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EXECUTIVE SUMMARY OF THE THESIS ENTITLED

"AN EXPLORATORY STUDY ON SELECTED DIMENSIONS OF LEARNING ORGANIZATION AND ITS IMPACT WITH TQM ON HIGHER EDUCATION SECTOR WITH SPECIAL CONTEXT TO THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA"

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Table of Contents of the Thesis

Sr. Nos.	Contents	Page Nos.
I	Certificate	I
II	Declaration by the Candidate	II
III	Acknowledgements	III
IV	List of Tables	V
V	List of Figures / Graphs	VIII
VI	List of Abbreviations	X
	Chapter : 1 Introduction	
1.0	Introduction	1
1.1	Background of study	4
	1.1.1 Learning Organization	4
	1.1.2 Dimensions of Learning Organization	7
	1.1.3 Applicability of Learning Organization in Higher Education	8
1.2	HEIs as Learning Organization	13
1.3	The Evolution of TQM	16
1.4	Formation of TQM in India	16
1.5	Principles of TQM	18
1.6	Concepts of TQM Philosophy	20
1.7	Concepts of Quality Management	24
1.8	TQM and ISO Standards	27
1.9	Fifteen Maxims of Quality Improvement	29
1.10	TQM in Higher Education	35
1.11	Problem statement	45
1.12	Brief Profile of the Maharaja Sayajirao University of Baroda	47
1.13	Significance of the study	53
1.14	Objectives of the study	54
1.15	Research Questions	55
1.16	Hypotheses	56
1.17	Chapter Planning	57
	References	59

	Chapter : 2 **Review of Literature**	
2.0	Introduction	62
2.1	Objectives of Reviewing Previous Literature	64
2.2	Review of Literature : Learning Organization	65
2.3	Review of Literature: Management Commitment	68
2.4	Review of Literature: System Approach to Management	84
2.5	Review of Literature: Customer Satisfaction	93
2.6	Review of Literature: Employee Involvement	99
2.7	Review of Literature: Training	108
2.8	Review of Literature: Team Work	114
2.9	Review of Literature: Continuous Improvement	122
2.10	Research Gaps Identified	128
	References	132
	Chapter : 3 **Research Methodology**	
3.0	Introduction	154
3.1	Meaning of Research	154
3.2	Difference between Research Methods and Methodology	155
3.3	Research Approaches	158
3.4	Essentials of Quality Research Process	159
	3.4.1 Validity	159
	3.4.2 Reliability	160
3.5	Research Process	160
	3.5.1 Defining Research Problem	161
	3.5.2 Hypotheses	163
3.6	Research Design	165
	3.6.1 Parts of Research Design	165
	3.6.2 Types of Research Design	166
3.7	Data Collection Sources	167
3.8	Sample Design	168
	3.8.1 Universe / Population	169
	3.8.2 Target Population	169
3.9	Sampling Techniques	169

	3.9.1a Probability sampling	170
	3.9.1b Simple Random Probability Sampling	170
	3.9.1c Systematic Probability Sampling	170
	3.9.1d Stratified Sampling	171
	3.9.1e Clustered Sampling	172
	3.9.1f Multistage Probability Sampling	172
	3.9.2a Non-probability Sampling	173
	3.9.2b Convenience non-probability sampling	173
	3.9.3 Quota Sampling	173
	3.9.4 Purposive Sampling Technique	174
3.10	Sample Size	175
	3.10.1 Level of Precision	176
	3.10.2 The Confidence Level	176
	3.10.3 Degree of Variability	176
3.11	Data Analysis	177
	3.11.1 Descriptive Statistics	177
	3.11.2 Measure of Central Tendency	178
	3.11.3 Pearson Correlation test	191
3.12	Design of Questionnaire	193
3.13	Research Limitations	227
	References	228
	Chapter : 4 **Data Analysis and Interpretation**	
4.0	Introduction	229
	Group-1 Student Perspectives	231

	4.1. Frequency Distribution : Gender	231
	4.2. Frequency Distribution : Age	232
	4.3 Frequency Distribution : Academic Pursuance	234
	4.4 Frequency Distribution : Residential Status	235
	4.5 Descriptive Statistics : Management Commitment	236
	4.6 Descriptive Statistics: System Approach to Management	238
	4.7 Descriptive Statistics: Customer Satisfaction	239
	4.8 Descriptive Statistics: Employee Involvement	240
	4.9 Descriptive Statistics: Training	241
	4.10 Descriptive Statistics: Team Work	242
	4.11 Descriptive Statistics: Continuous Improvement	243
	4.12 Scale Reliability Test : Management Commitment	245
	4.13 Scale Reliability Test: System Approach to Management (SAM)	246
	4.14 Scale Reliability Test: Customer Satisfaction	247
	4.15 Scale Reliability Test: Employee Involvement	248
	4.16 Scale Reliability Test: Training	249
	4.17 Scale Reliability Test: Team Work	250
	4.18 Scale Reliability Test: Continuous Improvement	251
	4.19 Pearson Correlation Test: Student Perspectives	253
	Group-II Faculty Perspectives	256
	4.20 Frequency Distribution: Gender	257
	4.21 Frequency Distribution: Age	259
	4.22 Frequency Distribution: Marital Status	260
	4.23 Frequency Distribution: Academic Qualifications	262

	4.24 Frequency Distribution: Position	264
	4.25 Frequency Distribution: Department	266
	4.26 Frequency Distribution: Work Experience	268
	4.27 Frequency Distribution: Income	269
	4.28 Descriptive Statistics Management Commitment	271
	4.29 Descriptive Statistics: System Approach to Management	272
	4.30 Descriptive Statistics: Customer Satisfaction	273
	4.31 Descriptive Statistics: Employee Involvement	275
	4.32 Descriptive Statistics: Training	277
	4.33 Descriptive Statistics: Team Work	278
	4.34 Descriptive Statistics: Continuous Improvement	280
	4.35 Scale Reliability Test: Management Commitment	281
	4.36 Scale Reliability Test: System Approach to Management	282
	4.37 Scale Reliability Test: Customer Satisfaction	283
	4.38 Scale Reliability Test: Employee Involvement	284
	4.39 Scale Reliability Test: Training	285
	4.40 Scale Reliability Test: Team Work	286
	4.41 Scale Reliability Test: Continuous Improvement	287
	4.42 Pearson Correlation Test: Faculty Perspectives	288
	Group-III Non-teaching Staff Perspectives	291
	4.43 Frequency Distribution of Gender	291
	4.44 Frequency Distribution of Age	292
	4.45 Frequency Distribution of Marital Status	294
	4.46 Frequency Distribution of Education	295
	4.47 Frequency Distribution of Position	296

	4.48 Frequency Distribution of Work Experience	298
	4.49 Frequency Distribution of Income	299
	4.50 Descriptive Statistics: Management Commitment	300
	4.51 Descriptive Statistics: System Approach to Management	301
	4.52 Descriptive Statistics: Customer Satisfaction	302
	4.53 Descriptive Statistics: Employee Involvement	304
	4.54 Descriptive Statistics: Training	305
	4.55 Descriptive Statistics: Team Work	306
	4.56 Scale Reliability Test Continuous Improvement	307
	4.57 Descriptive Statistics: Management Commitment	308
	4.58 Descriptive Statistics: System Approach to Management	309
	4.59 Scale Reliability: Customer Satisfaction	310
	4.60 Scale Reliability: Employee Involvement	311
	4.61 Scale Reliability: Training	312
	4.62 Scale Reliability: Team Work	313
	4.63 Scale Reliability: Continuous Improvement	314
	4.64 Pearson Correlation Test: Faculty Perspectives	315
	Group-IV Stake Holder Perspectives(Director, IQAC Member, Syndicate Members, Senate Members) And Others	
	4.65 Frequency Distribution of Gender	318
	4.66 Frequency Distribution of Age	319
	4.67 Frequency Distribution of Marital Status	320

	4.68	Frequency Distribution of Position	321
	4.69	Descriptive Statistics: Management Commitment	322
	4.70	Descriptive Statistics: System Approach to Management	323
	4.71	Descriptive Statistics: System Approach to Management	324
	4.72	Descriptive Statistics: Employee Involvement	325
	4.73	Descriptive Statistics: Training	326
	4.74	Descriptive Statistics: Team Work	327
	4.75	Descriptive Statistics: Continuous Improvement	328
	4.76	Descriptive Statistics: Management Commitment	329
	4.77	Scale Reliability: System Approach to Management	330
	4.78	Scale Reliability: Customer Satisfaction	331
	4.79	Scale Reliability: Employee Involvement	332
	4.80	Scale Reliability: Training	333
	4.81	Scale Reliability: Team Work	334
	4.82	Scale Reliability: Continuous Improvement	335
	4.83	Pearson Correlations Test	336
	Chapter : 5 Conclusion		
5.0	Introduction		339
	5.1	Findings And Conclusion :Student Perspectives	339
	5.2	Findings And Conclusion :Faculty Perspectives	343
	5.3	Findings And Conclusion Non-Teaching Staff Perspectives	346
	5.4	Findings And Conclusion: Stake Holders' Perspectives ((Director, IQAC Member, Syndicate Members, Senate Members) And Others	349
	5.5	Recommendations	352

	5.6 Limitations And Further Scope Of Research	355
	Bibliography	356
	Appendix : Research Paper published by the Researcher	380

Table of Contents of Executive Summary		
Sr. Nos.	**Contents**	Page Nos.
I	Introduction	01
II	Research Methodology and Data Analysis	10
III	The Key Findings and Conclusions	27
IV	Recommendations	39
V	Limitations and Scope for further study	42
VI	Bibliography	43

CHAPTER-1

INTRODUCTION

The quality education crises of the components like good infrastructural facilities in the institution and well-qualified and talented teachers. Most of the 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 are 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 concepts. 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.

The purpose of the present study is academic and has some limitations, too. The present study could through sufficient focus on need of TQM in Indian higher education institutes, particularly state-owned and semi- state-owned higher education institutes.

The present study has been divided into three main parts: (1) Preliminary pages: Preliminary pages cover index, sub-index and compulsory pages as instructed by the supervisor. (2) Main Text: It covers five chapters (APA style) such as: i) Introduction, ii) Review of Literature iii) Research Methodology iv) Data Analysis and Interpretation v) Findings, Conclusions and Recommendations (3) Supplementary pages: It covers bibliography, Publication etc. details and other pages as instructed by the guide.

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.

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

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.

Total Quality Management (TQM)

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.

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).

Background of the study

TQM in higher education is a process that involves the institutions adopting a total quality approach to the entire academic process and environment (i.e. attempting to improve the quality of instruction and in the process, the students' meaningful learning in every possible way) so that the needs of the students and those of their employers are best served. It is the never-ending pursuit of continuous improvement in the quality of education provided to the students and the satisfaction of the other stakeholders. Fostering excellence and applying quality in higher education presents a range of challenges. The present scenario and the economic slowdown have posted serious questions on the quality of higher education in India especially management and professional education that stands at the crossroad. Higher education was a popular choice because of its interdisciplinary nature and with admission to the course open to all categories of graduates. The growing number of HEIs in every corner of the country has made Education available to everyone who aspires for it. This growth has in fact far exceeded the demand of the industry in the last few years, thereby making is a common factor that will shape the strategies of higher educational institutions in their attempt to satisfy various stakeholders including: students, parents, industry and society as a whole. (Amalia Venera Todorut,2015)12. The author also adds that TQM is a vision, which the educational institution can only achieve through long-term planning, by drawing up and implementation annual quality plans, which gradually lead the firm towards the fulfillment of the vision. TQM must be widely recognized and successfully implemented in HEI's, giving them the edge in international as well as local competitiveness, to ensure high

quality services and satisfy the needs of stakeholders. HEI's must gain in-depth understanding of the key factors associated with the quality performance practices that is important to improve efficiency and enhance growth and sustainability.

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 Policy Makers (Authorities of the University, syndicate and Senate members, Directors, IQAC member, Head of Institutes, and 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. But 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 comities 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.

Objectives of the study

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 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, on-teaching staff and Policy Makers (i.e. Authorities of the University, syndicate and Senate members, Directors, IQAC Members, Head of Institutes)

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?

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)*.

The detail introduction and review of literature of this study are described in the thesis.

CHAPTER-2

RESEARCH METHODOLOGY

Research methodology is the science of systematically solving a research problem. Often recognized as how a research is to be done scientifically, research methodology involves the learning of the various techniques we can use in the conduct of research such as the conduct of tests, experiments, surveys and critical studies. These methods have been properly tested and utilized and, therefore, each one has logic behind them. Research methodology aims at the employment of the correct procedures to find out solutions and paves the way for research methods to be conducted properly. Research methodology is the guidebook of research and is a science in itself. In this study, the researchers tried to understand various methods of social science with a view to apply appropriate research method(s) for the purpose of this study and methodology adopted for the said purpose.

The methodology to be adopted for the purpose of examining objectives based on primary data source is as follows.

1	Type of Study	Mix Method
2	Universe/Population	University stakeholders (Students, faculty, Non Teaching Staff and Policy Makers)
*3	Target Population	MSU stakeholders Total = 10381
4	Sampling Technique	Convenience sampling
5	Valid Sample Size	PG students N=6970, n= 426

		Faculty: N = 1105, n= 305 Non-teaching staff N=1372 ,n= 318 Others N=150+, n= 63 Total =1112
6	Source of Data	Primary and Secondary
7	Types of Data	Quantitative & qualitative
8	Questionnaire Factors 7 factors	For Primary Data: MC,SAM,CS,EI,TRG,TW,CI
9	Items	Student Perspective=38 Faculty Perspective=67 Non Teaching Staff=44 Policy Makers=40
10	Statistical Tests	Primary Data: Pearson correlations, scale reliability and other applicable
11	Statistical Tools	IBMSPSS.25

Table-3.1 Methodology for primary data analysis

Research Approaches

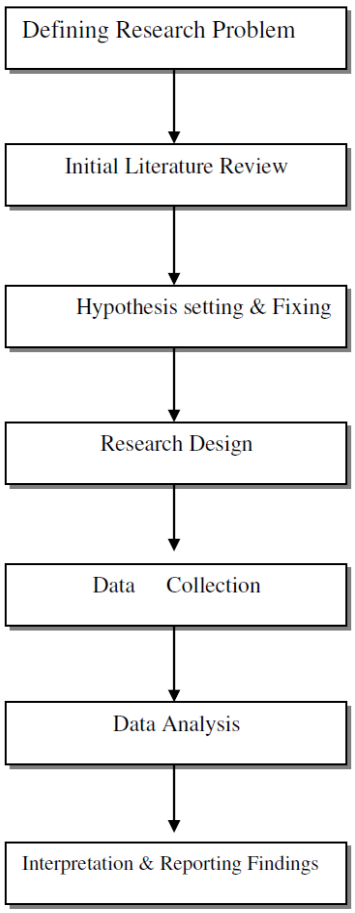
There are two basic research approaches popular in social science research. (1) Qualitative research approach and (2) Quantitative research approach. Qualitative Research is primarily exploratory research. It is used to gain an understanding of

underlying reasons, opinions, and motivations. It provides insights into the problem or helps to develop ideas or hypotheses for potential quantitative research. Qualitative Research is also used to uncover trends in thought and opinions, and dive deeper into the problem. Qualitative data collection methods vary using unstructured or semi-structured techniques. Some common methods include focus groups (group discussions), individual interviews, and participation/observations. The sample size is typically small, and respondents are selected to fulfil a given quota. Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviours, and other defined variables – and generalize results from a larger sample population. Quantitative Research uses measurable data to formulate facts and uncover patterns in research. Quantitative data collection methods are much more structured than Qualitative data collection methods. Quantitative data collection methods include various forms of surveys – online surveys, paper surveys, mobile surveys and kiosk surveys, face-to-face interviews, telephone interviews, longitudinal studies, website interceptors, online polls, and systematic observations. Mixed methods research is a methodology for conducting research that involves collecting, analyzing and integrating quantitative (e.g., experiments, surveys) and qualitative (e.g., focus groups, interviews) research These procedures developed in response to a need to clarify the intent of mixing quantitative and qualitative data in a single study (or a program of study). With the inclusion of multiple methods of data and multiple forms of analysis, the complexity of these design calls for more explicit procedures. These procedures also developed in part to meet the need to help researchers create understandable designs out of complex data analysis.

This study is mix method type of study which consists of mainly primary data collection, analysis and interpretation. The theoretical background on mix method approach of research is discussed later on in this chapter.

Research Process

Under this headline the steps in which the researcher must to be taken are to be distinguished and demonstrated. It consists of a series of steps or actions that are necessary to execute a research in effective way. In the below chart, the steps in a research process are to be illustrated.



Research Process (Source: self-prepared)

Defining Research Problem

Research problem is a statement that wants to know what relation exists among some variables. The first step in a research after determining the area for research is defining the problem under the study, so the time period of research, unit of analysis, variables and estimation of relationship (to set up the next step that is formulating the problem or setting up the hypothesis) are to be facilitated.

In the present study, the statement of problem consists of mainly; inclusiveness of dimensions of learning organization and its impacts on TQM in context to MSU of Baroda. The research problem for this study is defined in the following manner. The research idea came into mind for the present study from existing dimensions of learning organization and its role in changing role in Indian higher education. TQM has a vital role to play in higher education in India. . The following steps are followed through necessary self-checklist criteria during formulating the research problem for the purpose of this study.

- Identification of Subject Area
- Problem Definition and Identification
- Literature Review
- Selection of Research Design, Subjects and Data Collection Technique(s)
- Data Gathering
- Data Processing and Analysis
- Implications, Conclusions and Recommendations
- Communication of Results

In this way, research problem formulation and research process as discussed above provide directions to the researchers for the further investigation in this study

A literature review goes beyond the search for information and includes the identification and articulation of relationships between the literature and current field of research. While the form of the literature review may vary with different types of studies, the basic purposes remain constant: Review of literature provides and fulfils the following issues.

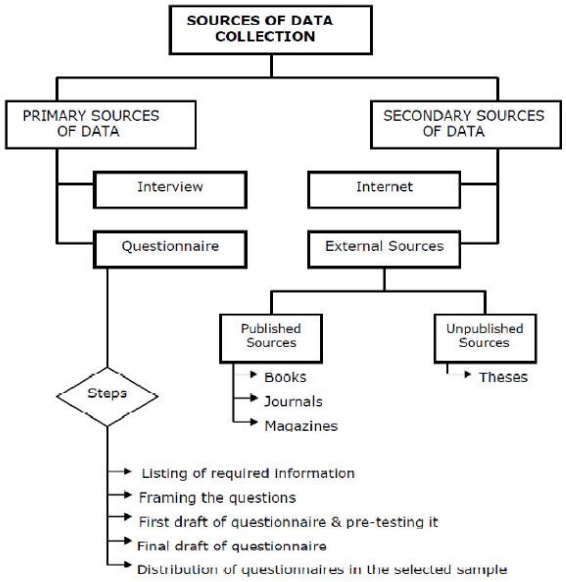
(1) Provide a context for the research (2) Justify the research (3) Ensure the research hasn't been done before (or that it is not just a "replication study") (4) Show where the research fits into the existing body of knowledge (5) Enable the researcher to learn from previous theory on the subject (6) Illustrate how the subject has been studied previously (7) Highlight flaws in previous research (8) Outline gaps in previous research (9) Show that the work is adding to the understanding and knowledge of the field.

Research Design

Kothari (2009) says, the research design is the conceptual structure within which the research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data. So the research design can be defined as a plan, structure and strategy of a research to find out alternative tools to solve the problems and to minimize the variances. Details description about research design is mentioned in the final thesis.

Data Collection

The data collection source is demonstrated in the following figure which justifies the usage of primary data collection method in this study.



Sample Design

A sample design is made up of two elements. (1) Sampling method. Sampling method refers to the rules and procedures by which some elements of the population are included in the sample. Some common sampling methods are simple, stratified sampling, and cluster sampling (2) Estimator. The sample design adopted for the purpose of this investigation is discussed in the following manner. The following terms are necessary to discuss before moving forward for further in this chapter.

Universe / Population: It is a little alternative term used for population. In this study the universe is university stakeholders i.e. Students, Faculty, Non-teaching staff and Policy Makers (i.e. Authorities of the University, Syndicate and Senate Members, Directors, IQAC members, Head of Institutions etc.)

Target Population: Target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions. The target population usually has varying characteristics and it is also known as the theoretical population. In this study, the target population is university stakeholders

i.e. Students, faculty, Non-teaching staff and Policy Makers (i.e. Authorities of the University, Syndicate and Senate Members, Directors, IQAC members etc of MSU of Baroda), i.e. 10138 in number.

In this study, convenience non-probability sampling and cluster-probability sampling techniques are applied for the following reasons. In this study, convenience sampling and cluster sampling techniques are applied for the following reasons.

(1) Expedited Data Collection

Time constraint is working in this study because this is academic research and should have to finish within stipulated time frame.

(2) The target population has concentrated geographical area in the campus of MSU of Baroda. Therefore, primary data collection in form of in person is not difficult to the researcher.

(3) It is cost effective.

(4) It is readily available.

In conclusion, the sampling techniques are applied with a view to get at least confidence level at 95% i.e. p –value can be maintained less than 0.05.

3.10 Sample Size

There are different strategies to determine sample size in statistics. Such as: using a census for small population, using sample size for similar study, using published tables and using formulae to calculate a sample size. Different formulae are applicable in different sampling issues .i.e. definite population, indefinite population, proportion formula and formula for mean. According to Hair (2006), small or more samples have negative impact on the statistical tests either samples are not being enough or to much excess for accurate results.

The level of precision or sampling error (i.e. it is the range in which the true value of the population is estimated to be. This range is often expressed in percentage points. (e.g. ± 5%) Another point is confidence level. The confidence or risk level is based on ideas encompassed under the central limit theorem. Generally, 95% is considered in social science research. The next important factor is target population. General formula for sample size calculation is as follows.

$SS= Z^2*(p)*(1-p) / C^2$

Z= Z value (i.e. 1.96 for 95% confidence level

p = percentage

C= confidence interval

The sample size for the purpose of this study is determined as 1112. (Students:426, Faculty members: 305, Non teaching staff: 318 and Policy Makers: 63).

Data Analysis

Data analysis is a process and part of research. It is used to inspect, clean, transform, and remodel data with a view to reach certain conclusion for given situation. Data analysis is typically two types (1) Quantitative and (2) Qualitative. The analytical part with theoretical background is discussed in detail in thesis of this study. The statistical tools are applicable for data analysis process. Some of them are summarized in the following manner which proved as useful statistics during this study.

Descriptive Statistics:

The term given to the data analysis that helps describing or summarizing data in a meaningful way. Descriptive statistics is important because it converts the raw data into meaningful data which allows simpler interpretation of data. In this regards, the following two types of general statistics is applicable for this study.

(1) Statistical tests give accurate results and conclusion of analysis output which can lead to better recommendations of the research.

(2) Statistical tests provide scientific evidence(s) of the research conducted and can also be generalized to other relevant studies.

There are numerous statistical tests are available for testing hypothesis of any research but the following tests are conducted for the purpose of this investigation.

Measures of Central Tendency

It describes the central position of frequency distribution for a group of data. In this case, central position is described by including mean, median and mode, which is known as central tendency.

The arithmetic mean or average of a set of values is the ratio of the sum of these values to the number of elements in the set. In other words, we add together the given values in a data set, and then divide that total by the number of given values. The arithmetic mean formula is given below:

$$\bar{X} = \frac{X_1 + X_2 + X_3 \ldots X_N}{N}$$

Where
$\bar{X}$ = the mean
X_1 = the first value
X_2 = the second value
X_3 = the third value
X_N = the last value
N = the number of values

Or

$$\overline{x} = \frac{\sum x_i}{n}$$

Median: The value in a set of ranked observations that divides the data into two parts of equal size. When there are an odd number of observations the median is the middle value. When there is an even number of observations the measure is calculated as the average of the two central values. Provides a measure of location of a sample that is suitable for asymmetric distributions and is also relatively insensitive to the presence of outliers

$$Median = l + \frac{h}{f}\left(\frac{N}{2} - c\right)$$

Where:

l = lower class boundary of the median class

h = Size of the median class interval

f = Frequency corresponding to the median class

N = Total number of observations i.e. sum of the frequencies

c = Cumulative frequency preceding median class.

Mode The mode of a set of data values is the value(s) that occurs most often

$$\text{Mode} = L + \left(\frac{f_1 - f_0}{2f_1 - f_0 - f_2}\right) \times h$$

Where

- L is the lower class limit of the modal class
- f_1 is the frequency of the modal class
- f_0 is the frequency of the class before the modal class in the frequency table
- f_2 is the frequency of the class after the modal class in the frequency table
- h is the class interval of the modal class

The purpose of finding central tendency can be full filled in such a manner by putting relevant values in the aforesaid formulae. Detail calculation and discussion is mentioned in the thesis of this study.

Measures of spreads

It refers that in which way (s) summarizing a group of data by describing how spread out the scores are. To describe numerous statistics are available including range, quartiles, deviation, variance and standard deviation.

RangeThe difference between the largest and smallest observations in a data set. Often used as an Easy-to-calculate measure of the dispersion in a set of observations but not recommended for this task because of its sensitivity to outliers and the fact that its value increases with sample size.

Quartiles: The values that divide a frequency distribution or probability distribution into four equal parts.

Deviation: A measure of the extent to which a particular model differs from the saturated model for a data set. Defined explicitly in terms of the likelihoods of the two models as

$$D = -2[\ln L_c - \ln L_s]$$

Where,

Lc and Ls are the likelihoods of the current model and the saturated model, respectively. Large values of d are encountered when Lc is small relative to Ls, indicating that the current model is a poor one. Small values of d are obtained in the reverse case. The deviance has asymptotically a chi-squared distribution with

degrees of freedom equal to the difference in the number of parameters in the two models when the current model is correct

Variance: In a population, the second moment about the mean. An unbiased estimator of the population value is provided by s2 given by

$$s^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2$$

where $x_1, x_2, \ldots, x_n$ are the n sample observations and $\bar{x}$ is the sample mean.

Sample Standard Deviation: The standard deviation is a numerical value used to indicate how widely individuals in a group vary. If individual observations vary greatly from the group mean, the standard deviation is big; and vice versa. It is important to distinguish between the standard deviation of a population and the standard deviation of a sample. They have different notation, and they are computed differently. The standard deviation of a population is denoted by σ and the standard deviation of a sample, by *s*.

$$s = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \overline{x})^2}{n-1}}$$

Population Standard Deviation

$$\sigma = \sqrt{\frac{\sum\ (x - \overline{x}\ )^2}{n}}$$

σ = standard deviation

$\sum$ = sum of

x = each value in the data set

$\overline{x}$ = mean of all values in the data set

n = number of value in the data set

Smaller standard deviations reflect more clustered data. More clustered data means less extreme values. A data set with less extreme values has a more reliable mean. The standard deviation is therefore a good measure of the reliability of the mean value.

Thus, descriptive statistics is evaluated with the help of IBMSPSS.25 in this study. The results are discussed in the forthcoming chapter.

Data Standardization:

Part of the derivation process, standardization is the process by which similar data received in various formats is transformed to a common format that enhances the comparison process.

In the overall knowledge discovery process, before data mining itself, data pre processing plays a crucial role. One of the first steps concerns the normalization of the data. This step is very important when dealing with parameters of different units and scales. For example, some data mining techniques use the Euclidean distance. Therefore, all parameters should have the same scale for a fair comparison between them

In this study, the data standardization process is conducted with the help of IBMSPSS.22 as a statistical tool. The data of this study are standardized before conducting the process of data normalization. The data consist of all groups of respondents.

Questionnaire for this Study

The questionnaire for this study for collecting primary data contains two main sections. Section A contains profile of respondents. Section B contains main

questions on perception towards management commitment, system approach to management, customer satisfaction, employee involvement, training teamwork and continuous improvement for all the four group respondents.

Demographics are the quantifiable statistics of a given population. Demographics are also used to identify the study of quantifiable subsets within a given population which characterize that population at a specific point in time.

Demographic profiling is essentially an exercise in making generalizations about groups of people. As with all such generalizations many individuals within these groups will not conform to the profile - demographic information is aggregate and probabilistic information about groups, not about specific individuals. Critics of demographic profiling argue that such broad-brush generalizations can only offer such limited insight and that their practical usefulness is debatable.

In this study, demographic profile is labelled by section A and has all the information is not same in all the four groups. The questions are related to gender, age, education, marital status, financial status, occupation, income and other related information.

The questionnaire of section B contains seven factors and each factor has different and unequal items. Each item has five point Likert scale rating from strongly disagrees to strongly agree. A Likert scale is a summated rating scale used for measuring attitudes. The method was developed by Rensis Likert in 1932.

Strongly Disagree . Neutral Agree Strongly

Disagree

1 2 3 4 5

In the present study total 1112 sample sizes in determined from the all four groups for the purpose of this study and the sample questionnaire for all four group is described in the thesis of this study.

Data Analysis and Interpretation

The questionnaire for primary data collection is different for all the four types of stakeholders (Students, Faculty members, Non-teaching Staff, Policy Makers (Authority of the University, syndicate members, Senate members, Directors, Head of Institutions IQAC members and others,). Target population for the present study is 10,381. The final sample size is determined as 1112 (students: 426, faculty: 305, non-teaching staff: 318, other stakeholders: 63). The results are summarized in the following manner.

Student perspectives:

It is found during the study that the items (i.e. variables of each factors are internally consistent by registering Cronbach alpha within the range of 0.746--0.918 i.e. 74.6%-91.8%) So that it can be concluded that statements asked to the respondents are relevant to the problem statement. Pearson correlation for all the seven factors is registered within the range of 0.770 -0.980(77.0. -98.0%.It means most of the variables are significantly correlated with each other. Detail statistical analysis is described in thesis of this study.

Faculty Perspectives:

It is found during the study that the items (i.e. variables of each factors are internally consistent by registering Cronbach alpha within the range of 0.595-0.996 i.e. 59.5-99.6%) So that it can be concluded that statements asked to the respondents are relevant to the problem statement. Pearson correlation for all the seven factors is registered within the appropriate range. It means the variables are significantly correlated with each other. Detail statistical analysis is described in thesis of this study.

Non-teaching staff perspectives:

It is found during the pilot study that the items (i.e. variables of each factors are internally consistent by registering Cronbach alpha within the range of 0.595-0.996 i.e. 59.5-99.6%) So that it can be concluded that statements asked to the respondents are relevant to the problem statement. Pearson correlation for all the seven factors is registered within the range of 0.554-0.923(55.4-92.3%. It means the variables are significantly correlated with each other. Detail statistical analysis is described in thesis of this study.

Policy Makers (Authority of the University, syndicate members, Senate members, Directors, Head of Institutions, IQAC members and others) perspectives:

It is found during the pilot study that the items (i.e. variables of each factors are internally consistent by registering Cronbach alpha within the range of 0.442-0.818 i.e. 44.2-81.8%) So that it can be concluded that statements asked to the respondents are relevant to the problem statement. Pearson correlation for all the seven factors is registered within the range of 0.241-0.985(24.1-98.5%. It means the variables are significantly correlated with each other. Detail statistical analysis is described in thesis of this study.

Conclusion

Thus, it can be concluded that all the four groups are conscious on quality education in the university and have almost same perceptions on all the factors but in detail item wise perception is described and compared with each other in thesis of this study. The null hypotheses formulated for the purpose of study seem to be rejected in case of all the factors and groups.

Research Methodology and Data analysis of this study are described in detail in thesis.

CHAPTER-3

KEY FINDINGS AND CONCLUSIONS

The present chapter discusses conclusion of the present study. It covers findings, conclusion, recommendations and suggestions for further research.

Findings and Conclusion: Students Perspectives

The demographic analysis of respondents focused on female participation in survey is greater in comparison to male participation. Residential status of respondents is associated with non-hostel in a greater strength. Academic pursuance of PG Commerce has greater than the others. To conclude, demographic profile of respondents in context to students is not a part of objectives of the study. So that, the same is overviewed and exhibited during data analysis in terms of tabulation form and graphs.

Descriptive statistics of Group-A (i.e. students' perspectives):

The results of descriptive statistics summarizes characteristics of 426 respondents of Group-A. The results are interpreted for management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement. It is concluded that the results permit the researchers for further analysis to achieve objectives of the study.

The results on scaling techniques for factors such as management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement validate the scaling techniques employed for the purpose of the present study.

Pearson Correlations test with reference to students perspectives summarize co-relations amongst all the factors such as management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement.

The results on Pearson Coefficient for $H_0$1 reflect on positive association amongst all the factors considered with 38 items. These items are concentrated with key issues such as student focused performance measurement, quality awareness programs, infrastructure issues, syllabi associated with employability or entrepreneurship, student satisfaction level with reference to basic amenities and requirement, tools and resources availability for study, good attitude of teaching and Non-teaching staff, training to students on soft skills, good team work and empowerment to students on curricula design and other administrative activities. These elements are covered in questionnaire items of all the factors and their association is shown during testing of $H_0$1.

The findings on 38 items in context to student perspectives cam be concluded as positively correlated with each other in good intensity. Some of the points are evaluated on testing $H_0$1 and its results are enumerated in the following manner.

Education is a continuous process. It is one of the great challenges for management of educational institutes to manage a good quality of education in present environment. Most of the Indian Institutions understand importance of qualitative education and one of them in MSU of Baroda which initiates lots of measurements to improve quality of education in eyes of the students.

The most preferred positive response on MC1, MC2, MC4 and MC7 registered in context to student perspectives. It concludes that management is committed with university`s vision, mission and student centric education.

The most preferred positive response on SAM1 and SAM3 is registered in context to student perspectives. To conclude, parents –teacher and other people meetings for interactions and quality improvement are being held in regular manner in case of MSU of Baroda.

The most preferred positive response on CS1, CS3, CS5, CS6, CS7 is registered in context to student perspectives. To conclude, parent's involvement, recognition to student performance, placement programs, hygienic canteen facilities and study tools facilities are being provided in the MSU of Baroda.

The employee involvement level in eyes of students in providing quality education is significantly associated in positive manner with EI1, EI3, EI4, EI5 and EI6. To conclude, attitudinal issues, student problem solving machinery such as quality circle, conducting conferences and workshops, supporting role of staff towards Total Quality Management and student encouragement from faculty for better performance are significantly responded as positive by the students in case of the MSU of Baroda in the present study.

Training point of view, the respondents have also positive response in terms of students` soft skills training. To conclude, students are happy with training through various programs is being given to the students of MSU of Baroda.

Team Work point of view, the respondents have also positive response with respect to TW1,TW2,TW3,TW4.To conclude, it is observed that management efforts, use of

faculty skills and quality improvement team have excellent role to improve quality of education in the MSU of Baroda.

Continuous Improvement point of view, the respondents are positive in case of CI1, CI2, CI3, CI4, CI5,To conclude, suggestions of stakeholders, monument role on developing student`s skills and creativity, use of resources and complaints resolution machinery play dynamic role in case of the MSU of Baroda.

Thus, it is to conclude that PG and scholar students of the MSU of Baroda have positive attitude on factors associated with Total Quality Management (management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement)

Findings and Conclusion: Faculty Perspectives

The demographic profile of faculty with reference to the MSU of Baroda is not a part of objectives as well as hypotheses.

The results on Pearson Coefficient for $H_0$2 reflect on positive association amongst all the factors considered with 67 items. These items are concentrated with key issues such as student focused performance measurement, quality awareness programs, infrastructure issues, syllabi associated with employability or entrepreneurship, student satisfaction level with reference to basic amenities and requirement, tools and resources availability for study, good attitude of teaching and Non-teaching staff, training to students on soft skills, good team work and empowerment to students on curricula design and other administrative activities. These elements are covered in questionnaire items of all the factors and their association is shown during testing of $H_0$2

The findings on 67 items in context to faculty perspectives cam be concluded as positively correlated with each other in good intensity. Some of the points are evaluated on testing $H_0$2 and its results are enumerated in the following manner.

The most preferred positive response on MC1, MC2, MC4, MC5, MC6, MC8, MC10, MC11 and MC12 registered in context to faculty perspectives. It concludes that management is committed with university`s vision, mission, effective HRP, comprehensive goal setting process, clear objectives, opportunities to good academic experience and group dynamics training to faculty for student centered education.

The most preferred positive response on SAM1, SAM2, SAM3, and SAM7 are registered in context to faculty perspectives. To conclude, regular meetings, regular allocation of information, and understanding role of quality improvement and academic performance analysis are important issues for TQM process in case of MSU of Baroda.

The most preferred positive response on CS1, CS3, CS5, CS6, CS7, CS8, and CS9 are registered in context to faculty perspectives. To conclude, parent's involvement, recognition to student performance, placement programs, benchmarking practices, commitment towards common goal achievement and total customer satisfaction activities are being conducted in the MSU of Baroda.

The employee involvement level in eyes of faculty in providing quality education is significantly associated in positive manner with EI1, EI3, EI4, EI5, EI6, EI7.EI9, EI10, EI11, EI12, EI13, EI14 and EI5. To conclude, faculty attitudinal issues, student problem solving machinery such as quality circle, conducting conferences and workshops, supporting role of staff towards Total Quality Management, salary and compensation facility, trust and openness as well as faculty empowerment

strategies are significantly responded as positive by faculties in case of the MSU of Baroda in the present study.

Training point of view, the respondents have also positive response in terms of faculties` training with respect to TRG1, TRG2, TRG4 and TRG5. To conclude, faculties are happy with training through various programs is being given to the faculty of MSU of Baroda.

Team Work point of view, the respondents have also positive response with respect to TW1,TW2,TW3,TW4.To conclude, it is observed that management efforts, use of faculty skills and quality improvement team, individual contribution and faculty skill improvement have excellent role to improve quality of education in the MSU of Baroda.

Continuous Improvement point of view, the respondents are positive in case of CI1, CI2, CI3, CI4, CI5CI7,CI8,CI9,CI10,CI11 and CI12 ,To conclude, suggestions of stakeholders, monument role on developing faculty skills and creativity, use of resources and complaints resolution machinery play dynamic role in case of the MSU of Baroda.

Thus, it is to conclude that faculty of the MSU of Baroda have positive attitude on factors associated with Total Quality Management (management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement)

Findings and Conclusion: Non-teaching staff Perspectives

The demographic profile of Non-teaching staff with reference to the MSU of Baroda is not a part of objectives as well as hypotheses. Hence, the same is observed during data analysis and interpretation.

The results on Pearson Coefficient for $H_0$3 reflect on positive association amongst all the factors considered with 44 items. These items are concentrated with key issues such as student focused performance measurement, quality awareness programs, infrastructure issues, syllabi associated with employability or entrepreneurship, role of supervisory staff, recognition level to supervisory staff, employee satisfaction and role of Non-teaching staff in total quality management. Good attitude of Non-teaching staff, training to Non-teaching staff on soft skills, good team work and empowerment to Non-teaching staff on curricula design and other administrative activities. These elements are covered in questionnaire items of all the factors and their association is shown during testing of $H_0$3

The findings on 44 items in context to faculty perspectives cam be concluded as positively correlated with each other in good intensity. Some of the points are evaluated on testing $H_0$3 and its results are enumerated in the following manner.

The most preferred positive response on MC1, MC2, MC4, MC5, and MC 6 registered in context to Non Teaching Staff perspectives. It concludes that management is committed with university`s vision, mission, customer focused administration, knowledge dissemination process, comprehensive goal setting process, clear objectives, opportunities to good administrative experience to Non-teaching staff for student centered education.

The most preferred positive response on SAM1, SAM2, SAM3, and SAM5 are registered in context to Non Teaching Staff perspectives. To conclude, regular meetings, regular allocation of information, and understanding role of quality improvement and managerial functions are important issues for TQM process in case of MSU of Baroda.

The most preferred positive response on CS1, CS3, CS5, CS6 and CS7 are registered in context to Non Teaching Staff perspectives. To conclude, recognition to student performance, placement programs, benchmarking practices, commitment towards common goal achievement and total customer satisfaction activities are being conducted in the MSU of Baroda.

The employee involvement level in eyes of Non teaching staff in providing quality education is significantly associated in positive manner with EI1, EI3, EI4, EI5, EI6, EI7 and EI9. To conclude, Non-teaching staff attitudinal issues, the staff problem solving machinery such as quality circle, conducting conferences and workshops, supporting role of staff towards Total Quality Management, salary and compensation facility, trust and openness as well as Non-teaching staff empowerment strategies are significantly responded as positive by faculties in case of the MSU of Baroda in the present study.

Training point of view, the respondents have also positive response in terms of Non-teaching staff training with respect to TRG1, TRG2 and TRG4. To conclude, faculties are happy with training through various programs is being given to the faculty of MSU of Baroda.

Team Work point of view, the respondents have also positive response with respect to TW1,TW2,TW3,TW4.To conclude, it is observed that management efforts, use of

Non-teaching staff skills and quality improvement team, individual contribution and faculty skill improvement have excellent role to improve quality of education in the MSU of Baroda.

Continuous Improvement point of view, the respondents are positive in case of CI1, CI2, CI3, CI4, and CI5,CI5, ,To conclude, suggestions of Non teaching staff, monument role on developing staff skills and creativity, use of resources and complaints resolution machinery play dynamic role in case of the MSU of Baroda.

Thus, it is to conclude that Non Teaching Staff of the MSU of Baroda have positive attitude on factors associated with Total Quality Management (management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement)

Findings and Conclusion: Stake holder`s Perspectives (Director, IQAC member, syndicate members, senate members) and others

The demographic profile of stake holders` such as director, IQAC member, syndicate members, senate members and others with reference to the MSU of Baroda is not a part of objectives as well as hypotheses. Hence, the same is observed during data analysis and interpretation.

The results on Pearson Coefficient for $H_0$4 reflect on positive association amongst all the factors considered with 40 items. These items are concentrated with key issues such as student focused performance measurement, quality awareness programs, infrastructure issues, syllabi associated with employability or entrepreneurship, role of supervisory staff, other administrative activities. All these issues are also concerned with Policy makers such as mentioned in this section. They have also responded for good governance and quality education from the MSU of

Baroda. These elements are covered in questionnaire items of all the factors and their association is shown during testing of $H_0$4

The findings on 40 items in context to faculty perspectives cam be concluded as positively correlated with each other in good intensity. Some of the points are evaluated on testing $H_0$4 and its results are enumerated in the following manner.

The most preferred positive response on MC1, MC2, MC4, MC5, and MC 6 registered in context to Policy maker's perspectives. It concludes that management is committed with university`s vision, mission, customer focused administration, knowledge dissemination process, comprehensive goal setting process, people`s role, role of top level management towards TQM, clear objectives for student centric education.

The most preferred positive response on SAM1, SAM2, SAM3, and SAM5 are registered in context to Policy maker's perspectives. To conclude, regular meetings, regular allocation of information, and understanding role of quality improvement and managerial functions are important issues for TQM process in case of MSU of Baroda.

The most preferred positive response on CS1, CS3, CS5, and CS6 are registered in context to Policy maker's perspectives. To conclude, recognition to student performance, placement programs, benchmarking practices, commitment towards common goal achievement and total customer satisfaction activities are being conducted in the MSU of Baroda.

The employee involvement level in eyes of Policy maker in providing quality education is significantly associated in positive manner with EI1, EI3, EI4, EI5, EI6, EI7 and EI9. To conclude, Non-teaching staff attitudinal issues, the staff problem

solving machinery such as quality circle, conducting conferences and workshops, supporting role of staff towards Total Quality Management, salary and compensation facility, trust and openness as well as external and internal stake holders` empowerment strategies are significantly responded as positive by Policy makers in case of the MSU of Baroda in the present study.

Training point of view, the respondents have also positive response in terms of training with respect to TRG1, TRG2 and TRG4. To conclude, Policy makers are happy with training through various programs is being given to the faculty of MSU of Baroda.

Team Work point of view, the respondents have also positive response with respect to TW1,TW2,TW3,TW4.To conclude, it is observed as per policy maker's perspectives that management efforts, use of Non-teaching staff skills and quality improvement team, individual contribution and faculty skill improvement have excellent role to improve quality of education in the MSU of Baroda.

Continuous Improvement point of view, the respondents are positive in case of CI1, CI2, CI3, CI4, and CI5, ,To conclude, suggestions of Policy makers , monument role on developing staff skills and creativity, use of resources and complaints resolution machinery play dynamic role in case of the MSU of Baroda.

Thus, it is to conclude that Policy makers of the MSU of Baroda have positive attitude on factors associated with Total Quality Management (management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement)

Above and all, it is concluded that TQM process in selected dimensions for the purpose of this study is responded in collective manner. All the dimensions such as

management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement are reciprocally associated with each other. These dimensions of learning organization have significant role to achieve organizational goal as well as improvement of quality education in higher education of India.

CHAPTER-4

RECOMMENDATIONS

The following recommendations are made after findings and concluding the present study to the university in a nut shell manner.

1. Quality awareness programs through six-sigma/ DMAIC and other methodology can be conducted for the purpose of accelerate total quality management.
2. Course design can be improved / reviewed to become more employability perspectives.
3. Interdisciplinary study and research can be promoted through offering new executive programs to provide common platform to candidates from the diverse academic background.
4. Sports, NCC and other extra curriculum activities can be promoted by offering flexibility in academic calendar and exam pattern.
5. Student life cycle can be more simplify to avoid hurdles of students by offering single window grievance redressal mechanism for all queries pertaining to Student life Cycle.
6. Some specific tailor made course design can be introduce with the help of corporate world to create best practical learning platform for the students which may lead to increase employability.
7. Virtual Learning Pattern and Exam Pattern should evolve to attract the students globally.
8. Academic flexibility can be offered for specific courses which may cater the need of corporate executive.

9. Faculty members can be exposed and trained continuously with new innovative learning practices to serve the society best output.
10. Basic infrastructure for the students can be developed in a better manner at par with autonomy institutions.
11. NSS, YRC, NCC and Club activities can be facilitated with advanced technology
12. Customer satisfaction index can be displayed on periodical basis on university website.
13. Employees can be made more knowledge enhanced.
14. Training can be ornamented with high tech tools.
15. Teamwork can be strengthen with the help of better benchmarking systems.
16. Continuous improvement can be raised by playing efficient role of all internal and external stake holders.
17. Students, faculties, Non-teaching staff and other stake holders can be proved as a component of a single chain in HEI such as The MSU of Baroda.

Thus, the following points are also evaluated during the present study as the university in terms of learning organization.

The issues regarding functioning of the university, learning organization provides a slightly different (managerial) framework for rethinking the organizational issues in HEIs. What we see as the main contribution of this concept to HEIs is the emphasis on professional development through learning with others.

The results of the present study recall the previous research conducted by Marsik & Watkins (1996) and Senge (1990) along with different dimensions of learning organization. The key words evaluated in the present study are shared vision, system

thinking, outcomes and cultural differences. LO`s culture, knowledge performance and research performance are also play crucial role in learning organization.

CHAPTER-5

LIMITATIONS AND SCOPE FOR FURTHER STUDY

The present study has certain limitations as faced during the period of study. Some of the limitations are enlisted in the following manner.

1. This is academic type of study.
2. It has time constraint.
3. It has financial constraints in terms of field survey expenditure.

The study can be conducted by considering more dimensions of learning organization in relation to total quality management .Population and area of research also can be expanded.

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