"An Exploratory Study on Selected Dimensions of Learning organization and Its Impact on TQM of Higher Education Sector with Special Context to The Maharaja Sayajirao University of Baroda, Vadodara."

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Towards Partial Fulfillment for
The degree of

Doctor of Philosophy

SUBMITTED TO

PROF. (DR). JAYRAJSINH D. JADEJA

DEAN AND GUIDE

THE FACULTY OF MANAGEMENT STUDIES
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

JULY, 2019

"*An Exploratory Study on Selected Dimensions of Learning organization and Its Impact on TQM of Higher Education Sector with Special Context to The Maharaja Sayajirao University of Baroda*"

SYNOPSIS

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Executive Summary

Education is one of the basic and important service industry 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 (Higher Education Institutions) 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 human power is high in industrial arena.

India is a developing country and requires remapping of the higher education system. It needs to create world class multidisciplinary HEIs across the country. Higher education should be empowered by good, well rounded, and creative individuals with intellectual curiosity, spirit of service, and a strong ethical compass. Arjomandi (2009) claims that in twenty first century universities have to adopt business-like strategies to cope with the increasing market competition and limited funding opportunities. That is why implementation of quality management has become important in Higher Education. Moreover, Higher Education is like enterprises as they collect the fees money in cash which is the life blood of any enterprise (Warner and Palfreyman, 2000). Higher Education must lead to ethical development of students while its process of imparting education. The standard of education has its direct impact on the development of the students' understandings. Application of quality management in higher education 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. A handshake between TQM and Higher Education in India is emerging need for quality education and making competitive with global institutes. Under this context, the researchers

could evaluate the gap(s) and undertake the present study to understand dimensions of learning organization and its impacts on TQM of higher education sector with special reference to the Maharaja Sayajirao University of Baroda. The gap(s) could well be established through related review of literature where studies have been undertaken on various dimensions such as: management commitment, system approach to management, customer satisfaction, employee involvement, training, team work and continuous improvement.

The present study could throw sufficient focus on need of TQM and Indian higher education institutes, particularly state-owned and semi- state-owned higher education institutes.

The present study has been divided into following parts: (1) Preliminary pages: Preliminary pages covers abstract, index, sub-index and compulsory pages (2) Main Text: It covers five chapters (APA style) such as: Introduction, Review of Literature, Research Methodology, Data Analysis and Interpretation and conclusion (3) Supplementary pages: It covers bibliography, Publication details and other pages as instructed by the guide.

Introduction

The learning organization concept gained broad recognition when Senge published his bestselling The Fifth Discipline in 1990. In it he writes that a learning organization values, and derives competitive advantage from, continuing learning, both individual and collective. The five disciplines are systems thinking, personal mastery, mental models, shared vision, and team learning (Senge, 1990). Senge proposes that people put aside their old ways of mental models, learn to be open with personal mastery, understand how their organization really works i.e. systems thinking, form a plan everyone can agree on shared vision and then work together to achieve that vision i.e. team learning

Some of the models on learning organization are studied and finally selected dimensions of learning organization for the purpose of this study. They are management commitment, system approach to management, customer satisfaction, employee involvement, training, teamwork and continuous improvement.

Management commitment recognizes its roles and responsibilities to set directions, management principles and vision, and develops strategies and policies. Management should exercise its involvement and commitment in developing the management structure and environment in which the organization and its people can excel to achieve the organizations objectives.

System approach to management is identifying, understanding and managing interrelated process as a system contributes to the institutions effectiveness and efficiency in achieving its objectives. The key points on system in organization are; responsibility of quality process, provision of quality equipment, measurement and monitoring system,

Customer satisfaction and value creation are important yardsticks for a customer –focused institution. Therefore, it is important to plan the required measure and translate those measures in to actions, by organizing people driven systems and processing it to meet the customers' expectations. Customer satisfaction is at the core of integrated total quality management, and this is an outcome of system processing in the institution.

Employee involvement begins with the personal commitment to quality of the employees who accept and commit to quality philosophy (or) more techniques and use them in the daily work.

Training achieves the highest levels employee performance requires well developed people education and training and adaptation of ethical approach to promote people wellbeing and satisfaction.

Teamwork is the cumulative actions of the team during which each member of the team subordinates his individual interests and opinions to fulfill the objectivity (or) goals of the institution. It should maintain discipline, build team spirit and motivate each other. The team should have companionship, fulfillment of personal growth and self-respect. Everyone should work hard to see the task is completed.

For continuous improvement, the resources are planned, managed and improved with continuous review and update of strategies and policies. The importance of continuous innovation with the emphasis of learning culture should be developed and maintained. Excellence is developed upon balancing and satisfying the needs of all relevant stakeholders.

These dimensions or critical factors are selected for the purpose of this study because education industry of India is passing through its restructuring process. It seeks quality at par with education of advance countries, particularly in higher education. The flow of privatization of higher education rapidly spread its wings in India. The private HEIs have their own powers to run. They face fewer constraints on their developmental issues in comparison to Government/funded HEIs. The question of world class product(s) does not a matter for India but to produce world class professionals for government HEIs is a matter of question. Hence, the applicability in HEIs in India and its outcomes are needed to be studied at this stage. The present study is a part of TQM applicability to MSU of Baroda and its consequences in the eyes of stakeholders are studied.

Universities are the main actors responsible for providing the highly skilled human capital that India needs in order to create jobs, economic growth and prosperity. It is need of time that universities can be redesigned in order to become fully relevant to public organizations, safety organizations, human service organizations and knowledge-intensive organizations.

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

The exact origin of the term "Total Quality Management" is uncertain. It is almost certainly inspired by Armand V. Feigenbaum's multi-edition book Total Quality Control and Kaoru Ishikawa's What Is Total Quality Control? The Japanese Way.

"TQM was initially used for the measurement of quality in the Higher Education sector in 1993" (Clayton, 1993). In fact, the concept of TQM has come to Higher Education HE from the business communities. Ideally education should not be related to business as it is to develop values and the personality of a student. Higher Education too is to make students a learned person and a qualified professional and eventually a good citizen. But there is a clear component of business as Higher Education charge fees from the students and hence students become selective in choosing the universities and the course they want to study. Keeping these points in mind the significance of TQM in Higher Education can be discussed in two sub-headings (1) Higher Education as a business and (2) Higher Education as service for human development.

Total Quality Management (TQM) principles and practices are believed to underpin the evolution of the learning organization, and is an excellent first step toward a learning

organization. Organizations need only to recognize that continuous improvement activities create the required environment for organizational learning to occur (Terziovski, et al., 2000: 27). The concept of a learning organization has elements of prescription, in that it follows the Western conceptualization of adopting Japanese practices that incorporate the philosophy of total quality management (Wyer, et al., 2000: 247).

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

The universities, therefore, need to maintain quality as they have to attract students to fulfill their funding needs. As the students pay fees, they examine not only the quality of education provided by a university but also other services like student support services, student learning resources, student communication and representation and student assessment. In fact, they act as consumers. So, it becomes important for the universities to assure quality by accreditation and outcome assessment. TQM might support better inputs by focusing on students' achievement, good faculty members and other facilities like library and laboratory to get better output as high quality outputs results if high quality inputs exist.

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

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

The above discussion reveals that the quality management in Higher Education is important in either case. Higher Education needs quality management to enhance the quality of education for better service to mankind as well as to fulfill the expectations of its students in order to keep their position secure. NAAC, for example, is advocating the best practice benchmarking approach for the development of TQM in HE. However, it seems that this approach not fully used in Indian HEIs. Prasad (2005) claims that, "Many higher education institutes do not attempt certain practices due to lack of information about the feasibility and adaptability of the best practice". Failure of institutions to attempt practices of tools for quality management, like benchmarking,

push them back and they fail to maintain standards and quality. Two third of India's college and universities are below standard and even the top-rated Indian institutions have severe limited capacity (Dukkipati, 2010).

Pandi and Rao (2006) propose a model of Integrated Total Quality Management (ITQM) which uses the theory of different quality management systems with a common aim of sustainable TQM in HE system UGC has made many measures to ensure the quality of HE in India. However, there is much focus on the quality of education in technical educational institutes as it is believed that engineers and managers play a vital role in making a nation competitive to other countries. Pandi*et al.,* (2009) claim that engineers play a major role in increasing nation's wealth and power by generating employment opportunities. That is why technical educational institutes focus more on quality management.

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. Indian HE will have to maintain quality measures if it wants to become world class.

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.

University Grant Commission (UGC) a statutory body, established in 1956, is the body responsible for the growth of HE in India. UGC established National Assessment and Accreditation Council (NAAC), a sub-agency, in 1994 to ensure quality in HE by the means of internal and external quality assessment and accreditation (ibid). Apart from UGC and NAAC

the All India Council for Technical Education (AICTE), Medical Council of India (MCI), National Council for Teacher Education (NCTE) and Distance Education Council (DEC) are the other bodies working to assure quality and norms and standards in HE in India (AICTE 2009; NCTE 2011; MCI 2010; India Education, No date). As these bodies have their own, they use their own pattern to assure quality.

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 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 Management 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.

The above study has been carried out in one of esteemed educational institution namely the Maharaja Sayajirao University of Baroda, which is established by the Maharaja Sayajirao University of Baroda Act 1949. The Maharaja Sayajirao University of Baroda is the only State University with a residential, unitary character having English as sole medium of instruction with more than 1250 well qualified faculty members supported with 1500 Administrative staff to facilitate the learning of more than 40000 students on a vibrant, cosmopolitan, Wi-Fi enabled campus.

In 2016, the Maharaja Sayajirao University of Baroda has been accredited 'A' Grade by National Assessment and Accreditation Council (NAAC). This milestone was made possible under the able leadership of honorable Vice Chancellor Prof. Parimal H. Vyas.

Significant Salient Features of the Maharaja Sayajirao University of Baroda.

- Illustrious Alumni and Scholars such as Bharat Ratna Dr.Bhimrao Ramji Ambedkar, Nobel Laureate Dr.Venkatraman Ramakrishnan, Shri Aurobindo, Bharat Ratna Acharya Vinoba Bhave, Gyanpith Awardee Shri Rajendra Shah, Reserve Bank Governor Dr. I.G. Patel, Lord Bhikhu Parekh and Prof. K. G. Subramanyan.
- The University comprises of 14 Faculties viz. Arts; Commerce; Education & Psychology; Family & Community Sciences; Fine Arts; Journalism & Communication; Law; Management Studies; Medicine; Performing Arts; Pharmacy; Science; Social Work; Technology & Engineering.
- 3 Constituent Colleges viz. M.K.Amin Arts & Science College, College of Commerce; Polytechnic and Baroda Sanskrit Mahavidyalaya.

- 111 Teaching Departments, 8 Institutions, and 13 Centers of Specialized Studies.
- Innovative Science and Technology Programmes: Cell and Molecular Biology, Nanotechnology, Petroleum Geology, Medical Biotechnology, Bioinformatics, Information Technology, Disaster Management, Embedded Systems, Packaging Engineering, Welding Technology.
- Cutting Edge Research Centres: Centre for Biotechnology, Genome Research Centre, Centre for Molecular Genetics, Cluster Innovation Centre, Centre for Excellence in Polymer, Siemens Centre of Excellence for Industry Automation.
- Opportunity to engage in wide-ranging extension activities and internships in National organizations through the Faculties of Social Work, Journalism and Communication, Family and Community Sciences, Science, Pharmacy and Technology & Engineering.
- Offers wide range of Academic Programmes from early childhood to Under-Graduate and Post-Graduate levels including Ph.D.
- Exchange program with European Union.
- Offers Short Term Courses on Life, Skill Development, offered by the Centre for Life Long Learning & Extension; Institute of leadership and Governance.
- The prestigious Smt. Hansa Mehta Library offers access to National and International Database of References and Reading Material with a big centrally Air Conditioned Reading Room to accommodate close to 1600 students at a time.
- It consists of 9 Campuses with 16 Hostels (Boys & Girls) to accommodate over 4500 students.

Review of Literature

The purpose of the study of research works done in the same field is to understand what type of study has been done and what exactly has been explored before the present research work started. The study of related literature and research work is very essential and important as it provides us proper guidelines. There are many educationists who tried to show the importance of review of the related literature.

Review of Literature (Management Commitment)

Abhijit Mehta, & Faisal Rafik Degi (2019)conclude in article" Total quality management implementation, and its barriers in Education system" that institutional change environment, sustainable success, and innovation can be achieved by implementing TQM and committed management is necessary for this purpose.

Ahmed Abdul Salam Ahmed Al-Salim (2018) concludes in his article that strategic plans put by the management for innovation and quality education should match with international standards. The authors also conclude that changing environment and integrating on goal achievement are the most important components in any higher education institute.

S. Ramkumar (2017) concludes in his article that the compliance and acceptance of quality systems improved as the faculty and staff started realizing its benefit both at the individual, departmental and the institute level after going through a full cycle of 3 years of ISO implementation. He also concludes that committed leadership with active cooperation of all the faculty, staff, students and organization-wide involvement is sure to usher spectacular results through adoption of TQM approach.

Zaid Ahmat (2015) has focused on TQM elements of University Education, through environmental factors. TQM is very much important factor to provide quality education service to the students. It will help to increase the performance of the University, so the researchers specially concentrate on principles of the TQM in higher education institutions. According to the researcher's TQM is requirement for the learning process to access academic excellence in Universities. Their discussion is based on the literature review and they concluded that TQM is a major strategy to focus on students, staff, and employee as a one hand to get quality output in higher education institutions.

Chahal Mukesh (2015) has mainly focused on the overall performance of higher education in India. He tried to find out the initiatives to raise level of higher education system, taken by the Government of India. He drawn his conclusion on requirements of Indian higher education system, those are proper plans to combine employers and youth in India to satisfy the expectations of various stakeholders like student, industry, parents and government, etc.

Goel M.M. and Walia Suraj (2015) have discussed the Indian higher education and its trends, growth and challenges. According to them higher education promotes social and economic development of any country. Indian higher education needs massive improvement in both qualitative and quantitative terms. Indian higher education is facing problems of access, equity, privatization and financing. So the higher education needs to overcome through appropriate policy formation and their proper implementation.

Review of Literature: Customer Satisfaction

Customer satisfaction academically related with SERQUAL model and necessary to be reviewed in terms of TQM adoption at university level as a part of the present study.

Palak Kakkar (2017) studied that the impact of earning recognition for TQM implementation surely increases the motivation levels of the staff and adds to the goodwill. This holds immense importance in view of the various opportunities available to Institutions earning high grades from accreditation agencies. But there is no surety that a rank holder will perform consistently better in the future. Also, there is no consensus about what constitutes the basic characteristics of a rank holder. 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. In short TQM is the organizational commitment to meet or exceed customer expectations. The primary objective of TQM is thus,

customer satisfaction. TQM can be applied to any type of system, even in the educational set ups and teaching-learning events. The potential benefits of using TQM in higher & technical education or Higher and technical education are TQM can help higher & technical education institutes to provide better service to its primary customers-the students as well as secondary customers.

Tyagi (2014)in her study related to the implementation of TQM in education for the better solution, concluded that TQM can be implemented for achieving excellence in the education, i.e. schools, higher education and universities, it is the job of top management to provide a way for continuous improvement of the system. It requires teamwork, training, collaboration and following the TQM cycle properly.

.Singh & Khanduja (2010) have demonstrated the model of *SERVQUAL* methodology which can be applied for faculty as a customer, for the purpose of evaluating the gap between customer expectation and perception of the actual service received taking

Smith et al. (2009) stated that stated that students who are engaged with industry during their coursework often succeed in their career after graduation. Professors and lecturers can include student engagement activities in their courses along with their lectures to provide students with the best possible learning experience. The present study focused on reviewing student learning outcomes resulting from various teaching techniques used in multiple industry engagements. Some of the industry engagement activities reviewed in this study was active activities and others were passive, as defined by the literature. This study focused on reviewing industry activities using a holistic approach. These activities represent those currently used in university curricula, and it is important that they be evaluated to gain understanding of their effect on student learning.

Review of Literature: Employee Involvement

Gopinathan (2014) opined that quality education is largely associated with development of human resources focused at developing competencies and capabilities. He synthesized the process of quality assurance based on accreditation and accountability, autonomy& academic freedom, technology & infrastructure facilities.

Asif et al., (2013). TQM models identify a variety of critical factors, but employee involvement and customer focus are two factors which continually emerge across many of the existing TQM studies.

Singh PJ and Smith(2009) surveyed 370 Greek companies, they find out that, leadership, process management, service design, human resource management, customer focus, Education and Training, and supplier quality management are critical success factors in TQM implementation.

Review of Literature: Training

Chowdhary (2012) in his paper talks about higher education sector that is characterized by diversity, students and course profiles and training to faculty are different and how universities help to develop students with distinct characteristics and attributes. Universities are required to work in developing employability skills in their students by providing academic staff with relevant support and resources, integrating these skills into curriculum and course design, providing students with work placements and exposure to professional settings and providing advice and guidance through career services. The article also brings to notice the importance to set strategies related to programs so that employment skills are formulated and monitored religiously, then the vision of India of being a developed country will be achieved in the true sense

Misra, (2012) talks about how important accreditation is presently, how it is advantageous to the various stakeholders, why it is so essential in the present scenario, how it is attained and best practices for accreditation. He also focuses on giving training to faculty and administrative staff on benefits of TQM implementation in education industry.

Stukalina(2012) talks about how globalization poses new challenges to higher education institutions. The main concern for educators is to provide their graduates with an extensive assortment of skills required for the new knowledge-based economy. To successfully address the emerging challenges education managers, have to create an efficient educational environment for providing a sustaining learning process through necessary training. The integrated educational environment, where students have an opportunity to develop

Review of Literature: Team Work

Zeyad Mustafa Hamed Khawka(2016) concluded that the Team-Training has got less standard deviation value of 0.24521 with a mean value of 3.082. This shows homogeneity in the answers and means that the trend of questioners is neutral, therefore the Teamwork comes with standard deviation and mean values of 0.20966 and 3.1219 respectively. The data analysis demonstrates a strong positive correlation between both the Leaders' planning process and Teamwork with the value of 0.777 and the Teamwork and Staff Satisfaction with the value of 0.632, while no correlation was detected between Teamwork and Staff Perceptions of Quality of Patient Care. The research reveals the existence of the impact of Participative leadership on Teamwork and the value of that impact is 0.531; and the value of that impact of Teamwork on Staff Satisfaction is 0.854. Finally the research declares that there is no impact between Teamwork & Staff Perceptions of Quality of Patient Care because the significant value shall be more than 0.05.This conclusion can also be generalized in education industry as a part of service industry.

Bader (2015) studied that the primary objective of this study is to identify the factors that affect the effectiveness of teamwork in the Jordanian health organizations using TQM principles; top management commitment, team training, leader's planning, leader's coordination, leader's motivation and participative leadership in addition to communication. The results showed statistically significant variation in perceived teamwork level in regard to leadership style, preferred working style, medical units and position. However, teamwork has been associated with a lower level of medical errors, a higher level of staff satisfaction and a higher level of quality of care. The study recommends improvement strategies in order to enhance teamwork to advance further in healthcare organizations such as top management support and commitment, continuous improvement, training, customer focus (Patients and staff), staff involvement and medical errors management.

Ajeigbe*et al.* (2014) studied that the practice of effective nurse-physician teamwork in the emergency department was improved by the administrative support in providing staff with training on teamwork. It also showed that nurse-physician teamwork training and practice in the emergency department were associated with feelings among nurses and physicians of improved job satisfaction. The results pointed to the need to invest resources in nurse-physician teamwork training and in operationalizing teamwork between nurses and physicians in the emergency department. Nurses and physicians could join their skills together in providing good quality care to the patients while maintaining a positive environment for both disciplines to thrive through teamwork practice. Genuine teamwork between nurses and physicians in any healthcare setting could contribute to creating a work environment with reduced hierarchies between them, especially in the emergency department. Teamwork could also serve as an equalizer of hierarchies between nurses and physicians. When such an environment exists, the nurses and

physicians could excel and coordinate their skills and efforts to deliver better quality care to the patients, resulting in increased teamwork and job satisfaction for both professions.

Ziad Lutfi Altahayneh (2014) made a study on, Implementation of Total Quality Management in Colleges of Physical Education in Jordan. The general purpose of the study was to investigate the perceptions of physical education faculty members regarding the application of TQM principles to colleges of physical education in Jordan. In addition, the study examined the extent to which those faculty members differ in their perceptions and the extent to which differences in perceptions were influenced by rank, educational level and years of experience. The sample consisted of 72 faculty members from four colleges of physical education in Jordan. They completed a 45-item questionnaire covering five dimensions of TQM namely: (1) commitment of top management, (2) employee involvement and teamwork, (3) training and education for quality, (4) strategic planning, and (5) focus on customer satisfaction. The findings of the study indicated that TQM principles were poorly implemented in Jordanian colleges of physical education. In addition, the findings revealed that academic rank, years of experience, and education level did not significantly affect the faculty members' perceptions of TQM implementation

Review of Literature: Continuous Improvement

Lawrence and et al (2002) describe a key problem, namely the difficulty educators and administrators have in defining the key definitions of *customers* and *quality*. In their report they discuss the difficulties when defining educational customers as the students themselves. They report that educators may believe that students would want easy classes and easy grades. If educators listened to the customer this would result in what Lawrence and Sharma call ‘edutainment,’ rather than providing a challenging environment for students. They also suggest

that a key problem in following the TQM methodology is that students will drive curriculum changes that meet the immediate skill needs of employers, but at the expense of true knowledge and self-fulfillment. This definition of student as customer then is at odds with the more traditional concept of education. Lawrence and Sharma go on to say that the use of TQM or BSC in education is "an attempt to subvert the educational and democratic process in favor of business interests"

Doerfel and Bruben (2002) both Baldrige and the Excellence in Higher Education criteria (EHE) have generated feedback that these frameworks are beneficial for improving communication, benchmarking, determining and emphasizing organizational strengths, determining areas for improvement, and engaging both faculty and staff in the higher education planning processes.

Baldwin, et al (2002) argues that there have been success stories of quality improvements within higher education, others report that the CQI and TQM methods attempted within their higher education institutions have been reduced in scope or dropped entirely.

Helms and Williams (2001) identify this system as a key challenge to TQM implementation in higher education. The tenure system generally has three components, teaching, research, and service, with the focus on research increased after tenure is achieved. They suggest that these three focal points of faculty performance may be at odds with student needs and expectations, resulting in what students perceive to be 'poor quality' education. They quote a Business Week survey of graduates, which indicated students perceived time spent in research resulted in poorer quality instruction. A shift towards student satisfaction could then be at odds to the tenure system, which may result in faculty resistance.

Research Methodology

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 (i.e Authorities of the University, Syndicate Members, Senate members, Deans, Directors, IQAC Members, Heads of Institutions etc...). 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 relations amongst Management commitment variables as; student focused education, performance evaluation, and management roles. Another factor is system approach management and also to be examined relations amongst parent teacher interaction, service quality, role of various committees formed by top level management and management role played in different areas. The other factor is customer satisfaction also to be examined with reference to relations amongst parent teacher interaction, industry institution interaction, student facilities, use of digital network, service quality, role of various committees formed by top level management and management role in different areas. The other factor is employee involvement and the variables are: service quality, policy matters, role of various committees formed by top level management and management role in decision making and policy formulation and implementation. 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 The Maharaja Sayajirao University of Baroda.

Objectives of the Study

RO1: To study the 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 The Maharaja Sayajirao University 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 The Maharaja Sayajirao University 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 The Maharaja Sayajirao University of Baroda.

RO4: To study relationships amongst management commitment, system approach to management, customer satisfaction, training, teamwork, employee involvement and continuous improvement in terms of Policy Makers (i.e Authorities of the University, Syndicate Members,

Senate members, Deans, Directors, IQAC Members, Heads of Institutions etc...) perceptions in context to The Maharaja Sayajirao University 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 students, faculty members, non-teaching staff members and Policy Makers (i.e Authorities of the University, Syndicate Members, Senate members, Deans, Directors, IQAC Members, Heads of Institutions etc...)

Research Questions

The following research questions are framed in view of the objectives of the study.

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 members?

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 Policy Makers (i.e Authorities of the University, Syndicate Members, Senate members, Deans, Directors, IQAC Members, Heads of Institutions etc...)

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 (i.e. Authorities of the University, Syndicate Members, Senate Members, Deans, Directors, IQAC members, Head of Institution, etc.)

Conceptual Framework

Conceptual framework is a roadmap or blue print of the research work. In the present study, the following blue print is followed with the process shown in figure-

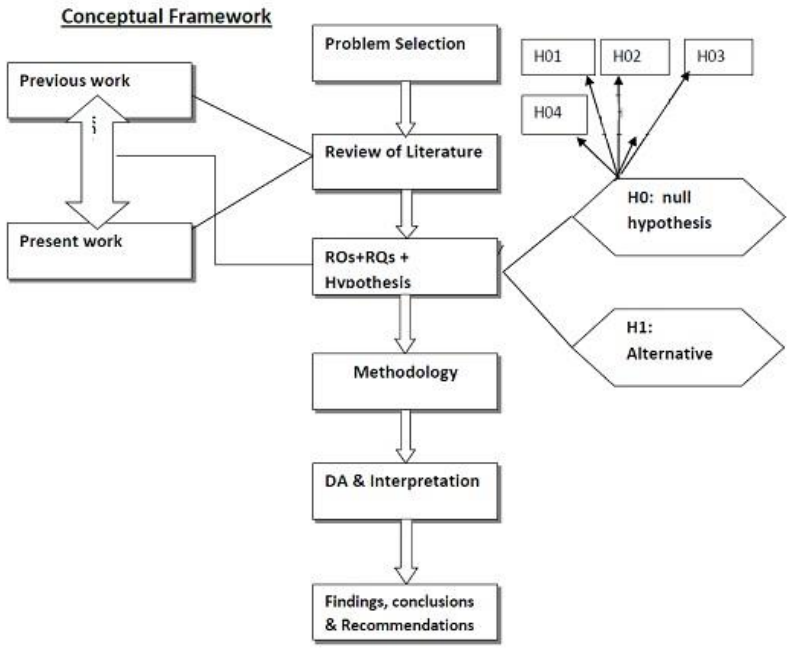

Figure-1*source: self -developed*

Data Sources: The main source of data collection in this study is primary data source.

Data Type

The functions of the data with regard to its ultimate interpretation and analysis in the research study were a) Opinions b) Intentions c) Motives. The opinions and attitude of stake holders such as students, faculty, administrative staff and others associated with MSU of Baroda. Their opinions further allowed us to evaluate the factors that significantly drive TQM practices choices.

Communication Approach

Questionnaire, personal interviews, extensive use of social/professional network channel has been used by initiating the discussion while gathering of data both qualitative as well as quantitative and presented by using appropriate statistical tool wherever applicable.

Sample size Determination

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 this study is determined as 10381 but pilot study is conducted for obtaining accuracy level in a better way. The sample size for pilot study is determined as 110. The survey questionnaires were administered to 110 respondents through in person and using manual dispatch machineries. It is observed that all questionnaires were found valid.

Data interpretation and analysis

Data has been collected through a structured questionnaire. Data computerization along with interpretation purpose apart from IBMSPSS & excel like qualtrics has been used. Then data are compiled in specific format of excel sheet for the purpose of its coding in IBMSPSS.25. Then data are coded in IBMSPSS.25 for the purpose of necessary analysis. The following table-1 provides an overview of research methodology adopted for the purpose of the present study (Table-1 Methodology)

Type of Study	Mix method
Universe/Population	University stakeholders
Target Population	Stakeholders of MSU of Baroda (students, faculty members, Non-teaching staff and Policy Makers (i.e Authorities of the University, Syndicate Members, Senate members, Deans, Directors, IQAC Members, Heads of Institutions etc..). 10,381 (PGstudents:6970, Faculty members:1105, NT staff:1372, Syndicate members:25, Senate members:104, IQAC members:18 & Others)
Sampling Technique	Convenience Sampling
Sample Size	1112
Questionnaire Factors 7(seven)	Management Commitment (ME1-7), System Approach to Management (SAM1-5), Customer Satisfaction (CS1-7), Employee Involvement (EI1-6), Training (TRG1-3), Team Work (TW1-4) and Continuous Improvement (CI1-6).

Items	189 (includes 7 factors of all four groups)
Statistical tests	Descriptive statistics, scale reliability, Pearson correlations, t-test,
Statistical tool	IBMSPSS.25

Data Analysis

By analyzing the collected data certain facts could be well established, however entire scenario is indicator which will be further established in thesis. Data trend suggesting certain facts which are as follows:

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,). The pilot test is conducted for the purpose of getting results trend in the study. Target population for the present study is 10,381. The sample size is determined as 1112. 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. The comparison of PG students and PhD scholars through t-test has no significant different in their perception on selected factors.

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.

Non-teaching staff 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 range of 0.554-0.923(55.4-92.3%. It means the variables are significantly correlated with each other.

Policy Maker's Perspectives (Authority of the University, syndicate members, Senate members, Directors, Head of Institutions IQAC members and others)

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 0.442-0.818 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.

Thus, all the four groups have considerable results on association of factors with each other.

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 can be determined and compared with each other in full scale study. The null hypotheses formulated for the purpose of study seem to be rejected in case of all the factors and groups. The full-scale study can give specific results on it and it is ongoing as a part of completion of this academic research.

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Annexure

Annexure

Table-1 Student Perspectives

Sr.no	Factor	Items	Excluded Items	Valid Items	Measured Cronbach Alpha	Standard Internal Consistency	Decision
1	Management Commitment	8	0	8	0.887	$0.8 \leq \alpha < 0.9$	Very good
2	System Approach to Management	5	0	5	0.746	$0.7 \leq \alpha < 0.8$	acceptable
3	Customer Satisfaction	7	0	7	0.918	$0.9 \leq \alpha < 0.95$	excellent
4	Employee Involvement	6	0	6	0.819	$0.8 \leq \alpha < 0.9$	Very good
5	Training	3	0	3	0.729	$0.7 \leq \alpha < 0.8$	acceptable
6	Teamwork	4	0	4	0.820	$0.8 \leq \alpha < 0.9$	Very good
7	Continuous Improvement	6	0	6	0.851	$0.8 \leq \alpha < 0.9$	Very good

Table-2 Faculty Perspectives

Sr.no	Factor	Items	Excluded Items	Valid Items	Measured Cronbach Alpha	Standard Internal Consistency	Decision
1	Management Commitment	14	0	14	0.811	$0.8 \leq \alpha < 0.9$	Very good
2	System Approach to Management	7	0	7	0.996	$0.9 \leq \alpha < 0.996$	excellent
3	Customer	9	0	9	0.595	$0.5 \leq \alpha < 0.6$	acceptable

	Satisfaction						
4	Employee Involvement	15	0	15	0.842	$0.8 \leq \alpha < 0.9$	good
5	Training	6	0	6	0.653	$0.6 \leq \alpha < 0.7$	acceptable
6	Teamwork	5	0	5	0.585	$0.5 \leq \alpha < 0.6$	acceptable
7	Continuous Improvement	11	0	11	0.863	$0.8 \leq \alpha < 0.9$	good

Table-3 Non-teaching staff

Sr.no	Factor	Items	Excluded Items	Valid Items	Measured Cronbach Alpha	Standard Internal Consistency	Decision
1	Management Commitment	8	0	8	0.737	$0.7 \leq \alpha < 0.8$	acceptable
2	System Approach to Management	6	0	6	0.773	$0.7 \leq \alpha < 0.8$	acceptable
3	Customer Satisfaction	7	0	7	0.870	$0.8 \leq \alpha < 0.9$	good
4	Employee Involvement	9	0	9	0.442	$0.4 \leq \alpha < 0.5$	poor
5	Training	4	0	4	0.699	$0.6 \leq \alpha < 0.7$	average
6	Teamwork	4	0	4	0.876	$0.8 \leq \alpha < 0.9$	good
7	Continuous Improvement	6	0	6	0.661	$0.6 \leq \alpha < 0.7$	acceptable

Table-4 Policy Makers' Perspectives

Sr.no	Factor	Items	Excluded Items	Valid Items	Measured Cronbach Alpha	Standard Internal Consistency	Decision
1	Management Commitment	6	0	6	0.501	$0.5 \leq \alpha < 0.6$	acceptable

2	System Approach to Management	5	0	5	0.773	$0.7 \leq \alpha < 0.8$	good
3	Customer Satisfaction	6	0	6	0.848	$0.8 \leq \alpha < 0.9$	Very good
4	Employee Involvement	9	0	9	0.442	$0.4 \leq \alpha < 0.5$	Poor
5	Training	4	0	4	0.667	$0.6 \leq \alpha < 0.7$	acceptable
6	Teamwork	4	0	4	0.632	$0.6 \leq \alpha < 0.7$	acceptable
7	Continuous Improvement	6	0	6	0.818	$0.8 \leq \alpha < 0.9$	good

Table-5 Pearson Correlation test (Student Perspectives)

Correlations(Table-4.19)

		MC	SAM	CS	EI	TRG	TW	CI
MC	Pearson Correlation	1	.980**	.937**	.968**	.899**	.916**	.952**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	426	426	426	426	426	426	426
SAM	Pearson Correlation	.980**	1	.926**	.971**	.889**	.908**	.945**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	426	426	426	426	426	426	426
CS	Pearson Correlation	.937**	.926**	1	.952**	.770**	.811**	.977**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	426	426	426	426	426	426	426
EI	Pearson Correlation	.968**	.971**	.952**	1	.901**	.941**	.967**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	426	426	426	426	426	426	426
TRG	Pearson Correlation	.899**	.889**	.770**	.901**	1	.955**	.830**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	426	426	426	426	426	426	426
TW	Pearson Correlation	.916**	.908**	.811**	.941**	.955**	1	.870**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	426	426	426	426	426	426	426

CI	Pearson Correlation	.952**	.945**	.977**	.967**	.830**	.870**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	426	426	426	426	426	426	426

**. Correlation is significant at the 0.01 level (2-tailed).

Table-6 Pearson Correlation test (Faculty Perspectives)

Correlations(Table-4.42)

		MC	SAM	CS	EI	TRG	TW	CI
MC	Pearson Correlation	1	.887**	.716**	.695**	.655**	.717**	.696**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	305	305	305	305	305	305	305
SAM	Pearson Correlation	.887**	1	.586**	.648**	.665**	.718**	.686**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	305	305	305	305	305	305	305
CS	Pearson Correlation	.716**	.586**	1	.641**	.723**	.626**	.554**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	305	305	305	305	305	305	305
EI	Pearson Correlation	.695**	.648**	.641**	1	.747**	.923**	.968**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	305	305	305	305	305	305	305
TRG	Pearson Correlation	.655**	.665**	.723**	.747**	1	.854**	.714**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	305	305	305	305	305	305	305
TW	Pearson Correlation	.717**	.718**	.626**	.923**	.854**	1	.902**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	305	305	305	305	305	305	305
CI	Pearson Correlation	.696**	.686**	.554**	.968**	.714**	.902**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	305	305	305	305	305	305	305

**. Correlation is significant at the 0.01 level (2-tailed).

Table-7 Pearson Correlation test (Non-teaching Perspectives)

Correlations

		MC	SAM	CS	EI	TRG	TW	CI
MC	Pearson Correlation	1	.672**	.726**	.617**	.702**	.649**	.562**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	318	318	318	318	318	318	318
SAM	Pearson Correlation	.672**	1	.749**	.799**	.867**	.717**	.805**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	318	318	318	318	318	318	318
CS	Pearson Correlation	.726**	.749**	1	.887**	.868**	.915**	.856**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	318	318	318	318	318	318	318
EI	Pearson Correlation	.617**	.799**	.887**	1	.905**	.810**	.873**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	318	318	318	318	318	318	318
TRG	Pearson Correlation	.702**	.867**	.868**	.905**	1	.815**	.890**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	318	318	318	318	318	318	318
TW	Pearson Correlation	.649**	.717**	.915**	.810**	.815**	1	.823**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	318	318	318	318	318	318	318
CI	Pearson Correlation	.562**	.805**	.856**	.873**	.890**	.823**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	318	318	318	318	318	318	318

**. Correlation is significant at the 0.01 level (2-tailed).

Table-8 Pearson Correlation test (Policy Maker's Perspectives)

Correlations(Table-4.83)

		Mc	sam	ces	Final	trg	tw	ci
Mc	Pearson Correlation	1	.321*	.244	.832**	.440**	.527**	.263*
	Sig. (2-tailed)		.010	.054	.000	.000	.000	.037
	N	63	63	63	63	63	63	63
Sam	Pearson Correlation	.321*	1	.941**	.311*	.637**	.686**	.985**
	Sig. (2-tailed)	.010		.000	.013	.000	.000	.000
	N	63	63	63	63	63	63	63
Ces	Pearson Correlation	.244	.941**	1	.241	.660**	.711**	.937**
	Sig. (2-tailed)	.054	.000		.057	.000	.000	.000
	N	63	63	63	63	63	63	63
Final	Pearson Correlation	.832**	.311*	.241	1	.420**	.541**	.281*
	Sig. (2-tailed)	.000	.013	.057		.001	.000	.026
	N	63	63	63	63	63	63	63
Trg	Pearson Correlation	.440**	.637**	.660**	.420**	1	.894**	.560**
	Sig. (2-tailed)	.000	.000	.000	.001		.000	.000
	N	63	63	63	63	63	63	63
Tw	Pearson Correlation	.527**	.686**	.711**	.541**	.894**	1	.610**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	63	63	63	63	63	63	63
Ci	Pearson Correlation	.263*	.985**	.937**	.281*	.560**	.610**	1
	Sig. (2-tailed)	.037	.000	.000	.026	.000	.000	
	N	63	63	63	63	63	63	63

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).