QUALITY MANAGEMENT MODEL FOR KNOWLEDGE RESOURCE MANAGEMENT IN UNIVERSITY LIBRARIES OF NORTH EASTERN REGION OF INDIA AN ASSAM UNIVERSITY LIBRARY EXPERIENCE

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Abstract

Quality is a relative concept, closely linked to the level of user expectation and requirements. The relative nature of quality leads ultimately to excellence. Quality management includes effectiveness and efficiency rating, cost control, service assessment, user-oriented analysis. In the University system, libraries are the backbones to support the concept of quality academic functions. Unless and until, there is a quality approach in managing knowledge resources at library, it is difficult to expect quality of academic activities in university. In order to adapt to these new circumstances, universities are implementing new management procedures, and, for their part, university libraries are forced to make fundamental changes in order to conduct their business in line with managerial criteria. In this direction, an attempt has been made on Quality Management Model for Knowledge Resource Management and presented Assam University Library as a case study.

Keywords : Quality Management Model (QMM)/ Knowledge Resources/ Information Communication Technology/ Information Management/ University Library System

1.   Introduction

Universities are featured with a new technological-informational model, especially after exposition of information technology. This is felt in every phase of academic activities. In response, new organization structures have been conceived not only to do the work more efficiently but also to meet new challenges with innovative solutions. The current environment, dominated by the need to be competitive, is perceived by Indian Universities as one of the biggest challenges of the academic institutions. It is to be met in the 21st Century and therefore, leads institutions to question their actions. What do we want? What is our goal? How are we going about it? Qualitative use of knowledge resources is one of the end results of these questions. As a result keen

interest is shown in all aspects concerning the introduction of new technological knowledge devices in order to be a leader with quality of service in the given competitive conditions.

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1.1 University Library System

The library is the part and parcel or heart of any institutions. It is accepted that a library is more important in a university, because a library can do without a university whereas a university cannot function without a library. The library has been playing its significant role since independence to till date in expansion of universities from a small number twenty to two hundred and ninety five. This number includes conventional universities, professional universities and deemed to be universities. The significant growth of the universities in India is evident from the total number of student's enrollments, creation of new departments in various universities, number of fundamental and applied mission oriented research projects which are funded by the various funding agencies like UGC, CSIR, ICAR, ICMR, DST, DOEn, DOE etc, and many other social and intellectual factors. National Institutions like Indian Institute of Technology, (IITs,), Indian Institute of Management (IIMs), Agricultural Universities and Institutions etc. have innovated a number of new educational practices. The concept of Open University for distance education is a new and significant new experiment at the university level. All these factors have affected the functioning and responsibility of university libraries to a great extent. Today, university library has to play an important role in meeting the demands of information and knowledge base by the bigger section of users community from various disciplines (IGNOU, 2000).

1.1.1 Objectives of a University : The objective and functions of a university may broadly grouped as follows: to provide intellectual and managerial leadership to the various fields of government, industry, health, engineering, law, defence, education, agriculture etc. and imbue them with a sense of social purpose; to conserve knowledge and ideas for prosperity of the society; to foster the ideals of social justice, religious tolerance, national integration among its diverse people; to train a brand of research workers in all areas of studies so that the results of research can be applied to every walk of life in order to improve the quality of life of the people.

1.1.2 Function of University : The five major functions of university are to: learning and teaching; research and generation of new knowledge; dissemination and publication of research results; conservation of knowledge and ideas; and extension service. The university is the place of learning where there should be ample scope for the generation of new knowledge and excellent scholarship. The collection in university library system will have to cater to the needs of teaching and learning, research, generation of new ideas, new knowledge and publications. The reading materials, which are acquired by the university library, shall also require its proper organization and management both in terms of their physical location and their representation in catalogue and indexes in order to provide quick retrieval and dissemination of information. Besides that the documentation and information services in a university library should be highly organized and effective with considerable professional expertise and knowledge of subjects.

1.1.3 Objectives and Functions of a University Library : University libraries support and help the university in achieving each of the objectives of university. The major function that are derived from these objectives are: to development of a collection of Knowledge Resources in a vide variety of subjects for learning, teaching, research, publication etc.; to collection development of relevant reading materials which should be organised and maintained properly and; to provide a wide range of library and information services, documentation services both responsive and anticipatory.

1.1.4 The Library and User Community : The user community of university libraries includes undergraduate and Postgraduate students of different subjects; faculty members, technical and non-teaching staff; research students working for M. Phil. or Ph.D. degree; post-doctoral research scholar working under different schemes of UGC, CSIR, ICMR, DOEn, DOE, ICAR etc; professors and experts guiding research projects and managing research activities of the university; members of the various academic and executive bodies of the university; the university management and; visiting fellows, scholars and others. The university libraries have different categories of members and university libraries have a very big responsibility and a very important role to play in extending quality service to its reader communities for higher learning and research and to meet other demands.

2. Knowledge Resource Management in Assam University Library

2.1 Assam University, Silchar-: A Brief Introduction

Located in the heart of nature, the Assam University was established on January 21, 1994 at Silchar a District town of Cachar in Southern Assam by an Act XIII of the Parliament promulgated in 1989. In a short span of time, since its inception, the university has taken long strides and today it occupies its permanent campus with 31 Post-Graduate Departments and 3 Inter-Disciplinary Centres. These departments are distributed under 9 Schools Viz., School of Environmental Science, School of Humanities, School of Information Sciences, School of Languages, School of Life Sciences, School of Management Studies, School of Physical Science, School of Social Sciences and School

of Technology. This University serves the aspirations of the academia and the students of the southern part of the State of Assam comprising the Districts of Cachar, Hailakandi, Karimgunj, North Cachar Hills, and Karbi Anglong. It is a teaching –cum- affiliating University having 52 colleges of Professional and Degree levels (Shrivastava, Sinha and Bhattacharjee, 2005).

2. 2 Assam University Library

Assam University Library was started with the establishment of the University in the year 1994 as a central agency for meeting the information requirements of the academic community of this university. The Central Library of Assam University has been shifted to its new permanent Central Library-cum-Computer Centre building and started functioning since January 21st , 2006. This new building is having the total plinth area of 3907 Square meter with a beautiful fencing. The statue of Nobel Laureate Rabindra Nath Tagore (Thakur) with a coloured fountain will be placed in front of Library building very soon. The main function of Library includes collection development of knowledge resources, technical processing, organization, retrieval and dissemination of information to the end users Barak Valley in particular as well as the whole country in general.

The Knowledge Resources available in Assam University Library have been categorized in 13 collections arranged in separate Hall. 1) Text Book Collection, 2) Social Science and Humanities Collection (including Business Studies, Commerce & Information Science), 3) Language Collection, 4) Science Collection, 5) Reference Collection, 6) Periodical Collection (Current and Back Volumes), 7) Ph.D. Theses / M. Phil Theses Collection, 8)Reports and Conference Proceedings Collection, 9) Gifted Collection, 10) Donated Collection of Eminent Scholars of the Locality having important Manuscripts and rare documents, 11) North East Collection, 12) Audio-Visual Collection and, 13)Digital Collection including CD-ROM Databases, E-Journals, Internet Resources, In-House Databases of Books, Serial, and Theses and On-Line OPAC Service

2.3 Collection of Knowledge Resources

At present the library has altogether more than 70,000 + books, which includes Textbooks, General books, Reference books relating to all disciplines. Besides, A.U Library also developed special collection on North Eastern Region (NEC Collection), collection of donated books (Donated by eminent scholar Prof. Asim Dutta , Prof. R.D. Dutta and Prof. K.P. Sinha and Professor S.C. Saha , the former Vice-Chancellor of Assam University , Silchar). Besides, we have some gifted books received from various organizations, Government Reports, M. Phil /Doctoral Thesis, Back volumes of journals, few CD-ROM supplied with journals and books. Assam University Library subscribes to 61 foreign journals (few of them are having on-line access) , 360 Indian Journals , twenty different newspapers in multiple copies from local to national level and sixteen newsmagazines. Besides these, the Library is also procured fifty one various reports and sixty one newsletters titles. In addition to these, four hundred and thirty one Ph.D. and M.Phil. Theses and four hundred and thirty five reprinted material form American

library center. The Central Library is also having access to 4000+ e-journals provided under UGC-INFONET e-Journals Consortium and also having access to the database services of DELNET via V-SAT installed under the UGC-INFONET Programme of INFLIBNET.

2.4 Technical Processing and Organization of Knowledge Resources

The acquired documents either by purchase or donation or gift are classified according to Dewey Decimal Classification Scheme (DDC) 19th Ed 21st ed. except language collection. The Language books are classified according to Colon Classification 6th ed., Manual cataloguing is done using AACR-2 (Anglo American Cataloguing Rules-2). The Card Catalogue Cabinet is located in Main Hall. Catalogue Cards are arranged alphabetically according to surname of authors and by titles /subjects. The database creation work is also under progress under INFLIBNET Programme and till now 35,000 bibliographical records of monographs, 200 serials and 450 Dissertations and Theses have been created. The computerised catalogue can be accessed through On-Line Public Access Catalogue (OPAC) placed in the Library.

2.5 Knowledge Resource Services offered by Assam University Library

Library is kept open on all working days from 8 am to 5.30 pm including all Saturday. Membership of the library is open to teachers, students, research scholar and officers, non-teaching staff of the University. Consultation facility has also been provided to the faculty of affiliated colleges, ex-students who want to prepare for NET or other competitive examinations. The scholars from the locality or outside state are given special permission to use library facilities on the recommendation of HOD/Faculty members of the University. Visiting fellows and part time faculties are also given lending and other library facilities as per the library rules. The Library provides different types of knowledge resource services to its users. They are: Loan/Lending Service; Reference Service; Current Awareness Service; Reprint Service; Literature Search; Photocopying Service; OPAC and Internet Service; On-Line Search of Knowledge Resources available on Internet and; INFLIBNET Database search service through Internet.

2.5.1 Internet Service : At present Internet facility is made available to all the faculty members, research scholars, officers, non-teaching staff doing higher studies and research free of cost. Library has taken Dial up connection from BSNL and one telephone is dedicated for that purpose. Annual subscription for 1000 hrs is paid for this purpose from May 2002, one proxy server and two terminals in LAN are exclusively made available for Internet Access of INFLIBNET Database for academic purposes. In order to give proper service to all users, reservation for time slot in Internet services is also provided to the faculty and scholars.

2.5.2 CD-ROM Search : Presently Assam University Library has very less number of CD-ROMs, which are mostly supplied with books and journals. Databases on CD-ROMs, Encyclopaedia Directory, Dictionary current contents, year books and yet to acquired. However we have multimedia computer and facility of CD-ROM access is available.

2.5.3 Access to INFLIBNET Database and Services : INFLIBNET Centre has selected Assam University Library as one of the participating libraries for automation and networking of library services during 1996-97. The INFLIBNET Databases of books, serials, thesis, experts projects are available for online access in its website. The expert database provide academic and research profile of senior level faculty members working in Indian Universities. The faculty member can use the online facility to input their academic profile. Under UGC-INFONET e-journals Consortium, Assam University Library users are also getting on-line access to 4000 + e-journals covering various International journals and databases over Internet. The faculty members, research scholars and students are extensively utilizing these facilities for their academic endeavor.

2.5.4 Access to DELNET Databases and Services : Assam University in its Library Committee Meeting approved the subscription of Databases Services of DELNET from 2003 onwards and the facilities of accessing Digital Information Resources, Bibliographical & other Databases and Inter-Library Loan Services of DELNET. Digital Information Resources and Databases available at DELNET can be accessed through Internet

2.5.5 OPAC Facility : The Library also offers computerized catalogue search service through the OPAC interface of SOUL application software. This software has been acquired from the INFLIBNET Centre. The bibliographical records of books, serials, Theses and Reports are available in the Central Library, which can be accessed through OPAC. Several OPAC terminals have been placed at various locations of the Library for in-house database access to the library users.

3.   Computerization of Knowledge Resource Services

3.1   Automation and Networking of A.U. Library under INFLIBNET Programme

Assam University Library is one of the 142 libraries chosen by UGC for Automation and Networking under INFLIBNET programme during IX Plan.

3.2   Purchase of Computer HW/SW

The computers were purchased out of non-recurring grants of 6.5 Lakhs, which are networked inside library (LAN) with Windows NT and in-house training of the library staff has been provided. University also provided Rs.5 Lakhs for purchase of computer with higher storage capacity, Inkjet Printer, and other gadgets. Out of X Five Year Plan, there is a provision for Information Infrastructural development for modernisation of library activities and services. As far as equipments are concerned, the library has one Modi Xerox Machine, one Gestetnor Machine and two Air Conditioners.

3.3   Purchase and Installation of SOUL Software

Software for University library (SOUL) developed by INFLIBNET centre has been purchased and installed in Assam university Library during July-August 2000 by

INFLIBNET officials. After installation initial training for using SOUL for database creation has been given to library professionals. Before SOUL library was using CDS/ISIS for database creation work. The record generated by CDS/ISIS has been transferred to New databases of books and serials developed using SOUL. Book and Serial Database are being created and updated on regular basis. The creation of Book and Serial Database of Assam University Library is under progress.

4. Human Resource Management: Existing Staff Strength of Library

Assam University Library appointed five senior Library and Information Professionals and four semi-professional library staffs. Besides that 15 other administrative and data entry staff members have also been appointed to extend library and information services to the library users.

4.1 Human Resource Development for Effective Knowledge Resource Management

The INFLIBNET Centre, Ahmedabad, has given three library and Information professionals training for application of computers in library and information activities and services. Besides that, short-term training programmes on general awareness of computers and also for using CDS/ISIS, SOUL have been organised by the AU Library for its Library professionals and other staff. The senior library and information professionals are also deputed for attending the workshops, seminar, conferences etc. relating to IT application to library services.

5. Future Plan for procuring e- Knowledge Resources and Digital Library Services

We have recently shifted to our new permanent library-cum- computer centre building. The first phase of automation of the library is under progress, the creation of database of library holdings are in the process of completion. Setting up of a LAN within the new permanent library building to support the user with most modern library access mechanism has already been started. During X Plan period more than 50 computers, LCD projector, five dot-matrix printers, one laser printer and two inkjet all in one printers have also been procured. Other equipments like bar-code generator, scanner, and electronic knowledge resources like on-line e-journals and subject databases in CD-ROM / DVD are under the process of procurement. In new library building, new Database Lab with all modern equipments for data capturing and digitisation of documents etc is being established. Two separate lab for Internet access for e-journals and general e-mail/ Internet access are being coming up for extensive on-line services to the university community. The Assam University is also in the process of campus –wide OFC networking with 2 mbps Lease Line facilities from BSNL. We have also been provided the facility for content development and two –way interactive teleconferencing facility via EDUSAT which has been provided to our university under UGC-CEC Programme, which is under the process of installation.

6. Quality Management Model (QMM) For Knowledge Resource Management

Innovative management practices are not only applicable for effective and efficient functioning of business organization but also can be used the similar techniques in the functions of academic libraries for better services as per expectations of their users. Four major factors generating a paradigm shift in library and information service (LIS) management are identified: 1) The pro-active engagement of users through ongoing needs surveys with the purpose to profile, anticipate and/or push information services to them; 2) Facilitation and enhancement of qualitative and pro-active user services; The cost of the new technologies and an ever increasing cost of print resources in particular has led to a higher level of resource sharing, mass access arrangements (inter library loans, document delivery, corporate memberships and online database subscriptions) to help maintain collection capability and; Self-supporting and revenue generating.

6.1 The Quality Management Model (QMM) for LIS

Quality Management (QM) has a user-first orientation. The user, not internal activities and constraints, comes first. User satisfaction is seen as the libraries highest priority. The library believes it will only be purposeful if users are satisfied. The QM library is sensitive to user requirements and responds rapidly to them. In the QM context, 'being sensitive to user requirements' goes beyond defect and error reduction, and merely meeting specifications or reducing user complaints. The concept of requirements is expanded to take in not only product and service attributes that meet basic requirements, but also those that enhance and differentiate them for competitive advantage. Each part of the library is involved in total quality, operating as a user to some functions and as a supplier to others. To achieve the pro-active engagement of user's requires an integrated and holistic approach to LIS management, involving all staff, resources and services at our disposal. The Quality Management principles, encompassing holistic, ongoing and all employee commitment to cost-effective, high quality service, help build a strategic focus for effective, continuous improvement.

6.1.1 Basic Objectives of QMM : The objectives of the QMM are: to know the users' needs more accurately with ongoing evaluation of collection and services; to meet the exact needs of users; to achieve the most cost-effective use of resources. The objective of the quality management of the Library is to create a user-oriented library. The approach centers on five specific variables: The Library structure redesign; Streamline process management; Identify key result sections of the library; The introduction of continuous improvement groups, as a means by which to involve the staff in the quality management process and; Fix standards, Certification and self-evaluation.

Library changes and the use of information technology to develop new processes are, of themselves, insufficient-if not reinforced by strong leadership of the library management team and changes in outlook by the library staff-to successfully implement all the

services and products on offer to the user. Consequently, a series of strategies have been identified, with the user uppermost in mind.

They are to:

- Identification of users, their characteristics, their documentary or informational needs, their expectations, etc.

- Standards of service achievable by the library, known to users and updated on a regular basis. These represent the operational objectives of the library, expressed in terms of its commitments to users.

- Training and development of interdisciplinary work teams and the creation of continuous improvement groups, essential elements in the process to establish modern management practices in the library system of the University of and to develop open Library structures which are truly dynamic, flexible and multifunctional.

- Strong leadership of the library management team; by that is meant the exercise of authority based on delegation and the promotion of user-oriented initiatives and teamwork.

- Feedback is a two-way process (users/work teams), the results of which should be made immediately available to all the members of the library staff.

- Official recognition and recompense for those individuals who best apply the standards of service in their work and who achieve user-oriented improvements.

Exhaustive and detailed analysis of library activity flows enables to rate internal processes in terms of competitiveness (i.e. to pinpoint those processes associated with the critical factors providing a competitive advantage), to determine value (i.e. the quality, cost and time required for implementation and to contrast this with the added value perceived by the user) and overall productivity. Process management requires fundamental changes in the way staff approach their work. The staff approach includes an external – user friendly orientation; a different work method; the balancing of processes and users on the one hand and functional departments and hierarchical structure on the other; participation and support vs. hierarchy and control and; responsibility in the entire functional hierarchical authority.

6.2 Steps in QMM

6.2.1 Strategy : The QM must be integrated with the overall mission, objectives and plans of the Library. "Our objective is to be the Best in User Satisfaction." This is an objective or hope, requiring defined methods or strategies to be meaningful. The strategy is to gather information from customers and translate user feedback into annual product and service improvements and, install an ongoing process for identifying improvement needs, stimulating projects, and reviewing results on a time bound. The library has to develop its own strategic steps. Total Quality can be reflected in these strategy elements. For instance, the strategic steps covers:

- Mission - broad definition of library purpose: 'To be a recognized leader in providing Quality products and services'.

- Objectives - specific descriptions of achievements desired: 'To improve Quality by 'Increase in address of user needs and reducing their complaints with clear cut expression'.

- Operational strategies - general methods, means and concepts for achieving objectives: 'Gather and analyze user feedback and use in guiding Quality improvements tactics'.

- Plans - who's going to do what, by when? "Detailed description involving user service.

6.2.2 Structure : The library has to streamline its command and control library structures; reducing management levels, eliminating layers of approval, reducing barriers between departments and work groups. Library chart reflects the needs of customers.

6.2.3 Synergy : The workplace is filled with examples of people working 'on' each other, rather than with each other. It is nothing but teamwork. Teamwork requires that they share: a common mission; congruent, compatible goals; mutual trust and respect; equity of recognition and rewards.

6.2.4 QM and Human Resource Management in Library : To support QM, Library staff management (LSM) should be established in light of five guiding principles: commitment from all staff is required; staff must be dedicated to meeting user requirements; services are based upon teamwork and partnership; attempts to break down communication and co-operation barriers and; advocates an emphasis on training and development of staff. Quality principles in LSM start at the recruitment stage and follow through with job description including stated and documented roles and responsibilities. It is also important to incorporate the clientele in the quality paradigm. This requires in-built and ongoing user evaluation procedures (formal and informal). Regular feedback from the clientele ensures that the library can build in a early warning system of service deficiencies, and even successes whereupon more resources could be directed to enhance or expand the successful operation further. An open-system, allowing two-way flow of information, encourages the client's participation in a transparent and responsive process.

6.2.5 QM and Information Technology : Computerization in LIS has been spurred on by five motivating factors: Desire for greater collection management control and analysis; Integration of operations (acquisition, cataloguing, circulation and management reports) for greater overall control; Service quality improvements, like item/borrower status tracking and powerful retrieval techniques; avoid duplication of effort, e.g. acquisition order monitoring; more powerful hardware to handle the amount and the complexity of LIS transactions

The Internet has further opened the Library up to the world of IT. The very nature of the Internet, its exponential growth, lack of data input standards and primitive search engines, has lent the LIS to playing a greater role as information intermediary. The inclusion of electronic materials on the online catalogue will help provide clientele with a 'reviewed' subject approach to Internet resource retrieval. This also points to the development of the 'virtual library' whereby resource provision is no longer confined to the library's four walls. The portability of electronic resources and the vast amount of material available are also placing an increasing responsibility on the part of the LIS to provide pro-active dissemination of information services to its clientele. 'User profiling' and 'push' technology are the new LIS buzzwords, especially in the corporate and academic library sectors.

6.26 QM and Marketing Concept in LIS : Marketing is the means by which the level of awareness and consciousness of the user base is established by the LIS, which is a user driven service to alleviate the linkage gap between resources and users. To achieve optimum use requires needs analysis to tailor products and services cost-effectively. An awareness of the 4 'P's' of marketing will aid the LIS in achieving optimum usage goals:

- Product: The product is the resources and services provided. Understanding user requirements, library values and goals, etc. are fundamental of resource selection and service delivery.

- Price: The cost-effective delivery of resources in a non-profit environment requires a thorough understanding of the budget and assessed benefits, though often intangible, to the user. By placing a value on the delivery of various LIS the library has a greater appreciation of its value in the information chain.

- Promotion: Regular communication with the clientele is paramount. Based upon a user-sensitive marketing approach, the substance of the process should continually both inform and delight or pleasantly surprise the target audience.

- Production: Incorporates both internal strengths and weaknesses to meet LIS goals and the relative abilities of the clientele to utilize the various LIS resources and services. Both realities require an ongoing skill audit process to ensure optimal LIS delivery and use. User education programmes are part and parcel of the marketing exercise, strengthening the awareness of the LIS role in information provision and delivery.

7. Conclusion

The following tips would facilitate sustenance of QM in LIS:

- Staff commitment and involvement: Commitment and personal involvement is required from higher-level authority to lower level staff in creating and deploying clear quality values and goals consistent with the objectives of the library. The timely creating and deploying well defined systems, methods and performance measures for achieving those goals. These systems and methods guide all quality

activities and encourage participation by all staff. The development and use of performance indicators is linked, directly or indirectly, to user requirements and satisfaction.

■ Continuous improvement of all operations and activities: It is at the heart of QM. Once it is recognized that user satisfaction can only be obtained by providing a high-quality product, continuous improvement of the quality of the product is seen as the only way to maintain a high level of user satisfaction. As a result, there is a focus on continuous improvement of the library processes. This will lead to an improvement in process quality. In turn this will lead to an improvement in service quality.

■ Elimination of waste: It is also a major component of QM. There is also a strong emphasis on prevention rather than detection, and an emphasis on quality at the design stage. The customer-driven approach helps to prevent errors and achieve defect-free production.

■ Fast response: To achieve user satisfaction, the library has to respond rapidly to customer needs. This implies short product and service introduction cycles. These can be achieved with customer-driven and process-oriented product development because the resulting simplicity and efficiency greatly reduce the time involved.

■ Actions based on facts: Facts and analysis provide the basis for planning, review and performance tracking, improvement of operations, and comparison of performance with competitors.

■ A QM culture: The introduction, implementations and continuation of QM is deepened on open and cooperative culture among all concerns of the library. Staff has to be made to feel that they are responsible for user satisfaction.

Acknowledgement

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