CHAPTER-1

INTRODUCTION AND RESEARCH METHODOLOGY

1.1 Introduction:

In this 21st century, globalization process has exposed all industries to a world of cutthroat competition. There is a paradigm shift from producers market to consumers market. In today’s market, customers are becoming more vigorous and their expectations are increasing and changing very frequently for the quality of product and services. Hence workplace environment is changing rapidly, and technical and managerial competences as well as other potentials are being constantly redefined. The survival in this competitive environment is depends upon adaptability of quality. The key to adaptability is continued improvement in education and academic institutions across the globe. Education needs to cope up with the changing environment to generate competitive manpower of meeting challenges of future. The development and utilisation of effective mechanisms for quality assurance and improvement are critical to successful higher education everywhere. Every nation and its university graduates are competing in an environment shaped by its own local and national needs, as well as international expectations and standards. Quality improvement and quality assurance are among the most complicated problems facing higher education, because they touch on almost every aspect of the system.

This was also reflected by Hayward (2001), when he stressed that, “Changes brought about by the transition to a knowledge economy have created a demand for higher skill levels in most occupations. A new range of competences such as adaptability, team work, communication skills and the motivation for continuous learning have become critical. Thus, countries wishing to move towards the knowledge economy are challenged to undertake reforms to raise the quality of education and training through changes in content and pedagogy. Without high quality tertiary education nations lack the trained professionals to meet the needs of highly competitive markets and the challenges of knowledge societies.”

Quality in professional education, how to enhance it and how to evaluate it, has been placed squarely on the contemporary agenda in higher education. ‘Total
Quality Management (TQM)’ is an alternative methodology/philosophy for governance. The principles of TQM have been successfully adopted in the field of higher education by developed countries. The desire or enthusiasm to pursue professional education in order to acquire knowledge, skills and new tools of analysis is one thing; to actually succeed and be able to show evidences of having acquired these in concrete terms is quite another. Irrespective of any design or framework, competitive advantage and professional excellence fundamentally depends upon the quality of the product or service. Management professionals are playing an important role to run the organization and its business successfully. Management education is essential to improve the skills and knowledge of technical and professional manpower of a country.

The higher education in India has grown significantly in the recent years. The number of students enrolled for higher education in India has tremendously increased to become one of the largest systems of its kind in the world in the recent past. However, the system has been grappling with several problems like funds crunch, equity, reorientation of programmes, ethics, value associated to delivering education, teaching learning process, assessment and accreditation of institutions, academic standards of the students, quality of research, innovativeness and creativity. Such factors directly or indirectly affect the student’s academic productivity in the educational institutions.

The limited number of state-funded institutions and diminishing funding in higher education from the government caused the mushrooming of private institutions in India. Therefore, the students have a wide range of options to choose from which the institution to pursue their interests. As the students bear the complete expenditure of education, they deserve the best education. Therefore, quality has become a competitive weapon for the institutions to serve and attract their primary customers (students). There are some universal yardsticks for measuring quality in management education, like Quality of students including the admission process, Pedagogy, Placement, Faculty development and Infrastructure. Now the quality is no more a desirable strategy – it has become a survival strategy. Education being a service industry where clients are the students and the quality of learning they achieve is the service. It can be presumed that student is the ‘product’, which an education institute ‘sells’ to the future employer. In this scenario, management education institutions
require an innovative supporting tool which can help in improving the quality of education system. Declining quality of graduates, increasing competition and growing mandates for accountability by accreditation associations, legislatures, and funding bodies are among the factors that have “forced” management education institutes to focus on quality.

The challenge of quality in Indian higher education has many roots. Perhaps the most basic problem, and the most difficult to resolve, is that it fails to attract a sufficiently large number of talented young to the life of teaching and scholarship. Starved of talent, many colleges and universities become either rule-bound bureaucracies or profit-bound commercial enterprises. As all levels of education are public goods in part, a commercial model does not serve society well. Since learning, scholarship, and good teaching do not lend themselves well to bureaucratic control and measurements of performance, attempts to run universities by rules of civil service curtails their ability to achieve their goals (Sunder Shyam, 2010)\textsuperscript{14}.

It is high time to focus on quality assurance and sustenance, which is possible only if all stakeholders, especially the students play their proper role and discharge responsibilities effectively. The economic development of any country is linked to its ability to generate, acquire and use the knowledge through national competitiveness by different means and modes. So business schools must innovate new ideas, methods, establish new institutions, and think positively to add everyday new values in existing system of education. To impart quality education, management institutes should have seven pre-requisites: qualitative teachers, qualitative input, qualitative teaching and evaluation, qualitative infrastructure, qualitative syllabus, qualitative leadership and qualitative research.

While the management education institutions struggle to improve their traditional approaches and pedagogies in order to achieve ever-greater value propositions, they will need to adopt strategies that will allow them to differentiate themselves from their competitors and prove their value. The most competitive business schools are already looking for benchmarking opportunities as well as quality improvement programmes that will provide them with an opportunity to gain a thorough understanding of their strengths and weaknesses, to develop new and better programmes, and to prove the level of their offerings to the market through
accreditations. Students and faculty will also benefit greatly from having tools that aid them in their choice of institution and programme. The successful business schools of the future will offer innovative programmes, backed by the appropriate resources, to guarantee an excellent faculty body, an international experience and a multi-cultural environment to its students. The top business schools of the future will not only implement changes to remain competitive, but they will seek accreditation and quality improvement programmes to prove to the market that they are committed to excellence and innovation.

1.2 Implications for Management Education in India:

The quality of management education in India does not follow a normal distribution curve. At one end are India's best business schools, which have an enduring legacy of providing high-quality education, and are striving to reach international standards. At the other end, are the schools that offer a largely homogeneous education quality; these are usually managed by entrepreneurs with a greater focus on business goals than on academia and student development.

The need for improvement in quality is reflected in the increasing training spends by corporate India on its entry-level management graduates. Reports suggest that corporate spend the equivalent of as much as two months' salary that is paid to the recruits, for training them in basic skills that should have been acquired by the recruits at a business school.

Until recently, there was not much focus on the need to improve the quality of management education, as demand continually outstripped supply. However, recent trends are likely to augur well for quality improvement in management education in India. Several business schools have not been able to fill their seat capacity for the academic year; as supply outstrips demand, business schools will be compelled to strive for and showcase good quality education.

Several issues plague quality standards in management education, from the operational constraints associated with attracting quality faculty and students, to the need for increasing interactions with the industry to ensure currency of the course material. More importantly, students tend to consider business school education to be a conduit to attaining a high paying job; acquiring the requisite skills for these jobs,
however, receives secondary status. Business schools have, in turn, been investing tremendous efforts to ensure that their students get placed, rather than in inculcating employable skills.

Management educations have to focus on the topics to be taught (what has to be taught) and method of delivery (how it has to be taught). Management education has to give emphasis on making management education relevant to the Indian Context, the themes to be covered, and the way the topics have to be dealt with. Detailed coverage has to be developed for each subject. Since management is a practice oriented domain, management education has to incorporate an element of on-the-job training. This will need a mix of concepts, cases, exercises as well as simulations for themes such as business strategy, market planning, business negotiations, leadership, business ethics and team work. The main lesson that one can glean from an analysis of US Business education is that they give considerable attention to context design and theme delivery modes.

The second point is that both European and US management education has been made context specific through cases, exercises, experiences, sharing, problem solution and simulations that are prepared for the respective business contexts, whereas management education in India has yet to be made context specific. There has to be a massive effort to prepare context specific materials. This will need willingness on the part of Indian business groups to share materials for case preparation.

There are various emerging TQM issues about management education in India which are needed to be taken care for facing global competition. There is a huge gap between industries and academia. Industry bodies have little understanding of what is missing and wrong in management education. Nor are they sufficiently visionary to understand what should be the content of management education for the future development of India.

B-Schools in India have to do considerable thinking and envisioning so that the products coming out are capable of meeting the job demands of a global marketplace, though the firms may operate only in some geography. The existing system of accreditation and benchmarking are insufficient to make the B-Schools respond to the new context. The schools that are not on the top need to be supported
and they have to be monitored through an appropriate system of corporate governance. Emerging issues regarding quality assurance to be tackled carefully so that management education in India could be able to create jobs and sustain in global competitions. That leads towards innovation in entrepreneurship development.

1.3 TQM Framework for Management Institutions:

TQM implementation in management institutes is an integration of various practices that leads to world class management education. Therefore, various critical factors are to be identified considering the various stakeholders. In Management educational set-up, multiple stakeholders, viz. students, alumni, parents, recruiters, faculties, supporting staff, government, society and administrators, interact with the system in different ways and have diverse expectations. Therefore, the service items are likely to differ amongst stakeholders. The critical quality factors indentified should give equal importance and must satisfy all the stakeholders involved in the system.

1.4 Critical Factors for TQM Framework:

Following critical factors are very important to develop a framework for TQM implementation in management institutions.

1. Top Management commitment (Knowledge management)
2. System approach to management, (Lean Management-No error thinking)
3. Customer satisfaction, (Total Quality Management)
4. Employee involvement, (Six-Sigma)
5. Training, Team work and Continuous improvement (ISO:9001-2000, Quality management system)

Measuring service quality is very important to retain students in any institution. But perception of quality is different for different stakeholders. Therefore, institutions should improve their services in the light of various service quality dimensions according to the perceptions of major stakeholder. And Service Quality dimensions may be:

1. Physical facilities, equipment and appearance of personnel. (i.e. tangible dimensions)
2. Ability to perform the promised service dependably and accurately. (i.e. reliability)
3. Willingness to help stakeholder and provide prompt service. (i.e. responsiveness)


5. Access, communication, understanding the customer. Caring and individualized attention that the Institute provides to its stakeholders. (i.e. empathy)

Integration of all critical factors with continuous improvement system by all domains will bring the success in management education in India.

1.5 Need of the study:

The concept of quality is very elusive. The desire or enthusiasm to pursue management education in order to acquire knowledge, skills and new tools of analysis is one thing; to actually succeed and be able to show evidences of having acquired these in concrete terms is quite another. The quality of the product of management education or program is often evidences in the quality of performance of the product. Quality in management education faces definitional problems. It becomes more problematic when quality is conceptualized in terms of particular aspects of management education because, that all elements associated with educational quality are interrelated. A crucial problem in one the element is likely to have consequences for quality in others too. One might argue about quality in any important aspects of management education: Organization and management, Governance, Infrastructure, Academic performance, Teaching-learning process, Research and Innovations, student achievements, contribution to community etc.

Management education quality can be considered as a system that constitutes the inputs, processes and output of education and provide services that satisfy both the internal and external strategic constituents by meeting their explicit and implicit expectations. According to the United Kingdom body called Quality Assurance Agency for Higher Education (QAA), states that, “Academic quality is way of describing how well the learning opportunities available to students help them to achieve their awards.”
The main challenge to adopt the principles of TQM in management education is the need to deal with the intangibility of educational process. TQM need to accommodate the intangible aspects of students learning which have direct effect in teaching and learning quality in management education. Consider TQM as a process oriented approach which has the ability to improve quality of services and process effectiveness. TQM implementation towards management education provides an excellent opportunity for success. Academic people need to acquire, through TQM, concepts, practices and system thinking in order to acknowledge the way that their actions or initiatives affects the other people. Also system thinking of process and organizational improvements which concern quality assurance and quality enhancements correspondingly reflects highly developed academic learning quality.

In India, there is still no universal consensus about the best way of quality improvement initiative management within Management Institutions. There is disparity between TQM techniques and educational processes and also lack of shared vision within management institutions that TQM success depends on the lessons drawn from industry TQM application results. Therefore, need of well defined focus and system thinking for institutionalization of TQM in Management Education.

Management education in India is driven towards commercialization leading to mushrooming of Management Institutions and stiff competition. In Maharashtra there were 76 Institutes in 2000-01, which has been increased up to 407 in the year 2012-13, showing the increase of 5.36 times within a span of 12 years. This shows rapid growth in establishment of Institutes for PG Course in management approved by All India Council for Technical Education (AICTE) and affiliated to various universities of Maharashtra.

Out of 407 Institutes in Maharashtra, about 53% (215) institutes are located in Western Maharashtra, which comprises of seven districts of Maharashtra namely, Pune, Ahmednagar and Nashik under University of Pune, Kolhapur, Sangli and Satara under Shivaji University, Kolhapur and Solapur under Solapur University. For the year 2012-13 in Western Maharashtra there are 215 Institutes for PG Course in Management out of which 178 Institutes are affiliated to the University of Pune, 25 Institutes affiliated to Shivaji University Kolhapur and 12 Institutes affiliated to Solapur University.
However, in the most of the cases the direction, relevance and quality of management education are questioned. Many Institutions are not accredited, which insure minimum quality assurance. Management Institutions affiliated to universities have to work with many uncontrollable parameters like quality of input and their curricula. Considering the dynamics of external environment, rigid working system, stiff competition, decline of funds, seats not being filled, and demand for accountability from stakeholders and customers, perspective of quality has crept in, and need for quality system is felt.

1.6 Research Problem:

Industries operating in dynamic and changing environment have demonstrated readiness to change their practices and organizational structure as response to technological changes. On the contrary, educational institutes are slow in embracing change, both in curricula and methods of delivery of education. The survival in this knowledge based society depends upon adaptability and key to adaptability is continued improvement in education compatible to that of the technology, and institutions have to continuously prove their image on continual basis.

Taking cue of two decades of TQM implementation in educational institutions elsewhere, their success and their problems encountered. It is required to assess need, portability and means for institutionalizing TQM in Management Institutions of Maharashtra.

Therefore, statement of research problem has been formulated as “A Critical Study of Total Quality Management Practices in Management Institutions of Western Maharashtra”

1.6.1 Research Questions:

1. What are the significant TQM principles for quality assurance and performance excellence?
2. What are the perceptions of stakeholders about TQM practices in Management Institutes?
3. What are the significant barriers in TQM implementation?
4. What are the most effective remedial strategies to overcome TQM implementation?
5. What is the relationship between core elements of TQM and what will be suggested framework for TQM implementation?

1.7 Objectives of the study:

Following are the objectives of the study:

1. To study TQM philosophy, issues, and assess /address the need for quality perspectives in Management Institutions.

2. To identify and analyze TQM practices followed by Management Institutions of Western Maharashtra.

3. To study perceptions of stakeholders about practices of TQM in Management Institutions of Western Maharashtra.

4. To formulate TQM framework and Quality assurance mechanism in Management Institutions.

1.8 Scope of the study:

The main aim of the study is to assess and address the need of TQM perspectives, issues, TQM practices, stakeholders perception, framework, implementation dynamics, feasibility of TQM strategies and guidelines in management education in India in general and the affiliated Management Institutions of Western Maharashtra in particular.

The study is confined to Western Maharashtra comprising of seven districts of Maharashtra namely, Pune, Ahmednagar and Nasik under University of Pune, Kolhapur, Sangli and Satara under Shivaji University Kolhapur and Solapur under Solapur University and their affiliated Management Institutes having Post-graduate programs which are approved by AICTE.
1.9 Hypotheses statements:

Following are various hypotheses are considered for significance of various elements and its validity in the present study.

1. \(H_1\): “There is significant difference in General status of TQM in Management education perceived by Academia and Corporate”

2. \(H_2\): “There is significant difference in TQM Practices in Management Institutions perceived by various stakeholders”

3. \(H_3\): “There is significant difference in Quality perspectives in Management Institutions perceived by various stakeholders”

4. \(H_4\): “There is significant difference in Service Quality perceptions about Faculty & Non-teaching (support) staff perceived by various stakeholders”

5. \(H_5\): “There is significant difference in Service Quality expectations and perceptions of Faculty & Non-teaching (support) staff perceived by various stakeholders”

6. \(H_6\): “TQM practices are positively related to Service Quality perceived by the students”

1.10 Research Methodology and Framework:

This deals with detailing and development of research framework and methodology adopted for fulfilling the objectives and verifying the hypotheses laid down to analyze critically the quality in management institutions of western Maharashtra. Initially identification of various stakeholders has done. The review of literature reveals that there are various stakeholders/customers of management education like students, industry, Government, Society, Parents, Alumni, Higher Educational Institutes, Research Institutes/Labs, Teaching Faculty, Non-teaching staff, Institutional Heads, Management etc. Out of which Students, Teaching Faculty, Non-teaching staff, Institution Directors/ Heads and Industry has been selected as a stakeholders/customers because they are more concern and responsible about quality
education. To study the perceptions and expectations about TQM in management institutions, process based on questionnaire, is conceived and designed. The criteria for selection of respondents, framing the questionnaire/schedules thereby deciding various parameters, factors, variables responsible for TQM in management institutions, tools and techniques used for data presentation and analysis are discussed here.

1.10.1 Research Methodology:

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. (Kothari C.R., 2004). The research process provides insight into the process of 'how' the research will be conducted from developing the proposal to submitting the dissertation. Following are seven main steps in research process;

1. Define Research Problem
2. Review of Literature
3. Formulate Hypothesis
4. Design Research
5. Collect Data
6. Analyse Data
7. Interpret and Report

1.10.2 Research Design:

The present study is used comprehensive methodology i.e. descriptive and exploratory using quantitative as well as qualitative research methods. They were chosen because the process of integrating these diverse paradigms can better clarify and illustrate the findings (Creswell, 1994). To paraphrase Miles and Huberman (1994), the purpose for employing a mixed design is to add depth to survey information, to uncover a weakness in quantitative data, or to compliment the objective data. Another rationale for using a mixed method study was to address both quantitative and qualitative research questions in one instrument. Moreover, the use of both open-ended and forced-choice questions on a single survey instrument has been shown to deepen the understanding of the research topic (Bragg & Reger, 2000; Brewer, 2001).
The quantitative methodology used in this study was the survey research design method, which has often been widely used to investigate educational issues (Borg & Gall, 1989). This method has been widely accepted in the education setting. According to Borg and Gall (1989, p. 416), “it accounts for a large proportion of the research done in the field of education.” Primary advantages of the quantitative method are that (a) it reveals the causes of a social phenomenon, (b) it is objective and outcome-oriented, and (c) it produces hard and replicable data that are can be extrapolated to a larger population (Cook & Reichardt, 1979).

Qualitative research is concerned with understanding human behavior; this type of data is generally gathered in a more naturalistic and uncontrolled observation format. With qualitative data one can generally preserve the chronological flow, see precisely which events led to specific consequences, and ultimately derive fruitful deductions (Amaratunga et. al., 2002). The primary advantage to this method is that it can generate data-rich and vivid descriptions that are nested in a real life context and have a ring of truth about them.

The use of both methodologies in this mixed design study facilitated the triangulation of the data. Triangulation in research refers to combining two or more theories, methods, or data sources in one study of a single phenomenon to converge on a single construct. (Amaratunga et. al., 2000; Cook & Reichardt, 1979; Brewer, 2001). Although somewhat controversial, many investigators consider triangulation to be a very powerful way of gaining insight, making inferences, drawing conclusions (Fellows & Liu, 1997), as well as contributing to the trustworthiness of the resulting data (Ely, et.al., 2000).

The methodology is included research design, sample design, collection of primary as well as secondary data from various data sources in reference to TQM and Management Institutions in general and Management Institutions approved by AICTE and affiliated to University of Pune, Shivaji University, Kolhapur and Solapur University in particular.

**1.10.2.1 Sample Design:**

The scope of study area is western Maharashtra and therefore, study is confined to seven districts of Maharashtra namely, Pune, Ahmednagar and Nasik under University of Pune, Kolhapur, Sangli and Satara under Shivaji University
Kolhapur and Solapur under Solapur University. The study is about TQM practices of Management Institutions in western Maharashtra. The institutes selected for the study are the Management Institutes affiliated to above selected universities and having post-graduate degree program (i.e. MBA/MMS) which are approved by All India Council for Technical Education (AICTE), New Delhi only.

1.10.2.2 Population and Sample Selection:

1. **Population**: The population available is represented in following table 1.1 as per the information brochure MAH-MBA/MMS 2012 of Directorate of Technical Education (DTE), Maharashtra State, Mumbai.

2. **Sample size**: The question of sample size can be addressed in two ways. One is to make assumptions about the population and use statistical equations with following assumptions about random sampling process (Neuman, 2000).
   - Confidence level of 95%, that is 1 - α = 95%, so \( Z = 1.96 \) (followed by normal distribution)
   - With five-point Likert scale, so the mean value of scale is \( E = 3 \)
   - Error is \( e = 5\% \times E = 5\% \times 3 = 0.15 \)
   - Standard deviation is \( S = (\text{Max} – \text{Min})/6 = (5 – 1)/6 = 0.67 \)

   Thus, the sample size of survey (n) is:
   \[
   N = \frac{(Z \times S)^2}{e^2},
   \]

   A second and more frequently used method is the rule of thumb – a conventional or accepted amount. Researchers use **rule-of-thumb** because they rarely have the information required by the statistical method and because it gives sample sizes close to those of the statistical method. Rules of thumb are not arbitrary but are based on past experiences with samples which have met the requirements of that statistical method (Neuman, 2000).
**Sample Institutes:** Number of sample institutes *(Annexure-I)* are selected using Systematic random sampling method from the prepared list of Management Institutes affiliated to respective universities and approved by AICTE.

Therefore, in this study total sample size selected is 75 management institutions from study area which are affiliated to University of Pune, Shivaji University and Solapur University and offering post graduate program i.e. MBA (Master of Business Administration) approved by AICTE, New Delhi.

**Table 1.1: Population and number of sample Institutes selected**

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of University</th>
<th>No. of Management Institutes (2011-12)</th>
<th>Sample Institutes selected</th>
<th>% Sample selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>University of Pune</td>
<td>178</td>
<td>60</td>
<td>33.70</td>
</tr>
<tr>
<td>2.</td>
<td>Shivaji University, Kolhapur</td>
<td>25</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>3.</td>
<td>Solapur University, Solapur</td>
<td>12</td>
<td>5</td>
<td>41.67</td>
</tr>
<tr>
<td></td>
<td><strong>Total Institutes</strong></td>
<td><strong>215</strong></td>
<td><strong>75</strong></td>
<td><strong>34.88</strong></td>
</tr>
</tbody>
</table>

Out of total sample 75 (34.88% of total institutes), 60 institutes (33.70%) are from University of Pune, 10 institutes (40%) are from Shivaji University, Kolhapur and 5 institutes (41.67%) are from Solapur University, Solapur.

**Management Institution Respondents:** From selected 75 sample institutes, respondents are selected using stratified random sampling from each category from which responses are taken and recorded in the Questionnaire/schedule designed separately for each category. One Director/Head of Institution, 5-Faculty members, 3-Non-teaching Staff, 5-students are selected from each sample institution as respondents. Therefore, total 1050 respondents from management institutes are selected. Category wise respondents are shown in table 1.2.
Table 1.2: Number of Respondents from selected management institutes

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Name of University</th>
<th>Director/ Head of Institution</th>
<th>Faculty</th>
<th>Students</th>
<th>Non-teaching Staff</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>University of Pune</td>
<td>60</td>
<td>300</td>
<td>300</td>
<td>180</td>
<td>840</td>
</tr>
<tr>
<td>II</td>
<td>Shivaji University</td>
<td>10</td>
<td>50</td>
<td>50</td>
<td>30</td>
<td>140</td>
</tr>
<tr>
<td>III</td>
<td>Solapur University</td>
<td>5</td>
<td>25</td>
<td>25</td>
<td>15</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
<td><strong>375</strong></td>
<td><strong>375</strong></td>
<td><strong>225</strong></td>
<td><strong>1050</strong></td>
</tr>
</tbody>
</table>

**Industry/Corporate respondents:** While studying TQM practices in Management Institutions, the perceptions about TQM from corporate/industry executives are very important, because the output of the management institutes (i.e. students) quality is the major concern and they are main customers for management institutes. 100 Industry/corporate respondents are selected randomly from the study area.

Therefore, total 75 management institutes, 1050 respondents of management institutes in various category and 100 industry/corporate (Annexure-II) executives are selected for the study. Category wise Sample and respondents are shown in table 1.3

Table 1.3 Category wise Sample and selected respondents

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Category of Sample</th>
<th>No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Institute Profiles</td>
<td>75</td>
</tr>
<tr>
<td>II</td>
<td>Management Institute Respondents</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Director/Head of Institution</td>
<td>75</td>
</tr>
<tr>
<td>2.</td>
<td>Faculty</td>
<td>375</td>
</tr>
<tr>
<td>3.</td>
<td>Non-teaching Staff</td>
<td>225</td>
</tr>
<tr>
<td>4.</td>
<td>Students</td>
<td>375</td>
</tr>
<tr>
<td></td>
<td>Total Respondents from Institute</td>
<td>1050</td>
</tr>
<tr>
<td>III</td>
<td>Industry/Corporate respondents</td>
<td>100</td>
</tr>
</tbody>
</table>

1.10.3 Data Collection:
Primary and secondary data is collected for the purpose of the study. For the selected management institutions (75), respondents of respective institutes (1050) and Industry personnel, various questionnaires/schedules (data collection instrument) are
prepared on the basis of review of literature for the data collection. The various Proforma, Questionnaires/Schedules are as below;

1. Management Institute Information Profile- Primary & Secondary data
2. Perceptions of TQM in Management Institute- Director or Head have responded.
3. Faculty perceptions about TQM in Management Institutes- Faculty will have responded.
4. Student’s perceptions about TQM in Management Institutes- Student have responded.
5. Non-teaching staff Perceptions about TQM in Management Institutes- Non-teaching staff and supportive staff has responded.
6. Industry/ Corporate executive responses about TQM in Management Institutes- Industry personnel have responded.

1.10.3.1 Primary Data:

The primary data is collected through pre-tested structured questionnaires/schedules from the selected institutes and sample respondents of Management Institutes in western Maharashtra which are affiliated to the University of Pune, Shivaji University, Kolhapur and Solapur University, Solapur and selected industry/corporate executives for their TQM perceptions about management education institutes.

1.10.3.2 Secondary data:

Secondary data necessary for successful completion of the study is collected from various reports of Government and other agencies, statutory and apex bodies for approvals and accreditations, Universities, Management Institutions, various Journals, magazines and books related to management education and TQM, various published and unpublished research work and various web-based data and information on TQM and Management Education.
1.10.3.3 Data collection and Response recording procedure:

For data collection and response recording in the designed structured questionnaires/schedules following procedure is followed;

1. **Sample Institution Profile:** Data is collected for each sample institute as an Institute Profile, having quantitative and qualitative information about the Institute. Selected 75 Institutions information is collected as per the designed proforma/schedule (*Annexure-III*). Data of the Institutions are collected from Directors/ Head of the Institutions, Mandatory Disclosures, respective institute’s website, Annual reports and from Directorate of Technical Education (DTE), Mumbai.

2. **Management Institution Respondents:** From selected 75 sample institutes, respondents in each category from which responses are taken and recorded in the Questionnaire/schedule designed separately for each category. For recording responses Close ended as well as open ended questions/statements are used. In questionnaires, 5-point Likert scales, Ranking, Yes/No type and multiple choice questions are also used. For Likert Scales 1-is Strongly Disagree (SD), 2-is Disagree (D), 3-is Neither Disagree nor Agree means Neutral (N), 4- is Agree (A) and 5-is Strongly Agree (SA) and 1- is Poor, 2-Average, 3-is Good, 4-is Very Good, 5-is Excellent type responses are recorded for various aspects. The questionnaires are very easy to administer and record the responses objectively. This has helped to classify process, decode and tabulate the data very easily. The details of questionnaire responses for each category are presented in *Annexure-IV*

3. **Industry/ Corporate responses:** Industry/corporate respondents (100) selected randomly from the study area and data is collected on various attributes about TQM in management education and Institutes to comment upon existing state of quality of management education and corporate future expectations as well. Therefore questionnaire is send to industry personnel in the study area and recorded the responses. For recording responses, 5-point Likert scales, Ranking, Yes/No type and multiple choice questions are also used. For Likert Scales 1-is Strongly Disagree
(SD), 2-is Disagree (D), 3-is Neither Disagree nor Agree means Neutral (N), 4- is Agree (A) and 5-is Strongly Agree (SA) and 1- is Poor, 2-
Average, 3-is Good, 4-is Very Good, 5-is Excellent type responses are
recorded for various aspects. The details of questionnaire responses for
each category are presented in Annexure-IV.

1.10.4 Reliability and Validity:

The reliability of a *domain-referenced measure* refers to the consistency of the
instrument in making estimates of the examinee’s level of mastery of the instrument
domain (Borg & Gall, 1989). The coefficient of internal consistency, otherwise
known as *Cronbach’s Coefficient Alpha Test (CCAT)*, was used to calculate reliability
of the instrument. The data used to calculate the Cronbach’s Alpha was drawn from
the 1050 returned instruments.

The validity of an instrument is determined by the extent to which derived
scores are free of constant (or systematic) errors. Hence, inferences based on those
scores could be considered defensible (Martuza, 1977). Because domain-referenced
measures are generally aimed at measuring achievement, evidence of content validity
is important. Several procedures were developed that are generally similar to methods
used to establish the content validity of a norm referenced instrument.

For reliability and comprehensiveness of data Pilot-Study is conducted. *Cronbach’s alfa*
is calculated for the reliability of data collection instrument i.e
questionnaires/schedules.

1.10.5 Data Analysis and Interpretation:

Primary and secondary data collected by using various methods from various
sources are presented and analyzed on computer using application specific software.
The collected data are analyzed using MS-Excel, SPSS-17 and XLSTAT statistical
analysis software for Correlation, Factor analysis of various parameters, regression
analysis, ANOVA and Hypothesis testing. Gap analysis is conducted about various
critical factors.

*Hypothesis Testing:* statements are tested using various parametric and
Non-parametric tests. The findings are interpreted for developing construct that
facilitate institutionalization of the TQM processes through system thinking in management education.

Data analysis results are presented in appropriate tables, various charts (pie, bar charts, and graphs).

1.11 Framework of thesis and Chapter scheme:

A Critical study of Total Quality Management Practices in Management Institutions of Western Maharashtra is done systematically and presented through various chapters.

**Chapter 1: Introduction and Research Methodology**, of the study deals with the introduction of the subject, TQM implications in management education, need of the study, research problem, objectives and hypothesis formulation for the research work. This chapter also deals with research framework and methodology adopted for fulfilling the objectives and verifying the hypotheses laid down to analyze critically the quality in Management Institutions of western Maharashtra. It also includes the research design with sample selection procedure, data collection methodology with reliability and validity of data collection instruments and methodology for data analysis and hypothesis testing.

**Chapter 2: Review of Literature**, presents related review of literature for the study which includes various books on the subject, articles in journals of National and International repute, articles published and circulated on websites, various committee reports, University Grant Commission Act, Maharashtra Universities Act 1994, University Rules & Regulation Statutes, AICTE rules and regulations, published & unpublished Ph.D. thesis.

**Chapter 3: Evolution and development of Higher education and Management education** discusses higher education system in India with present status particularly technical education in India and Maharashtra with special focus on management education. It also includes significance of management education in India with origin and history and presented current scenario of management education in India and Maharashtra.
Chapter 4: Profile of Western Maharashtra, focuses on the study area i.e. Western Maharashtra and an attempt is made to review briefly the important geographical facets and higher and technical education context and scenario of western Maharashtra. It has been tried to stress the important factors contributed in the progress and development of Higher & technical education in general and management education in particular.

Chapter 5: Data Presentations, Quantitative- Qualitative Analysis and Interpretations, represents the analysis of data and interpretations of the results obtained from data collection process executed for respondents across the various management institutions in western Maharashtra and also deals with hypotheses testing.

Chapter 6: TQM Framework and Quality Assurance Mechanism in Management Institutes, attempted to formulate TQM implementation framework for management institutions and developed “Management Education Quality Management (MEQM)”- Model based on system dynamics. It also suggests factors involved in MEQM-model and quality assurance mechanism in management education.

Chapter 7: Findings and Recommendations summarized the major findings, conclusions and significant recommendations of the research based on quantitative and qualitative analysis of the management institutions and the views and perceptions of various respondents. This chapter also embodied research work carried out through research process across the management institutions and presented and discussed in various chapters with conclusions, and future scope for research.

1.12 Limitations of the study:

Following are the limitations of the study;

1. In India, there is still no universal consensus about the quality improvement in education, therefore may give rise to dichotomy about the perception of stakeholders.
2. Study is confined to affiliated management institutes under University of Pune, Shivaji University Kolhapur and Solapur University.

3. The respondents are heterogeneous in nature, may created biases and study is not designed to measure the influence of these biases on responses rendered.

4. TQM is relatively new phenomenon in education in India and its basic notions are still to reach to every Management Institutions and stakeholders. Therefore, basic notions about TQM may not be fully understand by the respondents.

5. TQM framework and Management Education Quality Management (MEQM)-model is basically an aggregate system dynamics model and only uses summarized information from the literature and survey carried out. Testing and validation various constructs of model is not performed.

References:


