
UNIT-15 TOTAL QUALITY MANAGEMENT

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15.0 LEARNING OUTCOME

After reading this Unit, you should be able to:

- Understand the concept of Total Quality Management (TQM);
- Define Quality;
- Understand the difference between TQM and traditional management; and
- Explain TQM in the Indian context.

15.1 INTRODUCTION

Efficient human resource management was behind the economic revolution achieved by countries ruined after the Second World War. Cases in point are Germany and Japan, who achieved revolutionary success within a short span of time. They not only succeeded in reviving their economies but sent their surplus produce to other nations, spreading prosperity the world over. They famously accomplished the task by adopting the total quality management (TQM) approach with focus on optimum development and management of the precious human resource.

Total Quality Management is related to work organisation and management. TQM marks a shift away from the traditional productivity centred approach to a quality centric, systemic approach to management. Components of TQM are; the company's mission, objectives, employee participation,

values and strategies, and an integrative approach towards maximum quality, efficient marketing, good people management making for all round development of an enterprise.

15.2 CONCEPT OF TQM

Total Quality Management (TQM) is an enhancement of the traditional way of managing organisations. TQM is a proven technique to guarantee survival in international competition. Only by changing the function of management can the culture and actions of the entire organisation can be transformed. TQM is for the most part, common sense. Analysing the three words, we have;

Total: Made up of the whole

Quality: Degree of excellence, a product or service provides

Management: Act, art, or the manner of handling, controlling, directing etc.

Therefore, TQM is the technique of managing the whole, to achieve all round excellence.

Although the concept of quality is old, quality management is the major preoccupation of organisations today. Many organisations around the globe are conducting Organisations Development (OD) programmes to enhance quality awareness and change the attitudes of their employees. The efforts towards understanding, adopting and promoting TQM are primarily inspired by the changes taking place in the global economy, changing market conditions and customers' expectations and increasing competitive pressures which require organisational excellence on a continued basis. Sustained effort towards improving quality is total quality management. Many large organisations have recognised the important contributions that TQM can make in dealing with these challenges.

TQM is not a technique but a collection of approaches designed to optimise the performance of an enterprise. It is better suited to a more sophisticated production and service economy (Paris, 1994)

In the 1950s, Dr. Edwards Demmings and J.M Muran introduced the Japanese to the concept of total quality management. The Japanese adopted his ideas, and over time, developed them further. They extended the application of process improvement from manufacturing to administrative functions and service industries, so that the quality concept impacted the entire system favourably. Japanese industry succeeded in achieving overwhelming success because they were able to drive down their costs while at the same time, improve the quality of their products

During the eighties, a number of North American manufacturers emulated Japanese success and extended the application of the total quality concepts to the areas of employee motivation, measurement and rewards. This blend of quality management techniques and organisational behavior philosophies is described under the rubric of Total Quality Management.

According to Mike Hick (2005), the core concepts in total quality management are:

- continuous process improvement
- customer focus
- defect prevention

- universal responsibility

Continuous improvement is a top down process. It is initiated and directed from the top, but implemented from the bottom. The selection of improvement projects is specific and focused. The problem areas must be identified, prioritised, critical processes selected for improvement, and improvement goals set for the project team. This is a bottom up process, which requires the involvement and commitment of the staff. (Hick, 2005)

Employee Involvement and Empowerment

The success of the quality management approach is dependent on a well- trained and motivated staff that is involved and empowered.

Involvement means that management actively encourages employee involvement in running the operation and improving the processes. *Empowerment* implies something more than involvement. It means that the management recognises, that, when the staff are given training and provided with the right information, they are in the best position to control their own work processes. This being the case, they should be empowered for the same.

There are various techniques to ensure employee involvement and empowerment. *Suggestion schemes, delegation* and improvements in *job design* are used to effect continuous improvement in work.

Problem solving

Quality management depends on people having good problem solving skills. It is through the continuous process of identifying problems, and solving and implementing solutions that the business is improved. Problem solving consists of identifying the root causes of a problem and implementing actions to correct the situation. Measuring quality costs is important. There is an old adage that if something can't be measured, it can't be managed. Measures of quality costs provide the information needed to analyse where excess costs are occurring. Improvement projects can then be targeted to reduce them. A computerised data base is needed to store information to monitor quality.

Procedural Improvement

TQM involves minute improvements. The system failure analysis is a sophisticated approach to finding the root cause of minutest failures in complex systems. Attempt is made to rectify errors for *total process improvement*.

Quality Teams

TQM emphasises specialist, coordinated team work. Teams have a number of advantages over individuals. Different facets of the problem can be tackled by subject matter specialists. Constitution of the team is significant here. A properly constituted team has a much richer mix of skills to bring to bear on a problem. The aim is to secure value improvement. Value improvement differs from cost reduction. Cost reduction usually results in cheapening the product. Value improvement is aimed at cutting costs while at the same time continuing to improve the product in terms of quality and satisfaction of customers. The cost structure of the product is analysed, related to the customer requirements, and attempt made to eliminate or reduce those costs that are unnecessary.

15.3. CONCEPT OF QUALITY

Quality is thus, both a user-oriented and production-oriented expression. From the user's point of view, quality is an expression of the product or services usefulness in meeting the needs and expectations and its reliability, safety, durability. From the production point of view, the quality of a

product is measured by the quality of conformance. Quality of design is concerned with the stringency of the specification for manufacturing the product. The quality of conformance is concerned with how well the manufactured product conforms to the original requirements.

Form the view point of TQM, quality is everything that an organisation does, in the eyes of its customers, which will encourage them to regard that organisation as one of the best in its particular field of operation.

This definition encompasses all the activities of the business and is not related to any product. It also considers the importance of meeting the needs and expectations of the customers at a cost that represents the best value, to enhance the image of the organisation in the eyes of the customer and build a loyal customer base.

When the expression “quality” is used, we usually think in terms of excellent product or service that fulfils or exceeds our expectations. These expectations are based on the intended use and the selling price. When a product surpasses our expectations, we consider the quality. Thus, it is somewhat of an intangible based on perception. Quality can be quantified as follows:

$$Q = \frac{P}{E}$$

Where, Q – Quality

P = Performance

E = Expectations

If Q is greater than 1.0 then the customer has a good feeling about the product or service. Of course, the determination of P and E will most likely be based on perception with the organisation determining performance and the customer determining expectations.

15.4 ADVANTAGES / BENEFITS OF TQM

The advantages of adopting TQM compared to conventional quality systems are numerous and some of them are outlined below:

1) TQM helps to focus clearly on the needs of the market

The traditional approach to quality control focuses on the technical details of a product so as to satisfy the customer. However, the customer longs for better satisfaction, which is generally overlooked in the traditional approach. The needs change from person to person and also from place to place. As TQM focuses on the concept of universality, it tries to abstract the satisfaction perceptions of market and thus helps the organisation to identify and meet the requirements of the market in a better way.

2) TQM facilitates to aspire for a top quality performer in every sphere of activity

It is a well accepted fact that the negative attitudes of employees and non participative culture of the organisation pose the greatest hurdle to organisation's success, growth and prosperity. TQM

emphasises on bringing about attitudinal and cultural change through promotion of participative work culture and effective team-work. This serves to satisfy the higher team-work and the higher human needs of recognition and self-development and enhances employee interest in the job. The employee's performance, thus, is not restricted to the product or service areas but reflects in other spheres as well.

3) It channelises the procedures necessary to achieve quality performance

Quality in its true sense can not be achieved instantly. It requires a systematic a long-term planning and strategic approach by focusing on defining the quality policies, goals and objectives, and communicating these properly to one and all in the organisation adopting Statistical Quality Control (SQC), and Statistical Process Control (SPC) techniques and developing and using a system of evaluation, the organisations can channelise their efforts to achieve the desired and objective quality performance.

4) It helps examine critically and continuously all processes to remove non-productive activities and waste:

The organisation always aims at improving productivity as it leads to reduction in cost resulting in increase in profitability. The efforts in this direction are contributed because of the formation of quality improvement teams which meet regularly and through a systematic approach which tries to remove non-productive activity. A continuous effort to identify the problems and resolve them helps to reduce the waste. The culture of well being thus improves house keeping, cost effectiveness and safety.

5) It gears organisations to fully understand the competition and develop an effective combat strategy.

The dynamic changes in the global market and the open market policies adopted by a large number of organisations has resulted in increased competition and for many organisations, survival has become the key issue. It is essential for organisations today to understand the competition and develop and adopt suitable strategies to meet the challenge. As TQM helps to understand the pulse of the customer and thus the market it gives an edge to the organisation to meet the competition.

6) It helps to develop good procedure for communication and acknowledging good work

Improper procedures and inadequate communication is yet another base of many organisations, which result in misunderstanding confusion, low productivity, duplication of efforts, poor quality, low morale and so on. TQM brings together members of different levels of management thereby providing an effective communication and interaction.

7) It helps to receive the process need to develop the strategy of never ending improvement. Quality improvement efforts cannot be restricted to any time period. They need to be continuous to meet the dynamic challenges. TQM emphasises on continuous and periodic review so as to make the required challenges.

The benefits derived by the organisations, therefore, are many and multi-faceted. Many of these can be measured in quantitative terms. However, the intangible benefits which include enrichment of the quality of the work life and many more are not quantifiable. At the same time, it has to be established whether they do occur or not in order to prove or disprove the efficacy of the concept. This can be assessed by a well-planned research project or by carrying out an opinion survey periodically.

The tangible and intangible benefits of TQM are as presented below:

Tangible gains	Intangible gains
<ul style="list-style-type: none">- Better product quality- Productivity improvement- Reduced quality cost- Increased market- Increased profitability- Reduced employee grievances	<ul style="list-style-type: none">- Effective team work- Enhancement of job interest- Improvement in human relations and work area morale- Participative culture- Customer satisfaction- Improved communication- Enhanced problem solving capacity- Improved corporate health and character of the company- Better company image

15.5 DIFFERENCES BETWEEN TQM AND TRADITIONAL MANAGEMENT

Following are some of the basic and fundamental differences:

1. TQM stresses focus essentially on customers. Customers are viewed as dominant resource.
2. TQM takes the view that profits follow quality, not the other way round
3. TQM views that the quality is composed of multi-dimensional attributes. According Garvin (1984), there are eight customer orient quality dimensions: performance, features, reliability, aesthetics, conformance, durability, service ability and perceived quality. Traditional management neglects these customer oriented dimensions.
4. In traditional management, economy-of-scale is seen as a desirable objective characterised by long production runs, to incur low cost and achieve high efficiency. In TQM, economy-of-time and economy-of-scope are pursued: Just-in-time production, shorter lead-times, low inventories, quick customer response and the smallest possible sizes are the goals, to serve customers better and quickly.
5. In traditional management, high volumes, long runs and maximum products are perceived as desirable.
6. TQM creates goal-directed connections between customers, managers and workers. Everyone is motivated to contribute. TQM empowers each and every employee, regardless of level, to find better ways to work. Drawing on the concepts of participative management, employees are given a significant role under TQM. In contrast, in traditional management, the workers must work and managers should manage. The manager of quality control is responsible for quality.

7. Traditional management is characterised by strong divisions of labour, and by a separation of manual work from the mental work. TQM emphasises on flexible multi-skilled workforce that can move easily from one job to another.
8. TQM is a process oriented approach thus assuring focus on process over a long term improvement to attain long range goals. The process-oriented view, which is the TQM way, is a long-term, incremental approach to improving process quality. Since TQM empowers people to improve the way they work, people are at the root of all improvement efforts. Barriers to communication are removed and redundant activities eliminated. Working environments are improved so that people are comfortable and do not feel strained at the work place. Result oriented approach is based on the process of setting objectives, collecting feedback and providing incentives to attain objectives.
9. Traditional management proposes hierarchical, vertically structured organisations. TQM, on the other hand, seeks to create a culture of networking across and among functions, so that teams from different disciplines come together to seek a permanent solution to each problem, as it is identified.
10. The traditional management favours many layers of authority, with short spans of control. TQM advocates a flatter organisation structure with large spans of control, where authority is pushed as far down as possible and flexibility actively encouraged.

The pertinent differentiating characteristics between TQM and traditional management are briefly listed in Table-I.

Table-I

Comparison between TQM and traditional management approach			
Sr. No.	DIMENSION/ATTRIBUTES/CHARACTERISTICS /CATEGORIES	TOTAL QUALITY MANAGEMENT APPROACH	TRADITIONAL APPROACH
1.	Management understanding attitude	Considers quality management as essential part of company system	No compensation for quality. Tend to blame quality department for quality problems
2.	Quality organisation status	Quality is through the leader. Quality managers on Board of Directors	Considers quality is hidden in manufacturing. Quality is not considered as integral part of organisation
3.	Problem handling	Emphasis on prevention of problems. A structure approach to identify and solving the problem	Problems are fought as they occur fighting fire approach

4.	Quality improvement action	Quality improvement is a continuous activity	No organisational activity
5.	Priority	Quality is top most priority	The first priority is to profit
6.	Focus	Focus on customer satisfaction	Focus on management's requirements
7.	Organisation	Networking across and among the functions	Hierarchical-Vertically
8.	Span of control	Large span of control with authority almost pushed down to the lowest level	Short span of control and many layers of authority
9.	Production Schedule	Economy to time, just-in-time production, quick customer	Long production runs for low cost and high efficiency
10.	Communication	Conveyed with action	Conveyed by slogan
11	Responsibility for quality	With top management	Delegated to subordinates
12.	Perception of quality	Quality is considered multidimensional and the dimensions are customer oriented	Quality is defined in terms of single dimensions, that is conformance to specifications
13.	Employee	Employees are motivated and are given significant role regardless of level to better ways to work	Emphasises on monolithic work pattern. Opportunities for participation does not exist
14.	Work force	Multi-skilled work force with job rotation	Emphasis on division of labour

15.	Quality-productivity relationship	Consider high correlation between the two forces	Contribution of quality in improving productivity not recognised
16	Ways of improving	Changing corporate culture, increasing employee education, use of process control	Improvement in inspection and gauging
17	Keys to firm success	Customer satisfaction and Production of high quality goods and services	Growth in sales, profits and return on investments.

15.6. AWARENESS OF TQM

An organisation will not begin to transform to TQM until it recognises that the quality of the product or service needs to be improved. Awareness comes when an organisation loses market share or realises that quality and productivity go hand-in-hand. It also occurs if TQM is mandated by the customer or if the management realises that TQM is a better way to run a business and compete in domestic and world markets.

Automation and other productivity enhancements might not help a corporation if it is unable to market its product or service because of poor quality. As stated earlier, The Japanese learned this from practical experience. Prior to World War II, they could sell their products only at ridiculously low prices, and even then it was difficult to secure repeat sales. Until recently, corporations have not recognised the importance of quality. However, a new attitude has emerged, quality first among equals in costs and services. Precisely customer wants value.

Quality and productivity are not mutually exclusive developments in total quality management. Many quality improvement projects are achieved with the same work force, same overhead, and no investment in new equipment.

Recent evidence suggests that more and more corporations are recognising the importance and necessity of quality improvement to survive domestic and international competition. Quality improvement is not limited to the conformance of the product to specifications. It also involves built-in quality in the design of the system. Prevention of product and process problems is a more desirable objective than taking corrective action after the product is manufactured or a service rendered.

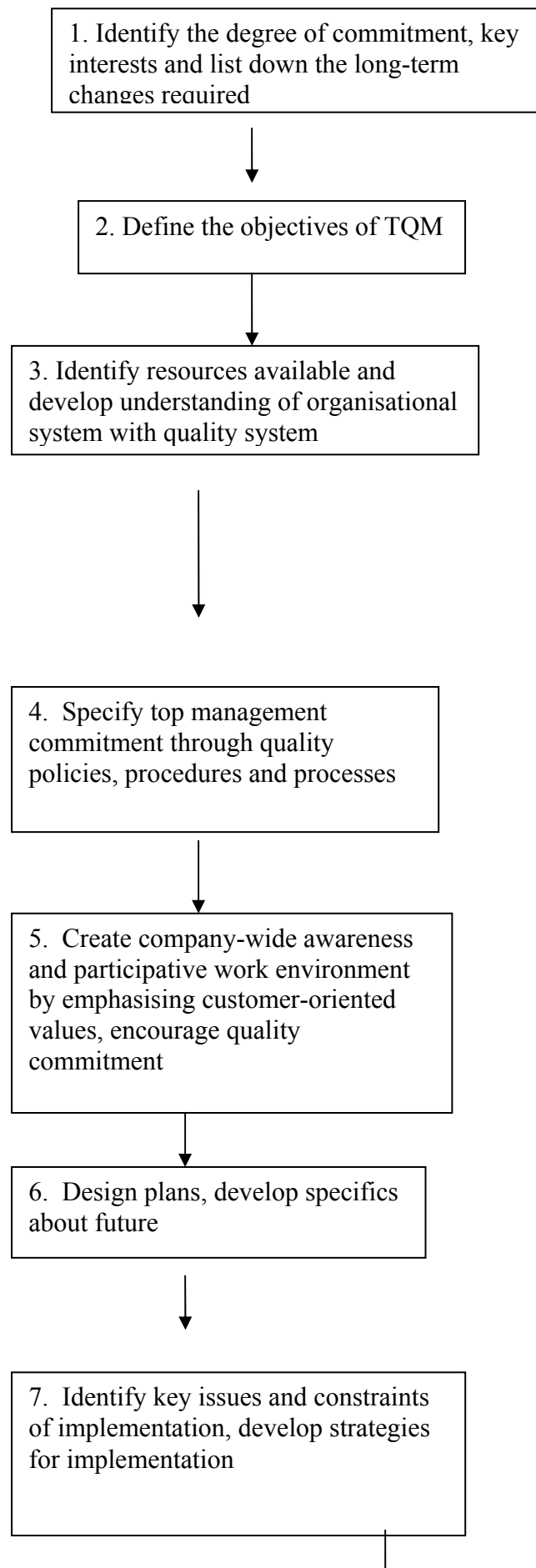
TQM does not occur overnight, there are no quick remedies. It takes a long time to build the appropriate emphasis and techniques into the culture. Over emphasis on short term results and profits must be set aside so long-term planning and constancy of purpose will prevail.

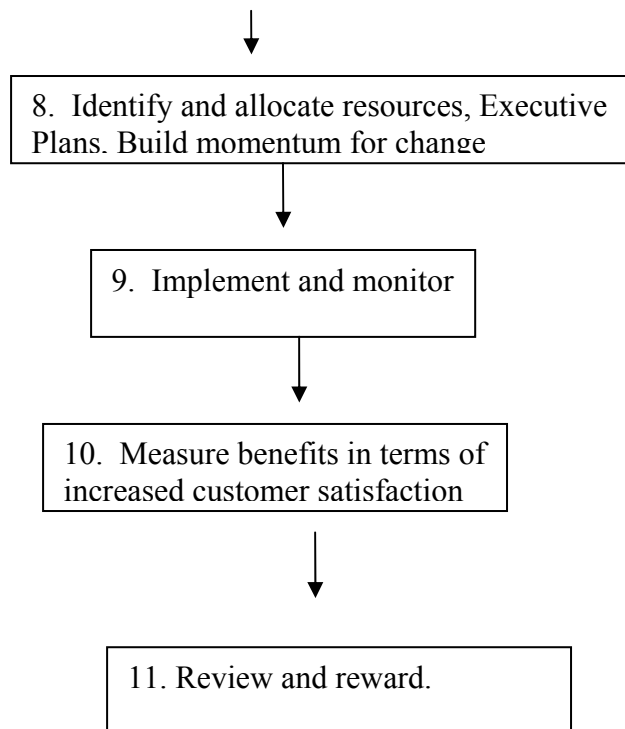
Extension of TQM

Today, many institutions world wide are adopting quality management in different forms including educational institutions. Many awards like the European Foundation for Quality Management (EFQM) have been instituted in honour of quality management It is predicted that the 21st Century will be the century of quality. In India, quality consciousness of the 90s was started with ISO 9000 certification which was an endorsement total quality management. Now, there are more than 600 ISO 9000 certified organisations and the list is growing, implying that TQM is taking roots in India. The University Grants Commission (UGC) and the All India Council for Technical Education

(AICTE) have also started emphasising on quality education and have instituted the NAAC National Assessment and Accreditation Council and the NBA (National Board of Accreditation) for measuring the quality of educational institutions and education.

15.7 FRAME WORK OF IMPLEMENTING TQM





15.8 ROADS BLOCKS IN IMPLEMENTATION OF TQM

A brief outline of problems in implementing TQM is given below:

- Lack of formal strategy
- Failure to provide incentive by recognition
- Lack of effective communication
- Narrowly based training
- Lack of faith in and support of TQM, activities among management personnel
- Lack of interest and incompetent leadership
- Misunderstanding the concept of TQM
- Delay or non-implementation of quality improvement team recommendations
- Irregularity of team meetings
- Non-application of proper techniques
- Inadequate visibility of top management support

The following issues are pertinent in TQM analysis.

- The activities involved in the process
- Identification of major problems

- Inquiring into the causes
- Reviewing past experiences
- Discovering the cause effect relationships
- Current status of the activity as revealed through data.

15.9 TQM IN INDIA

TQM has been widely accepted approach for achieving highest standards of quality in all spheres of business, but surprisingly it has been observed that Indian organisations have done little to utilise this approach or even understand it.

It is necessary to take into consideration the human resources of the organisation which play a revolutionary role in improvising collective performance of organisations, work groups, and individuals for future sustainable survival and development in the competitive world. The techniques of total quality management (TQM) along with the concept of sustainable development have been applied to socio-economic policy. It is applied primarily to the typical business concern. Sustainable development can be defined as “the management of losses and gains resulting from the degradation of environmental factors that affect the ability of life, any life, to survive, now or in the future.

Government of India has liberalised imports and exports and has taken various steps to protect Indian industries. Such measures are temporary in nature. Indian industries will have to take steps to evolve systems, process, procedures in a manner that product and services produced by them are not only comparable to quality and cost internationally but also perhaps better in quality and cheaper in cost.

Indian organisations are badly strangled in traditional culture and are hesitant to adopt progressive ways of management on a scientific basis. The sooner India adopts modern techniques of production and implement total quality management (TQM) in all systems and subsystems, better it will for Indian organisations. This must be considered on a long-term and permanent basis.

The pioneering work of Deming, Juran and Cross in total quality management produced amazing results in cost saving in Japanese and American industries, but unfortunately, Indian industries did not take notice of this phenomenon. The euphoria in US was such that the federal government even constituted “Beldridge Wards” which is described as a beacon and a ‘blue print’ for driving any organisation to its highest level of optimal achievement. These attributes are strategic in nature and their implementation in Indian environment has to be studied for adoption in all spheres. For achieving optimum TQM, lower level plans must deliver real value through formulation and implementation in a long term perspective. Continuous review of the plan is necessary to keep pace with industrial, social, and cultural change.

In a highly competitive world, it is time for Indian industries to introduce total quality management concept, perceive TQM as a “mega” factor, identify various factors or areas, formulate simple systems for each area and introduce TQM concepts by empowering people who have the vision, ability to plan and identify key result areas so that desired organisational culture is developed and employee growth achieved, along with organisational growth. Leadership of a high order and an attitude of commitment at all levels will go a long way in achieving total quality management in any organisation, with an eye on market competitiveness.

15.10 CONCLUSION

TQM is an enhancement to the traditional way of conducting business. It is a proven technique to guarantee survival in world-class competition. TQM is for the most part common sense. It is the art of managing the whole to achieve excellence. TQM integrates fundamental management techniques, the existing management improvement efforts, and technical tools under a disciplined approach.

15.11 KEY CONCEPTS

Organisational Development (OD): A planned change process which is a continuous learning exercise. Change is structural, functional and behavioural, pertaining to organisational culture. OD consultants are employed by organisations to lend expertise to the process.

Statistical Process Control (SPC): Procedure is monitored and improvements effected by means of statistical techniques. Implementation is by standard procedure.

Statistical Quality Control (SQC): Output measurement cannot be done piece by piece. Variance from the standard measure is tracked applying statistical and engineering techniques.

Sustainable Development: Benefits should exceed costs of development. The concept is generically applied for environment protection efforts.

Systems Approach: Understanding processes as interlinked and integral to Organisational mission is the systems approach. All round improvement is needed for better quality.

15.12 REFERENCES AND FURTHER READING

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15.13 ACTIVITIES

1. How is TQM different from traditional approach to management? Give examples.
2. What are the processes involved in TQM? Illustrate your answers with suitable examples.
3. What are the possible areas in which TQM is applicable in India? Give reasons why TQM must be adopted by developing countries.