CHAPTER 3
TOTAL QUALITY MANAGEMENT

3.1 INTRODUCTION

Total Quality Management (TQM) is often used to refer to any set of changes, techniques and programmes that managers choose to institute in the name of improvement. The word ‘Total’ conveys the idea that all levels of an organization are to pursue quality. The word ‘Quality’ applies to every aspect of the organization. TQM has emerged as a response to the need for improving and assuring quality in business as well as in managerial and technological process for effectively ensuring, restoring and achieving customers’ satisfaction. It has become all-pervasive on account of globalised economy. As a result, it has emerged as a predominant component of the management philosophy.

Total Quality Management is accepted worldwide as an integral part of the management philosophy. Many organizations around the globe are conducing organizational development programmes to enhance quality awareness and change the attitudes of their employees. These efforts towards understanding, adopting and promoting TQM are needed primarily because of the changes taking place in the global economy, changing market conditions and customer’s expectations and increasing competitive pressures (Mohanty and Lake,1)

TQM is a process of continuous improvement employing participative management and centered on the needs of customers. The concept of TQM presupposes employees involvement, problem solving teams, statistical methods, long-term goals,
thinking analysis of the problems and continuous sharpening of quality performances leading to excellence.

The concept of TQM, therefore, is important to services in any organization or field of activity as it is in the manufacturing sector. The service sector, in fact, is a generic term which covers many sectors such as healthcare, education, banking, insurance, transport, libraries to named a few.

According to Besterfield, TQM is the art of managing the whole organization to achieve excellence. TQM is defined as both a philosophy and a set of principles that represent the foundation of a continuously improving the organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and to satisfy and exceed the customer needs immediately as well as in future. TQM integrates the existing fundamental management techniques, existing improvement efforts, and technical tools under a disciplined approach.

3.2 DEFINITION FOR TQM

TQM can be defined as a holistic management philosophy aimed at Continuous improvement in all functions of an organization to deliver goods and services in line with the customers’ needs or requirements (Deming et.al 2006) TQM is a way of managing to improve the effectiveness, efficiency, flexibility and competitiveness of organizations as a whole and it involves whole organization getting organized and committed to quality in each department, each activity and each person at each level. All the people involved are expected to contribute to the overall method to increase the user satisfaction. The meaning of TQM is customer satisfaction through product or services. The customer in the library is user/reader/student. The primary purpose of the library is to support the
teaching, research and other academic programs of its parent organization. A library is a part of a service organization which delivers personally to the customers.

ISO defined TQM as “A management approach of an organization centered on quality, based on participation of all its members and aiming at long term benefits to all members of the organization and society”

A Brockman has defined that “TQM is a management philosophy, embracing all activities through which the need of customer, the community and the objectives of the organization are satisfied in the most effective and potential of all employees in contributing drive for improvement. “TQM is “a system of continuous improvement employing participative management and centered on the needs of customers” TQM as a management tool needs to radically rethink the way in which a library is organized and perform its functions. TQM is seen as a commitment to service with a flexible and future oriented approach to management.TQM means that the organizations ‘culture is defined by and supports the constant attainment of customer satisfaction through an integrated system of tools, techniques and training (Sashkin and Kiserr)

In the early stages of T.Q.M development, Dr.W.Edward Demming and Joseph M.Juran were the pioneers in the field from U.S. Their concepts saw a slow acceptance in the U.S. These concepts found wide scale utilization in Japan after world war II. TQM is a philosophy that is designed to make an organization faster, flexible, focused and friendly. It leads to a structured system that focuses each employee on the customer. It creates an environment that allows organization-wide participation in planning and implementing a continuous improvement process to meet customer needs.

TQM is the art of managing the whole to achieve excellence. It is defined both a
philosophy and a set of guiding principles that represent the foundation of a continuously improving organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed customer needs now and in the future. It integrates fundamental management techniques, existing improvement efforts, and technical tools under a disciplined approach.

Quality = Performance x Expectations.

- TQM is an integrated, corporately led programme of organizational change designed to engender and sustain a culture of continuous improvement based on customer oriented definitions of quality (Joss and Kogan, 1995:13)

- TQM is a management approach of an organization, centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society (ISO 8402, 1994:17)

- TQM is a way of managing the effectiveness, flexibility and competitiveness of business as a whole (British Department of Trade and Industry, 1991)

- TQM represents the management of quality as a strategic issue rather than an operational issue for lower levels of the hierarchy (Hill, 1991)

- TQM is a concept, the principles on which to develop a total quality culture, a journey that has no end, and quality improvement is the enabling mechanism which must be continuous and company wide (Newell and Dale, 1991)

Elements of TQM

The TQM concept supports the philosophies of customer focus, continuous improvement, defect prevention and recognition of responsibility for quality by all the
employees of an organization.

**Quality is user defined**: The ultimate objective of any information centre is the satisfaction of its clientele. Thus, quality should be defined in terms of user’s perceptions. It has to fill-up the gap between the expectations and perceptions.

**Performance measurement**: Performance measurement needs to be based upon timely measures and feedback on performance through superior quality information systems.

**Total employees involvement**: To meet the objectives of any library and information centre, the employee involvement is necessary. Each individual must take the initiative and not rely upon someone else. They must understand that they contribute equally and to the best of their ability and they can succeed only through cooperation and support of all others in the organization.

**Continuous improvement**: Continuous improvement must be seen as the responsibility of everyone in the organization. To develop this, a focus on training, education, communication, recognition of achievements and teamwork is often seen as appropriate.

**Error free process**: As the library is a growing organism, the focus oof TQM should be on the reduction of costs of service, achieve error-free process and save the time of the user.

**Actual and potential users**: It should be ensured that the libraries have equal focus on all types of users such as actual and potential users. The staff should be encouraged to identify these users who are in need of different types of sources and services and educate them for utilizing the library facilities.
3.3 QUALITY GURUS’ IDEAS

Quality gurus’ ideas have influenced most areas of TQM. The following seven point summary can be guideline for getting the best out of the quality gurus’ ideas:

a) Management commitment and employee awareness are essential from the early stages of TQM implementation. W. Edward Deming’s philosophy is possibly the most useful for encouraging these necessary attitudes.

b) The awareness should be backed up by facts and figures. Planning and data collection are important. Costs of quality can be used to measure the progress of improvement. Joseph M. Juran has made the biggest impact in this area.

c) TQM programmes normally employ teamwork to facilitate improved communication and problem solving. Quality Control Circles are particularly advocated by Kaoru Ishikawa, and can be very successful if the rest of TQM structure is in place.

d) Ishikawa advocated simple tools for problem-solving and improvement to be used by all employees.

e) There are also more technical tools to control industrial design and manufacturing. Shigeo Shingo’s work has been associated with successful just-in-time systems.

f) Management tools should be studies to achieve quality. These include the concepts of company-wide quality control and total quality control associated with Ishikawa and A.V. Feigenbaum respectively.

g) In order to move from an inspection to a prevention culture, emphasis is placed on serving the internal customers and suppliers. This customer focus has been
strongly stipulated by Juran and Deming.

3.4 ISO 9000 AND TQM

The International Organization for Standardization (ISO) is a world-wide federation of National Standards bodies, having its headquarter at Geneva, Switzerland. ISO 9000 is not a revolutionary international quality standard. It is evolutionary. It evolved from the existing and widely used quality standard.

ISO 9000 series is a series of standards concerned with quality assurance. It strives to provide a model for managing the organization from the production stage to delivery to the customer. The standard also provides a framework for measuring the consistency of an organization, its systems for dealing with customer orders, purchasing, stock, service provision and service delivery.

ISO 9001: Provides a framework for organization where design and servicing are customer requirements.

ISO 9002: Provides a framework for a product or service which does not require regular redesigning or servicing for each customer.

ISO 9003: Provides a framework for those organizations whose business is the inspection and testing of other products and services.
## 3.5 BENEFITS OF TQM

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<tr>
<th>Tangible benefits</th>
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<tr>
<td>Better product quality</td>
<td>Effective team work</td>
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<td>Productivity improvement</td>
<td>Enhancement of job interest</td>
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<td>Reduced quality costs</td>
<td>Improvement in human relations and more work area</td>
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<td>Improved communication</td>
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<td>Solving capacity</td>
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3.6 TQM FOR LIBRARIES

Although the library and information professionals have recognized long back the need for organizing the library with customer orientation in the five laws of library science, the route to have the customer focus could not be found out. It emerges from a workplace culture built on trust, teamwork and other important factors of quality of working life. The provider focused policies in fact have enhanced the gap between acquisition and utilization of resources. Moreover, new values, needs, expectations, consciousness and attitudes of the employees are a large step forward from traditional, hierarchical and bureaucratic job structure and design of the university libraries. The university library staff has so far not developed any mechanism to identify the latent, potent and dormant needs of library users. Innovations in information products, services, and processes, either or both, are being instituted but not implemented due to lack of organizational flexibility, adaptability and synergy.

TQM in libraries influences the three concepts, namely, every process, every job and every person.

- **Every Process**: All functions in the library system. They are acquisition, technical, maintenance, circulation, serial control, administration functions, all sections involving the quality improvement.

- **Every Job**: All individual jobs in library organization. They are preparing book indents, order routine, accessioning, passing of bills for payment, classification (universal scheme) cataloguing (universal code), stock rectification, bibliographical work, charging and discharging, resource sharing, binding, reprography service, indexing service, cleaning, dusting, accounts, tools and plants, supervision, reader services, computerization, etc., All
these jobs must involve correct work to avoid errors and to achieve quality.

*Every Person:* Library staff such as professionals, semi professionals, non-professionals and authority. All employees and authority must feel responsible for the quality of his or her work and that of the group.

The application of TQM in the context of libraries seems to be of comparatively recent origin. In the Indian context, Dr. S. R. Ranganathan’s Fourth Law *Save the time of the reader* has implications similar to what is advocated in the TQM approach. His explanation for the term ‘Documentation’ as pinpointed, exhaustive and expenditure organization and retrieval of information is the sum and substance of the TQM approach.

### 3.7 ISO 9000 FOR LIS

Tann (1993) suggested, in a paper concerning with the application of the ISO 9000 quality assurance standard to libraries, that ‘Fitness for purpose’ would include:

1) Knowing the customer’s needs-stated and/or implied:

2) Designing a service to meet them on or off the premises;

3) Faultless delivery of service;

4) Suitable facilities-car park, café;

5) Good accommodation-seating, lighting, heating, toilets;

6) Good housekeeping

7) Reliable equipment-computers, videos, etc.,

8) Efficient administration-welcome, queries answered effectively and efficiently.

9) Helpful, courteous staff;
10) Efficient back-up service;

11) Monitoring and evaluation including customer expectation complaints, Recommendations, for improvement; and

12) Feedback loops to build in improvement procedures and/or checking that improvements are put in place.

3.8 BENEFITS OF TQM FOR LIBRARIES

The general benefits of TQM are as follows:

i) It reduces bureaucracy, empower staff and create a team work base culture in library.

ii) It helps in gauging user needs and expectations in a proactive way and equips the library staff to provide more and better services.

iii) It is an evolutionary process and can easily be incorporated into the already existing management system or libraries.

iv) Reduction in user complaints and gain a competitive advantage over other information providers.

v) In TQM, quality is a high profile management tool, its implementations in libraries improve the image of the library staff and helps in public relations and marketing.

vi) It helps in breaking down inter sectional barriers/status in library and promotes co-operation and team work instead of competition.

vii) Empowers staff members to develop a sense of self determination.
3.9 TQM: DEFINITIONS AND MODELS

The United States Department of Defence defines TQM as: “both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organization. TQM is the application of quantitative methods and human resources to improve the materials and services supplies to an organization, all the processes within an organization and the degree to which the needs of the customer are met, now and in the future” (Pike and Barnes)

Albert Koller states that in simple terms, “TQM is a system of continuous improvement employing participative management and centering on the needs of the customers. It is more a preventive culture than a management theory”. The definition specify four elements, namely, customer needs and service management quality, continuous improvement and participative management (employer-employee team work) leading to achievement of goals of the organization and customer satisfaction (Sridhar and Rekha).

Rowley defined the TQM as: “Managing the entire organization so that it excels in all dimensions of products and services which are important to the customers. Excellence in TQM organization is defined by customer requirements and needs”(Rowley)

Feigenbaum defines the TQM as: “an effective system for integrating the quality development, quality maintenance and quality development, quality maintenance and quality improvement efforts of various groups in an organization so as to enable production and service at the most economical level which allow for full customer
satisfaction” (Anuradha, 109)

3.10 TQM MODELS:-

TQM has also defined in the form of models. The following are some of the important TQM models:

TQM Pyramid: The Oakland’s model of the TQM defines, “TQM as a pyramid representing five distinct components as management commitment, customer, customer-supplier chain, quality systems, SPC tools and teamwork.”

The model identifies that a good quality management system, statistical process control and teamwork are the essential requirements for identifying and meeting the customer needs.

The Building Blocks of the TQM: The TQM model proposed by Zaire looks at the TQM at three levels. The foundation is formed by the continuous improvement, added-value management and employee involvement. The pillars of the model constitute Statistical Process Control (SPC), Statistical Quality Control (SQC), user-supplier chain, management control system, advanced manufacturing systems and workplace design. The top level of the model is formed by quality planning, leadership and vision for the world-class competitiveness(Zaire).

Quality Movement in India

The quality movement was consolidated in the 1980s in the Indian Industries and also brought about a synergy of resources by the pioneering efforts of Confederation of Indian Industries (CII). Walter Shewart, the father of Statistical Quality Control, visited India for a short period. A movement also began in Nasik with the umbrella of CII when
a small group of companies began to practice some of the quality circle techniques and showed some results. Later, CII provided a focus and an impetus to the quality movement by forming the TQM division in 1987.

CII worked with the Government of India to initiate a drive to create awareness on quality and customer orientation in state and central government departments, financial institutions, banks, railways, textile corporations, leather institutions and educational institutions including IITs and IIMs.

3.11 PRINCIPLES OF TQM

Gerald F. Smith enlists the following basic principles of the Total Quality Management:

1. Strive for quality in all things

2. The customer is the criterion of quality

3. Improve the process or system by which products are produced

4. Quality improvement is a continuous, never-ending activity

5. Worker involvement is essential

6. Ground decisions and actions in knowledge

7. Encourage teamwork and cooperation (Smith)

1) The first principle, Strive for quality in all things, proclaims the importance of quality or excellence in human activities and creations. The Greeks valued arête or excellence for its own sake. Excellence is especially important in economic activities. Modern production methods fragment work into simple operations having partial and temporary outputs. In post-World War II, American economy,
driven by pent-up demand, rewarded companies that got goods out the door, irrespective of quality. Industrial economists argued that defective products should be tolerated since the costs of preventing defects exceeded the benefits of doing so. The quality movement successfully challenged this assumption. Its claim that ‘quality is free’ is based on evidence that the costs of poor quality are greater than had been assumed and that significant quality improvements can be achieved at low cost.

2) TQM’s second principle is The customer is the criterion of quality. In an exchange economy, most of what one produces is produced for others. Product users decide whether a product is of acceptable quality. A quality product satisfies pertinent user needs. TQM’s second principle highlights the fact that product specifications are only a surrogate criterion for quality. While necessary for manufacturing purposes, if specifications don’t reflect the needs of product users, they define a failure.

3) A focus on the process or system by which products are produced is TQM’s third principle. TQM tries to prevent defective products from being manufactured, rather than inspecting for defects and correcting them later. The quality movement and W. Edward Deming especially argued that poor quality usually results from systemic failings and consequently is the responsibility of the management, not workers. While this transformed traditional labour bashing into management bashing, it drew attention get done in organizations.

4) The fourth fundamental claim of TQM is Quality improvement is a never ending activity. This claim is expressed by the Japanese word Kaizen, by the fifth of Deming’s celebrated “fourteen points” and by the overused aphorism “Quality is a
journey, not a destination”. The ultimate goal of zero defects cannot always be reached, but one can always come closer. Even if all product defects were eliminated, there would still be costs to reduce. Japanese quality circles have demonstrated that significant progress can be achieved through an accumulation of large and small advances. The quality movement promotes a culture of continuous improvement and an unrelenting commitment to doing better.

5) TQM’s fifth principle is, the need for worker involvement. Efforts to improve quality may start with top management but to be successful, they must involve all members of the organization. TQM implies a participative style of management, one that removes barriers between workers and overseers, encouraging people to manage them. In this respect, the quality movement conforms to trends in management practice. Worker involvement improves motivation; people work harder when they feel they are important parts of the organization. More importantly, workers know what is going on, how the system operates, and how it can be improved.

6) TQM’s sixth principle is, The demand that decisions and actions be grounded in knowledge. TQM promotes knowledge-based management, encouraging organizations to learn. Surveys help to determine customer needs, experiments identify optional settings of product and process variables. When defects occur, their causes must be diagnosed through intensive data collection and analysis, proposing and testing casual hypotheses, and evaluating action alternatives for their effectiveness and potential side effects. Possibilities suggested by feelings must be
confirmed by facets. It is no accident that the saying, “In God we trust, all others need data” came out of the quality movement.

7) TQM’s seventh and final foundational principles is, The need for teamwork and cooperation. This need exists at several levels. Teamwork must prevail among line employees, where work groups can help each person to perform effectively. Equally important is the need for teamwork among the organizational sub-units. Cooperation between labour and management is needed within organizations. Each side must renounce the “blame game” and work with the other for the benefit of the whole. Finally, TQM endorses teamwork across organizational boundaries, with suppliers, customers and other outside stakeholders. Companies should develop long-term relationships with suppliers, helping them learn how to satisfy the company needs. Firms should develop closer relationships with their customers, keeping abreast of changing product requirements. TQM tempers unwarranted competitiveness in our economic system, recognizing that cooperation often enables mutual gain. These seven foundational principles of TQM are a significant contribution to management thought and practice. Every organization can profit from adherence to these principles.

Kano (1993) outlines four principles underling the concept of TQM as:

- Customer satisfaction; putting quality first
- The PDCA cycle; process oriented production; doing it right the first time
- Emphasis on the use of data
- Employees’ commitment; management is not the monopoly of the managers, and every employee has a share in managing the enterprise (Kano)

3.12 CHARACTERISTICS OF TQM

Characteristics are symbolically represented in a form, of a diamond as shown on below:-

1) Totality means that the effort is all encompassing. This implies that all areas and all functions, all activities, and all employees are striving for optimum quality all the time. Then the quality target is 100 per cent and not 99.9 percent.

2) The second important characteristic of the TQM is well thought through documentation. It does not necessarily mean a file of papers detailing the quality activities. In essence, it is an integrated People-Machine-Information (PMI) relations that make the TQM effort happen. It is the proper dissemination of the PMI relationships to all persons that constitutes good documentation. The dissemination of information means that each person can visualize his own work assignments and responsibilities in a quality activity, the quality processes and decisions to which he has a relationship, the relevant quality processes and decisions made by others, the machine-man interfaces and information inputs and outputs. It is this self-visualization which tends to a total quality effort.
3) The third characteristic of the TQM effort is ‘improvements’. The ability to bring improvements in all quality activities of the company is the cornerstone of a TQM initiative. This has lead to the development of a specific sub activity under TQM umbrella known as CPI (Constant Process Improvement). It is formally defined as: “A systematic approach taken by all employees to achieve the highest levels of quality and competitiveness through continuous improvements of operations, products and services.”

4) The fourth and final characteristic of the TQM initiative is ‘solid foundation’. This provision of foundation comes from the company’s organizational structure and systems. If the company is organized well then it enables the broad scope of quality activities to be properly managed. This is because good organizational systems equip management and employees of the company to come to grips to customer-requirements-to-customer-satisfaction quality organizational systems dictates the make-or-break situation as to whether the organization achieves its goals of much improved product quality at much reduced quality costs (Diwan).

K.C.Dabas and N.S.Gill assessed the following characteristics for TQM in library and information centres:

1. TQM is a management philosophy to guide the librarians in meeting the
challenges of the time..

2. TQM starts at the top management of library.

3. TQM calls for strategic planning based on vision, mission, goals and objectives of academic libraries.

4. TQM calls for every one to be skilled and knowledgeable (HRD).

5. TQM requires organization-wise involvement.

6. TQM requires quality as a strategic priority along with other priorities.

7. TQM promotes teamwork.

8. TQM focuses on the users.

9. TQM recognizes internal and external users of library.

10. TQM aims to instill a “Prevention not an inspection” ethic.

11. TQM is a process and activities-based approach.

12. TQM emphasizes the importance of measurement through the measuring rod of user satisfaction.

13. TQM reduces the total cost of meeting user requirements.

14. TQM is a disciplined, continuous and system approach.

3.13 **OBJECTIVES OF TQM**

Anjana Goswami identified the principal objectives of Total Quality Management as follows:-

1. Continuous Improvement of the organization which is equal to or greater than that
of any competitor.

2. Continuous and relentless cost reduction

3. Continuous and relentless quality improvement

4. Total participation i.e., creating an organization whereby everyone is working towards making the organization the best in its area of activity and to capitalize on the sense of achievement and working in a world class organization.

Mohanthy and Lakhe described the basic objectives of TQM as follows:-

TQM as ‘a pragmatic long term systems approach initiated and driven by the top management to bring about a total change of culture and interlinking and integrate everyone, every function, every process and every activity of the organization through involvement, participation and cross functional management to meet the dynamic needs of the customer and to create a loyal but at the same time a diversified customer base. Such a definition has the following features:

1) TQM is a pragmatic long-term systems approach: TQM is not a randomized approach. It is a concept which can be adopted and practiced through proper planning, systematic evaluation and allocating responsibilities and resources. It is also not a one-time strategy but a long term continuous approach.

2) TQM is initiated and driven by top management: TQM is a strategic direction and it can be triggered only by the top management. Developing organizational vision, mission, philosophy, strategies, objectives and plans is the responsibility of the top management. Top management, therefore needs to be involved in TQM and the quality improvement process and should lead the new way of thinking to begin
innovations.

3) TQM aims at bringing about a total culture change in every facet of the organization: TQM creates an organizational culture which is conducive to continuous improvement. Treating every other person receiving help as a customer and directing all efforts to satisfy his needs is the primary purpose of every person in the organization.

4) TQM interlinks and integrates the various subsystems of the organization: Each department in the organization strives for excellence and tries to achieve its set objectives. However, in most cases these departments conflict either in their objectives or approaches. TQM tries to break down these barriers between the departments and integrate the objectives of various departments with the main objective of the organization so as to follow the same common, unified approach for meeting the customer requirements.

5) TQM requires involvement, participation and cross-functional management. The objectives of TQM can not be achieved unless there is participation of all, at different levels in the problem solving process. In a conventional system, the employees of one department rarely get a chance to interact and understand the problems of other departments. By forming cross-functional quality improvements teams, TQM overcomes this barrier.

6) TQM aims at meeting the dynamic needs of the customer and creates a loyal and diversified customer base: TQM recognizes customers both as internal as well as external. It also recognizes that the needs of these customers vary across the population and also with time. To meet these expectations it is essential to make a
continuous effort to identify the customers, their needs and expectations and then develop strategies to meet them. Through this it tries to create a diversified and loyal customer base which promotes the profitability of the organization and helps to withstand any competition.

3.14 Key Contributors to Total Quality Management

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<tr>
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<tbody>
<tr>
<td>Deming</td>
<td>14 points, special versus common causes of variation</td>
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<tr>
<td>Juran</td>
<td>Quality is fitness for use, quality triology</td>
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<td>Feigenbaum</td>
<td>Quality is a total field, the customer defines quality</td>
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<td>Crosby</td>
<td>Quality is free, zero defects</td>
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<tr>
<td>Ishiawa</td>
<td>Cause-and-effect diagrams, quality circles</td>
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<td>Taguchi</td>
<td>Taguchi loss function</td>
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W. Edward Deming and TQM

W. Deming, considered the Father of Japanese quality revolution, approaches the problem of quality management from a statistician’s perspective. Deming’s major influence on the Japanese began when he was invited by the Union Japanese Scientists and Engineers (JUSE) in June 1950. He proposed a new thinking stressing on improving quality in manufacturing through the use of statistical quality control techniques.

Deming’s 14 points for management: Deming summarized his views on management and its relationship with quality in his 14 points for management.

1) Create constancy of purpose towards improvement of product and service, with an aim to become competitive, stay in business and provide jobs.

2) Adopt the new philosophy for economic stability. We are in a new economic age, created by Japan. Western managements must awaken to the challenge, must learn their responsibilities and take on leadership for change.

3) Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.

4) End the practice of awarding business on the basis of price tag. Instead, minimize total cost move towards a single supplier for any one item on a long-term relationship of loyalty and trust.

5) Improve constantly and forever the system of production and service, to improve and productivity and this constantly decreases costs.

6) Institute modern methods of training on the job for all the employees, including
management to make better use of all employees.

7) Adopt and institute modern methods of supervision and leadership. The responsibility of managers and supervisors must be changed from sheer numbers to quality. Improvement of quality will automatically improve productivity. Management must ensure that immediate action is taken on the reports of inherited defects, maintenance requirements, poor tools, fuzzy operational definitions and other conditions detrimental to quality.

8) Drive out Fear, so that everyone may work effectively for the company.

9) Break down barriers between departments. People in research and design, sales and production must work as a team to foresee the problems they may encounter during production, use and service as well.

10) Eliminate slogans, exaltations and target for the work force that ask for zero defects and new level of productivity.

11) Eliminate work standards on the factory floor. Substitute leadership, eliminate management by objectives. Eliminate management by numbers, numerical goals.

12) Remove barriers to pride of workmanship. The responsibility of supervisors must be changed from stressing sheer numbers to quality. Remove barriers that rob people in management and engineering of their right to pride of workmanship. This means, inter alia, abolishing of the annual merit rating and management by objective.

13) Institute a scheme of vigorous programme of education and self-improvement.

14) Top Management’s Commitment. Top manager’s actions communicate the true
importance of quality and TQM throughout the firm. For TQM to succeed, a firm’s top managers must publicly demonstrate their strong commitment to ensure continuous quality improvement and innovation and they must openly practice what they preach (Besterfield, et al.).

**Joseph M. Juran and TQM**

J.M. Juran is the founder and chairman emeritus of Juran Institute. He has pursued a varied career in management as an engineer, industrial executive, government administrator and management consultant. He is considered to be one of the early leaders in the quality field and has helped to build the conceptual basis for quality management. Juran defines quality as ‘Fitness for use’. This fitness can be achieved through quality of design, quality of conformance, availability and field service. In 1940, Juran highlighted managerial responsibility for quality and emphasized that quality was achieved through people rather than techniques. He stressed both the management and technical aspects of quality improvement. He detailed three basic steps to quality improvement:

1) **Quality Control**: The totality of all means by which to establish and achieve standards i.e. gaining conformance by preventing occurrence of defects.

2) **Quality Improvement**: Using structured annual improvement plans, systematic training programs involving the whole organization and senior management leadership.

3) **Managerial and Technical break through**: By setting goals, establishing plans, for meeting these goals providing resources to evaluate progress against these goals and executing the projects to attack chronic problems in order to encourage good
products.

**Philip B. Crosby and TQM**

Philip B. Crosby is the Chairman of the Board of Philip Crosby Associates Inc., an international quality management consulting firm. He is best known for his focus on people oriented issues and stress on changing the executive behavior. Western managements have been strongly influenced by the philosophy of Crosby. He is the principal exponent of ‘zero-defects’ concept. He defines quality as conformance to requirements and feels that higher quality results in reduction of costs and increase in profits.

**A.V. Feigenbaum and TQM**

Armand V. Feigenbaum is the founder and president of General Systems Company, an international engineering company that designs, implements and installs total quality systems. According to him the quality of products and services is directly influenced by Nine factors as given below:-

1) Market

2) Money

3) Management

4) Men

5) Motivation

6) Materials

7) Machine and Mechanism

8) Modern Information Methods
9) Mounting Product Requirements

Kaoru Ishiawa and TQM

Kaoru Ishikawa was a Japanese quality authority until his death in 1989. He acknowledged Deming’s and Juran’s influence in his thinking. However, Ishiawa must be recognized for his own contribution to TQM. He was instrumental in the development of the broad outlines by Japanese quality strategy, the concept of CWQC, the audit process used for determining whether a company will be selected to receive the Deming Prize, team-based problem solving and a variety of problem solving tools that worker could use.

Genichi Tauguchi and TQM

Genichi Tauguchi, a statistician and a leading consultant to Japanese and American high technology companies, proposed a method of analyzing quality. It is known as “Total loss function”. He stresses on the total loss to society which a poor quality product or service can cause. His other major contribution to quality thinking is focus on attention on the original design phases of product or service. Taguchi developed statistical methods called ‘offline’ quality control which concentrates on the design process, and this is referred to as ‘design of experiments’. By processes and product property parameters in such a way as to minimize item-to-item variations in the product and its performance. Though difficult to understand, Taguchi’s methods have proposed to be very successful in cutting the defect rates and costs.

3.15 TQM FOR SERVICE ORGANISATIONS

Service sector, in fact is a generic term which covers many industries such as health care, education, banking, libraries, insurance, hotels, transport to name a few. A
direct interaction with customers is involved. The customers also vary in their social, cultural and economic background and thus in their expectations. The needs and priorities put forward by the customers and efforts made by the institutions/industries under the same category to meet these also change. According to Stanton (1986) services are those separately identifiable, essentially intangible activities that provide ‘want-satisfaction’ and that are not necessarily tied to the sale of a product or another service.

Payne (1996) defines service as an activity that has some element of intangibility associated with it, which involves some interaction with customers or with property in their possession and does not result in a transfer of ownership. A change in condition may occur and production of the service may or may not be closely associated with a physical product.

Service Quality

Berry et al. (1989) defined ‘Service Quality’ as the conformance of service to customer specifications. Competitive quality requires designing, implementing and continuously adapting systematic transformations to provide efficient, extraordinary value added outcomes that are important to a wide range of organizational stakeholders.

Kesseler (1995) defines total quality service as ‘Customer Satisfaction’. Customers must be satisfied during the ‘moments of truth’ while they are interacting with an organization. Satisfied customers are retained. A 5 percent increase in customer retention increases profits by 80-95 percent in select services.

The four characteristics most commonly ascribed to a service are:

1) Tangibility: Service is to a large extent abstract and intangible.
2) Heterogeneity: Service is non-standard and highly variable.

3) Inseparability: Service is typically produced and consumed at the same time with customer participation in the process.

4) Perishability: It is not possible to store services in an inventory.

   The quality dimensions in a Service Sector involve:

1) Time dimension: The time required to execute a service determines the quality of service. The time dimension includes arrangement time, waiting time, service and delay time.

2) Cost dimension: The cost of service to the satisfaction of the customer decides the quality of service.

3) Error dimension: The amount of error, their nature and time and cost associated in rectifying them decides the quality of service.

4) Psychological dimension: Service involves dealing with people and thus the extent to which they are satisfied with the quality of service depends on understanding, politeness and efficient service (Mohanty and Lakhe)

**Levels of Customer Satisfaction**

A customer is defined as the person or unit receiving the output of a process of the system. Customer satisfaction is when the customer is satisfied with the service and it needs, wants and expectations. To understand the levels of customer satisfaction it is essential to recognize the levels of customer expectations which in a sense define the basic ingredients of quality. There are at least three levels of customer expectations about quality.
(a) Level 1: The expectations are very simple and take the form of assumptions, ‘must have’ or take in for granted’. For example, I expect the bank to deposit my money into my account and to maintain my balance correctly.

(b) Level 2: The expectations are a step higher than in Level 1, and they require some form of satisfaction through meeting requirements and/or specifications. For example, I went to the bank and the bank teller was very friendly, informative and helpful with my transactions.

(c) Level 3: The expectations are much higher than in Level 1 or 2 and they require some kind of delightful service that is so good that is attracts me to it. For example, the bank officer not only treated me with respect and answered all my questions, but just before we shook hands to close the deal for my house loan, he gave me a house warming gift(Mohanty and Lakhe)

3.16 TQM IMPLEMENTATION

A study of TRQM implementation approaches of various organizations reveal some of the commonly approaches as follows:

- To adopt and apply a few specific quality management techniques to promote TQM
- To adopt the philosophy of any one of the internationally recognized quality management
- To visit and study the quality management practices adopted by various companies and formulate a comprehensive plan for the individual needs.
- To randomly select some of the techniques of quality management as desired by senior management and work on these
- To use the experience of organizations is a particular national setting, mostly Japan.

**Framework for implementing the TQM**

1. Identify the degree of commitment, key interests and list down the long term changes required.

2. Define the objectives of TQM

3. Identify resources available and develop understanding of organizational system with quality system

4. Specify top management commitment through quality policies procedures and processes

5. Create companywide awareness and participative work environment by emphasizing customer-oriented values, encourage quality commitment

6. Design plans, develop specifies about future

7. Identify key issues and constrains on implementation, develop strategies for implementation

8. Identify and allocate resources, execute plans, build momentum for change

9. Implement and monitor

10. Measure benefits in terms of increased customer satisfaction

11. Review and reward.

**University Libraries Growth and Development**
Universities serve teaching, educational and research needs of higher education in the country. They primarily serve postgraduate students, research scholars and teaching community. The standard of study, teaching, education and research of a university largely depend upon the quality of the service rendered by the university library.

University libraries play a vital role in the development and promotion of university education in the country. Shankar Dayal Sharma, former President of India, while inaugurating the World Book Fair at New Delhi in 1988 rightly observed: “A library is more important than a university because library can function without a university whereas a university cannot do without a library”.

A library, being a treasure house of information, not only gathers, stores and disseminates but also serves as an effective agency for creation of fresh ideas and new knowledge. The goal of a university library is to provide suitable information materials useful for study, teaching and research purposes in a university. The university library functions as conservator of knowledge, ideas, teaching, research, publication, extension and service and interpretation. Libraries supplement the classroom teaching work and provide wide range of knowledge required to attain intellectual pursuits. A well-equipped library is not only necessary for all teaching and study but also essential for research. A systematically developed library collection serves as a major academic facility to the faculty as well as to the students and enables them to achieve better results in their respective fields. A good university library is indispensable for achieving academic excellence in any university.
The Hunter Commission in 1882 enquired into the existing educational system along with the conditions of libraries and observed the necessary of improvement of libraries attached to the institutions.

The libraries of the universities established in Calcutta, Bombay and Madras in 1857 were started in 1862, 1873 and 1907, respectively. Since these universities were not the centres of learning and research but were mainly meant for holding examinations and awarding degrees, the need for well-equipped and organized library system was not felt. This situation was evident from the Report of the Indian Universities Commission 1902.

The Commission was very critical of the poor state of affairs of university libraries and observed that there was not much to be said about the present university libraries. It recommended that “good reference libraries should be provided in both universities and colleges so that students might have an opportunity of forming the habit of independent and intelligent reading”.

**Quality in Academic Libraries**

Quality means “to meet or exceed the needs and expectations of the customer in the most cost-effective way”. It has four basic elements, which are (a) customer expectation (b) competitor (c) cost and (d) technology. A good quality system makes sure that quality is every one’s responsibility and a part of every activity. A good quality system ensures also consistency of products and services and guarantees the utilization of same materials, same methods and procedures every time in the same way. Quality system, especially in case of service organizations like libraries, has three key aspects
like management responsibility, personnel and material resources and quality system structure.

Therefore the following guiding principles of quality system are:

1. Meeting the requirements of the customers both internal and external on time and with full satisfaction

2. The involvement and commitment of every individual to achieve quality

3. Quality is built into the process and it comes through prevention rather than cure

4. Quality is measurable and it can be measured by non-conformances (Dalai)

Library is not only a storehouse of books and other reading materials but also a center of knowledge generation and production of various knowledge based documents and services for the use of various end-users in different environments. These products and services assist the users to take right decisions at right time for the execution of the policies, programmes and targets in all areas. This objective cannot be achieved by an organization without an effective and efficient support of the libraries and information centres. This factor motivates the librarians and managers of information centres to provide quality based library and information services to the stakeholders. Retesting this fact, various organizations and professional associations in all the areas including library and information science have initiated to discuss and deliberate to implement the TQM in their practices and services (Chandra)

A library’s success is realistically confirmed by feedback and support from stakeholders (faculty, administration, students, alumnae) and validation by accreditation and other external bodies.
3.17 INFORMATION TECHNOLOGY AND FIVE LAWS OF LIBRARY SCIENCE

The foremost function of every library is to know the needs and requirements of its users and serve them accordingly. Thus there should be no gap between users and information. Ranganathan has formulated the “Five Laws of Library Science” as guiding principles for the best use of libraries and its services. Even in the present era of information technology Ranganathan’s Five Laws of Library Science are showing the path for assessing the usefulness of information technology in library and information science. These laws are:

1. Books are for use
2. Every reader his/her book
3. Every book its reader
4. Save the time of the reader and the staff
5. The library is a growing organism

1) Books are for use: First Law

Earlier, most of the reading material was available in the book forms but today it is available not only in the form of books but also in other forms like the CDs, audio and video, graphics, etc. The change in the form of reading material also increased the importance of the first law. The use of information technology in libraries ensures convenient access of information with high accuracy and in less time. In the digital era the law is now stated as ‘information is for use’.
Moreover, electronic media has made possible for the access of information on the different terminals even outside the library and it satisfies its users what, when and where they want information. Users are also curious for up-to-date information—well qualified and professionally trained staff is required to handle large databases and library networks, etc., and to guide the users for the retrieval of information. Moreover, the librarian and the staff can guide the users in searching different databases and networks.

2) **Every reader his/her book: Second Law:**

Every reader of library should have the books he wants. Earlier, the preference was given to the aristocrats and the upper classes of the society for the access of libraries but now with the passage of time the concept has changed and the library services have become one of the most important channels for the flow of knowledge and information as a basic right of all citizens without any distinction. Thus everybody must be provided with the information according to his needs. Modern technology has made it more and more possible for the users by offering access to information sources through different databases. Now the users can have access to online databases through direct dial, telex, internet, etc., Other telecommunication networks have also made possible to search number of bibliographical records from some distant databases. In this information age the second law is restated as ‘Every reader his/her information’.

3) **Every book its reader: Third Law**
Keeping in view the third law, information technology has made easy for users to select the documents of their own choice. Current Awareness (CAS), Selective Dissemination of Information (SDI), indexes, abstracts, catalogues, etc., assist the users in every piece of information. Some of the computer based services like AGRIS, INIS, MEDLARS, INPECT, etc., have also been developed to provide access of information to the users. In addition to this, computer based services help the readers to show the contents of the books, the abstracts of the articles etc., which assist users in book selection. In this information age the third law is restated as ‘Every information its reader’.

4) **Save the time of the user: Fourth Law**

The law gives clear indications that like librarians should provide the information to the users without taking much time. The essence of the fourth law is: the information should be organized in such a way so that the user should get prompt and pinpoint information. Now advance in information technology has enhanced the librarians capabilities to save the time of the users as well as their own, information technology has made possible to retrieve the information with comparatively high speed and with more accuracy.

Online databases, online catalogues, etc, save the time of the users and staff. Networks like DELNET, INFLIBNET, CALIBNET etc., in India assist in providing the information in the libraries. CD_ROM technology has also facilitated literature searches at a much faster pace than before. Information technology has made possible for users as well as for staff to have the access of information of other libraries in their own library.
without moving here and there. Thus automation in libraries is saving lots of time and labour of the staff and provides speedy services to the readers.

5) **Library is a growing organism: Fifth Law**

Keeping in view the growth of library, information technology has given a very big hand to librarians for collecting and scanning of information with very high speed. Today, one can search thousands of bibliographical records on databases within minutes and with the access of these databases, librarians are able to procure and select different sources of information within no time. Electronic media has changed libraries into digital libraries. No doubt, digital libraries will not grow much in size but contain large information in compact form but these libraries will be rich in equipment and provide access to information to the users on different terminals also (Mittal).

### 3.18 TQM FOR LIBRARIES AND QUALITY MANAGEMENT

Application of management principles to libraries is quite old. Until the middle of 1930s most libraries were operated under an authoritarian or at least conservative approach to management. The librarian was expected to make decisions in almost all phases of operations. After World War II, librarians applied a combination of ‘Scientific Management’ and some of the mathematical/operations research techniques. Dougherty and HeinRitz’s ‘Scientific Management of Library Operations’ is representative of the concern during this period with anyone interested in library management. Most of the library-related work during this period tended to focus on activities and things rather than on people in contrast to F.W.Taylor, who definitely gave more importance to people in his work.
The quality management in libraries is concerned with:

1) Overall customer service

2) Customer satisfaction

3) Cost reduction to achieve the goal of quality information products and services

The internal operating conditions studied included

(a) Attention to customer requirements

(b) Group process and problem solving skills

(c) Internal communication throughout the Organization

(d) Change to a more participatory management

(e) Timeliness of internal process and

(f) Efficiency.

“TQM had enabled those areas in the library, where it was implemented, to accomplish improved quality service with the same workforce. They were able to do this by utilizing customer surveys, flowcharting work processes, analyzing the data, brainstorming solutions, developing performance standards and selecting and implementing solutions. Unlike some other management theories, TQM does not promise a major turnaround in the library. Its hallmark is its emphasis on the process, not on personnel. Deming repeatedly states that, in most cases when an organization uses TQM, it will discover that ninety percent of the problems are caused by faculty processes and only ten per cent are related to personnel. Finally, change according to TQM comes
through small incremental steps rather than overnight transformation. Therefore libraries implementing TQM is a process, not a program, a project or least of all a quick fix” (Biswas and Kanchan)

**Quality Management in Libraries**

According to Miller and Steams, the principles of quality management, if implemented carefully would yield immense benefits to a library and information centre. They are:

1. Incremental changes leading to continuous improvement
2. Forces library managers to develop leadership skills to obtain effective results
3. Increases staff participation in decision making
4. Improves the level of training given to staff, thus increasing their skills and abilities
5. Helps to break down barriers between library sections and improves communication within the organization
6. Provides a method of improving services to users
7. The time taken to provide information services decreases and the efficiency increases (Udaya Shankar, 207)

**Benefits of TQM for Academic Libraries**

K.C.Dabas and N.S.Gill in their article “Understanding the essentials of Total Quality Management (TQM) for library and information management in Academic Settings” have narrated the following benefits of TQM for academic libraries:
1. TQM reduces bureaucracy, empowers staff and creates a team base culture, which is keenly desired and suited for mechanistic, hierarchical organizational structures like university libraries. The librarian’s role becomes one support and coaching.

2. It helps us provide more and better services with the existing resources resulting in increased user satisfaction and loyalty.

3. TQM is an evolutionary process and can easily be incorporated into the already existing management systems of libraries.

4. Brainstorming exercise helps to know what functions are necessary to the efficient operation of a library and who should perform these, and this leads to increased involvement and dedication of its employees.

5. Reduction in user complaints gain a competitive advantage over other information providers

6. TQM helps in breaking down intersectional barriers/status in a library and promotes cooperation and teamwork instead of competition.

7. In TQM Quality is a high profile management tool, its implementation in libraries improves the image of library staff and helps in public relations and market.

8. TQM ensures consistent qualitative library and information services to the users and defines User Satisfaction issue.

9. TQM ensures a non-threatening environment for open (deals), for problem solving, for change, for HRD and clearly independent power, responsibility and accountability of each employee.
10. Empowered staff measures develop a sense of self determination, a sense of common sense of impact and become more effective, innovative, transformational and charismatic.

Factors to implement TQM

To implement the TQM, the following factors should be considered.

a) **Defining Quality**: In a library environment, a peculiar excellence or superiority of the library service can be achieved by a good quality management. Therefore, to avoid some of the difficulties in defining service quality, teams, departments and individuals need to be assisted in identifying definitions and measures that are appropriate in their context.

b) **Establishing Organisational Culture**: The term ‘culture’ is used in relation to corporate identify which creates a common understanding amongst organizational members concerning the organizations, its mission and how its members should behave. The culture varies depending on the culture of the parent organization. For example, in public libraries, the parent organisation’s culture is public service oriented, in a business context, the culture will be commercially driven and in an academic library, teaching and research will be valued.

c) **Defining the Role of Administration**: In TQM, the administrator becomes a symphony conductor, the TQM modifies current leadership roles at the top, middle and bottom of the administrative hierarchy. The top administrator will do less of the decision making and they delegate their authority to middle level management to manage the culture-related problems. The top management has to establish a
planning process that is flexible enough to adapt to the propositions that the TQM process develops. Middle management has responsibility for monitoring the process of the TQM and authorizing implementation of the process changes that are identified for improvement of quality.

d) **Measuring the Quality**: The purpose of measuring the quality is to determine the effectiveness, efficiency and value of what have been achieved. This process reveals the strength as well as the weakness of any library or information system. This basic function is rightly called investment for the future’.

The following are the different approaches of measuring quality:

i) **Complaints**: The level of complaints is one indicator of quality and provides some directions for potential environments. However, absence of dissatisfaction is not necessarily proof of user satisfaction.

ii) **Users’ survey**: The survey can be made with the help of some tools like questionnaire, interview and observation.

iii) **Bench Marking**: To attain the TQM, the library system has to compare its organization, service and other functions with the other competitors having similar characteristics and features.

iv) **Suggestions Boxes**: The users of the library should have freedom to indicate their suggestions for the improvement of the library. Suggestions boxes should be provided so that several suggestions can be made for the improvement of the performance of library system.
v) **Establishing quality as a strategic issue:** The library and information centres should accept the importance of users requirements through the parent organization by which continuous improvement can be identified as one of the library’s objective, which is vital for the credibility, continuity and longevity of the TQM initiative.

vi) **Redefining Organisational Structure:** Organisational structures can be divided into two main categories: mechanistic and organic. Mechanistic structures include functional bureaucratic structures which tend to be relatively flexible, with clearly defined levels of authority and decision making that is governed by policies, procedures and rules. Organic structures employ decentralized decision making where both accountability and responsibility are transferred to as low a level of the organization as effectively possible. The various different management structures have been explored on the basis of the measuring quality. These structures are particularly ripe of the adoption of a TQM based approach.

vii) **Empowering the Staff to analyse and Solve Problems:** Empowerment of the staff is one of the hallmarks of the TQM model. The library management must empower the staff to analyse and solve the problems on the basis of data collected by evaluating quality measurement. The people who are in the bottom of the administrative hierarchy are very much in contact with the regular users of the library. So, that it very much necessary to empower the staff to analyse and solve the problems.

3.19 **TOTAL QUALITY MANAGEMENT IN ACADEMIC LIBRARIES**

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

A library should focus on providing the best services possible, and willing to change to serve its customers.

To determine if changes need to be made, a library administrator might ask

What are our niche markets?

What do the customers come in for?

How can I look at the efficiency of my library?

How do we serve the current customers that exist today?

Libraries with TQM

Many libraries have implemented TQM successfully. Few university libraries has created a task force which rewrote the library’s vision statement, 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, Harvard learned about TQM, and found that its principles of service excellence, teamwork, ongoing training and skill building, focus,
continuous improvement, and cooperation across boundaries could help them make the
changes they needed.

It is suggested that some ways a library might use the principles of TQM to
enhance library services:

Create service brochures and information kits
Conduct a user survey about library services
Improve signage
Change hours of operation
Provide a more convenient material return
Simplify checkout of materials
Use flexibility in staff assignments
Cooperate with local government
Ask vendors to give product demonstrations
Give new staff a thorough orientation
Create interdepartmental library advisory groups
Improve the physical layout of the library
Track complaints
Develop the physical layout of the library
Track Complaints
Develop an active outreach program
Open satellite offices

Publicize new or changed services

Develop user and staff training materials

Target services to specific groups

Offer electronic document delivery

Follow the mission statement

**Academic Libraries and TQM**

Libraries are among the most ancient social and cultural institutions in existence. Ancient libraries as well as modern ones have one thing in common: all of them have a body of information recorded on some type of medium and that information could be retrieved when needed. The accessibility of information requires good organizational ability from those who are in charge. The basic concern is to create a structure of the organization where desired information is retrieved and made accessible efficiently and in a timely manner to the users. Creation and maintenance of such a structure requires an effective management process that facilitates work toward that goal.

Over many centuries libraries have adopted many different management principles from business, industry, religion, and government. A library is a business that must be operated efficiently and well. A major difference is that most libraries are non-profit organizations. Management of vast amounts of information stored in different formats – printed, electronic, audio, video-requires use of the most modern management techniques.
Today technologies have changed our social and economic life. In the workplace methodologies change; people work at home or on the web with flexible timetables, and more and more virtual communities are emerging in different fields. 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.

The management of quality in libraries, as a management method that allows the improvement of performance, has been the object of interest for the managers of these services. In recent years the academic libraries stood against the fast improvement of technology, with low budget and with more requirements for responsibility. Because of these, new strategies of renewal have been developed at a quick pace. A first step which is necessary for a library, is to define which approach in the procedure of change is more appropriate for itself, considering the size, the environments and the conditions of function that apply in this library. The method of TQM represents a new age in the management of an organization. Its elements such as participating management, the personnel training and the responsible service to the customers, are views that the libraries are already driven by. As a result of this, the libraries are up to improve these principles which already have been valued positively by them and put them partially in practice. Many libraries have embarked on plans for implementing quality-related philosophies such as TQM. It is well-known that TQM is a management method that libraries can benefit from it in several ways.

In each and every academic institute, the library plays key role for development of professors, students, researchers in terms of knowledge navigator. Today in the information
age the information explosion is very fast. Every movement new information are produced, and it is difficult for the library to maintain these information. A library should focus on providing the best services possible, and be willing to change to serve its customers.

In a service organization like an academic library the customer satisfaction means fulfilling expectations.

The library might use the principles of TQM to enhance the library services

- Make a Library Brochure
- Library Orientations
- Implement Interlibrary loan facilities
- Smooth Acquisition procedure
- Technology use for easy information retrieval
- Training & development of staff
- Motivation
- User based information services

**Customer Expectations**

Library being a service, fulfilling the expectations of the customers is typically a more difficult but approachable task. To concentrate on all the expectations of the customer may not be a judicious decision; rather one or two most important factors which
can create a good reputation for the library and are most valued by the customers should be developed and solely concentrated on.

Another precious consideration is the service delivery to the customers. To provide maximum benefit to them, it is important to spread the knowledge of how to use the service and spread “User education”. Automation and system support will also enhance service delivery. But at the same time, it should be kept in mind that such automation doesn’t render zero personal touch in the service. The effectiveness of service delivery and service quality should also be periodically measured. Getting feedback from customers, and probably using ‘questionnaires’ for such feedback will make this process simpler than to obtain oral feedback. The staff at the front desk should be provided with training or developing the basic skills related to library science and use of technology in it. Such a developed staff will help in improving the service quality as they play a very critical role in dealing directly with the customers in answering their queries, complaints, requests etc. TQM also emphasizes on teamwork and thus, the targets are to be achieved through good teamwork. Successful teamwork implies that the members in the team along with the leader have developed good principles, conditions, reading climate and favorable work environment. The team leader has to encourage the development a sustainable commitment and culture towards generating a good service quality in the academic library to fulfill the major customer expectations.

This suggests that managers, to clearly understand their market and opportunities to improve, should measure separately each of the different aspects of this model- Customer’s needs/wants/preferences, product/service quality, customer value, and
customer satisfaction. During the digital era, the role of library professional is to perform the total quality management very effectively to satisfy the requirements of users.

3.20 APPLICATION OF TOTAL QUALITY MANAGEMENT IN LIBRARIES

Libraries and information services are intrinsically complex to manage user expectations and demands placed upon them. Demands are limited. As service oriented organizations, libraries are users; quality service must be the departure point. TQM has positive effects,

Facilities in a quality based library:-

a) Physical facilities:

1. Good library is easily accessible
2. Good layout for a good library
3. Sufficient Space, lighting and ventilation
4. Clean, tidy and hygienic
5. Cozy and comfortable furniture

b) Library Collection:

1. Good collection of textbooks, journals, reference books, online journals
2. Standard and good library displays new arrival books in separate shelves
3. Good library offers open access to the collection

Library Staff:
1. Staff in a good library should be experienced with knowledge in latest Technological aspects

2. Staff should help the users to locate the documents needed by the users.

3. Sufficient staff to run the library.

d) Technical Processing:

1. Good library must acquire new documents in time

2. Shelf arrangement and rectification must be carried out then and there

3. Good library should have proper catalogue and database for collection of documents.

4. Good library has prompt processing, charging and discharging systems.

The concept of Total Quality Management (TQM) is an emerging new management technique used in most of the disciplines and the Library and Information Centre is not an exception to it. It’s application in service sectors like Library and Information Services (LIS) started in late 1980’s is an American response aiming at customer satisfaction by way of meeting the requirements and expectation of the customers. The application of Total Quality Management in Library and Information Centers seems to be a very recent origin but it is not so in the Indian context wherein Dr.S.R.Ranganathan, father of Library and Information Science stated in his Fourth Law ‘Save the Time of the User’ has direct implication to what is advocated in TQM approach
as enunciated by Raina (1995).

Libraries and Information services are intrinsically complex to manage because of the wide range of user expectations and demands placed upon them. Demands are increasing and resources, in all respects, are limited. As service-oriented organizations, libraries are striving to give the best to their users; quality service must be the departure point. It this is true, and then libraries are a natural entity for the application of TQM. Most libraries are pursuing excellence in their services as well as products and, if the objective is to maintain this, TQM could assist in the pursuit of never ending improvement. TQM could be the catalyst that causes librarians to examine issues such as leadership, staff empowerment, incentive programs, work simplification, innovation, and performance evaluation (Dougherty, 1992:3)

Libraries should adopt TQM, since it embodies certain values and approaches, which are common and already established concepts in libraries. These include the elements of participative management, staff training and development and responsive service to customers. However, several of the defining and extraordinary elements of TQM such as continuous improvement, quality tools and measurement and customer-focused planning are not commonly applied in libraries. TQM has been increasingly applied in the developed countries since the 1990’s and it is helping libraries to establish a culture of never-ending improvement of quality of products and services, by doing so patron and employee satisfaction are guaranteed and stakeholders are assured of optimum utilization of limited resources to satisfy customer needs.
1) **Benefit of TQM for Academic Libraries**

a) TQM reduces bureaucracy, empower staff and create a team base culture, which is keenly desired for academic library.

b) TQM help us for gauging users’ needs and expectations in an appropriate way.

c) TQM help us to maintain qualitative library and information services.

d) TQM helps in libraries improves the image of the library staff and helps in public relation and marketing.

e) TQM helps for development the qualitative library collections.

**Benefits of TQM in University Libraries**

If implemented carefully, quality management principles yield positive benefits libraries such as:

- Incremental changes lead to continuous improvement – quick solutions may yield only partial results.

- Forces library managers to develop leadership skills interested of replaying on power within position to obtain results.

- Increase staff participation in decision-making, thus increasing the feeling of “ownership” of decisions and directions once charted.

- Improves the level of training given to staff, thus increasing skills.
• Helps break down barriers between library departments and improves communication within the organization.

• Provides a method of improving services to users in a period to similar resources.

In any acquisition system, one has to follow the following steps, to acquire a document.

1) Receiving the suggestion for a document

2) Checking the bibliographic data with trade catalogue

3) Books in print

4) Check its availability within the library by checking the catalogue

5) By checking with the already ordered documents list determine its cost from the standard sources, from the vendors, from the publishers

6) Get the invoice, if required; determine whether the fund is available

7) Place an order with certain conditions

8) If there will be any advance payment then clear the payment from accounts department and enter the details in file

10) Send reminders if the document is not received in time

11) After receiving the document, check its bibliographic data, check its cost

12) Enter the details in access register

Service Programmes

Academic libraries are following different approaches in their TQM process. Some academic libraries undertaking TQM or CQI (continuous quality improvement) as
a library-wide effort address established library procedures on a step-by-step basis. In some of the academic libraries they are concentrating on quality improvement in specific services only such as Reference service, Technical service and Access service. Total quality management has been the fundamental business strategy of the world’s leading organizations throughout the 1980s. In some developed countries such as Japan, the United Kingdom and the United States of America, a number of organizations have adopted TQM as a way of life for the continuous improvement of the quality of their products and services to their customers. Quality, to these organizations is the ‘totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs”. In the context of service, quality is about putting the right service in the hands of the customer, at the right time and price. It is therefore, not surprising that these organizations have focused their products on niche markets, rather than selling standard mass-produced goods. This reaction has been the response to the fierce competition on the domestic and international business environment, technological changes, and pressures to demonstrate value for money and consumer sophistication, among other. Today, we are witnesses to quality products and services from Japanese, British and American organizations.

Surprisingly however, marketing and its theories have not been widely accepted by practitioners in the information profession and its application in libraries has been extremely slow and cautious. This approach is attributed by Tanui and Kitoi to the fear of dealing with the little – known sphere of marketing which is mistakenly associated only with profit – making enterprises. It is thus often assumed that marketing is inapplicable to the services and products of a library since a library with good books, up-to-date journals
and staff is an end in itself. It must however be stated that marketing is for both profit-oriented and non-profit organizations. It does not only involve a good but a service as well. Many librarians still hold a rather myopic view that their services and products are so essential that people will use them as they have always done without any additional effort on their part. They erroneously assume that users’ needs are also satisfied because they come to use the library. Unfortunately however, although librarians may regard libraries as indispensable, it is by no means certain that those outside the profession share this view. This aversion however seems strange, since marketing like librarianship places the user at the centre of all activities. It is thus very essential that the marketing concept is wholly and quickly adopted if libraries are to continue to exist as information providers in the future. Weingard sums this up when she states that “if libraries are to survive or thrive, the complete spectrum of marketing approaches is essential to the managerial toolbox”.

A controversy over the expansion of TQM into service-oriented organizations (such as libraries) has to do with the question of profit making. Business as we all know, are designed to make profit. Libraries, unfortunately, are not profit making ventures and are considered to offer “free” service. It should be noted, however, that libraries, be they public, academic or research are not ‘free’. Customers may not be paying directly for the use of the library but are entitled to the service because their taxes, school fees, the contributions and membership subscriptions of the organizations they serve, coupled with grants of various types donated to the libraries, are good enough reasons for them to be managed efficiently. More than ever before, stakeholders are demanding accountability, value for money. And precise justification of all resources to improve the
competitiveness, effectiveness and flexibility of the whole organization. Accountability is thus crucial both in the business sector in general and in the library in particular. This is yet another justification for the applicability of TQM to businesses and libraries. Another reason why libraries should adopt TQM is that it (TQM) embodies certain values and approaches, which are common and already established concepts in libraries. These include the elements of participative management, staff training and development and responsive service to customers. However, several of the defining and extraordinary elements of TQM such as continuous improvement, quality tools and measurement and customer-focused planning are not commonly applied in libraries. It is for these reasons that libraries are in a position to expand and improve upon principles they already value and employ, while introducing new approaches to planning, problem solving and envisioning future customer services and needs.