CHAPTER - 1

INTRODUCTION

1.0 Introduction

The quality education crises of the components like good infrastructural facilities in the institution and well-qualified and talented teachers. Most of the technical institutions have either qualified teachers or good infrastructure facilities but not both and some institutions having both components are able to produce good quality education. To measure the quality of education, there should be some tools and modules to be incorporated in the institutions. The concept of TQM comes in this context as a reliable tool to measure the quality of education. Some of the global management concepts is vogue to measure the quality are ISO 9001:2000 Quality Management System, Knowledge Management, Lean Thinking, Six-Sigma and TQM.

The Higher Educational Institutions (HEIs) in India particularly in Gujarat have been practicing any one of the above-mentioned global management concepts in their institution. It is disheartening to know that some of the technical institutions are not at all practicing any of such quality concept. Some institutions have got ISO and National Board of Accreditation certification. But they do not practice the system it is the real sense. Presently there is a cry among intellectuals for the quality education in every quarter. Therefore, this is the right time to meet out the stakeholders

need through imparting quality education. The researcher is post graduate in management professional education, has attempted to investigate the quality in higher education particularly education at present and to suggest ways and means to improve the quality in the institutions of higher learning institutions.

Education is one of the basic and important service industries in the public sector. It is the quality of education that gives enduring wealth and social security to both societies and their people and the quality of education plays a vital role in HEIs for surviving competitive environments. During the last two decades, the preservation of high quality and standards in higher educational institutions has become one of the main concerns of the governments; as the demand for technical manpower is high in industrial arena.

India is developing country and requires remapping of the higher education system. It requires to create world class multidisciplinary HEIs across the country. Higher education should be empowered good, well rounded and creative individuals with intellectual curiosity, spirit of service and a strong ethical compass.

Total Quality Management (TQM) is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback. TQM requirements may be defined separately for a particular organization or may be in adherence to established standards, such as the International Organization for Standardization's ISO 9000

series. TQM can be applied to any type of organization; it originated in the manufacturing sector and has since been adapted for use in almost every type of organization imaginable, including schools, highway maintenance, hotel management, and churches. As a current focus of e-business, TQM is based on quality management from the customer's point of view.

Total quality management (TQM) consists of organization-wide efforts to install and make permanent a climate in which an organization continuously improves its ability to deliver high-quality products and services to customers. While there is no widely agreed-upon approach, TQM efforts typically draw heavily on the previously developed tools and techniques of quality control. TQM enjoyed widespread attention during the late 1980s and early 1990s before being overshadowed by ISO 9000, Lean manufacturing, and Six Sigma.

In the late 1970s and early 1980s, the developed countries of North America and Western Europe suffered economically in the face of stiff competition from Japan's ability to produce high-quality goods at competitive cost. For the first time since the start of the Industrial Revolution, the United Kingdom became a net importer of finished goods. The United States undertook its own soul-searching, expressed most pointedly in the television broadcast of If Japan Can... Why Can't We? Firms began re-examining the techniques of quality control invented over the past 50 years and how those techniques had been so successfully employed by the Japanese. It was in the midst of this economic turmoil that TQM took root.

The exact origin of the term “total quality management” is uncertain. It is almost certainly inspired by Armand V. Feigenbaum’s multi-edition book Total Quality Control (OCLC 299383303) and Kaoru Ishikawa’s What Is Total Quality Control? The Japanese Way (OCLC 11467749). It may have been first coined in the United Kingdom by the Department of Trade and Industry during its 1983 “National Quality Campaign”.[1] Or it may have been first coined in the United States by the Naval Air Systems Command to describe its quality-improvement efforts in 1985.

1.1.1 Learning Organization:

A learning organization learns and encourages learning among its people, promoting exchange of information, and making people adaptable to new ideas and changes through a shared vision. Going back in history, we find references to such learning organizations even in the work of the Chinese philosopher, Confucius (551-479 B.C.). Confucius believed that ‘without learning, the wise become foolish; by learning, the foolish become wise.’ He believed that everyone should benefit from learning.

This means that organizations need to be aware of both the company as a whole as well as the individuals within the company. Before the introduction of this concept, companies used to concentrate on their own needs and not on the needs of their workers. The systems approach to management suggested that organizations should also include the ambitions of the individual workers and not just focus on the business goals.

Higher Educational Institutions are also so called as learning organization. It is also a matter of considerable importance for HEIs that how qualitative principles are working in HEIs. It is also important for HEIs that how the qualitative principles are adopted and implemented in organization for quality improvement.

Senge (1990) explains why learning organizations are so important. “As the world becomes more interconnected and business becomes more complex and dynamic, work must become more ‘learningful’ ....The ability to learn faster than your competitors may be the only sustainable competitive advantage. The organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in an organization” (p 4). Learning organizations create structures and systems where “people continually expand their capacity to create the results they truly desire, where new and expansive patterns of nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (p.3). Learning organizations are able to weave a continuous and enhanced ability to learn, adapt, and change into their culture. The organizational values, policies, practices, systems, and structures encourage, support, and accelerate learning for all employees. According to Wishart, Elam, and Robey (1996), the ability to continue learning is ensured through the institutionalization of structures and processes designed to promote learning. Structures and mechanisms do not guarantee learning will take place, however; the important criterion is whether the structures and

mechanism support the process of learning. If they do, then any organization has the potential to become a learning organization. Senge (1990) identifies five disciplines as the basic components of a learning organization: mental models, personal mastery, systems thinking, shared vision, and team learning. In essence, people should shift their old ways of thinking (mental models), learn to be open with others (personal mastery), understand how their company or institution really works(systems thinking), form a plan on which everyone can agree (shared vision), and work together to achieve that vision (team learning). The focus is on organizations and individuals alike becoming continuous learners. But as Marchese (1993) points out, "an organization full of learners doesn't add up to a learning organization" (p. 12).

Gujarat State has recorded a sharpest drop of 22.4% in the share of government HEIs in the country. At the same time, the share of private institutions in the state increased by 20.2% representing the highest growth in the country. (NIEPA,2019). HEIs run by government are under question on quality professionals at par with global competitiveness. In such environment, the study of TQM in higher education in context to state funded university may help to rethink over existing policies and rules. The present title of present study is An *Exploratory Study on Selected Dimensions of Learning organization and Its Impact on TQM of Higher Education Sector with Special Context to MSU of Baroda* which encompasses the following important discussion as a part of this study.

1.1.2 Dimensions of Learning Organization (DLO)

One of the most severe but common critiques of HRD practices is the lack of measures to assess applications empirically in the workplace (Holton, 1996, 2005; Holton et al., 2000; Tsang, 1997; Yang et al., 2004). To date, numerous studies have been conducted to examine the substantial concept of the learning organization. However, little regard was given to how to measure the conceptualized learning organization in the workplace empirically until the 1990s.

The endeavors of Watkins and Marsick (1993, 1996, 1997) are of great importance in constructing the basic notions of the measurement factors of the learning organization. Their approach encompassed comprehensive components of the learning organization construct; in turn, in order to define the construct of the learning organization, Watkins and Marsick provided an integrative concept of the learning organization based on three approaches: (1) for systems thinking, organizational generativity (Senge, 1990); (2) for a learning perspective, comprehensive aspects of learning (Pedler, Burgoyne, & Boydell, 1991); and (3) for strategic perspective, managerial practices (Garvin, 1993; Goh, 1998).

Watkins and Marsick (1993, 1996, 1997) proposed the DLOQ, a constructive concept of learning organization measures that has seven dimensions of learning-related factors in both people-oriented and structure-oriented components. The model of an effective learning organization is considered one that has the capability to integrate people and organizational structures in order to facilitate continuous learning and

encourage organizational changes (Yang et al., 2004). Through integration of the aforementioned dimensions of the learning organization, Watkins and Marsick (1997) proposed an integrated model. The specific seven dimensions of a learning organization culture are as follows.

1. Continuous Learning
2. Inquiry and Dialogue
3. Team Learning
4. Embedded System
5. Empowerment
6. System connection
7. Strategic Leadership

1.1.3 Applicability of Learning Organization in Higher Education

Senge's (1990) LO is depicted as pragmatic, normative, and inspirational (Easterby-Smith, 1997; Roper and Pettit, 2002). Easterby-Smith (1997) adds that LOs encourage organizations to go beyond single-loop learning (actions as learning repeating in a routine) to double-loop learning (attempts to change normal practice, i.e. single-loop learning), and even triple-loop learning (learning about learning, about redesigning the current systems for better learning and operations) (Argyris, 1999; Argyris and Schön, 1996). Amidon (2005) argues that Senge designs a set of practices in a robust way that might lead to a knowledge-worker utopia. Senge attempts to build organizations that 'serve humans rather than enslave them' (Amidon, 2005: 408).

Senge's LO is considered inspirational, as it possesses a power to nurture practical creativity. Though there is no specific prototype for developing universities as LOs, Senge's (1990) model is highly regarded as an essential framework for their construction (Gudz, 2004; Jackson, 2000; Patterson, 1999; White and Weathersby, 2005). Like business, HE is facing challenges of changes and innovation. Many HE institutions have adapted LO models to facilitate progress and advancement in line with economic changes and technological development (Duke, 1992; Patterson, 1999)

Like any other sector, the HE is under increasing pressure to improve its competitiveness. The competition in HE is getting more severe within and across national borders (Marginson, 2007), with indications of an emerging global phenomenon described as 'brain drain'. This phenomenoncan be observed in the movement of highly educated people from developing countries to developedcountries (Baruch et al., 2007; Carrington and Detragiache, 1999). However, there is alsoevidence to suggest that this phenomenon may turn into a 'brain circulation' (Carr et al., 2005;Saxenian, 2006; Tung and Lazarova, 2006), particularly within a global open labour market. Management should cope with fast-paced social, economic, and political transitions that place extensive demands on the system and its employees. The western HE sector is still operating in a lucrative market, but the situation is changing, as many developing countries are catching up and establishing their own high quality HE systems (for example, see Altbach and Selvaratnam, 1989;Marginson,

2007). In such context, LOs bring about sustainable educational reform (Resnick andHall, 1998), and as a result, a wide range of organizations across the globe adopt the LO framework(Davies, 1998; Franklin et al., 1998; Patterson, 1999; Rowley, 1998; Willcoxson, 2001; Yeo, 2006;Yeo and Marquardt, 2010).

HE recruiters should be aware that employees who come from collectivistic cultures often have a more positive attitude towards their organizations, as well as toward the process of creating LOs in comparison to those who come from individualistic cultures. Conversely, those coming from individualistic cultures tend to perform better, in teaching and research in our study. This is one of the benefits of diversity. However, development and training tend to promote personal mastery. Therefore, HE managers should revisit the aims and targets of development and training if they are committed to becoming LOs. Organizational vision does not only come from the top; it must come from individuals at all levels across the organization. The role of employees in forming a shared vision should be as important as the leader's role in that task. Creating an open, accommodating, and dynamic organizational culture is likely to promote a shared vision for the organization. Finally, becoming a LO tends to benefit the employees of academic institutions in terms of improving their wellbeing through a better balance between work and life. This can be considered as an additional bonus for institutions striving to become learning organizations.

In university context, academics are expected to be at the cutting edge of knowledge in their field. They must possess both theoretical knowledge and methodological understanding to be able to conduct worthy research and transfer such knowledge to students and the outside world (Lam 2000). Building a learning organization does not mean that formal training programs are being regularly conducted, except for support staff. Academics learn a lot via transfer of tacit knowledge (Nonaka 1994), or mentoring (Kram 1985) which can be effective based on evidence from various academic professions (e.g., Level and Mach 2005; Sambunjak, Straus, and Marušić 2006). In fact, requirement to take formal training does not necessarily lead to better academic performance (Bui and Baruch 2012), as those deem to need formal training might be those who do not learn in the usual informal learning modes which are typical to learning culture in universities.

Learning climate in higher education is different from any other sectors as universities themselves are supposed to form the ultimate climate for learning for its stakeholders, including students and staff. However, learning environment in higher education varies depending on certain contexts. For example, the learning environment in developed countries tend to be better than that in developing countries as in developed countries learning environment is equipped with sufficient facilities.

In order to effectively tap organizational learning, HEI need a right type of leadership with an appropriate vision for learning and organizational learning. Rayner, Fuller, McEwen, and Roberts (2010) review various

models of leadership in the UK HEI, including collegiate leadership, transactional leadership, transformational leadership, collective leadership, managerial leadership, and distant leadership.

Though becoming learning organization is a challenge for HEIs, it helps HEIs to turn challenges and threats to opportunities. In this part, we present and discuss three key issues that hold significant relevance for learning organization on HEIs: internationalization, knowledge worker mobility, and innovation and entrepreneurship.

Leadership is critical in learning organizations in higher education as leaders are the ones who have passion for learning organizations, who have ability to share vision among their employees, who facilitate learning culture, and who nurture their employees' leadership. Leaders are vital for the process of becoming learning organizations as they are the ones to create and nurture sufficient conditions for learning organization typology (Örtenblad 2013).

A lot of pressure has been exerted on the higher education system in India at two levels. First, to accommodate the increasing numbers of student population and, secondly to maintain the quality of education imparted through the system. These two aspects are always linked with effective and efficient management system. There are certain ministries and agencies which are concerned with higher education. These include ministries like- human resource development, agriculture, health, law, etc., and agencies such as – UGC, CSIR, ICSSR, ICHR, ICAR and ICMR. The above mentioned organizational structure is closely associated with the financing

pattern available in higher education. The sources of income for higher education are generally based on the grants by the federal and state governments, student fees, endowments, donations, etc. Over the years, higher education, other than the government support for higher education has been declined.

Indian Higher Education Institutes (HEIs) have great challenges in the present era. The global competition has spread its wings in Indian education industry. The most of the public universities/institutes of India have problems of quality education. Indian government also making reformations time to time after its adequate study. But long way to cut for Indian HE industry to match with quality of global education, particularly education industry of developed countries. In such circumstances, Indian HEIs need to rethink over organizational structure. It is emergent need for Indian HEIs to create environment of learning organization. The present study is a sample of how such need of learning organization can be seen in context to public university like; The M.S.University of Baroda.

1.2 HEIs as Learning Organization

Learning should be considered as a tool for sustainable changes and renovation in educational institutes. The three levels of learning can be noted as individual learning, team learning and organizational learning. Senge (1990) considers systems thinking to be the 'fifth discipline' apart from other four disciplines in his learning organization model because he believes that thinking systemically is the 'pivotal lever' in the learning and change process. He highlights his five disciplines as follows: (1) systems

thinking (2) personal mastery (3) shared vision (4) Team learning and (5) Mental model.

Bender (1997) presents an example of the University of Arizona Library when it was in the fourth year of becoming a learning organization with the focus of team learning and shared vision of customer-centered. They enjoy many successes such as cost reduction, quality improvement, being a leader of change and a lesson that collaboration, not competition is the key for development.

Franklin et al (1998), open a discussion about the relevance of the idea of learning organization to UK universities. They then come to a conclusion that 'universities are also uniquely privileged to explore, apply and advance the idea of learning organization in their own organization practices' (p. 236).

Friedman, Friedman and Pollack (2005) propose eight suggestions to transform a university from a teaching organization to a learning organization. They include an establishment of a message board to function as a research matching service; an establishment of website for academics to post their working papers; a website of best ideas in teaching; sharing knowledge not only within the university but also to public; multi-directions of information; students' engagement in knowledge sharing; recognition of interdisciplinary majors; and lifelong learning commitment among members. Those suggestions aim to establish 'a paradigm of knowledge sharing and continuous growth through lifelong learning' (Friedman, Friedman, and Pollack 2005, p. 34).

Bui and Baruch (2012) investigate two universities becoming learning organizations on the framework developed from Senge's (1990) learning organization five disciplines in two different cultures, one in collectivist culture (Vietnam) and the other in individualist culture (United Kingdom). We highlight the differences and commonalities between the two higher education sectors.

The focus of global higher education institutions on improved quality and competitiveness stems from changes in public sector policy and variations in market demand. The developing quasi-competition among British HEIs has been further advanced by the availability of information to prospective students through various league tables, degree classifications, employability measures, national student surveys, and results from the Research Assessment Exercise (RAE, now re-named REF – Research Excellence Framework). The resulting increase in transparency has enabled prospective students to make a more rational choice in deciding where to study (Adcroft, Teckman, and Willis 2010).

The same measures of quality (e.g. standing in the RAE) form a decisive factor in pulling talented academics looking for better academic posts. Two factors are particularly interesting. A greater involvement from the business sector in HE, and the need to keep public finances under control while improving workforce skills and knowledge, has again amplified the need for HEIs to meet the demands of both prospective fee-paying students and employers (Miller 2010). A number of studies have investigated the

process of becoming learning organizations of some HEIs. In this part, the present study is focused on The Maharaja Sayajirao University of Baroda.

1.3 Evolution of TQM

In 1920's statistical theory began to be applied effectively to the quality control concept later in 1924 Shewhart made the first sketch of a modern control chart. His works was later developed by process control. After the World War II Japan's industrial system was having a poor image of imitation of products and having an illiterate workforce. The Japanese recognized these problems and their values concerned with quality and continuous improvement the total quality management become popular in 1950's as it tried to recover Japanese economy from the spoils of World War II. During the 1980's Japans' exports into the USA and Europe increased significantly due to its cheaper, higher quality products, compared to the western countries.

1.4 Formation of TQM in India

In the early 1980's, confederation of Indian industries (CII) took the initiatives to set up TQM practices in India in 1982 quality circles were introduced for first time in India. The companies under which the quality circles were launched are Bharat Electronics Ltd, Bangalore and Bharat Heavy Electricals Ltd, Trichy. In 1986 CII invited professor Ishikawa to India, to address Indian Industry about quality. In 1987, a TQM division was set up the CII this division had 21 companies agreed to contribute resources to it and formed the National committee on quality". In February

1991 an Indian company with assistance of the CII, obtained the first ISO 9000 certification in India. In 1996, the Govt. of India announced the setting up of quality council of India and a national agency for quality certification was setup as a part of WTO agreement.

TQM is a management philosophy that seeks to integrate all organizational functions (marketing, finance, design, engineering, and production, customer service, etc.) to focus on meeting customer needs and organizational objectives.

TQM views an organization as a collection of processes. It maintains that organizations must strive to continuously improve these processes by incorporating the knowledge and experiences of workers. The simple objective of TQM is "Do the right things, right the first time, every time." TQM is infinitely variable and adaptable. Although originally applied to manufacturing operations, and for a number of years only used in that area, TQM is now becoming recognized as a generic management tool, just as applicable in service and public sector organizations. There are a number of evolutionary strands, with different sectors creating their own versions from the common ancestor. TQM is the foundation for activities, which include:

- Commitment by senior management and all employees
- Meeting customer requirements
- Reducing development cycle times

- Just in time/demand flow manufacturing
- Improvement teams
- Reducing product and service costs
- Systems to facilitate improvement
- Line management ownership
- Employee involvement and empowerment
- Recognition and celebration
- Challenging quantified goals and benchmarking
- Focus on processes / improvement plans
- Specific incorporation in strategic planning

This shows that TQM must be practiced in all activities, by all personnel, in manufacturing, marketing, engineering, R&D, sales, purchasing, HR, etc.

1.5 Principles of TQM

The key principles of TQM are as following:

Management Commitment

- Plan (drive, direct)
- Do (deploy, support, participate)

- Check (review)
- Act (recognize, communicate, revise)

Employee Empowerment

- Training
- Suggestion scheme
- Measurement and recognition
- Excellence teams

Fact Based Decision Making

- Statistical Process Control (SPC)
- Design of Experiments (DOE),
- Failure Mode Effects Analysis (FMEA)
- The 7 statistical tools
- TOPS (Ford 8D – team-oriented problem solving)

Continuous Improvement

- Systematic measurement and focus on Cost of Non Quality (CONQ)
- Excellence teams
- Cross-functional process management

- Attain, maintain, improve standards

Customer Focus

- Supplier partnership
- Service relationship with internal customers
- Never compromise quality
- Customer driven standards

1.6 Concepts of TQM Philosophy

The specific concepts that make up the philosophy of TQM are:

1. **Customer Focus:** Quality is defined as meeting or exceeding customer expectations. The goal of management should be to identity and meet the customers' needs. Therefore quality is customer driven. Customer focus keeps the business competitive in every level of market change.

2. C**ontinuous Improvement:** One of the powerful TQM philosophy is the focus on continuous improvement. Continuous improvement is called kaizen by the Japanese which make the company continuously to learn and to be problem solving. Because we can never achieve perfection, we must always evaluate our performance and take measures to improve it. The two approach that helps in continuous improvement are PDSA cycle (THE PLAN, DO, STUDY, ACT (PDSA) CYCLE) and benchmarking.

3. **Employee Empowerment:** TQM philosophy is to empower all employees to seek out quality problems and correct them. Today workers are empowered with decision making power to decide quality in the production process, their contributions are highly valued and workers suggestions to improve quality are implemented. This employee empowerment can be made through team approach have quality circle where a team of volunteer production employees and their supervisors who meet regularly to solve quality problems.

4. **Use of Quality Tools:** For Identification of quality related issues employees should be trained with the quality tools to identify the possible issues and to correct problems. These are often called the 'seven tools of quality control' they are:

1. Cause and effect diagrams.
2. Flow charts.
3. Checklist.
4. Control charts.
5. Scatter Diagrams.
6. Pareto Analysis
7. Histograms.

To build a quality the company's product design must meet customer's expectation and quality function deployment is a tool used to translate the preferences of the customer into specific technical requirements, it enables us to view the relationships among the variables involved in the design of a product, such as technical versus customer requirements.

5. **Process Management: Under** TQM quality of a product comes through continuous quality process. Therefore, quality at the source is the belief that it is far better to uncover the source of quality problems and correct it than to discard defective items after production. The new concept of quality focuses on identifying quality problems at the source and correcting them.

6. **Managing Supplier Quality:**The philosophy of TQM extends the concept of quality to suppliers and ensures that they engage in the same quality practices. If suppliers meet present quality standards, materials do not have to be inspected upon arrival. Today many companies have a representative residing at their supplier's location, there by involving the supplier in every stage from product design to final production.

Principles of quality management:

There are eight principles of quality management:

- **Customer-focused organisation -** organisations depend on their customers and therefore should understand current and future

customer needs, meet customer requirements and strive to exceed customer expectations

- **Leadership** - leaders establish unity of purpose, direction and the internal environment of the organisation. They create the environment in which people can become fully involved in achieving the organisation's objectives

- **Involvement of people -** people at all levels are the essence of an organisation and their full involvement enables their abilities to be used for the organisation's benefit

- **Process approach** - a desired result is achieved more efficiently when related resources and activities are managed as a process

- **System approach to management -** identifying, understanding and managing a system of interrelated processes for a given objective contributes to the effectiveness and efficiency of the organisation

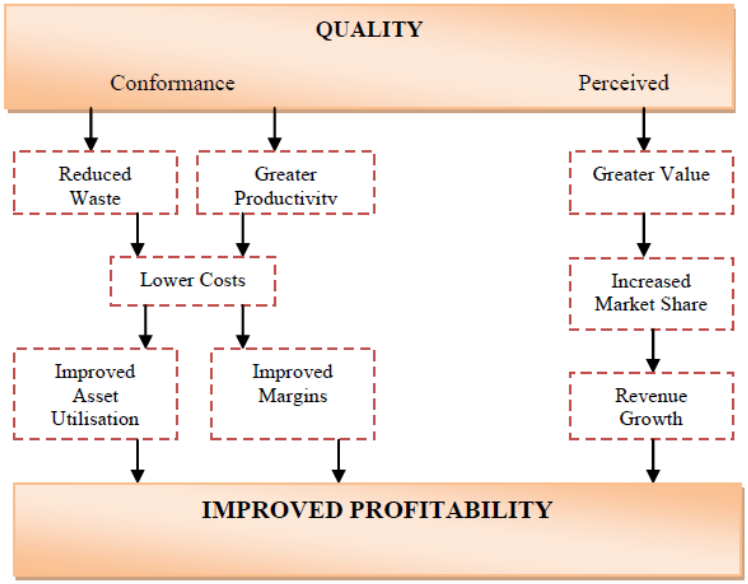
- **Continual improvement -** continual improvement is a permanent objective of an organisation

- **Factual approach to decision making -** effective decisions are based on the logical and intuitive analysis of data and information

- **Mutually beneficial supplier relationships** - mutually beneficial relationships between the organization and its suppliers enhance the ability of both organizations to create value.

1.7 Concept of Quality Management

Quality has different definitions in various perspectives. From the view point of consumers, Quality is “fitness for use”. Based on Manufactures, it is defined as “conformance to requirements”1. According to Deming, Quality is “a predictable degree of uniformity and dependability at low cost and suited to market”2. Quality has a strong link with the profitability of the firms. When quality is conformed and improved, it enhances the profitability of the organization as a result of the process chain.



Source: Total Quality Management, George, S. and Weimerskirch, A. 1994

Figure 1.1 Concept of TQM

It can be inferred from the figure that when the product or service achieves conformance, it leads to improved profitability by minimizing waste, lowering the costs and enhancing the asset utilization. Also, it is felt that it enhances value, market share and revenue growth.

Though the term *QM* does not have a formal definition, it is understood that it is an integration of all functions of a business to achieve high quality of products through continuous improvement efforts of all employees. *QM* emphasizes the ideas of working constantly toward improved quality. Quality revolves around the concept of meeting or exceeding customers' expectation which can be applied to the product and service. Achieving high quality is a continuous process which should coincide with ever-changing business environment. *QM* has its role in every business processes, environment and people. The workforce is expected to be involved in a shared commitment toward improving quality.

History of quality and *QM* goes back to the period of Frederick Winslow Taylor. In 1920s the importance of Scientific Management was practiced in many industrial plants. It was named as reliability engineering as it moved quality control toward building quality into the design and production of the product4. As time passed and the nature of demand-supply equilibrium changed, quality become more customer-centric during 1950s.

Quality and *TQM* can be defined as directing (*M*anaging) the whole (*T*otal) production process to produce an excellent (*Q*uality) product or service. *QM* is focused not only on Product/Service Quality (*SERVQUAL*), but also the means to achieve it. It uses quality assurance and control of processes, as well as products to achieve more consistent quality.

TQM had its first success in Japan during the Post-World War II rehabilitation. It was introduced by an American Statistician, Dr. W.

Edwards Deming, who first visited Japan in the late 1940s to work in their post-war census. In the early 1950s, *QM* practices developed rapidly in Japanese plants, and become a major theme in Japanese Management philosophy, such that, by 1960, quality control and management has become a national pre-occupation. By the late 1960s/early 1970s Japan's imports into the USA and Europe increased significantly due to its cheaper, higher quality products, compared to the Western counterparts.

Today, competitive environment demands better quality in education. Only those Institutions which can impart quality education on a continuous basis shall be in a position to compete in the global market. Improving the quality of their education has, therefore, become a primary concern of countries the world over. It is said that the quality of a nation depends upon the quality of its citizens which, in turn, depends on the quality of their education. Education is an indispensable asset of every individual, every community and every nation. It can accelerate the march towards a better and higher quality of life. Education alone can convert the dream of peace, freedom and social justice into a practical reality. The National Educational scenario in India, as envisioned in its different education policies, is a key instrument in ensuring access, equity, quality and relevance of education at all levels11. Education is an instrument of integrated human development. The key objectives of Education include:

1. To develop one's cognitive, conative and affective abilities;
2. To develop critical and higher order thinking skills;

3. Capacity building of students so that they meaningfully participate in major events/extra curriculum activities/innovative projects.
4. activities of the society, leading towards healthy and holistic development of society and nation;
5. To realize the ideals enshrined in UNESCO report “Learning: The Treasure
6. within” wherein emphasis has been laid on four major pillars of education,
7. viz., Learning to know, learning to do, learning to live together and Learning
8. to be Education in this sense implies continuous evolution.

Human Resource Development (*HRD*) is the process of enabling people to make things happen. It deals both with the process of competency development in people and creation of conditions (through public policy, programs and other interventions) to help people apply these competencies for their own benefit and for that of others.

1.8 TQM and ISO standards

Organizations achieve success when they implement certain quality standards in their practice. let us discuss ISO and its standards to improve total quality. The International organization for standardization was founded in 1946 in Geneva, Switzerland; ISO has more than 90 member countries. The ISO had the Technical committee of 176 developed an improved international standard for quality system in 1987.

The ISO 9000 series of standards are designed in such a way that it can be tailored to fit any such a way that it can be tailored to fit any organization's needs, it can be applied to all small medium enterprise, manufacturing unit or a service organization.

The ISO 9000 series of standards can be applied to construction, engineering, healthcare, and other professional services. The ISO 9000: 2000 standards focus on developing, documenting and implementing procedures to ensure consistency of operations and performance in production and service delivery processes for continuous improvement supported by fundamental principles of TQM. The standards consist three documents:

1. **ISO 9000:2000 Quality Management Systems** (fundamentals and vocabulary) this part discusses the fundamental concepts related to the quality management systems it gives definitions of key terms of other two standards

2. **ISO 9001:2000 Quality management systems** -this part provides the standards used for registration by demonstration conformity of the QMS to customers, regulators and the organizations own requirements.

3. **ISO 9004:2000 QMS:** guidelines for performance -this part provide guidelines that an organization can use to establish a QMS focused on improving performance and quality standards.

ISO Standards in India

Bureau of Indian Standards (BIS) has prepared an Indian standard and Quality Management

1. ISO 10002:2004 quality management customer satisfaction Guidelines for complaints handing in organizations.

2. ISO 10019:2005 Guidelines for the selection of quality management system consultants and use of their services.

3. ISO 15650:2006 Quality management systems Guidelines for implementation of ISO.

4. ISO/IEC 17021:2006 conformity assessment requirements for bodies providing audit and certification of management systems.

5. IS/ISO/IEC 17040:2005 conformity assessment general requirements for peer assessment of conformity assessment bodies and accreditation Bodies.

1.9 Fifteen Maxims of Quality Improvement

1. **Top management's visible commitment and explicit involvement**. Without top management's visible commitment and explicit involvement, quality improvement efforts will never be successful. A U.S. General Accounting Office study concluded, "Ultimately, strong visionary leaders are the most important

element of a quality management approach. Top management holds the key to quality improvement as it determines the various systems in which people work. According to W. Edwards Deming, management is responsible for as much as 94% of a company's quality problems. Joseph M. Juran puts the figure as 85% or more. Moreover, the actions of employees greatly depend on top management's attitude towards quality.

2. **Strategic Quality Planning**. A Strategic Quality Plan is absolutely vital for an organization to develop competitive advantage and effectively manage organizational quality improvement efforts. It sets the organizational mission statement, specifies key quality goals, promotes collective action and determines the strategies of how the organization is going to attain its mission and quality goals.

3. **Organizational quality awareness**. Organizational quality awareness is necessary to gain employee support for quality improvement efforts and reducing potential resistance to change. All employees must fully understand the need for quality improvement, how quality relates to their jobs and how it can be measured and improved. Many quality improvement efforts have failed in the past due to neglect of organizational quality awareness programs. Numerous organizations made the mistake of plunging directly into quality improvement efforts.

4. **Quality through people**. Quality begins and ends with the individual. Quality people do quality work. People manage processes and make the systems work; processes don't do work, people do. In short, quality is the expression of human excellence.6 Quality improvement efforts should focus more on people rather than on techniques and machines. Management must have faith in the ability of employees to produce quality work. Employees must be given the opportunity to realize their full potential through training, participation and empowerment.

5. **A Culture of Quality**. Successful organizations have a culture that creates and sustains a work environment that is conducive to long-lasting quality improvement. Quality is deeply embedded in virtually every aspect of organizational life. Culture is important as it influences employee behaviour and action towards work, customers and one another. Satisfied employees help to create satisfied external customers. Some of the core values of a Culture of Quality are customer focus, employee autonomy, teamwork, open and honest communication, basing rewards on quality work and Doing the right things right the first time, every time.

6. **Quality management structure**. A suitable organizational structure is necessary to ensure effective and efficient management of quality improvement efforts. The quality management structure would depend upon the size of the organization and the nature of its

business. However, most successful organizations have a Corporate Quality Council consisting of the top management team, a TQM Manager and Divisional Quality Councils. The major responsibilities of the Corporate Quality Council are to set an overall strategic quality improvement plan for the company, review and approve divisional quality improvement plans and cooperation and monitor quality improvement efforts. The TQM Manager assists the Corporate Quality Council in planning and implementing organization-wide quality improvement efforts. The Divisional Quality Councils set specific quality goals, formulate plans of action and implement quality improvement efforts at the divisional level.

7. **Customer-driven**. Quality is defined and judged by the customers. The mission of quality organizations is centred on customer satisfaction. Organizational processes and procedures are designed to meet the requirements of both the external and internal customers. Market research must be undertaken to determine the requirements of external customers, how well is the organization meeting them and what are the areas for improvement as perceived by the customers. Customer's complaints should be tracked and acted upon promptly. With regard to the internal customers, employee opinion surveys should be undertaken to determine, inter alia, their views on how the organization is run and how quality can be improved.

8. **Process Management**. Long-lasting quality improvement is attained through preventive management (building quality into the work processes, particularly key processes). All work ranging from administrative to engineering is a process. A process is essentially a sequence of tasks or activities that transforms inputs into desired outputs. A. R. Tenner and I. J. DeToro define a process as "the sequential integration of people, materials, methods and machines in an environment to produce value-added outputs for customers." Process management stresses conformance to customers' requirements and reduction in cost of quality by producing output in the most effective and efficient manner.

9. **Teamwork**. Teamwork is vital as the success of quality improvement efforts is greatly dependent on close cooperation between managers and employees and among departments. Teamwork generally enhances the quality of decision-making; helps to break down departmental barriers; and creates a sense of ownership and commitment. Teamwork can be encouraged by creating cross-functional Quality Improvement Teams.

10. **Management by Fact**. TQM involves systematic and fact-based decision making. Facts or reliable data and not opinions or hearsay form the basis of making intelligent decisions or solving problems systematically.

11. **Training**. A TQM organization is a learning organization. Training is viewed as a valuable investment and not as an unnecessary expense. Companies noted for world-class quality typically devote 40-80 hours per year, per person to training.8 Training sessions must start with top management and cascade down the organization. Training should be related to actual work performed by employees. Managers should train their own work groups. Quality training should cover quality awareness, basic quality concepts and tools, process management, problem solving, and team building.

12. **Reward and recognition systems**. The reward and recognition systems must be aligned with quality improvement efforts. Recognition and rewards must be based on quality work and not on seniority or other non-merit factors. Examples of recognition and rewards are bonuses, merit certificates and pay increase. Quality success stories should be publicized.

13. **Quality standards**. Quality standards are important as they help to clarify work roles, communicate priorities and form the benchmark for assessing and rewarding employee performance. In short, what gets measured gets done. Quality standards can be set in terms of reliability, responsiveness and courtesy of frontline employees. Quality standards should be customer-oriented, specific and verifiable, realistic and challenging, and mutually established and agreed upon by management and employees.

14. **Measurement**. Measurement is a prerequisite to any quality improvement effort. Quality is defined as "meeting or exceeding customers' requirements consistently". These requirements have to be quantified and measured to determine the success of quality improvement efforts. Measurement provides a data base for decision-making, establishing customers' requirements, identifying opportunities for quality improvement, and assessing performance.

15. **Continuous improvement**. Quality is a moving target. There is no one best or optimum level of quality. Companies have to continuously improve the quality of their products and services to stay ahead in an increasingly competitive business world. Technological changes often render current "quality" products as obsolete. Customer expectations often change over time. Hence, quality improvement is a never-ending journey. In this regard, the organizational work climate should promote employee creativity, and problems viewed as opportunities for improvement

1.10 TQM in Higher Education

"TQM was initially used for the measurement of quality in the Higher Education sector in 1993" (Clayton, 1993). In fact, the concept of TQM has come to Higher Education HE from the business communities. Ideally education should not be related to business as it is to develop values and the personality of a student. Higher Education too is to make students a learned person and a qualified professional and eventually a good citizen. But there is a clear component of business as Higher Education charge fees

from the students and hence students become selective in choosing the universities and the course they want to study. Keeping these points in mind the significance of TQM in Higher Education can be discussed in two sub-headings (1) Higher Education as a business and (2) Higher Education as service for human development.

(1) Higher Education as a business

Some authors believe that universities should be considered as a business because they have to compete with other universities and their funding resources are limited hence, they need to generate money. Arjomandi (2009) claims that in twenty first century universities have to adopt business-like strategies to cope with the increasing market competition and limited funding opportunities. That is why implementation of quality management has become important in Higher Education. Moreover, Higher Education is like enterprises as they collect the fees money in cash which is the life blood of any enterprise (Warner and Palfreyman, 2000). Tuition fees for overseas students give them a chance to do business as it is a matter of individual institution. Generally, the fees of overseas students are higher than those of the natives.

The universities, therefore, need to maintain quality as they have to attract students to fulfill their funding needs. As the students pay fees, they examine not only the quality of education provided by a university but also other services like student support services, student learning resources, student communication and representation and student assessment. In fact, they act as consumers. So, it becomes important for the universities to

assure quality by accreditation and outcome assessment. TQM might support better inputs by focusing on students' achievement, good faculty members and other facilities like library and laboratory to get better output as high quality outputs results if high quality inputs exist

(2) Higher Education as a service for Human Development

Higher Education, in general, is considered to encourage personal growth and social responsibilities in an individual, in addition to his professional training and academic development. It also educates students to become civic responsible and a citizen of global society (CEPES, 2009). Higher Education must lead to ethical development of students while its process of imparting education. The standard of education has its direct impact on the development of the students' understandings.

Gupta (1993) recognizes 'teaching' as one of the most important activities which take place in any educational institute. According to him improvement in the quality of teaching is one of the most important aims of any professor in Higher Education. As teaching is a process of transforming knowledge it must have quality in it because without quality the process of teaching could not achieve the desired level of education. Though TQM is accepted as a concept in business organizations still it could be used as a tool to achieve the goal of improving quality in teaching. If teachers are committed to develop values in students along with their professional training TQM might support to hire teacher with dedication to develop their students as good citizens.

In addition to teaching Higher Education is also considered to be the training for the research works. Barnett (1992), states that the members of academic community believes that to assure quality in education the research profiles of the staff is more important to the achievement of the students as students achieve success if they are in a small group, in the company of recognized researchers. A small group of students discourage business but encourage teaching and learning process.

The above discussion reveals that the quality management in Higher Education is important in either case. Higher Education need quality management to enhance the quality of education for better service to mankind as well as to fulfill the expectations of its students in order to keep their position secure. NAAC, for example, is advocating the best practice benchmarking approach for the development of TQM in HE however, it seems that this approach not fully used in Indian HEIs. Prasad (2005) claims that, “Many higher education institutes do not attempt certain practices due to lack of information about the feasibility and adaptability of the best practice”. Failure of institutions to attempt practices of tools for quality management, like benchmarking, push them back and they fail to maintain standards and quality. Two third of India’s college and universities are below standard and even the top-rated Indian institutions have severe limited capacity (Dukkipati, 2010).

Apart from benchmarking practice many Indian educational institutes are adopting ISO 9000 standards in order to improve the quality of educational provisions for last several years (Pandi and Rao, 2006). ISO 9000 is a

framework of a quality management system which seeks the improvement of the quality of organizations like universities by systematic methods, defined responsibilities and documented processes. It refers to an institution's overall working which is effectively TQM, as defined by me with the help of Voelh's 'House of Quality'. Considering the link between TQM and other quality management systems Pandi and Rao (2006) propose a model of Integrated Total Quality Management (ITQM) which uses the theory of different quality management systems with a common aim of sustainable TQM in HE system UGC has made many measures to ensure the quality of HE in India. However, there is much focus on the quality of education in technical educational institutes as it is believed that engineers and managers play a vital role in making a nation competitive to other countries. Pandi*et al.,* (2009) claim that engineers play a major role in increasing nation's wealth and power by generating employment opportunities. That is why technical educational institutes focus more on quality management.

AICTE, an apex body, set up in 1945 constituted National Board of Accreditation (NBA) in 1987 to periodically evaluate technical institutes on the basic of norms and standards and make recommendations to AICTE (NBA, 2009). For Engineering Institutes, for example, it has set norms for the building area, administrative area, instructional area, tutorial area, laboratories, workshops, computer centres, and library and seminar hall. It has also set the students teacher ratio and the essential qualification for the teachers for the HEIs. However, simply setting the framework does not

assure the practice of quality management in any institute. Sengupta (2010) claims that different Institutes in India could not manage to abolish the difference in quality of education due to different reasons like lack of leadership quality, lack of infrastructure, lack of computer skills and lack of faculty. Technical colleges like software engineering colleges are struggling to employ qualified faculty which leads to the poor quality of teaching and hampers the total quality of the institution (Solanki *et al.*, 2009). Moreover, if they get the highly qualified teachers even then they fail to manage the quality of teaching as teachers teach the selected topics of their own interest. Such attitude of teachers reflects the lack of leadership quality in them. It is harmful not only for the future of the students but also for the success of TQM in a HEI. Pandi and Rao (2006), argues that TQM is never happened by accident. It is a process which needs a serious

TQM leadership from top management

TQM is a way of life for a company. It has to be introduced and led by top management. This is a key point. Attempts to implement TQM often fail because top management doesn't lead and get committed - instead it delegates and pays lip service. Commitment and personal involvement is required from top management in creating and deploying clear quality values and goals consistent with the objectives of the company, and in creating and deploying well defined systems, methods and performance measures for achieving those goals. These systems and methods guide all quality activities and encourage participation by all employees. The

development and use of performance indicators is linked, directly or indirectly, to customer requirements and satisfaction, and to management and employee remuneration.

Continuous improvement

Continuous improvement of all operations and activities is at the heart of TQM. Once it is recognized that customer satisfaction can only be obtained by providing a high-quality product, continuous improvement of the quality of the product is seen as the only way to maintain a high level of customer satisfaction. As well as recognizing the link between product quality and customer satisfaction, TQM also recognizes that product quality is the result of process quality. As a result, there is a focus on continuous improvement of the company's processes. This will lead to an improvement in process quality. In turn this will lead to an improvement in product quality, and to an increase in customer satisfaction. Improvement cycles are encouraged for all the company's activities such as product development, use of EDM/PDM, and the way customer relationships are managed. This implies that all activities include measurement and monitoring of cycle time and responsiveness as a basis for seeking opportunities for improvement. Elimination of waste is a major component of the continuous improvement approach. There is also a strong emphasis on prevention rather than detection, and an emphasis on quality at the design stage. The customer-driven approach helps to prevent errors and achieve defect- free production. When problems do occur within the

product development process, they are generally discovered and resolved before they can get to the next internal customer.

Fast response

To achieve customer satisfaction, the company has to respond rapidly to customer needs. This implies short product and service introduction cycles. These can be achieved with customer-driven and process-oriented product development because the resulting simplicity and efficiency greatly reduce the time involved. Simplicity is gained through concurrent product and process development. Efficiencies are realized from the elimination of non-value-adding effort such as re-design. The result is a dramatic improvement in the elapsed time from product concept to first shipment.

Actions based on facts

The statistical analysis of engineering and manufacturing facts is an important part of TQM. Facts and analysis provide the basis for planning, review and performance tracking, improvement of operations, and comparison of performance with competitors. The TQM approach is based on the use of objective data, and provides a rational rather than an emotional basis for decision making. The statistical approach to process management in both engineering and manufacturing recognizes that most problems are system-related, and are not caused by particular employees. In practice, data is collected and put in the hands of the people who are in the best position to analyze it and then take the appropriate action to

reduce costs and prevent non-conformance. Usually these people are not managers but workers in the process. If the right information is not available, then the analysis, whether it be of shop floor data, or engineering test results, can't take place, errors can't be identified, and so errors can't be corrected.

Employee participation

A successful TQM environment requires a committed and well-trained work force that participates fully in quality improvement activities. Such participation is reinforced by reward and recognition systems which emphasize the achievement of quality objectives. On-going education and training of all employees supports the drive for quality. Employees are encouraged to take more responsibility, communicate more effectively, act creatively, and innovate. As people behave the way they are measured and remunerated, TQM links remuneration to customer satisfaction metrics.

A TQM culture

It's not easy to introduce TQM. An open, cooperative culture has to be created by management. Employees have to be made to feel that they are responsible for customer satisfaction. They are not going to feel this if they are excluded from the development of visions, strategies, and plans. It's important they participate in these activities. They are unlikely to behave in a responsible way if they see management behaving irresponsibly - saying one thing and doing the opposite.

Product development in a TQM environment

Product development in a TQM environment is very different to product development in a non-TQM environment. Without a TQM approach, product development is usually carried on in a conflicting atmosphere where each department acts independently. Short-term results drive behavior so scrap, changes, work-around, waste, and rework are normal practice. Management focuses on supervising individuals, and fire-fighting is necessary and rewarded. Product development in a TQM environment is customer-driven and focused on quality. Teams are process-oriented, and interact with their internal customers to deliver the required.

Theories of Sims and Sims for the acceptance of TQM in Higher Education agree with the theory of three senses given by Voehl (1994). The three senses: 'every process' for example curriculum development, teaching and assessment, 'every job' like role of tutor and student service center and 'every person' must be covered for a sustainable TQM in Higher Education. Every person must be responsible for his or her own work and should have passion, dedication, vision and eagerness to learn.

Implementation of TQM in Higher Education in India

Application of quality management in HE is not a new phenomenon in India. However, like other developing countries it is a primary concern in India also to how to provide quality education to the large number of students at affordable costs (Prasad, 2005). Indian HE will have to maintain quality measures if it wants to become world class. Nike (2001)

quoted by Pandi*et al.*, (2009) strongly suggests the application of TQM to bring quality movement in HE in India to be recognized globally.

Though Indian HEIs are trying to ensure quality in education but it seems that they do not have emphasizes on the core philosophy of TQM. Different bodies seem to adopt different theory of quality management. For example, certain technical HEIs institutions have adopted ISO 9000, TQM, Six Sigma, Kaizen, 5S and others strategies for quality improvement (Pandi and Rao, 2006).

University Grant Commission (UGC) a statutory body, established in 1956, is the body responsible for the growth of HE in India (Short, 2008). UGC established National Assessment and Accreditation Council (NAAC), a sub-agency, in 1994 to ensure quality in HE by the means of internal and external quality assessment and accreditation (ibid). Apart from UGC and NAAC the All India Council for Technical Education (AICTE), Medical Council of India (MCI), National Council for Teacher Education (NCTE) and Distance Education Council (DEC) are the other bodies working to assure quality and norms and standards in HE in India (AICTE 2009; NCTE 2011; MCI 2010; India Education, No date). As these bodies have their own, they use their own pattern to assure quality.

1.11 Problem Statement

Problem statement is a critical aspect of research thesis. (a) It incorporates clarity in an explanation that the issue exists, (b) proof that bolsters the presence of the issue, (c) proof of a current pattern that has prompted the

issue, (d) meanings of real ideas and terms, (e) an unmistakable depiction of the setting, (f) likely explanations identified with the issue, and (g) a particular and practical articulation. It is unique in relation to the point. Subject is a short portrayal of the proposed study. The following is the diagram shows components of the problem statement.

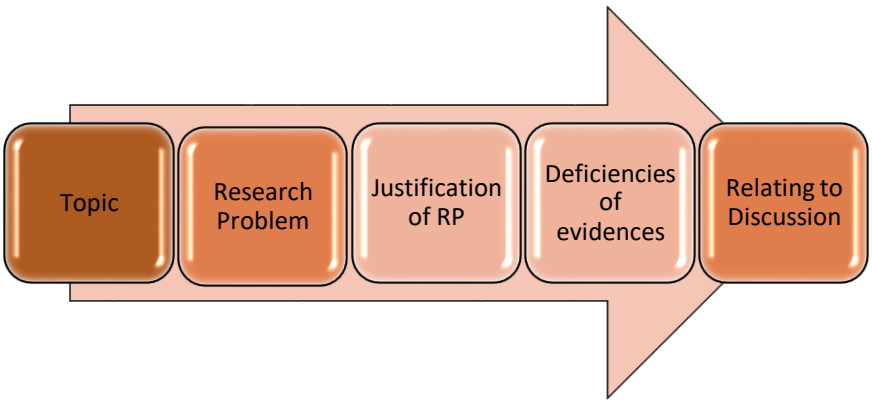


Figure 1.2 components of problem statement

In the present study, it is to be studied in exploratory manner that implementation of TQM in MSU of Baroda and its impacts on quality of education with selected dimensions as: students, faculty, internal and external stake holders. This study also seeks to examine internal consistency and correlationship amongst management commitment, system approach to management, customer satisfaction, employee involvement, training, teamwork and continuous improvement. The previous studies conducted on TQM implementation in HEIs in context to run and funded by government are studied to justify need of the present study. The research gaps are also to be identified in the present study which will help

to constitute objectives of this study. The title of the present study is *An Exploratory Study on Selected Dimensions of Learning organization and Its Impact on TQM of Higher Education Sector with Special Context to MSU of Baroda.*

1.12 Brief Profile of the Maharaja Sayajirao University of Baroda

Vision statement of the MSU of Baroda

"The progress of a nation requires that its people should be educated. Knowledge is a necessity of man. It instills in him a desire to question and to investigate, which leads him on the path of progress"

Education, in the broadest sense, must be spread everywhere. With this end in view, I started various reforms in my state. Progress can only be achieved by the spread of education. Cooperation is necessary to achieve any worthy end, and this readiness to co-operate will not be found in people if they are not educated."

- Mission statements of the MSU of Baroda
- Promoting and enhancing high standards of teaching learning and research for an all-round development of students.
- Providing a learning environment that nurtures critical reflections, exchange of ideas and innovation among students to help them realize their optimum potential.

- Increasing access to education by all sections of the society.
- Relating knowledge to the contemporary socio-economic needs and moral concerns
- Building mutually enriching linkages with the society and its institutions

The Maharaja Sayajirao University of Baroda (MSUB) is recognized as one of the premier institutions of higher learning and research in the country. Since its inception in 1949, the University has demonstrated a keen interest and a commitment to the sustenance and promotion of an environment, favorable to the growth and development of academic excellence – a commitment that forms a part of the rich legacy of the institution.

Educational institutions which preceded the Maharaja Sayajirao University of Baroda and which went on to forming a part of its foundational legacy, included the "Baroda College", one of the oldest centers of learning in Western India, founded in the year 1881 by His Highness Maharaja Sayajirao Gaekwad III. The enlightened ruler in the year 1909 established the "Kalabhavan". His Highness Maharaja Pratapsinhrao Gaekwad pursued the idea of establishing a University and on the recommendation of the committee, the Government of Baroda, in its order No. (R) 169-39 dated 21st February 1949 set up the University.

The Maharaja Sayajirao University of Baroda, a State University with English as its medium of instruction is a premier unitary residential

University, established on 30th April, 1949 recognized by Government of India under the Indian Universities Act, 1958 and is accredited by National Assessment and Accreditation Council with 'A' Grade with CGPA of 3.16 in the year 2016. It has one main and 6 satellite campuses, spread over 275 acres of land.

The University comprises of 111 Departments under the umbrella of 14 Faculties, 3 Constituent Colleges, 8 Institutions and 13 Centers of Specialized Studies, wherein more than 44,000 students pursue higher studies under the care and supervision of more than 1450 highly qualified and experienced teaching staff.

The University has 16 Hostels, Health Centre, Sports Union Pavilion, Convocation Ground, Printing Press and Stationery Unit, Guest House as well as other academic and administrative units spread across the campus. Besides these, there are 9 Multipurpose Auditoriums, 8 well Equipped Seminar Halls, 2 Open Air Theatres, an Amphitheatre, a Play Box, an Art Gallery, an Arboretum, a Botanical Garden, several lecture theatres and Conference Rooms and an Archaeological Museum having collection of Harappan Unicorn Seals, Holy relics of Lord Buddha, Toraman, terracotta Buddha images etc. The University has an observatory for Astronomy set up in the year 1939 to promote the field of Science, which holds an 8-inch refractor telescope.

The University offers a wide range of academic programmes from early childhood to Under-Graduate and Post-Graduate levels Degrees and Diplomas as well as Ph.D., with Choice Based Credit System (CBCS) for

UG and PG students enabling them to select value added subjects of their interest, other than Grants-in-Aid academic programmes. The University also offers innovative Science and Technology programmers through some cutting edge research centers like Centre for Biotechnology, Prof. Bharat Chattoo Genome Research Centre, and Centre for Molecular Genetics, Cluster Innovation Centre, Centre for Excellence in Polymer, Siemens Centre of Excellence for Industry Automation.

The University interacts extensively with the Industry and the civil society in the curriculum development and updating process. The University has signed MOU's with International Universities/Institutes like University of Cambridge, University of Laval, University of Stuttgart, University of Cornell, Ithaca, University of South Carolina, Keio University etc. for the exchange of students and teachers which adds to the enrichment of curriculum from global perspective.

The Centre for Life Long Learning and Extension offers 29 short term and 22 long terms courses on Ancient Indian studies, Art and craft, Human Social Development, Language Proficiency, Computer Education, Hotels/ Cookery, Personal Grooming etc. The All India and Central Services Training Center conducts classes for preparation of UPSC, State PSC and Staff Selection Commission pattern examination and provide guidance for exams like NDA, CDS, IB, SHO, Police, RBI and other banks.

Smt. Hansa Mehta Library is the Central Library in addition to 13 constituent libraries and 25 Departmental libraries with over 8 lakh books/periodicals and above 14000 digitized Dissertations/Theses. It has

the single largest air-conditioned reading room which can accommodate about 1600 readers at a time, and the library is open to the readers 14 hours a day.

The MSU has one of the largest Hostel Campuses in western India with 12 Boys' and 4 Girls' Hostels with all modern amenities. Hostel admission is an online process from application to allotment of room to the students. The University Health Centre provides routine medical treatment to the students and staff of the University and has a physiotherapy unit, a Pathology Laboratory and Marg Counselling Centre. The University has a magnificent union pavilion overlooking a large ground which has an athletic track, a cricket ground, hockey and football fields, two tennis courts, two basketball courts, four volleyball courts, two kabaddi grounds, malkhamb, a kho-kho ground and a handball court and a swimming pool. The University has developed student digital life-cycle under MOU with MKCL and has adopted Online Admission Application System and all faculties are brought under MSU Examination Portal (MEP) system.

Career and Counselling Center and Placement Cell looks after the placement and also imparts training to students for facing interviews, coordinating with the agencies for arranging the placements drive. The Faculty of Social work and Faculty of Management Studies have achieved 100% placement and average 65% placement is the normal trend of placement on and off campus. The Directorate of Students' Welfare disburses scholarships to the students belonging to economically weaker sections.

An Incubation Centre and Start Up Centre has been set up at the campus to encourage the spirit of innovation that provides a platform to the youth for exploration and implementation of innovative ideas and their conversion into start-up ventures. Academic, Social and Technical Events, to name few - Prerna, Paramarsh, Footprints, BBA Baazigar, Cyberia and Yuvaantas are initiatives exclusively planned and managed by the students. Office of Alumni Affairs' of the University compiles information about various alumni associations, initiates monthly interactive sessions, coordinates for Reunions, collects details of eminent alumni, Alumni Registrations and such other activities. Explore MSU – A Heritage Walk gained interest amongst large public. Institute of Leadership and Governance primarily focuses on training and trans-disciplinary aspects of leadership and on good studies of Governance structures, practices and processes which are highly essential today.

1.13 Significance of the study

Total Quality Management (TQM) in HEIs is a vital concept and numerous HEIs have implemented it with a view to deliver more qualitative education in India. The present study is exploratory type of study which aims to examine stakeholders` perceptions towards impacts of TQM implementation in context to *MSU of Baroda*. The stakeholders are defined as students, faculty, Non-teaching staff and Director, IQAC member, syndicate members, Senate members including others. This study examines perceptions on management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous

improvement which are generally popular and known factors in the research area. The present study is intended to assess relation s amongst Management commitment variables as; student focused education, performance evaluation, and management roles. Another factor is system approach management and also to be examined relations amongst parent teacher interaction, service quality, role of various committees formed by top level management and management role played in different in different areas. Another factor is customer satisfaction and also to be examined relations amongst parent teacher interaction, industry institution interaction, student facilities, use of digital network, service quality, role of various comities formed by top level management and management role is used in different areas. Another factor is employee involvement and the variables are service quality, policy matters, role of various comities formed by top level management and management role. Other factors are training and team work which are also to be examined in terms of relations amongst training to faculty, students and employees, management and team work of all the employees associated to the university. Continuous improvement is also taken into consideration for the purpose of investigation by covering key variables like; internal stakeholder, faculty, students, administrative staff and top-level management. Thus, the most of the variables are investigated in terms of stakeholders` perceptions which have less enlightened by the researchers, professionals and academicians in context to MSU of Baroda.

1.14 Objectives of the study

The following objectives are formulated by considering the base to research or knowledge gaps identified after reviewing the previous literature.

RO1: To study relationships amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in terms of students' perceptions in context to MSU of Baroda.

RO2: To study relationships amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in terms of faculty perceptions in context to MSU of Baroda.

RO3: To study relationships amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in terms of Non-teaching staff perceptions in context to MSU of Baroda.

RO4: To study relationships amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in terms of Policy Makers (other stake holders i.e. Authorities of the University, Directors, IQAC member, Syndicate members, Senate members and others of MSU) of Baroda perceptions in context to MSU of Baroda.

stake holders`(Director, IQAC member, syndicate members, Senate members) perceptions in context to MSU of Baroda.

RO5: To design and develop a TQM system model to plug the knowledge /research gaps.

RO6: To evaluate the closest correlations amongst the factors (management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement) responded by the respondents in context to student, faculty, Non-teaching staff and stake holders (i.e. Director, IQAC member, syndicate members, Senate members)

1.15 Research Questions

The following research questions are framed by considering the base to objectives mentioned as above.

RQ1: Is there any significant relations amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement as responded by the students?

RQ2:Is there any significant relations amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement as responded by the faculty?

RQ3: Is there any significant relations amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement as responded by the Non-teaching staff?

RQ4: Is there any significant relations amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement as responded by the Policy Makers (Other stake holders i.e. Authorities of the University, Directors, IQAC member, Syndicate members, Senate members and others of MSU of Baroda?

1.16 Hypotheses

$H_0$1: No relations exist amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in context to students of *MSU of Baroda.*

$H_0$2:No relations exist amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in context to faculty of *MSU of Baroda.*

$H_0$3:No relations exist amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in context to Non - Teaching staff of *MSU of Baroda.*

$H_0$4:No relations exist amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in context to Policy Makers (other stake holders i.e. Authorities of the University, Directors, IQAC member, Syndicate members, Senate members and others of *MSU of Baroda).*

1.17 Chapter Planning

Chapter-1 Introduction

This chapter consists of background of the study, significance of the study, objectives of the study, statement of the problem, research questions formulated, hypotheses formulated and other theoretical background as: evolution of TQM, formation of TQM in India, principles of TQM, concept of TQM philosophy, concept of quality management and ISO standard, fifteen maxims of quality improvement in higher education, definitions of terms and other relevant sub-sections.

Chapter-II Review of Literature

This chapter consists of related previous literature for review with a view to identify knowledge gaps for the purpose of objective formulation of the study. The identified factors for constructing questionnaire to collect primary data from the target population are: management commitment, system approach to management, customer satisfaction, employee involvement, training, teamwork and continuous improvement. These

factors are reviewed in terms of previous research conducted by professionals, academicians and scholars.

Chapter-III Research Methodology

This chapter discusses methodology adopted for data analysis collected by the researchers. The chapter consists of type of study, universe, target population, sampling technique, sample size, questionnaire factors and items, statistical tests to be conducted and use of statistical tools. This chapter will be proved as roadmap to the data analysis work.

Chapter-IV Data Analysis and Interpretation

This chapter discusses and analyzes the data collected from primary source and secondary source with the help of statistical tool like; IBMSPSS.25. The analyzed data are interpreted and results are also discussed.

Chapter-V Conclusion

This chapter consists of findings, conclusions and recommendations from the data interpreted. It also discusses limitations and further scope of the research.

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