

**To Study about the criterion for Quality assurance in providing Quality Information Service into university libraries in Delhi: A comparative study of DU, JNU and JMI**

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**Abstract**

Needs of information is growing day by day to cope up with Librarians to think in a wise way to satisfy the users at a large. Library is the center of any academic institution. While class room teaching provides for learning, the libraries disseminate a wide range of knowledge required to excellent and intellectual heights. Libraries supplement the instructional work of class rooms and carry forward the ideals of education. Thus, the libraries provide the informal education, guiding the learners to search vast range of material available. The libraries are gradually being recognized for their academic services, and they are occupying prominent position in education, throughout the world. Since the libraries are information providers, import knowledge by means of meticulous reference, sometimes they are termed as information centers or knowledge center. Quality based organizations should try hard to achieve perfectness by continuously improving the business and production process. Of course, excellence, is impossible because the race is never over until saistification achieved; however, we must continually strive for its attainment., TQM, is a method by which management and employees can become involved in the continuous improvement of the production of goods and services. This Paper aims to analyses and evaluate the TQM in university libraries with a view of examining the exposure of library professionals. Besides, it aims to highlight the problems encountered by the professionals and suggests some measures for its improvements. The authors investigate the professionals through a survey based on structure questionnaire. Various statistical methods have been used for data analysis. Few problems have their bearing on every aspect of library profession. It is in this context that the application of total quality management (TQM) to university libraries is timely. Therefore the problem under investigation is to study and analyse the existing level of TQM in university libraries of Delhi University, Jawaharlal Nehru University and JamiaMilliaIslamia, Delhi.

**Key words:** Total Quality Management, quality, management, Quality Libraries.

**Introduction**

In the new millennium, the librarian has to focus on the right priorities. They have to lead with clear vision to fulfill its objective, un-leasing power of all employees in turn to meet competitive challenges. In brief, libraries need to address the working conditions to total quality management.

Total quality management is part of a holistic approach to progress. It is in ascendancy as the New Year approaches. In every organization that genuinely commits itself to total quality, there is a tremendous unlocking of energy in management and the workforce. Total quality has the potential power to transform the tangrams into running figures, liberating people at work to become more truly themselves

and more creative. Total Quality Management (TQM) in libraries appears well suited for each other. The system is based on continuous improvement and center's on the needs of customers. Total Quality Management is a process which focuses on understanding customer needs and improving customer service and satisfaction. The TQM approach shifts the focus to continuous improvement in systems and processes. Continuous improvement rests on the simple premise that a structured problem-solving process produces better results than an unstructured one. Instead of just trying to "do better" in an undefined, intuitive way, continuous improvement can enable libraries to set measurable goals based on quantitative performance indicators, and to monitor progress towards those goals.

Support for staff is particularly important during rapid and major change. If people feel threatened, it will affect the quality of their work and their energies will be diverted. Managing change means recognizing that every change involves an ending and, as an effective manager, acknowledging the links with the past rather than trying to deny or ridicule them. Many staff feel that a change in priorities for whatever reason means that their previous work was a waste of time. It is essential to challenge this assumption; for it leads to staff feeling undervalued and lowers morale.

Another aspect which helps in implementing change is to promote a vision of the future which introduces staff to the new beginning. Promoting the new beginning through purpose, pictures and plans is an important element in encouraging staff (and customers) to adapt to the new circumstances. Equally important, however, is ensuring the reality matches the theoretic i.e. that management's actions are consistent with their words. Another useful approach is to ensure and celebrate early success.

Many libraries have implemented TQM successfully in U.K. which rewrote the library's vision statement for example, and considered changes that would have to be made in order to develop a new organization culture one that "highlights the changing nature of staff roles and responsibilities in an era of pervasive change". With the help of consultants. It has been found that the principles of service excellence, teamwork, ongoing training and skill building, process/systems focus, continuous improvement, and cooperation among libraries could help them make the changes they need.

The results of the SEM model, in general, provide support for the multidimensionality of TQM in the sense that TQM embodies two different models of practices, mechanistic and organic, with each showing a different role in association with two different types of performance, quality and innovation. Furthermore, the findings support the proposition in pairing the mechanistic elements of TQM with quality performance and the organic elements with innovation. The contrasting roles of different TQM practices in predicting performance are also consistent with the results of previous studies.

However, we strongly suggest that one needs to put in a precaution when drawing implications of this result. For example, while leadership and people management practices and not show a significant relationship with product quality, we believe that it will certainly contradict theoretical views if one simply concludes that organizations can ignore these two aspects and only concentrate on customer focus and process management practices for pursuing quality performance. It is absolutely clear from the survey that TQM has strongly advocated the important role of leadership and people for achieving a high level of quality performance. It is therefore important to reconcile these contradictory results. The plausible explanation is that the relationship between TQM practices (variables) and organizational performance may not take place as a simple linear and simultaneous model tested in this study; rather, it could work in a more complex interrelationship among the elements of TQM practices as examined in several studies. No less important is the likelihood of moderating or mediating interrelationships among TQM practices in explaining variance of organizational performance that will enable us to identify indirect relationships as well as direct relationships between TQM variables and library's performance measures.

## Literature Review

Review of literature reveals that, there is no consensus regarding definition of total quality management. However, keeping in view the research problems of the present study and objectives of the university libraries, a suitable and workable definition of TQM has been used.

Juran (1960) expresses his essential message to managers through the three basic quality related processes: quality planning, quality control and quality improvement which has become known as the Juran trilogy handbook for Japanese quality circles.

Conway (1979) defines quality as a result of quality management which is the development manufacture, administration and distribution of consistent low-cost products and services that customers want and need'. He also teaches that quality is about constant improvement in all areas of operations. These areas include suppliers and distributors; it is just as vital to achieve statistical control of your vendor as it is to have it internally.

Crosby (1984) defines "it is a journey not a destination". This is a crucial point as one of the most important elements of quality is continuous improvement, we recognize that our customers and the context within which we work are constantly changing, it becomes essential that our services response to the new challenges. Similarly, it is important that the approach to quality which we adopt is appropriate to these circumstances.

Ishikawa (1985) said in his book what is Total Quality Control? Those seven basic tools are indispensable for quality control. These are Pareto analysis, fishbone diagrams, stratification, tally charts, histograms, scatter diagrams and control charts. With these tools, Ishikawa argued, managers and staff could tackle and solve the quality problems facing them.

Crosby (1989) lists four new essentials of quality management which he calls 'the absolutes'. Quality is defined as conformance to requirements, not as goodness. Quality is achieved by prevention not appraisal. The quality performance standard is zero defects (a concept he invented in the 1960s when he worked for the Martin company on missile projects) and is best known for no acceptable quality levels. Quality is measured by the price of non-conformance, not by indexes. Crosby's definition of quality is 'conformance to requirements'. He discusses conformance and non-conformance rather than low and high quality.

Brockman (1992) has defined that "Total Quality Management is a management philosophy embracing all activities and practices through which the needs and presupposition 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".

Jurow & Barnard, (1993) TQM is "a system of continuous improvement employing participative management and centered on the needs of customers. Key components of TQM are employee involvement and training, problem - solving teams, statistical methods, long-term goals and thinking, and recognition that the system, not people, produces in efficiencies. Libraries can benefit from T M in three ways; breaking down interdepartmental barriers; redefining the beneficiaries of library services as internal customers (staff) and external customers (patrons); and reaching a state of continuous improvement.

Fullviton(2003) developed a more comprehensive set of TQM implementation constructs with a rigorous statistical validation process. From a theoretical perspective, Dean and Bowen present an overview of TQM that captures its most important features. These authors conceived the TQM "as a philosophy or an

approach to management that can be characterized by its principles application and techniques. Its three principles are customer focus, continuous improvement, and teamwork, and most of what has been written about TQM is explicitly or implicitly based on these principles. Customer focus reflects the major goals of quality management, i.e. to meet or exceed customer expectation. Customer focus must be reflected in the overall planning and execution of quality efforts. Continuous improvement means a commitment to constant examination of technical and administrative processes in search of better methods. This philosophy recognizes that performance must always be improved because the competition never rests.

Nana Turk, (2007) has been concluded that Ljubljana university libraries highly quality staff and building so many users using that libraries. All the students and teaching staff fully improved the Knowledge. Nana Turk, Building a culture of quality assurance in the libraries of the University of Ljubljana, New library world.

Rowley, Jennifer (2005) has "Making sense of the quality maze: perspectives for public and academic libraries" The libraries any types information deliver to staffs and public very quickly any types of management systems or any governments. The quality performance management and impact assessment regions that affect public and academic libraries in the UK. Different quality on the library and information services from differed level in the organization has consulate costumer all time needed the quality services the libraries but libraries staff any time delivery for information services. Through the online services and some database using for libraries. Jennifer Rowley, Making sense of the quality maze: perspectives for public and academic libraries, Library management.

Wilson, Frankie and Town, Stephen J, (2001) have attempted to study on "Benchmarking and library quality maturity" has attempted to study on Benchmarking using on last 25 years business and industry know using for benchmarking in academic libraries simony benefits given for customer or reader benchmarking has been applied in academic libraries in the UK since 1995, with successful examples documented in the literature he concluded benchmarking should be viewed as a tool organization at a high level of quality systems. It can have ready long terms improvement in academics libraries if applying in benchmarking. Frankie Wilson and Stephen J Town, Benchmarking and library quality maturity.

Zaira& Jurow1 (1991) defines it as —TQM is the combination of socio-economic and technical process towards doing the right things (externally), everything right (internally) first time and all the time, with economic viability considered at each stage of each processl.

S. Thakur defines the TQM is a concept which make quality the responsibility of all people within an organization. All the persons involved are expected to contribute to the overall improvement of quality. TQM is the preferred method to increase the user satisfaction. It reduces the defects of the organization and increases the productivity. So TQM is nothing but a continuous improvement of organizational service through proper manager and individual efforts for the users' satisfaction by doing right thing at right time in a right way.

Tannock (1992) states that quality control —consists merely of the operational techniques and activities that are used to fulfill requirements for quality, usually interpreted to mean conformance to the required specifications.

Carley and Waldron (1984) defines quality assurance as "planned, deliberate actions or activities instigated and carried out with the intent and purpose of maintaining and improving the quality of

learning for participants.” While the above definition provided a general understanding of the concept, it does not explain the unique nature of quality assurance.

According to Frazer (1992), “a university which takes quality assurance seriously emerges as a self-critical community of students, teachers, support staff and senior managers each contributing to and striving for continued improvement.” The observation of various definitions of quality assurance as expressed in the literature of Higher education reveals that Quality Assurance is a continuing, active and integrative process for maintaining and improving quality rather than simply a system of evaluation and checking for errors.

## Methodology

The data used in the study were obtained from a survey performed on university libraries of Delhi that operated in a competitive environment. When studying all types of sectors, the intention was to survey a larger number of situations and features of the environment that would not be biased by the sectoral and economic features of a specific region.

The questionnaires were either mailed to the university libraries or faxed. The mail included a stamped envelope for returning the questionnaire and had an identification system to register the firms that had answered with the aim of allowing us to contact those who had not yet answered again to remind them to return the questionnaire. All the questionnaires were addressed to the librarian who had responsibility for TQM.

The mailing and reception of questionnaires took place gradually from Oct. 2007 to Nov. 2008. The final number of questionnaires received amounted to 186. From this number, 105 corresponded.

## Analysis of Data and Interpretation

The sample data has been taken for the purpose of analysis followed by interpretation regarding the implementation of the techniques of TQM and cultural dimensions with a view to quality in services in the University Libraries of Delhi.

**Table-1: Professional Staff**

Category	DUL	JNUL	JMI
Librarian	1	1 Officiating	1
Deputy Librarians	6	2	2
Assistant Librarians	11	9	8
	18	12	11

**Table-2: Membership**

Category	DUL	JNUL	JMI
Professor	28	8	9
Reader	46	18	10
Lecturer	64	20	16
Research Scholar	60	50	32
M.Phil& P.G. Students	200	160	118
Total Users	398	256	185

Table 1 & 2 contains the quantitative statistics of three university libraries i.e. DU, JNU and JMI has been taken as a sample study for measuring the application of the total quality management cited in the table.

**Table-2: Budget of University Libraries 2006-07**

Category	DUL	JNUL	JMI
Budget of University	99,19,59,000	44,47,60,000	40,62,25,000
Budget of University Library	2,02,50,400	1,70,60,000	1,88,50,000

Table 2 present the budget of the three universities i.e. DU, JNU and JMI selected for study and their budget of the library. The data is not reliable since it has collected from the sources and literatures. However, the budget allocation varies in universities and libraries. The data is given on the basis of establishment and to carry out the process of analysis and interpretation of data for meeting the dissertation requirements as necessitated.

**Table-3: Allocation of library budget and % of the total library budget**

	DUL		JNUL		JMI	
Staff Salary	1,20,00,000	59.25%	1,09,27,000	64.05%	1,14,63,000	60.81%
Books	13,00,000	06.42%	2,92,000	1.71%	13,50,000	7.16%
Journals	60,50,000	29.88%	45,00,000	26.38%	47,70,000	25.31%
Contingency	9,00,400	04.45%	13,41,000	7.86%	12,67,000	6.72%
Total	2,02,50,400	100%		100%		100%

Table 3 shows that libraries of DUL, JNUL and JMI are very effective in managing the high percentage i.e. 6.42% and 7.16% of the total university budget for the university library. The major portion of the library budget i.e. 64.05% JNUL and 60.81% of JMI and 59.26% of DUL is spent on staff salary which is normally against the total quality management. The data has been shown to give a variation in the table so that the analysis and interpretation of data could be carried out. However, the major portion of the budget is spent on the staff salary and thus, the method is against the spirit of quality in services and total quality management.

**Table-4: Use and Growth University Libraries**

Category	DUL	JNUL	JMI	Total
Users in a year	37550 44.48	32130 38.06	14730 17.46	84410
Working hours in a year	3744 34.36	3573 32.79	3577 32.85	10894
Books issued in a year	27130 34.55	29379 37.42	22000 28.03	78509
Books consulted in a year	128000 38.58	137500 41.45	66200 19.97	331700
Total visitors of the library	108000 39.04	98000 35.43	70600 25.53	276600
Active collection	61569 43.47	54560 38.55	25476 17.98	141605
Total collection	342600 34.93	390400 39.80	247800 25.27	980800

Current journals	539 31.16	767 44.98	399 23.36	1705

Table 4 is shown the growth and use of the library. The data is taken as sample study. It gives the growth and use of the services and resources in the library. The data is ample clear that the use and growth has been increased and thereby working hours, issuance of books, consultation, visitors, etc. in accordance with the collection development of the libraries.

**Table-5: Position of Users based on collection**

	Total Collection	Total Users	Percentage
DU	382600	108000	28.27%
JNU	390400	98000	25.08%
JMI	274800	66200	24.00%

**Table-6: Documents added in 2007-08**

Category	DUL	JNUL	JMI	Total
Purchase	3950	3708	4073	11731
Grants	1008	940	890	2838
Back Volumes	1780	1170	980	3930
Theses	1170	54	175	1399

Table 6 contains the data regarding the document added during the year and also reflects the provision of the budget on books and journals in cited in table 4. The data is given to fulfill the requirements. Though the data is not based on factual addition in the library. However, the data varies in all three university libraries. Hence, it provides to make comparative study. Hence, it provides to make comparative study of the documents added in these libraries.

**Table-7: Unit cost of each book acquired**

Processing cost per book	DUL	JNUL	JMI	Total
Salary of acquisition & Technical staff per book	303.11	701.48	198.68	1203.27
Stationary cost per book	4.40	5.00	4.92	14.32
Overhead cost per book e.g. Rental Value, Electricity, Telephone, AC, Water, Furniture, Maintenance etc.	4.70	26.19	4.74	35.63
Total Processing cost per book	312.21	732.67	208.32	1253.20

Table 7 shows the unit cost per book acquired through purchase in all three university libraries. The unit cost has been worked out on the basis of the staff put in the Acquisition and Technical sections and their salaries. The stationeries are also required for preparation of books and its cost including physical facilities and other like AC, coolers, furniture's, maintenance, etc. All these have been taken into consideration for working out the unit cost per book purchased by each university library. It has been found that the unit cost is varied and other items required for making the books for loan purpose.

**Table -8: Unit Cost**

Processing cost per book	DUL	JNUL	JMI	Total
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Average total cost of a book acquired by purchase (Unit cost + Processing Cost)	616	738	446	1800
Staff salary cost per user	254	290	356	900
Staff salary cost per added book	1535	6360	1395	9290
Total library expenditure per user	4280	4540	3860	12680

The table 8 indicates that the unit cost is varied in all three university libraries taking into consideration i.e. average total cost of a book through purchase includes staff salary cost per book etc. and found that the total library expenditure on user i.e. varied which needs to be streamlined in view of quality in services.

**Table-9: Rating of TQM, Culture and Quality of Service**

		DUL	JNUL	JMI	TOTAL
1.	Customer focus (need assessment, orientation, commitment, empowerment of the staff, suggestions and complaints)	34	32	44	110
2.	Process improvement	5.00	3.5	4.00	12.5
3.	Staff management: HRD, involvement, delegation, importance of efficiency equality, relationship, communication	3.85	2.15	4.85	10.85
4.	Policy and strategy	3.45	2.11	4.80	10.43
5.	Leadership styles	4.30	4.30	4.40	13.00
6.	Utilization of resources	3.30	3.16	3.80	10.26
	Total	23.35	18.55	26.75	68.65
	Average value of TQM, culture and quality of services	3.00	4.80	4.40	11.40

Table 9 shows that the rating of total quality management and quality in service in all three university libraries. The librarian JMI has rated the highest level i.e. 4.44 of TQM whereas librarian of DUL had rated his at the lowest level of TQM i.e. 3,092 points. The table has focused on customer service, staff management, policy and strategy, leadership style and utilization of resources. Taking into account, the data gives the average value of TQM culture and quality in services of libraries.

**Table-10: TQM and Cultural Dimensions**

		DUL	JNUL	JMI	Total
1.	Quality philosophy (Accuracy and reliability promptness, tangibles, access)	4.22	3.43	4.42	12.07
		34.80	28.80	36.40	100%
2.	Quality Planning	4.00	3.00	4.30	11.30
3.	Leadership (Recruitment, equality, job assignment and satisfaction)	2.416	2.331	4.075	8.822
4.	Quality Supervision	4.50	4.00	4.40	12.90
5.	Continuous improvement	3.42	1.46	3.50	8.38
6.	Use of statistics and staff manual	3.441	2.558	3.75	9.749
7.	Quality processes	3.21	2.06	3.80	9.07
8.	Adequacy of resources and equipment	4.10	3.51	3.60	11.21
9.	Human resource development education, career development, conference and refresher course attended	2.22	2.16	2.05	6.43

10.	Employee suggestions and problems	1.50	1.21	3.70	6.41
11.	Total	33.04	25.72	37.59	96.35
	Average value of TQM and cultural dimension	3.75	3.30	2.57	9.62

Table10 depicts the TQM and cultural dimensions in the libraries and that the Deputy and Assistant Librarians of Delhi University Library have rated the highest i.e. 37.59 level of TQM, whereas Jawaharlal Nehru University Library the lowest i.e. 25.72 level of TQM. The table has been discussed on the basis of the points taken for measurement of the application of the total quality management and cultural dimensions in the services. Thus it gives the average value of the TQM and cultural dimensions.

**Table-11: Existing level of Cultural dimension in University Libraries**

		DUL	JNUL	JMI	Total
1.	Communication (Horizontal & vertical)	3.40	2.70	3.70	9.80
2.	Empowerment of the staff	3.08	2.58	4.10	9.76
3.	Conflict resolution by the librarian	1.25	1.67	4.00	6.92
4.	Faith in library management to solve problems of staff and library	2.17	3.00	4.10	9.27
5.	Innovation new techniques of servicing users	3.42	1.46	3.50	8.38
6.	Job challenge	2.88	2.83	3.75	9.46
7.	Commitment	1.41	3.54	3.30	8.25
8.	Reward and recognition	1.41	2.33	3.30	7.04
9.	Clarity of role	4.50	4.35	3.83	12.68
10.	Social cohesion	2.20	2.08	2.50	6.78
11.	Mutual trust and confidence	3.58	3.00	4.10	10.68
12.	Work culture	3.51	2.81	3.36	9.68
	Total	31.76	31.84	45.01	108.61
	Average value cultural dimensions	2.98	2.65	3.75	9.38

Table 11 shows that Delhi University Library has got the highest i.e. 3.75 level of cultural dimensions whereas Jawaharlal Nehru University Library the lowest i.e. 2.653 level of cultural dimensions based on the sample view of the Deputy and Assistant Librarians stated during interaction, and scating in the questionnaire.

Quality in University Libraries of DU, JNU and JMI is measured against seven service quality dimensions such as Accessibility, Reliability, Responsiveness, Assurance, Communication, Empathy and Tangibles, which needs attention to be given if we apply the techniques of TQM and cultural dimension for implementing in the university libraries.

**Table-12: Quality in University Libraries from User's view point**

		DUL	JNUL	JMI	Total
1.	Accessibility of reading material, building, staff, equipments, hours of working	3.40	2.94	4.04	10.38
2.	Reliability in delivery of promised library services dependably and accurately	3.19	2.97	3.44	9.60
3.	Responsiveness and promptness in providing library service and information	2.55	2.19	2.63	7.37
4.	Assurance about staff availability, approach	3.64	2.96	4.36	10.96

	ability, courtesy, politeness, willingness and friend-illness plus assurance about staff knowledge, skills and attitude				
5.	Communication	3.10	2.65	3.46	9.21
6.	Empathy i.e. caring personalized and individualized service to the users.	3.07	2.57	3.54	9.18
7.	Tangibles i.e. maintenance of the physical facilities, cleanliness, serviceability of equipments and neatness of staff.	2.86	2.07	3.37	8.30
	Total	21.82	18.37	24.87	65.06
	Average value of service quality	3.11	2.62	3.55	9.28

Table 12 indicates that the average score of Delhi University Library, is highest i.e. 3.553 against 7 service quality dimensions as views expressed by the users with regard to quality in service. JMI University Library ranked second with 3.118 score and Jawaharlal Nehru University ranked at third position with the score 2.624 respectively.

Thus, it gives that the quality in services has been rated high in comparison to other libraries due to implementing the techniques of TQM and cultural dimension properly. The libraries has been rated low, is needed care in application of the techniques of TQM. However, the average value of the service quality available in the libraries found satisfactory as per users view.

## Discussions

The study has attempted to present the findings of a study conducted to measure TQM applications to the university libraries in DU, JNU and JMI, Delhi. The study analysis, of the quantitative statistics of university libraries three DU, JNU, and JMI is the highly used library. The unit cost and processing cost of each book acquired by purchase is lowest in Delhi University. The total library cost per user, staff salary cost per user and staff salary cost per book is lowest in Delhi University Library and highest in JMI University, staff salary per book is highest in Jawaharlal Nehru University Library, Delhi.

The information collected through questionnaire indicates that the Librarian and other senior professional staff of Delhi University Library rated their library at the highest level of TQM, culture and quality dimensions as compared to other University Library in Delhi.

The results of the user's survey indicate that the Jawaharlal Nehru University Library scored points and ranked at first position with regard to quality in products, services and consultation, while Delhi University Library, scored the lowest rank.

Librarians of DUL and JNUL are effective in managing 4.98% and 4.23% of the total university budget for the university library. The huge salary expenditure i.e. 64.05% of the library budget of JNUL 60.81% and 59.26% DUL is against total quality management Delhi University Library is effective enough in controlling its salary expenditure up to 43.16% of its budget during 2006-07. The total number of books added are also highest i.e. 8445 in Delhi University Library. The unit cost per user, staff salary cost per user, staff salary cost per added book in the library and staff salary cost per book in the library is lowest in Delhi University. The librarian also rated library at 3.926-point level of TQM, culture and service quality which is fully endorsed by library staff and ranked at first position by the users of library. Although Delhi University Library is rated at the highest level of TQM by the librarian and staff but ranked at the second position by the users of the library. This high level of quality management speaks well for this library and in near future this library may be ranked at first position with regard to service

quality also. It can be said by quoting an IBM Vice-President Saying "Now where is quality more crucial than in organizations and institutions involved in handling information". (Jurow and Barnard, 1993). We the professional therefore ought to incorporate this view into our visions for the 21<sup>st</sup> Century and the new millennium.

Further results in this study indicate that although the multidimensionality of TQM has been established, there is no supporting evidence to suggest that libraries will emphasize certain practices more than others when pursuing different strategic performances. Organizations usually implement TQM in a holistic manner rather than in a piecemeal fashion. Also, our results do not indicate that the coexistence of the mechanistic and organic elements of TQM causes a situation where one undermines the other, or vice versa. This finding therefore supports the argument for the juxtaposition of different elements of TQM in an organization even though these elements are contradictory in nature.

This issue becomes even more important when it is viewed in relation to the fact that in today's highly competitive environment, organizations need to pursue a more and more complex or multidimensional aspects of performance, including quality, cost, delivery, flexibility, responsiveness, and innovation. More importantly, these different aspects of performance have become more and more interrelated with each other, even accumulative. Therefore, it is plausible to consider that libraries today need to pursue these multiple aspects of performance, including quality and innovation, simultaneously. It is suggested that each of these two types of performance (i.e., quality and innovation) requires a different model of practices; hence, it is necessary for libraries to maintain practices that are even antagonistic in their nature. Indeed, maintaining paradoxes can be one of the biggest challenges for organizations in today's competitive environment.

Finally, the coexistence of multidimensional TQM practices can be explained from the contingency perspective. The level of uncertainty surrounding the implementation of TQM would determine the effectiveness and the applicability of these two different models, and the different level of uncertainty existing in both the external environment and the internal environment (i.e., different functions) of the organizations. Innovation scholars have also agreed on the need for different types of approaches in different innovation stages, with the organic-type approach being required during the innovation initiation or development stages, and mechanistic-type approach being suitable for the implementation stage.

## **Conclusions**

The foregoing discussion and conclusions suggest several implications for the librarians of university library planning to implement TQM. TQM is especially suited for libraries that serve in dynamic environment. In these cases, greater users focus is achieved and the teamwork in the firm is reinforced to a great extent. The greater the demands for adapting to changes imposed by technological improvement grant the firm greater flexibility and capacity for reaction. Moreover, significant knock-on effects may be achieved in terms of profits, product quality and employee satisfaction. On the opposite, greater stability in the environment and greater adaptation to routine situations leads to the less user orientation and lower levels of participation and teamwork. Consequently, firms located in stable environments will find it more difficult to implement TQM and achieve profits, since the restrictions in the environment are less noticeable. In these cases, the success in implementation and in the results might be achieved if the need was to arise from within the organization itself and the efforts made were kept up.

Libraries with TQM might deem that promoting the relationships with users is less important for their development, although munificence will allow them to achieve greater cooperation, and therefore, greater employee satisfaction and needs higher levels service quality. Hence, in munificent environments, libraries must post the true need for implementing TQM. On the one hand, the growth in user's demand and the favorable service opportunities guarantee, by themselves. Moreover, munificence has a negative

effect on users focus commitment, and this may have a negative effect, not just service but also on the libraries strategies or its image on service. Despite this, some advantages might be obtained deriving from the greater cooperation that would improve employee and the performance.

The present study sought to examine the impact of user need on the relationships between the use of TQM practices of user focus, and product design and organizational performance. More specifically, the results of this study support our hypotheses that the higher the degree of market competition, the more positive are the relationships between TQM practices of users focus and product design and library performance.

Second, the results of this study contribute and extend the existing TQM literature. From a theoretical perspective, the results show that the adoption of TQM practices enhances library performance. This finding lends further support to the frequently suggested management practices and strategies for achieving improved organization performance in TQM libraries.

Third, the results of our study have implications for libraries that operate in a highly competitive service environment. It is suggested, that libraries facing intense service performance attitude, should produce high quality products to meet users expectations and quality standards. Such quality-related use of TQM practices of user focus and product associated with increased competitive performance should result in improved product quality, which leads to increased users satisfaction. The results of our study provide some support for the TQM literature. Specifically, the results of our study suggest TQM practices are the primary determinant of quality performance. As quality performance improves, cycle times are reduced because there is less non-value added times resulting from the need to rework defective products. Thus the quality focus reduces costs and increases users satisfaction. In the long-run, it is suggested that a strong emphasis in user focus and product design initiatives should lead to both service expansion, and ultimately, in improved library performance. Moreover, as users expect a minimum quality standard in all product offerings, library must respond accordingly. The quality management literature suggests that benchmarking allows library to determine what level of performance is achievable and to identify superior methods for designing products and processes.

Several limitations of the current study should be noted. First, the sample was drawn from three university libraries located in Delhi. As such, the results may be generalizable only to that membership. Future research may extend and replicate this work focusing on other libraries such as the public and special libraries. Further studies to compare two libraries such as acquisition and the service and financial sources would be worthwhile.

Second, the scales employed in this study represent individuals' perceptions of TQM practices, and consequently, they may not reflect objective reality. Future studies can extend this study by utilizing different methodologies such as case studies and adopting a longitudinal approach.

Third, the use of self-rating scales to measure perceptions are likely to have higher mean values (higher leniency error) and a restricted range (lower variability error) in the observed score compared to more objective methods.

Fourth, this study examined the impact of one contingency factor (i.e. intensity of service competition) on the relationship between TQM practices and libraries performance. Future studies may examine other potential factors on the relationship between TQM and library performance that might include strategies. Furthermore, the literature on TQM practices generally investigates the impact of these practices on organizational performance without considering the potential impact of other new organization practices. In fact, some researchers believe in, and argue conceptually, favor of the value of understanding the joint effects of TQM practice on organizational performance. Thus, future research to explore the joint effects of library performance and TQM practices on library performance would be worthwhile.

Finally, this study is only able to demonstrate associations amongst the variables studied. While existing empirical and theoretical research suggest that the independent variable (i.e. TQM practices) precede the dependent variables (i.e. organizational performance), such an assumption is entirely theory-driven and cannot be imputed from the cross-sectional survey method. Therefore, the potential for reverse causality cannot be ruled out. Future research could employ different research methods (e.g. longitudinal field studies), case studies and experiments) to investigate more systematically the causal relationships implicit in this study.

However, the libraries are the ideal places to implement TQM. They are service organizations dedicated to their customers, the patrons. By formulating a strategic plan, and following it with a commitment to continuous quality improvement, library managers can transform and improve their organizations. The notable principles of TQM: (1) manage by fact: make library decisions after careful analysis of data gathered with tools such as check sheets, histograms, and (2) eliminate rework: library work is often labor intensive-simplify it and make sure it is done properly the first time; (3) respect people and ideas: staff are the library's most valuable resources, and they should be encouraged to point out problems without fear of management; and (4) empower people: trust library staff to act responsibly and give them the appropriate authority to make decisions that can improve the quality of work they do. Finally, we should remember that TQM is not a "quick fix". It needs to be implemented gradually over a period of time to ensure efficient and effective functioning/services of the libraries.

### **Suggestions for future research**

Several limitations of the current study should be noted. First, the sample was drawn from three university libraries located in Delhi. As such, the results may be generalizable only to that membership. Future research may extend and replicate this work focusing on other libraries such as the public and special libraries. Further studies to compare two libraries such as acquisition and the service and financial sources would be worthwhile.

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