APPLICATION OF TOTAL QUALITY MANAGEMENT IN STATE UNIVERSITY LIBRARIES IN NORTH INDIA: AN EVALUATION STUDY

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ABSTRACT

The present paper explores the application of TQM in state universities libraries of North India. For the purposes, researcher has taken six state university libraries and two questionnaires prepared for the research. First questionnaire circulated to librarian of each state university and 100% returned back. Second questionnaire circulated to users 480 user of the concerned libraries and returned back 444 (92.5%). TQM means total quality in all operation of any organization from start/input point to end/output point as in library for example from acquisition of document to its issuance and re-arrangement etc. TQM may be applied to any types of library and this leads to libraries standards and best practices. Here academic library is taken into for the study purpose and end of the study some suggestions for application of TQM are also provided by the researcher on the basis of data analysis.

Keywords: TQM (Total Quality Management), SUL (State University Libraries, IT, Leadership, Policy & Strategies

1. INTRODUCTION

Libraries, either small or big are established in order to meet multifarious need of the users. Libraries are social institutions, which play a crucial role in the societal development. Dr. S. R. Ranganthan a luminary and a visionary in the field of library science had compared library to a growing organism. Now the physical form of documents is changed drastically as result of recent developments in microfiche, microfilm, magnetic disk, magnetic tape, CD-ROM and DVD-ROM etc. are means to miniaturize and substitute for large bulk of conventional documents available in libraries. Information scientist **Lancater** has forecast that 21st century will be 'paperless society' because of the emerging trends in the physical form of documents.

Total quality management is a management philosophy embracing all activities and practices through which the needs and expectations of the customer and the community, and the objectives of the organization, are satisfied in the most efficient and cost effective way by maximizing the potential of all employees in a continuing drive for improvement. According to **Zabal and Avery** Total Quality Management is a management style in which process are examined and refined with the goal of improving the performance of an organization**. Jurow and Barnard** define TQM as "a system of continuous improvement, employing participative management and centered on the needs of customers." Now, if libraries have to survive in the electronic environment, they will have to change, and include quality culture in their services to make them user oriented. The quality factor has become important because the right information has to be given to the right person at the right time in the right form also. In this study researcher try to find the changes have been made by the university libraries to keep them up-to-date in the electronic environment or not and users are satisfied or not with the services providing by the libraries.

2. REVIEW OF LITERATURE

At the beginning of the review of related literature, a deep search was made through LISA (Library and Information Science Abstract) through CD-ROM version and manually. Review of the literature was also done through many Journals of Library Science, proceedings of conferences/seminars, books etc. Some of the search engines (Alta Vista, Rediff, Google, and Yahoo etc.) were used to find the relevant matter on net. Some details of review of related literature as follows: -

Rajashekhar D. Kumbar writes that today technologies have changed our social and economic life. The most important stakeholders in the library are customers, the providers of subsidies, staff, and other libraries. These stakeholders are interested, for various reasons, in the introduction of TQM. The introduction of TQM makes great demands on the staff.

G. Saroja G. Sujatha says that the study of Total Quality Management (TQM) of library and information systems and services becomes crucial. This paper intends to study the application of TQM to the provision of library and information services. The Indian Higher Education System comprises 210 conventional universities and a single mode open universities. The conventional

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universities have more than a hundred years of tradition and many have international recognition as centres of excellence in specific disciplines.

CSR Ltd a major Australian sugar manufacturing and building materials company, has recently adopted a team-based quality management program known as Building in Quality (BIQ). This program emphasizes the role of the customer, the importance of measurement and the need to involve employees at all levels in decision making. The Technical Field Department of CSR Sugar Mills Group conducts agricultural research and extension activities aimed at increasing sugarcane crop productivity in the districts which supply sugarcane to CSR's raw sugar mills. This paper describes the approach used to apply BIQ to the Technical Field Department in the Herbert River District of north Queensland.

B.C. Ghosh and Mak Tzi Ling study the advertising industry in Singapore faces an acutely competitive environment which demands a high level of service from agencies with total quality management (TQM) as the perspective. Mere excellence in creativity with its high focus on product, rather than the market, is no longer sufficient.

3. OBJECTIVES

The objectives of the study are as follow:

- To identify plans and applications of Total Quality Management in state university libraries.
- To determine education and training needs and also infrastructure needs of state university libraries for contributing quality in user services.
- To establish quality trends, challenges and opportunities as are relevant to state university libraries.
- To discovery the answers of problems faced by these libraries in adopting the new technologies.

4. SCOPE

In the present study, researcher has included the following state universities for the purpose:

Abbrev	Library Name	University
JNL	Jawahar Lal Nehru Library	Kurukshetra University Kurukshetra (Hry)
MDUL	Vivekanand Library	Mahrishi Dayanand University, Rohtak
RMPL	Raja Mahendra Pratap Library	Ch. Charan Singh University, Meerut
CLBRAU	Central Library	Dr.B.R Ambedkar University, Agra
CLMDSU	Central Library	Mahrishi Dayanand Sarswati University, Ajmer
ACJL	AC Joshi Library	Panjab University, Chandigarh

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5. DATA ANALYSIS

5.1 Library Personnel

For the purpose data could be made available by 6 (six) respondent state university libraries in Delhi, Haryana, Rajasthan and Uttar Pradesh. The data could be made available by librarian from each university libraries, which from 100% of response to the questionnaires circulated and through personal visits and personal interviews from the librarians of the state universities and to other staff has been analyzed and interpreted in the paragraphs and tables that follow:

Table No. 5.1.1 Opinion regarding the participation in Decision making helps in implementation in Decision making.

S.N.	OPINIONS	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	√	√	√	---	√	√
2	No	---	---	---	√	---	---

Table 5.1.1.1 If Yes, what extent of decision making helps in implementation of decision making.

To full extent		To great extent		To some extent		To a little extent		Not at all	
Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
4	66.6	2	33.3	---	---	---	---	---	---

Table no 5.1.1.1 indicates the all libraries are agreeing on that the participation in decision making helps in implementation in Decision making excluding **CLBRAU**. **66.6%** say that participation of decision making helps in implementation of decision **to full extent. 33.3%** say that participation

Table No. 5.1.2 TQM should be applied in Libraries

S.N.	OPINIONS	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	√	√	√	√	√	√
2	No	---	---	---	---	---	---

Table no 5.1.3 Have you tried TQM in your library

S.N.	OPINIONS	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	---	√	√	---	---	√
2	No	√	---	---	√	√	---

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As per table no 5.1.2, all the libraries agree on that TQM should be applied in libraries. **MDUL**, **RMPL**, and **ACJL** have also tried the TQM in their library **(Table no 5.1.3)**.

Table no 5.1.4 Have you applied statistical process to your library

S.N.	STATISTICAL PROCESS	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	---	---	---	---	---	---
2	No	√	√	√	√	√	√

Table 5.1.5 Is your libraries is ISO certified

S.N.	ISO CERTIFIED	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	---	---	---	---	---	---
2	No	√	√	√	√	√	√

Table 5.1.6 Have your library employed additional staff since, application of TQM

S.N.	STAFF EMPLOYED	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	---	---	---	---	---	---
2	No	√	√	√	√	√	√

Table 5.1.7 Library structured changed since, application of TQM

S.N.	STRUCTURED CHANGED	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	---	---	---	---	---	√
2	No	√	√	√	√	√	---

Table 5.1.8 Do you think TQM bring positive affect

S.N.	STAFF EMPLOYED	LIBRARIES					
		JNL	MDUL	RMPL	CLBRAU	CLMDSU	ACJL
1	Yes	√	√	√	√	√	√
2	No	---	---	---	---	---	---

Table 5.1.4 indicates that all the libraries have not applied statistical approach to their library, as statistical process is helpful in the application of TQM. Studied libraries have not got ISO 9000, as it is a standard of quality **(table no. 5.1.5)**.

As per **table no 5.1.6** all libraries have not appointed additional staff for application of the TQM. Majority of libraries has opinion **(table no 5.1.7)** that their structure of library has not changed due to application of TQM. Only **ACJL** accept that library structured has changed due to

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application of TQM. As per **table no 5.1.8** all the libraries agree on that TQM will bring positive affect in their libraries.

5.2. Library User Survey

The questionnaire was issued direct to the 480 users of state university libraries to collect the data on user's points on the library's information products and services and their attitude towards the charging of fees for the products/services offered by the university libraries, which they are using for their information needs. The data could be thus be collected responding from users of six state university libraries which forms **444 (92.5%)** of response out of **480** users and through personal visit and personal interview also held with users selected and available for the purpose, has been analyzed and interpreted in the tables and paragraphs that follows:

Table 5.2.1 Total respond

Total No of Quest Distributed	Total No of Received	%
480	444	**92.5%**

Table no. 5.2.1 indicates that total responses from different category of users are **92.5%** which is quite a good response for the study.

Table No 5.2.2. User's opinion regarding the application of Total Quality Management in State University libraries

S.N.	TQM SHOULD BE APPLIED	FREQ	%
1	Yes	428	**96.3**
2	No	16	**3.6**

As per table no 5.2.2, majority of users (**96.3%**) in favour that Total Quality Management should be applied. Only **3.6%** says that TQM should not apply to libraries.This shows that TQM has not applied by the state university libraries in their operations and services. This also shows that user thought if TQM applied in the library they will get better services in minimum time from the library.

As per table no 5.2.3

(i) The material purchased in JNL on user's requisition (33.3%) to great extent and 33.3% to some extent.

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(ii) The material purchased in MDUL on user's requisition (31.5%) to some extent and 31.5% to a little extent.

(iii) 35.7% users responded in RMPL that their library purchase material on their requisition to a little extent.

(iv) In CLBRAU (31.5%) user say that library purchase material on their request to some extent.

(v) The material purchased in CLMDSU on user's requisition (36.4%) to great extent.

(vi) In ACJL (32.8%) user say that library purchase material on their request to great extent.

Table 5.2.3 Library purchase material on users your requisition

S.N	Libraries	To full extent		To great extent		To some extent		To a little extent		Not at all	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	JNL	6	8.3	24	**33.3**	24	**33.3**	6	8.3	12	16.6
2	MDUL	18	23.6	10	13.1	24	**31.5**	24	**31.5**	0	0
3	RMPL	7	10	19	27.1	19	27.1	25	**35.7**	0	0
4	CLBRAU	13	17.1	13	17.1	24	**31.5**	12	16.6	14	18.4
5	CLMDSU	22	29.7	27	**36.4**	25	33.7	0	0	0	0
6	ACJL	15	19.7	25	**32.8**	21	27.6	15	19.7	0	0
Total		81	18.2	118	26.5	137	**30.8**	82	18.4	26	5.8

If we see in depth in state libraries concluded that material is not purchased on user's requisition.

As TQM recommend that maximum material should be purchased on user's requisition.

Table No 5.2.4. Opinion of the user of State University Libraries regarding the use of Library Collection in their area of study/research

S.N.	Publications/Collection	To full extent		To great extent		To some extent		To a little extent		Not at all	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	Text Books	114	25.7	136	**30.6**	135	30.4	28	6.3	31	7.0
2	Ref. Books	149	**33.6**	101	22.7	134	30.2	60	13.5	0	0.0
3	Periodical (other than Indexing & Abstracting)	50	11.3	109	24.5	177	**39.9**	70	15.8	38	8.6
4	Indexing & Abstract Periodicals	66	14.9	112	25.2	116	**26.1**	116	**26.1**	34	7.7
5	Reports/Patents/ Standards etc.	63	14.2	92	20.7	67	15.1	127	**28.6**	95	21.4
6	Indian Publications (1-5 inclusive)	106	23.9	128	**28.8**	122	27.5	76	17.1	12	2.7
7	Foreign Publications (1-5 inclusive)	100	22.5	84	18.9	72	16.2	128	**28.8**	60	13.5
8	Computer Readable Materials (CD/DVD etc.)	68	15.3	24	5.4	92	20.7	72	16.2	188	**42.3**

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As per table no 5.2.4

   i. 30.6% users use the textbook for their study to great extent.

  ii. 33.6% users use the reference book for their study to full extent.

 iii. 39.9% users use the Periodical (other than Indexing & Abstracting) for their study to some extent.

  iv. 26.1% users use the Indexing & Abst. Periodicals for their study to some extent and 26.1% agree on to a little extent.

   v. 28.6% users use the Reports/ Patents/Standards etc. for their study to a little extent.

  vi. 28.8% users use the Indian Publications (1-5 inclusive) for their study to great extent.

 vii. 28.8% users use the Foreign Publications (1-5 inclusive) for their study to a little extent.

viii. 42.3% users are not using the Computer Readable Materials (CD/ DVD etc.) for their study.

Table 5.2.5. Material requested by user comes within the time frame time

S.N.	Publications/Collection	To full extent		To great extent		To some extent		To a little extent		Not at all	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	By Inter Library Loan	72	16.2	58	13.1	82	18.5	93	20.9	139	**31.3**
2	If it is currently issued	72	16.2	93	20.9	130	**29.3**	45	10.1	104	23.4
3	If it is Untraceable	90	20.3	43	9.7	103	23.2	83	18.7	125	**28.2**

As per table no 5.2.5.

   (i)   **31.3%** users say that requested material has not come (By Inter-Library-Loan) within frame time.

  (ii)   **29.3%** users agree on that material comes within frame time if issued **to some extent.**

 (iii)   **28.2%** users not agree on that material comes within frame time if untraceable.

As per **table no 5.2.6**

   (i)   majority of the users **(92.3%)** expressed that if computer used in services time will be save and **7.6%** say it is time consuming process.

  (ii)   Majority of the users **(98.6%**) says that computer use is easy only **1.3%** say it is difficult to use.

 (iii)   **82.8%** users say that commuter use is more informative and only **17.1%** say it is less informative.

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(iv) **68.4%** users' expresses that use of computer is less expensive and **31.5%** say it more expensive.

(v) **98.6%** users say the computer use in services is more useful and **1.3%** say is less useful**.**

(vi) **99.0%** users' computer use is more preferred in comparison to traditional method and only **0.9%** says it less preferred.

Table No 5.2.6. Users' Opinions regarding the use of computer (Internet/Services) as compared to traditionally documents

S.N	A			S.N.	B		
		Freq	**%**			**Freq**	**%**
1	Time Saving	410	92.3	1	Time Consuming	34	7.6
2	Easy to use	438	98.6	2	Difficult to use	6	1.3
3	More Informative	368	82.8	3	Less Informative	76	17.1
4	More Expensive	140	31.5	4	Less Expensive	304	68.4
5	More Useful	438	98.6	5	Less Useful	6	1.3
6	More Preferred	440	99.09	6	Less Preferred	4	0.9

Table No. 5.2.7. Users have not waited for more than three (3) minutes for the followings

S.N.		To full extent		To great extent		To some extent		To a little extent		Not at all	
		Freq	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**	**Freq**	**%**
1	**Borrow material**	74	16.7	101	22.7	158	**35.6**	52	11.7	59	13.3
2	**Use electronic resources**	37	8.3	104	23.4	134	**30.2**	67	15.1	102	23.0
3	**Ask for assistance at a reference enquiry**	66	14.9	146	**32.9**	86	19.4	81	18.2	65	14.6
4	**Use the short term collection against I/card**	85	19.1	107	**24.1**	91	20.5	86	19.4	75	16.9
5	**Use the photocopier**	66	14.9	85	19.1	115	**25.9**	70	15.8	108	24.3
6	**Use microfilm and microfiche reader**	25	5.6	14	3.2	35	7.9	108	24.3	268	**60.4**
7	**Use TV and video for academic file**	44	9.9	37	8.3	40	9.0	96	21.6	227	**51.1**
8	**Phone the library for assistance or information**	28	6.3	46	10.4	65	14.6	45	10.1	260	**58.6**
9	**Computer printing**	77	17.3	50	11.3	63	14.2	62	14.0	192	**43.2**

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As per table 5.2.7

   (i)   Only **35.6%** users say that they did not wait for than 3 minutes to **borrow material** from their library **to some extent**.

   (ii)   **30.2%** users say that they did not wait for than 3 minutes to **use electronic resources** in their library **to some extent.**

   (iii) **32.9%** users say that they did not wait for than 3 minutes to **ask for assistance at a reference enquiry** in their library **to great extent.**

   (iv)   Only **24.1%** users say that they did not wait for than 3 minutes to **use the short term collection against I/card** in their library **to great extent.**

   (v)   Only **25.9%** users say that they did not wait for than 3 minutes to **use the photocopier** in their library **to some extent.**

   (vi)   **60.4%** users say that they wait for than 3 minutes to **use microfilm and microfiche reader** in their library **to some extent.**

   (vii) **51.1%** users say that they did not find in their library **TV and video for academic file.**

   (viii) Only **58.6%** users say that they did not find the facility of **Phone in their library for assistance or information** in their library.

   (ix)   Only **43.2%** users say that they did not find the facility of **Computer printing** in their library**.**

The above tables show that application of TQM in State University libraries is not up to the extent. Users must be attend/satisfied in library in 3 minutes as in practice.

Table 5.2.8. User's opinion about the condition of Furniture of StateUniversity Libraries

S.N.	LIBRARIES FURNITURE	To full extent		To great extent		To some extent		To a little extent		Not at all	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1	Comfortable	198	**44.6**	133	30.0	92	20.7	14	3.2	7	1.6
2	Functional	155	34.9	179	**40.3**	71	16.0	32	7.2	7	1.6
3	Available (e.g. can you find a seat or study desk?)	208	**46.8**	95	21.4	114	25.7	20	4.5	7	1.6

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As per table no 5.2.8, **44.6%** users express that library furniture is 'comfortable' **to full extent. 40.3%** users express that library furniture is 'functional' **to great extent. 46.8%** users say that furniture **available** (e.g. can you find a seat or study desk) **to full extent.**

6. Findings and Recommendations

The following are the findings and recommendations of the study on the basis of questionnaire and oral discussion with library staff and users:

- Library survey reveals that all libraries (SUL) agree on that total quality management should be applied in libraries. SUL also not opted this in their sections/operations, as statistical process is helpful in obtaining TQM. SUL has ISO not certified by ISO 9000 is a standard of quality.

- In SUL none of the library has appointed additional staff for the TQM purpose only JNUL accepted that due to the application of TQM, library structured has changed.

- Different systems and procedures (manual or computer based) are used for the purpose of circulation in different situations in concerned university libraries. But the emphasis seems to be in most of cases on security aspects of the loaned materials rather than satisfying user queries.

- As users of the university libraries are not fully satisfied with CAS and SDI services of their library. Now users have become more information conscious and are willing to pay for quality information products and services.

- It is recommended that this is the high time for libraries to wake-up, accept this challenge and take it up in all earnestness, employ new management concepts, marketing techniques and generate quality products and services to meet the need of their respective user rather than continue with issuing ill designed, less appealing, illegible, routine products, like in the form of "current contents", "current additions" Bibliographies and so on.

- Time is a quantitative measure of the quality of library services. As survey reveals that (responses obtained from the questions asked to user that they attain their queries within twice minutes) users of the libraries are not getting their required information within in time. Usually amount of time used in the library depends on the efficiency of the whole

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system of library, for example the quality of catalogues, (searching and browsing processed depend largely on the user's characteristics. It is assumed, however, that good search tools, organization efficiency and matched number of user requests for information substantially contribute to shortening the time the users spend in library. The university library should improve their retrieval process etc. for applying the computers in their systems and other related time consuming system.

- It is also recommended that university libraries for TQM approach/model a team of four/five library staff should be appointed and charged with developing a plan for quality improvements.

- It is also **recommended** that time to time librarians should conduct customer survey for their assessment of services offered. Librarians should place the suggestion boxes in their libraries, as suggestion boxes may provide valuable information on the interfaces between user and library.

7. Conclusion:

Any thinking on the TQM would be incomplete if the most crucial element the staff, responsible for making it happen are not given due attention. Quality will definitely come up when every individual in library is taken into confidence and when all of them are made clear about the library's mission goals and objectives[8]. This element presupposes that the pursuit of quality must begin from the top to down. Not compartmentalization, but total integration brings quality. If we see the application of TQM in acquisition than libraries generally select the learning resources for their library on the basis of user request/requisition, review subject literature, publisher catalogue/trade literature/bibliography and exhibition/approvals etc. But we find most of the acquisition not includes the user's request/requisitions in libraries. Ease and convenience of the user may be given a top priority rather than hold on to age old traditional approaches[7]. In university libraries, user education/orientation program is not regulated regularly, it will prove quite beneficial if users are continuously and regularly acquainted and updated with learning resources held by the libraries in their respective area of study and research. Library personnel's knowledge are becoming out of date without provisions of regular training.

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