Deploying Systems Approach to Manage Employee Resistance to Change in Library and Information Centres: A Study of Library and Information Professionals (LIPs) of Academic and Research Sectors in India

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Abstract
Library and information landscape is changing rapidly and continuously in harmony with the dynamic changes in the environment. In this paper, the author attempts to identify causes of resistance among library and information professionals working in academic and research sectors in India and suggests measures of improvement for a smooth transition in the changing scenario. The author examines the concept of systems approach and its application to library and information field. Systems approach for dealing with resistance among the library and information professionals for a positive acceptance of change and rendering better service is recommended.

Introduction
Change is the order of the world. It is the change, particularly developmental changes that have been key drivers in societal transformation at large. The present stage of the society is that of information based knowledge society. Libraries are in existence ever since the recorded knowledge have started to be preserved for future. The traditional concept of library is being redefined from a place to access paper records or books to one that also houses the most advanced media. Libraries are changing in response to changes in the learning and research environment and also changes in the expectations of library users. These changes are evolutionary. Consequently, Library and Information Professionals (LIPs) are increasingly combining traditional duties with tasks involving changing technology. Traditional library performance measures fail to explain fully what is happening in libraries today because their scope is too narrow to encompass the field of change.

Nature of Change in Information Services
The nature of change in information services characterized by the factors like diversity and unpredictability of the services and staffing of libraries, which are cross-border specialized, the structural change in library and information services, the amount of complexity driven by mixed economy, personalization of library and information services, competition and/or collaboration with network giants like Google etc.; all these constantly demand new skills and competencies over the traditional ones. (Pugh, 2007).

Characteristics of Emerging Library and Information Environment
Modern library and information environment is characterized by electronic communication, both synchronous and asynchronous, web-based information sources, multimedia information, and is uncontrolled largely as a result of the Internet facilitating information creation, distribution and access. Accordingly, typical user expectations of the present day include – everything in full text and downloadable or printable; faster service; uninterrupted service availability, virtual reference service librarian available online, easy access; easy-to-use web resources permitting self-service; a librarian who knows all subjects and all databases; everything should be in electronic or digital format; several options/alternatives to choose from; a library web site that is capable to conduct all library transactions online viz., library registration, document delivery request, loans and renewals, etc.; and a web search engine to find required information.

Dynamics of Library and Information Profession
The next few decades will continue to be ones of transition and role redefinition for the LIPs. Even as they grow and make an effort to stay current in the rapidly changing technology environment, they will always be faced with the challenge of simultaneous learning, implementation and planning. The LIPs can no longer afford to remain institutionalized passive spectators, instead they have to find new ways to
add value and remain relevant in this rapidly changing confusing and competitive environment. All the activities will now have to be tailored to give long distance and often home delivered information, which is the demand of time. Major sources of challenges faced by the LIPs in the present environment are the rapid development in ICTs, changing economy, changing education and learning environment, changes in scholarly communication. (Cardina,. and Wicks,2004)

The biggest challenge for Indian librarianship is to bring about attitudinal change among the library staff. Libraries and librarians are still the lowest priority in the decision making process and the librarians are the least visible persons. If this main challenge is confronted by librarians and libraries in real earnest it is only then that one can expect all the necessary changes within the system itself. But a serious prerequisite to overcome this challenge is to upgrade the competence and skills of the library and information professionals, since it is imperative to become deserving before asking for something. Ingraining these competencies will motivate the LIPs to serve their customers in a better manner thus helping them to contribute towards reaching organizational goal. A major roadblock in this task often confronted by LIPs is the resistance to change.

Resistance to Change
Change is a ubiquitous element of organizational life; so too is resistance to change. Understanding why and how opposition to change occurs, and developing the ability to respond effectively to manifestations of change resistance, is crucial to the success or failure of organizational change. Change, in organizations as elsewhere, involves moving from a known state to a new state—one that is to some degree unknown. It involves letting go of things as they are in order to take up new ways of doing things. Organizational change challenges the status quo and it may challenge the values and perceived rights of workers and workgroups. People working in organizations respond to change in different ways. For some, change is welcome—fresh and exciting. These people, the early adopters and change leaders, tend to welcome and embrace change enthusiastically. Others may be more cautious—responding to change by seeking to test and examine changes before proceeding. For some, change may threaten their established values and understandings and therefore be deeply unsettling. For this latter group change is something to be strongly resisted.

The action of opposing something that we disapprove or disagree with can be called as ‘resistance’. Introduction to change is a highly complex process. The uncertainties caused by the expected change and in-equilibrium, as a consequence of changes, sometimes results in resistance to change. The resistance may adversely affect the positive features of an individual or organization and make the individual or the organization counter productive. Resistance to change arises from individual’s attitude rather than technical issues of change.

Causes of Resistance to Change in Library and Information Centres
Some of the causes of resistance to the changes occurring in the environment and resistance towards acceptance of these changes in the present library and information scenario can be attributed as fear of change, ICT as a sense of lost control, unsure scenarios, technostress, lack of standardization and quality, competition of search engines and commercial tools etc. (Melchionda, 2007).

Empirical Study
A study of library and information professionals was conducted by administering a structured questionnaire. The objectives are to find causes of resistance among the LIPs towards change and to suggest measures for a smooth transition.

- Profile of respondents
  The respondents for the survey were Library and Information Professionals (LIPs) of academic institutions (universities) and research organizations. They are serving in executive/managerial cadre in these information centres.

- Data Characteristics
  One hundred (100) copies of questionnaire were administered to randomly selected LIPs and valid responses were received from 88 LIPs across India after pursuasion.

  a. Library wise distribution: The libraries were categorized into two groups viz., academic and research libraries. Out of 88 valid responses, 42 (47.73%) were from academic libraries and 46 (52.27%) were from research libraries.

  b. Age wise distribution: The age of respondents was categorized into two classes. 20-40 years category is for young professionals, whereas 40-60 is for senior professionals. 37.50 per cent (33) respondents are in the age group of 25-40 and 63.5 per cent (55) respondents are in the age group of 41-60 years.

  c. Qualification wise distribution: The qualifications are classified into four levels as follows.
    i. B.L.I.S – Bachelors in Library and information science with a master’s degree in any other subject.
    ii. M.L.I.S – Masters in Library and information Science with or without any other master’s degree.
    iii. M.Phil – Master of philosophy in library and information science.
    v. Others
According to the results, 1.14 per cent of respondents carry a bachelor’s degree in Library and Information Science with a master’s degree in some other subject. 55.68 per cent of respondents possess a master’s degree in Library and Information Science with or without another master’s degree. 5.68 per cent respondents are Master of Philosophy in Library and information science. Whereas, 35.23 per cent of respondents hold doctorate in Library and Information Science. Those having other qualifications constitute to 2.27 per cent of the sample.

d. Gender wise distribution: Out of 88 respondents 18 were women and 70 were men. That corresponds to 20.45 per cent of female respondents and 79.55 per cent male respondents.

Primary Data Findings
The causes of resistance faced by the library information professionals have been identified based on the systems approach as discussed earlier. Accordingly ten statements relating to the causes of resistance faced by them were framed, as explained in the following sections. Responses are categorized on a five point Likert scale from Strongly Agree (1) to Strongly Disagree (5).

R1: Lack of proper attitude of LIPs towards change

Many times when the employees fail to comprehend changes happening around and in their profession it is observed that they do not display proper attitude towards change. They may not participate actively, rather choose to be passive. This may result in resistance. From the 79 (89.76%) responses generated, for weights 1 and 2, indicate that the professionals agree that lack of proper attitude towards change results in resistance.

R2: Poor motivation

Motivation is both internal as well as external factor. Also it can be positive and negative. When there is very low motivation either internally or externally an employee may not understand completely the need for change and may resist. Even when there is some negative motivation or discouragement, resistance may creep in. From the 73 (82.96%) responses generated, for weights 1 and 2, indicate that the respondents agree that poor motivation in the employees causes resistance, while 7 (8%) of them cannot determine whether this is a cause and 8 (9%) of them do not agree to the statement.

R3: Inadequate training to support change

Change that has been planned by the authorities, if implemented without fulfilling the prerequisites like providing the employees with necessary training to accept and support the desired change, such a situation leaves ample scope for resisting change in employees. From the 71 (80.68%) responses generated for weights 1 and 2, it is indicated that the professionals feel inadequate training leads to resistance. While 8 (9%) of them could not decide whether this can be cause, 9 (10%) of them do not agree to this fact.

R4: Difficulty in understanding fast and complex changes

The pace of changes taking place in the external and internal environments in which libraries operate is very rapid. Even before a new technology can be completely understood and implemented it becomes obsolete due to proliferation of another competent technology. This creates a lag in understanding, appreciating and accepting the change. The 62 (70.46%) responses generated for weights 1 and 2, indicate that the library and information professionals agree that difficulty in understanding the fast and complex changes taking place in the information environment produce resistance. Out of 88 respondents 10 (11%) of them opted to be neutral, whereas, 16 (18.18%) of them did not agree to this reason.

R5: Deep rooted dogmas and technophobia

This statement relates to the set traditions, procedures and methods, etc. that have been followed by librarians since ages. These traditional methods of managing libraries may not match with the current requirements if the library has to remain relevant in the society. Similarly these deep rooted doctrines and dogmas may have an impact on the employee to make him a technophobe. These may one of the probable reasons to pose resistance. The 56 (63.63%) responses generated for weights 1 and 2, indicate that the respondents agree that deep rooted dogmas and technophobia could form a probable cause for resistance among the professionals to embrace change. While 15 (17%) of them have chosen to remain non-commital to any opinion, 17 (19%) out of 88 respondents do not agree with this view.

R6: Underdeveloped competencies

Improved education and training are necessary to assist individuals in developing the competencies they will need on the job. The competencies required by a library and information professional have been discussed in the previous sections. The concept of core competencies involves knowledge, which should be acquired through formal education and training; skills or abilities, which are acquired through practice; and attitudes, which involve emotional and social aspects. Underdevelopment of such essential competencies may lead to lack of comprehension of change and its subsequent acceptance. This may in turn lead to resistance. The 65 (73.86%) responses
generated for the weights 1 and 2, indicate that underdevelopment of competencies can lead to resistance in library and information professional, towards change. Also, 8 (9%) of 88 respondents did not comment anything upon it and 15 (16.91%) of them chose to disagree to this statement.

R7: In-availability of adequate resources

Acceptance of change is a process involving various steps. Although the employees are competent enough, they are trained and motivated to an optimal level to accept change to implement technologically advanced quality services in libraries, if adequate resources are not provided to implement the desired services, this may prove fatal. Such a situation will lead to considerable resistance to change. Out of 88 (100%), 65 (73.86%) respondents think that non availability of adequate resources and infrastructure will lead to resistance, while 8 (9%) cannot opine anything regarding this statement. 15 (16.91%) of respondents do not agree to this factor being a cause of resistance to change amongst library and information professionals.

R8: Lack of customer orientation

When a library and information professional is unaware or does not seek to understand his customer/users' requirement, he will not be in a position to extend service as per the users' needs. When he is not willing to alter the way in which he provides service, he fails to customize service according to the users' needs. This is a form of resistance to change and customization of service. 69 (78.4%) out of 88 (100%) respondents feel that lack of customer orientation is a cause for resistance towards change, while 5 (6%) of them cannot say anything regarding this. But 14 (16.36%) of them have opposed this view.

R9: Absence of management support

In spite of a professional's willingness to provide new or customized services to the users', he may sometimes not receive support from his management in terms of identification, acknowledgement and appreciation, he may not continue to provide the same. In turn he may pose resistance to any further change initiatives. As many as 76 (86.36%) respondents agree that absence of management support will cause resistance among the library and information professionals. While 5 (6%) of them do not lament anything upon this statement, 7 (7.95%) of them show disagreement.

R10: Lack of conducive work atmosphere

Work atmosphere plays a vital role in productivity of employees. It also influences the attitude of employees. Improper work atmosphere may cause stress and burnout in library and information professionals. That too in wake of so many changes taking place rapidly, lack of conducive work atmosphere can overstress them. As a result they may not be interested in facing any further changes, thus posing resistance even to positive or productive changes. As many as 71 (80.68%) respondents agree that if the work environment is not conducive to the professionals, they will mount resistance. 5 (6%) of them do not say anything about it, whereas, 12 (13.63%) show disagreement to this statement.

Analysis Data analysis is conducted in three phases as follows:

A. Semantic Differential Profile

The semantic differential profile of the probable causes of resistance to change, surfaced by the library and information professionals indicates that there is general agreement regarding the statements related to causes of resistance. They agree strongly on the following aspects.

- Lack of proper attitude towards change.
- Inadequate training.
- Non-availability of adequate resources and infrastructural facilities.
- Absence of management support.

B. Factor Analysis

Factor analysis was deployed to find out the significant factors that cause mounting of resistance from the library and information professionals towards change. Using data from the large sample, factor analysis applies an advanced form of correlation analysis to the responses to a number of statements. The purpose of this analysis is to determine if the responses to the statements are highly correlated. The results of the factor analysis are as follows.

Three factors were extracted using principal component analysis and varimax rotation.

Factor 1: Personal attributes. It has a positive loading with Lack of proper attitude, Poor motivation. Difficulty in understanding fast and complex changes in the environment, Deep rooted dogmas and technophobia, and Underdeveloped competencies. This explains that the respondents have a consensus regarding the facts that lack of proper attitude towards change, difficulty in understanding fast and complex changes taking place in the information environment cause building barriers or resistance to change. They also agree that poorly motivated personnel, with ingrained technophobia due to deep rooted dogmas pose resistance towards technology coupled change initiatives. There is a common agreement regarding underdeveloped competencies being a resisting factor.

Factor 2: Work environment. It has a positive loading with Lack of customer orientation, Absence of management support, and Absence of conducive work.
atmosphere. The consensus of respondents over this factor indicates that support from higher authorities or management, and creation and maintenance of a conducive or suitable work atmosphere plays a major role in managing resistance. Lest, an absence of management support and conducive work atmosphere become source of resistance among library and information professionals. Also they agree that lack of customer or user oriented thinking serves in building up resistance.

**Factor 3: Support Facilities.** This shows a positive loading with Inadequate training. Underdeveloped competencies, and non-availability of adequate resources and infrastructural facilities. The analysis indicates that management support and provision of adequate infrastructural facilities by management plays a major role in bringing about change. Absence or lack of these components will contribute to mounting up resistance. The professionals also feel that inadequate training to develop skills to face challenges brought in by changes will also contribute towards building up resistance in library and information centres.

The three factors have Eigen values equal to or greater that 1.0 indicating that they best fit the data obtained from the responses to the challenges in part 2 of the questionnaire. Also, the three factors together explain almost 62.99 per cent of the total variance in the responses to the statements.

**C1. Comparison of mean scores – Academic vs. Research**

Comparison of mean scores of responses of academic sector and research sector to test the difference of opinions between groups is conducted, which is further validated by z-test. The comparison broadly indicates that in spite of majority consensus between both the groups towards the general nature of the causes of resistance surfaced by library and information professionals towards the changes, there is little difference in their opinions in certain areas like poor motivation in professionals, difficulty in understanding fast and complex changes, non-availability of adequate resources and infrastructural facilities.

In order to explain the difference, a two-tailed z-test for each attribute was further carried out with 0.05 level of significance. There were no significant differences observed between the mean scores of two groups for each of the ten attributes relating to causes of resistance faced by library and information professionals except for R7. It indicates that the professionals have a common consensus over majority of the issues in this part of the questionnaire.

1. There is not much significant difference between the mean scores of the responses elicited by professionals belonging to academic and research groups regarding the statements related to causes of resistance from R1 through R6. There is general agreement upon these.

2. The statement in R7 refers to inavailability of adequate resources and infrastructural facilities. There was a notable plunge in the line corresponding to academic group in the graph plotted above. This difference may be due to the difference in working environments and end users of each group. The research sector professionals agree to the fact but not strongly. This may be due to nature of their parent organization. Research institutions and organizations are generally well equipped and facilitated. This implies to their support facilities also. Hence their library and information centres are well equipped with required resources when compared to academic set up.

3. There is no significant variance between the mean scores of academic and research library professionals for resistance related statements from R8 to R10.

**C2. Comparison of mean scores – Junior vs. Senior Age Groups**

Comparison of mean scores of responses of junior and senior age groups corresponding to 20-40 yrs. and 40-60 yrs. respectively, is conducted, which is further validated by z-test. No significant difference is observed between the sample means of the two groups based on age.

**Measures for Smooth Transition - Content Analysis**

However, in spite of general agreement with respect to the causes of resistance to change, the respondents also suggested some measures for a smooth transition. These suggestions were analyzed in detail using content analysis method. Major suggestions that emerged related to administrative support, employee development programmes, lifelong learning, and personal attributes etc.

The measures for improvement as suggested by the respondents to face the challenges and manage resistance indicate requirement of more attention in certain areas. These are management support and administrative measures, promoting employee development programmes, readiness for lifelong learning, improving upon personal attributes of employees, change management related measures like change orientation, readiness for change, resistance management. Also the Information & Communications Technology (ICT) related measures, honing management skills, improving work culture, networking and partnership initiatives, changes in LIS curriculum, service orientation and customer orientation also need a significant attention.

The following four areas discussed here showed a good precedence over the rest. These are related to administrative measures, employee development,
lifelong learning and personal attributes. Amongst the suggestive measures, administrative measures and Employee Development Programmes gained larger consensus over all others. 54 suggestions for administrative measures and 53 suggestions for employee development programme were received.

In administrative measures, respondents suggested that there is a need for empowering library and information professionals with decision making positions in organizations. They also suggested that the management should positively provide incentives to LIPs. Such steps by management or administration will motivate the employees to take up challenges and initiate new/customized services to the patrons as well as perform well in their jobs. Suggestions were also received in terms of promoting participative management, skill based job assignment to employees, etc.

To meet challenges, pressure from authorities to perform better and also to meet user expectations a systematic employee development programme is absolutely essential. This will not only help employees to integrate with the vision, mission, and key strategic directions of the library and organization, but also help the library towards becoming a learning organization because “learning organizations are skilled at creating, acquiring and transferring knowledge, and at modifying behaviour to reflect new insights” (Garvin, 1993). Next higher score was for lifelong learning with 39 suggestions. The attribute of lifelong learning can be associated with the concept of learning organization because organizations are made of up of employees. Organizations can become learning organizations if its employees adopt lifelong learning attitude.

Thirty five (35) suggestions were received under the category of personal attributes. They include attitudinal change, readiness to face challenges boldly, inculcate reading habit themselves to promote good reading habits in users, learning from the changing environment, proactive nature, self-motivation, work commitment, and welcoming criticism. These attributes can be either self-developed or gained through training. It is desirable that the professionals improve and sharpen their personal attributes as they prove to be of help during chaotic situations also.
Systems Approach in Library and Information Services

Academic institutions and research organizations can be viewed as complex knowledge systems consisting of several interconnected subsystems that work in synergy and harmony with each other in order to achieve this vision and mission. One of these subsystems is the library, where every LIP can be viewed as a systemic entity in itself. The immediate operational environment of LIPs is impacted upon by changes in the external environment. Thus, the challenges faced by them and their subsequent resistance to them are a result of these changes. Owing to the systems nature of libraries and LIPs, adopting systems thinking is recommended to be adopted in order to face these challenges and successfully dealing with resistance.

According to systems thinking approach each entity in a system is interconnected with every other entity and the behaviour of the system as a whole is shaped by the interconnectedness of these entities. It also advocates that the whole is bigger than the sum of individual entities. (Senge,1990) Therefore interconnectedness can be achieved by not isolating oneself from the system and by viewing oneself as a part of it i.e., to see the “big picture”. Some of the previous studies conducted using systems approach are as follows.

Peter Checkland (1985) was the first to report application of Soft Systems Methodology (SSM) in achieving desirable and feasible change in the information and library functions

Sulaiman Al-Hassan and Meadows,(1994) studied application of soft systems methodology for improving library personnel management in Kuwait. Their study conducted between 1989-91 considering the pre and post Gulf war issues in Kuwait's libraries, focused on the investigation of experiences of recruitment, training, appraisal, job satisfaction and conditions of service. They have stated that the “study has shown that soft systems methodology can be usefully applied to the examination of library personnel management”.

Tan (1998) explains how managers can foster and sustain creativity in their organizations using a total systems approach. He depicts the organization as having four subsystems viz., culture, techno-structural subsystems, management and people. Each system will create unique barriers to creativity. The suggested framework identifies three types of interventions – cultural, organization and design, and training development that can help the ingredients of creativity, foundations, competencies, and support.

Boissonnas (2001) addresses the issue of technical services to re-emphasize it to be a reader service, which is often seen as something other than a reader service. According to this study, the implementation of digital libraries cannot be successful without a comprehensive system-wide approach that calls for people with different experiences and expertise to work together across, rather than in, functional groups. This systems approach assumes a level of organizational readiness that can be achieved through the deep integration of separate functions.

Giesecke, and McNiel,(2004) explore in their article why organizations consider attempting to become learning organizations. They include an overview of the theory of learning organizations, present steps to becoming one, and describe examples of learning organization efforts at the University of Nebraska-Lincoln Libraries and other libraries. They adopt Peter Senge’s principles which include ‘systems thinking’.

Some others have also successfully applied Soft Systems Methodology (SMM) in library and information science profession.

Systems Approach for Dealing with Resistance to Change

On similar grounds, systems approach can be applied to managing change in library and information centres in India also. Systems thinking can be applied for dealing with resistance in LIPs, as detailed further. Systems thinking allows library and information work to be effective and innovative because library is a part of bigger environment and is interconnected with other departments and units, it cannot function as an isolated entity. LIPs should view themselves as an integral part of the organizational system. In response to the changing environment, there is a need to develop attitudes and competencies in such a manner that they correspond to the changing requirements of the organization, changing technology and user expectations. When LIPs take this view, it helps them to situate library as proactive and not reactive to changes. This requires strong and effective leadership.

Effective library leaders should possess qualities like self-awareness, embracing change, customer focus, collaborative spirit, courage and truthfulness, vision, dreams, creativity, innovation and entrepreneurship, planning, trust, values, passion for work, caring for colleagues, communication, transformation and inspirational motivation. Though there can be only one effective leader, yet it is desirable that all LIPs imbibe these leadership qualities so that they have a better understanding of the systemic requirements.

An effective way of achieving the required is by developing their capabilities in terms of competencies and attitudes. This can be done by encouraging them to undergo continuous professional development and imbibe lifelong learning attributes. Any action requires a two way approach. Positive stand from LIPs for change will enable the authorities also to offer continuous support in terms of corroborate for their development and better services thereof. Some of the main recommendations are as detailed further. The following competencies and attitudes are recommended to be developed by LIPs.
Library and information professionals require two types of competencies in this changing environment. They are – Professional and Personal.

- **Attitudes**
  The attitudes like continuous learning and service orientation are strongly recommended as required for LIPs.

- **Feedback culture**
  In order to understand continuously happening changes and ever increasing user expectations, LIPs should make a habit of taking feedback from their customers with respect to their service offerings. This will help them stay relevant even in turbulent times.

Even in this digitized environment of virtual libraries and repositories, there is still no better theory of library or the role of librarians than the universally incontrovertible and applicable Five Laws of Library Science enunciated by Dr. Ranganathan (1989), that form the bedrock of library and information profession. These are profound yet simple principles based upon linking people, libraries and information they use. In case of any change or transformation, it always holds true to check and recheck if the change or transformation satisfies these laws, provided the words ‘book’ and ‘reader’ are not taken too literally and read as ‘user’ and ‘information’. Adhering to these axioms always will help the LIPs to serve their users in a better manner.

Apart from the above, sound supporting facilities and work environment, and an effective employee development programme with a comprehensive learning domain with latest thrust areas are recommended strongly for implementation as such programmes provide better understanding of organizational development concepts to the LIPs and will help them in developing both competencies as well as attitudes.

**Conclusion**

*Everyone thinks of changing the world, but no one thinks of changing himself*

– Leo Tolstoy

Finally, instead of searching for solutions in the environment and expecting support in terms of extrinsic factors, application of ‘changing self to change others and in turn the system as a whole’ approach is desirable. This will lead to a positive change in the attitude of the professionals, which in turn will lead him to contribute in achieving organizational excellence.

There may be some barriers to systems approach in terms of time constraints, resources etc. These can be managed by – “think globally; act locally” or “glocalization” approach. It means to say that understanding and accepting the principles, theories, practices etc. that are applied globally, be adopted and adapted at micro level by interpolating required suitable variations. As nature mirrors systems in each and every of its parts, so also every individual and organization mirrors a system in their own way. Realization of existence of these systems to harness their potential to their optimum is needed.

**References**


