Implementation of Total Quality Management in Higher Education

[1]Murad Ali and [2]Rajesh Kumar Shastri
[1]Institute of Business Management, VBS Purvanchal University, Jaunpur, U.P-221 001, India
[2]Department of Humanities, Motilal National Institute of Technology,
Allahabad-211 004, U.P. India

Abstract: In this paper it has been tried to bring out a clear status of higher education and emergent needs to enhance the quality of higher education. Globalization of higher educational services has become an area of key focus for many countries in post WTO scenario. In order to fuel the socio-economic development of the country, higher education is playing a more active role in our country and this requires a paradigm shift in terms of governance and service delivery. Higher education institutions must become more innovative leading to quality institutions of knowledge production and dissemination. Realizing the importance of higher education, a lot of innovative experiments are being done to improve the performance of this sector. Application of TQM concepts is one of such measures, which will go a long way in revolutionizing the higher education system. The paper attempts to theoretically conceptualize TQM in higher education.

Key words: Conceptualize, customers, higher education, innovative experiments, Total Quality Management and WTO

INTRODUCTION

The importance of education for the development of excellence, expertise and knowledge leading to overall development in economy cannot be undermined. This has necessitated a sound strategy for the development of higher education in almost all countries of the world. Establishing leadership in the world is possible only when we have a developed system of higher education in which efficiency remains the sole criterion to evaluate performance. The system of higher education is found efficacious in making available to the society a dedicated, committed, devoted and professionally sound team of human resources to decide the future of any nation. This is possible only when the principles of quality management are inculcated in the system of higher education. Total Quality Management (TQM) is inevitably 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. The paper is a theoretical attempt to explain the application of TQM in tertiary education. It deals with issues pertaining quality in higher education and moves on to identify variables influencing quality of higher education. It also conceptualizes a model for application of TQM in higher education.

The new economic growth theories have emphasized the role of human capital as the key of economic growth and development. The World Bank's recent study of 190 countries reveals that it is higher education that helps in enriching the quality of manpower. Thus higher education is a basic investment necessary to improve the overall quality of life. The strong linkage between the economy and education was never so clearly visible as now. It is the availability of employment in the market that makes the learners choose their areas of study.

Objectives of the study:
- The quality and social relevance of higher education imparted in developing nations remain quite low and deteriorating due to paucity of funds
- Total Quality Management (TQM) should be unavoidably common factor that will shape the strategies of higher educational institutions in a same manner.
- The development of higher education is correlated with the economic development.
- Study on the feasibilities of different strategies for TQM in higher education

MATERIAL AND METHODS

Traditionally, the higher educational services include the three fundamental functions;

- Teaching
- Research; and
- Extension.

Teaching serves to transmit knowledge and skills from the teacher to the taught ones. The purpose of research is to explore new knowledge whereas the function of extension

Corresponding Author: Dr. Rajesh Kumar Shastri, Department of Humanities, Motilal National Institute of Technology, Allahabad-211 004, U.P. India

focuses on developing the application of the developed knowledge for addressing the common problems of the society.

The functions of the higher education can also be elaborated as under;

- To seek and cultivate new knowledge, to engage vigorously and fearlessly in the pursuit of truth and to interpret old knowledge and beliefs in the light of new needs and discoveries;
- To provide the right kind of leadership in all walks of life by helping the individuals develop their potential;
- To provide society with competent men and women trained in all professions who, as cultivated individuals, are inclined with a sense of social purpose;
- To strive to promote equality and social justice and to reduce social and cultural differences through diffusion of education;
- To foster in the teachers and students, and through them in the society generally, the attitudes and values needed for developing the 'good life' in individuals and society;
- To bring the universities closer to the community through extension of knowledge and it's applications for problem solving.

Quality: The word quality is derived from Latin word qualis, which means "what kind of". It connotes a variety of meanings and implies different things to different people. According to Juran "Quality is fitness for use or purpose". Crosby considers it as "conformance to standards". Deming defines quality as "a predictable degree of uniformity and dependability at low cost and suited to market". In general quality is one, which satisfies customer needs and continuously keeps on performing its functions as desired by customers as per specified standards.

Quality in education has the following dimensions:
Consistency: Here the educational processes involve specifications through zero defect approach and a quality culture. But the limitations are in achieving consistent standards and conformity to those standards.

Fitness to purpose: fitting the customer specifications, minimum-based fitness for purpose and customer satisfaction.
Value for money: through efficiency and effectiveness

Transformative: education is an ongoing process of transformation that includes empowerment and enhancement of the customer.

Total Quality Management (TQM): Feigenbaum, devised the term in 1961, who named it as total quality control (TQC). TQM can be defined as "the process of integration of all activities, functions and processes within an organization in order to achieve continuous improvement in cost, quality, function and delivery of goods and services for customer satisfaction". It refers to the application of quality principles to overall process and all the management functions in order to ensure total customer satisfaction. TQM implies the application of quality principles right from identification of customer needs to post purchase services.

TQM has been adopted as a management paradigm by many organizations worldwide. Quality movement in across the world starts with quality improvements project at manufacturing companies. But later it spread to other service institutions including banking; insurance, non-profit organizations, healthcare, government and educational institutions. TQM models, based on the teachings of quality gurus, generally involve a number of "principles" or "essential elements" such as teamwork, top management leadership, customer focus, employee involvement, continuous improvement tool, training etc. Awards like Deming in Japan, Malcolm Balridge in USA; European Quality awards etc are reflection of growing concern in this area.

TQM is the process of changing the fundamental culture of an organization and redirecting it towards superior product or service quality (Gaither, 1996)

TQM can be defined as a general management philosophy and a set of tools which allow an institution to pursue a definition of quality and a means for attaining quality, with quality being a continuous improvement ascertained by customers' contentment with the services they have received (Michael *et al.*, 1997)

According to Witcher (1990) TQM is composed of three terms: Total: meaning that every person is involved including customer and suppliers, Quality: implying that customer requirements are met exactly, and Management: indicating that senior executives are committed.

TQM may also be defined as; : doing things right for the first time, striving for continuous improvement, fulfilling customers' need, making quality the responsibility of every employee etc.

Most of work of quality and TQM can be traced to the work of gurus W.Edwards Deming and Joseph Juran's teachings and statistics in Japan during the 1950's and the revolution that followed in the USA in the 1980s to meet or preferably exceed customer expectations. Common theme in quality management includes consistency, perfection, waste elimination, delivery speed and customer service. The objective of TQM is to build an organization that produces products or performs services that are considered as quality by those who use them. The quality of a product or a service is the customer's perception of the degree to which the product or service meets their expectations.

TQM in Higher Education: According to the reports of UNESCO and the World Bank, social and private returns of the higher education is less than those of primary and

secondary education, It is estimated that social return of primary education is 25% while that of higher education is only1%. This has led to the thinking that the returns of higher education are largely personal/private and therefore, subsidy on this should be reduced. There are three generic approaches to TQM in higher education (Harris 1994), Firstly there is a customer focus where the idea of service to students is fostered through staff training and development, which promotes student's choice and autonomy. The second approach has a staff focus and is concerned to value and enhance the contribution of all members of staff to the effectiveness of an institution's operation, to the setting of policies and priorities. This entails a flatter management structure and the acceptance of responsibility for action by defined working groups. The third approach focuses on service agreements stance and seeks to ensure conformity to specification at certain key measurable points of the educational processes. Evaluation of assignments by faculty within a specified timeframe is an example.

Lawrence and Mc.Collough (2001) propose a system of guarantees designed to accommodate multiple stakeholders and the various and changing roles of students in the educational process. Their system of guarantees focuses on three customer groups: students, instructors of advanced courses that build on prerequisite courses and thirdly organizations that employ graduates of the college. A system of guarantees provides an institution with a competitive advantage by allowing it to tangibilize intangible educational quality to perspective students and their parents.

Durlabhji and Fusilier (1999) states that customer empowerment in education requires greater input from students as well as from business community that will eventually employ them and this in term will streamline education and eliminate any vestiges of the esoteric academic "ivory tower" that exist in business school coursework. The benefits of student empowerment in the classroom must be weighed against the need for control to achieve minimum educational goals and adequate and fair evaluation.

In his model of distributed leadership for managing change in higher educational institutions, Gregory (1996) suggests four dimensions of institutional leadership- symbolic, political, managerial and academic. A true leader embodies the whole institution by winning commitment of others to organizational goals, obtaining resources and presenting corporate image to the external world. Secondly leadership will be politic for the institution, gaining support and using and resolving conflicts to achieve its means. His managerial skills pertains to controlling, representing, staffing, structuring, setting goals and communicating apart from handling budgets, costs, information flow, employee relations, external funding and relations with validating and awarding bodies. Finally his academic role includes being a leading professional, leading others in a collegiate style,

recognizing and encouraging quality, fostering and developing talent, intervening, coaching, being a role model of exemplary behavior, taking risk and acting agent of change (Marsh, 1992). Michael *et al.* (1997) recommended that top leadership is the key to any TQM programme and the driving force behind success and failure. The TQM programme must be sold and not forced on the employees. Leadership must make the programme attractive and necessary to employees. Good communication, proper training and using benchmarking and research on TQM philosophies and programmes can enhance the success rate.

In managing educational change there has been general criticism (Iven, 1995) that government initiatives are being pushed by a " narrow, employer-driven strategy". Policy makers do have an obligation to set policy, establish standards and monitor performance. They must articulate important educational goals (Fullan, 1993). In achieving these goals they can rely only on those involved in delivering further education. The success or failure in meeting the objectives of educational policy makers will depend on factors over which they have little direct control. Sustained educational improvement and committed shared vision depends on the nature and quality of leadership and interaction between leaders and members of the institution.

Sangeeta *et al.* (2004) considers education system as a transformation process comprising of inputs of students, teachers, administrative staff, physical facilities and process. The processes include teaching, learning, and administration. Output s includes examination results, employment, earnings and satisfaction.

Roffe (1998) considers that due to open competition, students are becoming more customers as well as consumers and expected to pay a growing share of the costs of education. This leads to competitive forces that generate different programmers for different student groups. The conceptual problems include whether TQM in higher education should be people or problem oriented, difficulty in introducing the application and acceptance of TQM in higher education institutions, which have not embraced tenets of TQM, team Vs individual orientation towards TQM, maintaining the rate of innovation amongst others.

In their model for TQM implementation in higher educational institutions, Osseo-Asare and Longbottom (2002) proposes enabler criteria, which affect performance and help organizations achieve organizational excellence. These "enalber" criteria are leadership, policy and strategy, people management, resources and partnerships and processes. They also suggest "result" criteria including customer satisfaction, people satisfaction, and impact on society and key performance results for measuring the effectiveness of TQM implementation. Non-implementation of TQM was due to institutions pre occupation with funding agencies and non-embracement of continuous improvement

culture. Proper education and training of those involved in the implementation process will help to mitigate this problem.

RESULTS AND DISCUSSION

Issues of TQM are being addressed in higher education institution, particularly as they relate to productivity and financing. Those adopting TQM in higher education have varying perspectives on the approach. Some see TQM as a management system with customer or student satisfaction as the crucial element. Others see TQM as a philosophy fostering change in an organization or the educational institutions. Academic institutions have used both the approaches in applying TQM in higher education settings.

Quality of education takes into account external environment in which institutions operate: internal environment where teaching learning takes place and home environment of learners.

The systems approach to education comprises of inputs, processes and outputs, all encompassed in an arbitrary boundary, and the environment.

Inputs from its environment cross the boundary into the system: these are acted on within the transformation/ production process and finally released from the system back into the environment as outputs. The direction of flow from the inputs, through transformation/production process to the output indicates the flow of energy, information etc. Inputs are human, physical and financial resources, (students, faculty, administrators, organizational culture)

Process is a series of actions or operations concluding to an end. A process transforms measurable inputs into measurable outputs under a value adding operation. Educational process is a series of actions or operations leading to an educational end learning, training, and or scholarly activity. Transformation process for an educational institution consists of activities performed to disseminate knowledge, to conduct research and to provide community service. Process in the education system include teaching, learning, research, administrative activities and knowledge transformation

Outputs are tangible outcomes, Value addition (through examination results, employment, earnings and satisfaction), Intangible outcomes (educated people, research findings and service to community).

Then there is feedback i.e. the outputs of information about the system which, when fed back into the system as inputs, are able to modify the system while the process is in progress, thus making the system more responsive to the needs of the components in the environment and thus making the system flexible. The output so released should satisfy the components in the environment in the form of customers/stakeholders: else the inputs would cease and further transformation /production ceases too.

Higher Education Customer: Generally the students are considered as end customers. Harvard University defines its customer as " as one to whom we provide information or service". Students who use the institute's service and employers who are consumers of students are regarded as customers.

Therefore the customers are students, employers or both.

According to Spanbauer there are two types of customer: (i) external (students,employers,taxpayers and community at large, other educators from different institutions) and (ii) internal (other instructors, service department staff) According to Srivanci, students as customers take four roles: (i) the product in process (ii) the internal customers for many campus facilities (iii) the laborers of learning process and (iv) the internal customers for delivery of course material need is determined by education mix. viz teaching, research and extension activities.

Teaching: Teaching forms the backbone of any educational system. The objective of teaching is the transmission of knowledge from the teacher to the taught ones. Apart form classroom lectures, more innovative teaching can be imparted through other modes including discussions, case study analysis, presentations, field projects, role play, simulation methods amongst others. Teaching methods in synchronization with the learning objectives will facilitate better teaching-learning process.

Research: Research focuses on exploration of the knowledge. In an educational system of any country, research has been stereotyped to be part of higher education system. It is generally associated with the university system where by research is pursued after obtaining a post graduates level, though there may be need of research at lower levels of the educational system hierarchy. Research facilitates new insight into the subject matter. It is related to innovation. It has been evidenced that many scientific innovation were led by research, which were followed by commercialization of products. It is therefore imperative that a good research system not only promotes scientific and rationale thinking, but also leads to economic well being in the long run.

Extension: Extension activities are primarily aimed on the application of the developed knowledge to address the common problems of the society. Higher educational system does not operate in isolation. There are many interfaces including sociological, cultural, economic, technological, political and so on. A good higher education serves to solve the problem of the society affecting these interfaces. It serves to promote local community development by involving the locals. Development in agricultural fields is always associated with the benefits associated to the farming community. It

also aids in reduction of poverty by generating avenues for jobs through placement. Commercial organizations are working in cooperation with the university laboratories to develop new their products are also part of extension activities.

Service price: The demand for higher education is also influenced by the ability of the customers in terms of his willingness to pay. In developing and underdeveloped nations, where a huge chunk of the population still lives below the poverty line, price is an important criteria in determining as to have access to higher education. In this context most of the universities and public funded institutions are playing a positive role in controlling the cost escalation and providing higher education to the economically unprivileged ones at a reasonable cost.

Place and accountability: The location of the institution is also determining factor for choice of higher education. It is generally observed that students prefer institutions located in closer vicinity of their villages or town. The role of location becomes less significance if the educational institutions offer a course of relative superior quality coupled with is a high demand and low supply phenomenon, where students are willing to relocate for educational purposes. Moreover a system, which is more accountable to the different stakeholders of the higher education, will generate better interests.

Delivery Mechanism: Students also look at the mode of acquiring education in terms of accessibility and price. Generally the preference is given to full time courses. But part time learning, distance learning, correspondence courses, open learning, e-learning has proved to be a boon to those who cannot go for full time education, especially those in the organized employed sector.

Physical evidence: Physical evidence in terms of infrastructure and other facilities often serve as a major attraction to the end user. Many institutions tune in terms with infrastructural facilities while positioning themselves. A well-equipped classroom promotes better teaching –learning process whereas modern laboratory facilities paves the way for better skill acquisition. Institutions cater to the varying needs of the students, teachers and administrators by providing better accommodation, offices, cafeteria, clinics, gymnasiums and good ambience in general.

Creating awareness: All the above factors will be futile if they are not properly communicated to the stakeholders. Advertisement in the print and electronic media are being resorted to for this purpose apart from official communication to the stakeholders. Institutions are also resorting to promotional methods including educational fairs to facilitate better reach amongst the stakeholders.

People: People for the core of any activity. In judging the quality, the notion of stakeholders, including students, parents and employers, plays a vital role in appraising educational system as a whole on each of these parameters. It is imperative that all individuals and group associated with the higher educational system are well aware about their duties and responsibilities. Training of students is the main objective of educational system so as to facilitate to be better citizens of tomorrow. Parents have to be informed on continual basis about the development of their wards so as to elicit their feedback for the improvement of the system. Employers' role is vital in terms of providing intrinsic and extrinsic motivating factors to the employees. They have to imbibe the changes in the external environment for the betterment of the institutions.

As discussed the external environment or the macro factors will have their impact on the quality of the parameters. The political and legal environment has impacted in terms of globalization, liberalization and privatization. In recent times there has been rising emergence of private institutions of higher learning across the globe. They are trying to cater students in different geographical locations across the world. Here arises the need for a better regulatory framework –both at national and international level to maintain the standardization. Economic factors serve as a catalyst for socio-economic development of any region. Education needs is also judged in terms of economic capacity of the region. Generally people of developed nations with better purchasing capacity have access to better education. So education level is an indicator of economic well being. But this may not be true always as evidenced in recent times, where it is found that more people from the working force are enhancing their educational qualifications due to layoffs as a result of general recession in the global economy. Economic development has brought much change in the socio cultural factors in the society. Education is not only considered as an avenue to job market, but also to the overall development of individual and society at large. A civilized society is one which is educated and enlightened.. It is associated with status of individuals. The rising educational needs have given opportunity to educational industry across the world to go on expansion. Technological changes have revolutionized the world. The system of higher education has also been impacted with this. Satellite based education; E-learning and advent of sophisticated educational aid equipments have made tremendous impact in terms of better quality teaching – learning process.

Thus we see that the participation of all the constituencies of higher educational system will result in continuous improvement in the process. This will facilitate more customer friendly practices, which will result in Excellencies of performance in terms of quality outputs. This cycle if repeated continuously will improve
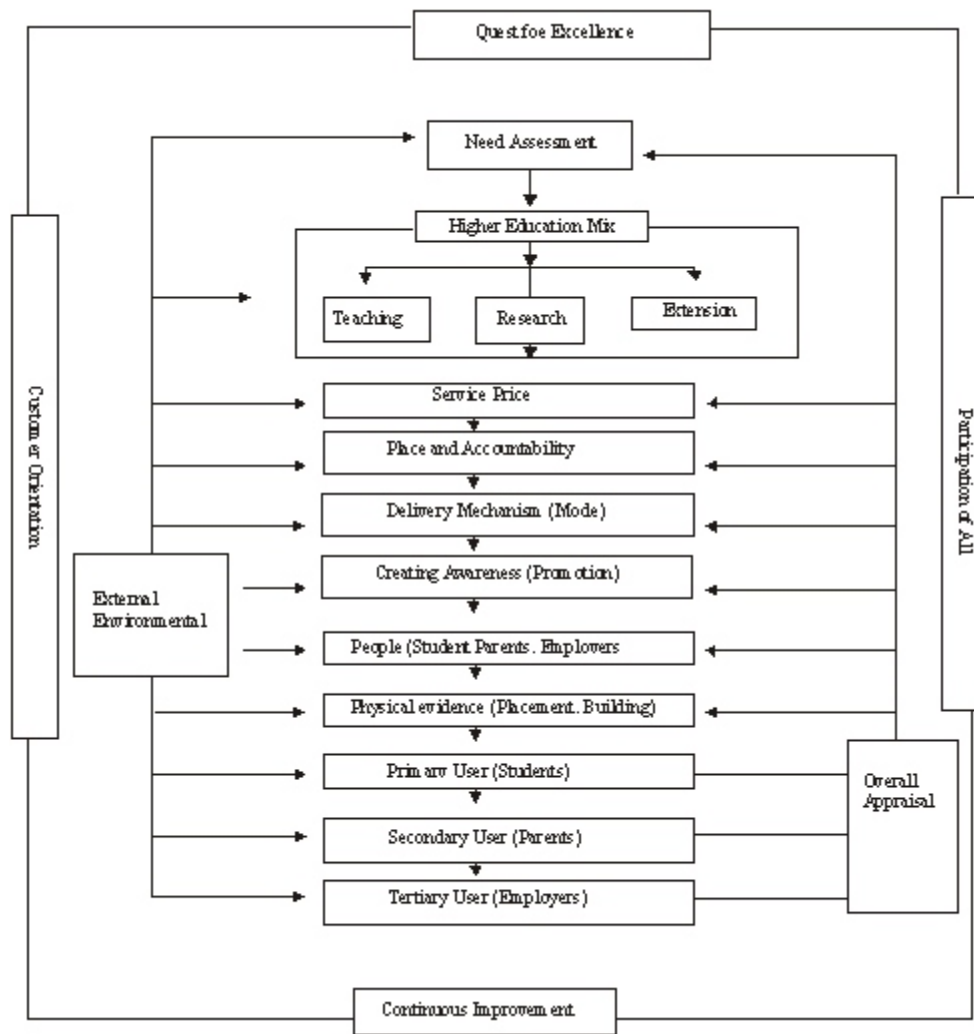
Fig. 1: A strategic Model for Implementing Total Quality Management in Higher Education Services

quality at each stage. In the aforesaid model, need for higher education is primarily based from what the customers wants in terms of output and satisfaction (Fig. 1).

Challenges in tqm implementation in higher educational institutions: According to Srivanci (2004) critical issues in implementing TQM in higher education includes leadership, customer identification, cultural and organizational transformation. Unlike business organizations, chancellors and heads of higher educational institution do not enjoy ultimate authority in hiring and firing of personnel and allocating resources. Lack of necessary authority makes it difficult to deploy their values and goals through layers of higher education institutions. Deep rooted traditions dating back to centuries, a rigid departmental model, inter departmental competition for resources, lack of market focus are the cultural and organizational reasons that makes it difficult

to tune in with TQM transformation. Ambiguity in customer identification also creates hurdles in TQM implementation. Among the main groups within the higher education institutions-there is not much agreement on which the customers are. While most administrators tend to perceive students as customers of faculty in classrooms, many faculty staff resent this metaphor as being too commercial. Without a well-defined customer and a customer focus, quality efforts may be easily diffused.

Owlia and Aspinwall (1997) concludes that customer orientation is a more problematic principle of TQM when applied to universities because of special nature of many academics whose motivation to work is often independent of market issues. The effectiveness of leadership is adversely affected by individualism among academic staff and due to absence of team working.

Impact of TQM in higher education is small due to organizational inertia to change, failure to focus on

important questions, non receptive of academic culture to TQM (Koch, 2003)

While higher education institutions are home for learning and create knowledge through their research function, it is ironic that they have been lagging behind other organizations in embracing and implementing TQM. This inertia is due to structural and traditional characteristics of higher educational institutions. There are some other special challenges that are not encountered in other organizations. These include

Leadership: Unlike CEO's of business organizations, Vice Chancellors/Directors of Universities/ Institutions do not enjoy ultimate authority hiring and firing personnel and allocating resources. Institutional heads can set goals, organizational values and performance expectations. However since they lack necessary authority, it is difficult for them to deploy these values and goals through the layers of higher education institutions.

Cultural and Organizational transformation: Many business organizations have adopted TQM and transformed their institution's culture into a total quality culture that involves elements such as teamwork, employee participation, customer and market focus etc. However higher education institutions have deep-rooted traditions dating back to several centuries and are resistance to change. Eg. Universities and colleges are organized on departmental units. In adopting TQM culture, organizations move from product focus to market focus. But for faculty, particularly research faculty, primary loyalty lies in the academic field. Market requirement for their students are of secondary importance to them except for some professional schools as business and engineering.

In business organizations there is cross linkage and well communication between the various functional departments. But in the case of higher educational institutions, most of the individual departments operate in vacuum. This is one reason that interdisciplinary study and research is a rarity.

Customer Identification: A different aspect of customer issue here is customer loyalty. In businesses, customer loyalty is very important because repeat buying by loyal customers s has a direct effect on profitability. However higher education is "once in a lifetime activity". If students are considered as customers, this concept makes sense only when they make donations as alumni. However if employers are customers, repeat purchase means recruiting at same institutions every year.

CONCLUSION

TQM is a general management philosophy and set of tools which allow an institution to pursue a definition of quality and a means of attaining quality, with quality being a continuous improvement ascertained by customers' contentment with the services they receive. TQM can be applied to higher education, but it must be modified to fully recognize some unique aspects of education viz education is a service industry with no visible, tangible "product".

The development of higher education requires increase funds and even more for its maintenance. The World Bank document (1994) states, "The development of higher education is correlated with the economic development. Enrolment ratios in higher education average 51% in the countries that belong to OECD, compared with 21% in middle-income countries and 6% in low-income countries". Therefore, the first and foremost task for any nation is to expand its higher education system further in a planned way so as to cover as large a portion of the eligible age group as possible.

For universities, mainly, selling point for a quality programme is the leaner budgets and higher efficiency and productivity inherent in certain quality programmes. As budget continues to tighten from Government higher education must be more vigilant and tenacious in its pursuit of providing quality education at lower cost. This is compounded by decreasing costs, decreasing enrolment totals, downsizing departments, and economic induces slashes in funding form govt. Therefore educational organizations are forced to resort to leaner and meaner approach. Benefits of TQM include heightened employee morale, better teamwork among departments, bridging faculty-staff functions, increased quality from customer viewpoint and continuous development of everyone who is part of higher education institution.

REFERENCES

Durlabhji, S.G. and M.R. Fusilier, 1999. The empowered classroom: Applying TQM to college teaching, Manag. Serv. Qual., 9(2): 110-115.

Osseo-Asare E.A.Jr. and D. Longbottom, 2002. The need for education and training in the use of the EFQM model for quality management in UK higher education injstitutions. Qual. Assur. Edu., 10(1): 26-36.

Fullan, M., 1993. Change Forces, Falmer, London.

Gaither, N., 1996. Production and Operations Management, Duxbury Press, Cincinnati, OH, pp: 7.

Gregory, M., 1996. Developing effective college leadership for the management of educational change. Leadership Org. Dev. J., 17(4): 46-51.

Harris, R.W., 1994. Alien or Ally? TQM, Academic Quality and the New Public Management. Qual. Assur. Edu., 2(3): 33-39.

Iven, H., 1995. Dearing's dilemma. Education, 9 June, Vol: 14.

Koch, J.V., 2003. TQM; why is its impact in higher education so small?. The TQM Magazine, 15(5): 325-333.

Lawrence, J.J. and M.A. McCollough, 2001. A conceptual framework for guaranteeing higher education. Qual. Assur. Edu., 9(3): 139-152.

Marsh, D.T., 1992. Leadership and its functions in further and higher education. Mendip Paper. The Staff College, Bristol.

Michael, R.K., *et al.*, 1997. A comprehensive model for implementing total quality management in higher education. Benchmark. Qual. Manage. Technol., 4(2): 104-120.

Owlia, M.S., and E.M. Aspinwall, 1997. TQM in higher education-a review. International J. Qual. Rel. Manage., 14(5): 527-543.

Sangeeta, *et al.*, 2004. Conceptualising total quality management in higher education. The TQM Magazine, 16(2): 145-159.

Srivanci, M.B., 2004. Critical issues for TQM implementation in higher education. The TQM Magazine, 16(6): 382-386.

Roffe, I.M., 1998. Conceptual problems of continuous quality improvement and innovation in higher education. Qual. Assur. Higher Edu., 6(2): 74-82.

Witcher, B.J., 1990, Total Marketing: Total Quality and Marketing Concept. The Quarterly Review of Marketing Winter.