency of services. At second step, they have to be made aware about new methods of working, new procedures adopted, their expected roles in changed environment etc. We have to conceive them to recognize the basic purpose of change and ensure that they fit into the new organizational change for the benefit of all. At third step, integrating change into actual practice, the staff as well as readers has to adapt to the new environment with improved performance. They have to be protected from reverting back to the old and traditional behaviour.

**Feedback**
Feedback is essential to ensure that changed pattern is going to achieve the objectives with minimum time, money and energy and determine whether follow-up action is essential to ensure success of change in management. The impact of change is to be measured in terms of attainment of objectives, improvement of services, readers’ increased satisfaction, employee motivation and increased level of efficiency and effectiveness of each activity, product and service.

**Conclusion**
‘Change Management’ is the only feasible solution to overcome all the difficulties and problems created in ever changing environment for the overall development and progress. The libraries of today are moving from traditional system to ‘Digital Library’ and further to ‘Virtual Library’. Accordingly libraries have to adapt to drastic changes to create their own identity to satisfy their users. Change management in libraries and information centres in ICT environment is the way for converting the existing system into virtual libraries and to face the challenges of the future. Various change agents like Technology Management, Total Quality Management (TQM), Re-engineering of Library Services, Knowledge Management, SWOT (Strength, Weakness, Opportunity, and Threat) Analysis are useful for managing the change in Libraries and
Information Centres in ICT environment and to face the challenges of the future.

References