

QUALITY MANAGEMENT IN HIGHER EDUCATION- A PERSPECTIVE

Saba Rana

Graduate Teaching Fellow
Lahore School of Economics

ABSTRACT

The article caters to the quality assurance activities adopted by education institutions. Survival in education industry requires healthy changes in the institution. The expectations of the stakeholder attached to the institution have to be fulfilled. Terms such as standards and quality of educations are becoming handy these days. Thus besides offering new degrees or putting up fancy ads, the term quality assurance is of great importance to the institution. It plays a major role on the configuration of the status of the institution in the education industry. Even getting certifications and affiliations from recognized institutions are referring to the quality education of the institution. Higher education has immensely improved in Pakistan. The introduction of Quality Assurance Agency is an addition to the education industry. This paper highlights the important factors considered for maintain quality in an institution. Education institution is like a means of transport which requires quality fuel to run efficiently. Thus the quality of institution depends on its faculty, pedagogy, curriculum design, strategic planning, examination system, resources and policies. This paper would be covering all the factors related to quality of the institution. At the same time the benchmark given by the Higher Education commission would also be disclosed. I will be developing a quality assurance framework of the entire procedure adopted by institutions. The entire process basically revolves around the input, process and output (IPO) model. The coordination, observation, feedback and collaboration of the internal stakeholders play the game. Thus this paper reveals the importance of quality management in higher education institution.

Key Words: Total Quality Management, Quality Assurance, Quality Enhancement, IPO Model.

1. INTRODUCTION

Quality management has been a very important factor for the leaders in higher education. The application of business related quality activities have been a success story for many leading institutions. In this era of extensive competition, quality education is a major concern (Koslowski, 2006). The statement of quality education has been attracting many internal and external stakeholders. As in the 21st century the stakeholders are educated and they require answers from the institution (Fuhrman & Elmore, 2004). The stake holders previously were more concerned about the nature of programs being offered by the institution and other factors such as fees and location. Now the level of compromise has decreased. In such condition the institutions will continuously be inspected by the customers until and unless proper evidence is not provided (Koslowski, 2006). This leads to the challenge faced by the institutions, as the increasing demand of stakeholders has lead the institutions to bring changes in the programs and curricula (Longanecker, 1995). Even back in 1972, Mortimer has stated that the institutions would eventually adopt the business strategies to increase the effectiveness in the long run (Bogue & Bingham-Hall, 2003). Edler 2004 states that “the infusion of quality management concepts such as total quality management (TQM) and continuous quality improvement (CQI) in higher education is optional, but external accrediting bodies may soon mandate institutions to provide evidence of quality principles in action”. Thus if the institution provides such quality measure before the external education committee, then the institution would have an edge in the industry. According to Spanbauer (1995) “TQM is a management philosophy which puts systems and processes in place to meet and exceed the expectations of customers”. However it is very much obvious that most of the institutions avoid such

quality measures as it leads to the changes in the traditional set up of the institutions (Baba, Kamibeppu & Shimada, 2001; Montano & Utter, 1999; Sirvanci, 2004). Thus there is always a second thought in the mind of the administration when changing the system of the institution.

2. LITERATURE REVIEW

2.1. QUALITY MANAGEMENT

Borgue & Bingham-Hall (2003) have done extensive research on quality education. According to them quality is “conformance to mission specification and goal achievement--within publicly accepted standards of accountability and integrity”. According to their observation those institutions with higher tuition are perceived to have higher quality, institutions with a brand name have quality, even institutions with higher amount of funds and resources are perceived to have quality. Eventually there are selective numbers of institutions who are perceived to have quality education. Because of this consumer mind, institutions have started to raise their tuition to look good in the education industry. Thus quality maintenance efforts are made on the perception of the current consumer in the market. Eventually those institutions with proper resources and a clear idea of the stakeholder demand tend to get a better outcome (Politi, 1995). Quality basically maintains equilibrium between the internal and external forces. A system that fulfils the requirement of the external forces such as customers and at the same time applies the internal forces to accommodate them are the true winners (Koslowski, 2006). The quality to a customer could be derived by providing good position in the market, where as the quality as a faculty is recognition of the institution and a training program (Eagle & Brennan, 2007),

2.1.1. QUALITY AND PERSPECTIVES

Harvey & Green (1993) created four perspectives of quality in higher education. Quality as excellence refers to the crystal clear touchstone created by the institutions, quality as fitness for purpose focuses on filling the gap in the industry and considering the needs of the customer, quality as value for money refers to the desired outcome of the institutions in term of business and profits, lastly quality as transformation is when the institutions adopt strategic changes to gain a niche in the industry (Harvey & green, 1993).

2.2. QUALITY ENHANCEMENT VS QUALITY ASSURANCE

Lomas in 2007 stated that Quality enhancement and Quality assurance has been attached with the higher education system now. Quality enhancement refers to the continuous improvement in the institution system where as quality assurance caters to the standards maintained by the institutions through check of external bodies (Biggs, 2003). There is usually an ambiguity between the quality enhancement and assurance in higher education and that is the reason that separate departments are maintained to keep update of the curriculum and to keep check on the standards of the institutions (Lomas, 2007).

2.2.1. QUALITY ASSURANCE IN HIGHER EDUCATION

Gates in 2002 created types to assess the higher education system. According to Gates, (2002) there are four ways to access the higher education system. Guided self-assessment is an external system created by the International standard organization (ISO) which keeps a check on the internal system of the organization and their quality standards. ISO has now created assessing strategies for higher education (Spanbauer, 1992). Intermediary conduct assessment is also an external system however it checks on the institutions goals and outcomes. Independent self assessment is when the institutions take full responsibility of checking the quality standards. Provider conducted student based assessment is when only the student learning is checked and the outcome is provided in terms of a certification or diploma (Gates, 2002).

2.3. TOTAL QUALITY MANAGEMENT (TQM)

Hasson & Klefsjo (2003) defines TQM as “management strategy that has interrelated components, namely: core values, techniques and tools”. Whereas according to Scrabec (2000) “TQM should be viewed as TQE (total quality education); this model moves beyond customers to include: society and business beyond the student”. However Zairi & Youssef (1995) say “TQM must be viewed holistically by examining management factors such as institutional goal statements, long-range plans, and assessment techniques”. Basically TQM is a fusion of the internal and external needs and values; balancing them is the most difficult task. Dr. W. Edwards Deming was the first scholar to introduce the concept of TQM. He emphasized the need of implementing quality control checks in every organization (Bonstingl, 1992). Owens in 2001 casually states “total and continuous quality improvement is seen as a journey not as destination and as such has no real beginning or ending”. Thus it is a continuous effort for the management to maintain a standard in the institution. Basically TQM has been seen as managerial tool to fix the problems relating to services as well as approaches in education industry and it can standardize the education industry (Venkatraman, 2007; Peat, 2005).

2.3.1. PILLARS OF QUALITY MANAGEMENT

The basics for the implementation of a quality system require fulfillment of some criteria's. The concept of TQM Pillars was introduced by Creech (1994). According to Creech “The five essential pillars of TQM are product, process, organization, leadership, and commitment”. Creech (1994) explained the pillars of TQM by explaining that the product is the main propose of the organizational existence, maintenance of the product is possible with the quality process, the systematic process creates the Organization, and for proper implementation of the quality process it's important to have a leader and his commitment towards the main goal of organization. Whereas Johnson & Golomskiis (1999) defining the pillars of TQM, emphasized on the involvement of stakeholders, the planning approach and perspectives of improvement. Few managers even state that quality is maintained in an organization through the productivity of the worker and not the goal of the organization (Venkatraman, 2007).

2.3.2. QUALITY MANAGEMENT IN HIGHER EDUCATION

Bradely, (1993) provided a model of application of TQM at the higher education. Here the trainees were the teachers. The faculty members were the first line managers, administrator as the middle and first line manager, the rector and board of education as the board of directors of the institution. The job description of the faculty is to educate the customer as facilitator, the admin has to use the plan approach, whereas the board of education and dean has to innovate and do long term planning. Eventually Brown, Hitchcock & Willard, (1994) claimed the six characteristics of TQM implementation are “spending times with customers; treating suppliers like partners; spending time interacting with workers; devoting time to professional development; spending time focusing on customer satisfaction, quality data, and financial data; and allocating funds to support TQM initiatives”. Thus interaction with the customer, inter communication in the institution and planning leads to the implementation of TQM. Oakland (2000) emphasized the importance of creating a “benchmark” in the market. Since once a brand in created the customers would eventually draw attention towards the institution. For the creation of benchmark, constant innovation of programs, upgraded system and proper long term planning is required. Concluding, the entire procedure of TQM is stress team work, efficient and effective methods with improving internal environment of the institution (Venkatraman, 2007).

2.3.3. ADVANTAGES & DISADVANTAGES

TQM is very effective in higher education since it keeps a track of the entire system and constant up-gradation keeps the quality high. This effort convinces the students that they will be prepared for the market place (Soni, Chaubey & Rayan, 2000). Whereas using bottom-up approach to coordinate with the team members creates a healthy internal environment. Thus communication and coordination could enhance the overall production in the institution and give a greater outcome (Parker & Slaughter, 1994; Vazzana, Winter & Waner, 1997). However the TQM could also

have negative effects on the higher education. The most prominent effect of implementation of the TQM is that the institution has to take a risk of changing the entire system, leaving their traditional procedure and spend unlimited amount of time and resources on the new system (Murgatroyd, 1993; Weller & Hartley, 1994; Antony & Preece, 2002). Even the faculty gets offend as their level of authority and their methods of instructions changes leading to low morale. Even the lack of focus on the new system could lead to worst outcomes (Raelin, 2003; Antony & Preece, 2002).

3. HIGHER EDUCATION COMISSION

Now a day's quality maintenance is the main goal of every institution. ¹Higher education commission (HEC), created Quality Assurance department. The main activity of this department is concerned about maintaining Quality in the education industry. The Quality management processes in recognized institutions are regulated by the HEC. According to high education commission, Quality is achieving of standards and reaching the maximum outcome. Quality caters to all dimensions in higher education, from structuring of the program to the hiring of faculty. Thus to maintain a standard it is essential for the institution to create an appropriate environment in the institution. According to Higher Education Commission "The key factors influencing the quality of higher education is the quality of faculty, curriculum standards, technological infrastructure available, research environment, accreditation regime and the administrative policies and procedures implemented in institutions of higher learning".

- i. Quality has become an active unit; therefore Higher Education Commission has created the **Quality Division**, which clearly states the ordinance passed by the Government of Pakistan relating to the importance of quality in higher education.
- ii. In order to keep up with the global trends, the Higher Education Commission has established **University Accreditation** unit. It focuses on the establishment of new institution or degrees in Pakistan, arrangement on foreign collaboration with different universities worldwide, lastly the creation of Committees for updates on the education related issues.
- iii. The Higher Education Commission has also focused on the area of **Plagiarism**. They have clearly mentioned the after effects of committing the crime of plagiarism. The committee has also mentioned the name and papers of those people who have committed the crime of plagiarism.
- iv. Lastly, the establishment of a **Quality Assurance Agency (QAA)** in 2005. The main purpose of this agency is to regulate the Quality Enhancement Cells (QEC) operated by different universities in Pakistan. They are majorly involved in the training of the faculty, development of the programs, creation of new policies and guidelines for setting the appropriate standards.

3.1. QUALITY ASSURANCE FRAMEWORK BY HEC

²Higher education Commission has created a proper road map to achieve standards in the education industry. Quality assurance is maintained by Higher Education Commission on two levels, the program level and the institution level. Basically it operates in term of three stages of quality assurance. In the First stage, the institution has to set quality standards according to the national level criteria. The institution will gain standards in quality assurance, accreditations and proper guideline. In the second stage, the institution is required to create an Internal Quality Assurance system (IQA). The outcome for the establishment of an internal system would be the evaluation system and guideline. Lastly, in third stage, the institution is required of developing link with an External Quality Assurance System (EQA) with in Pakistan. This will lead to maintenance of accreditation standards at the product and institutional level.

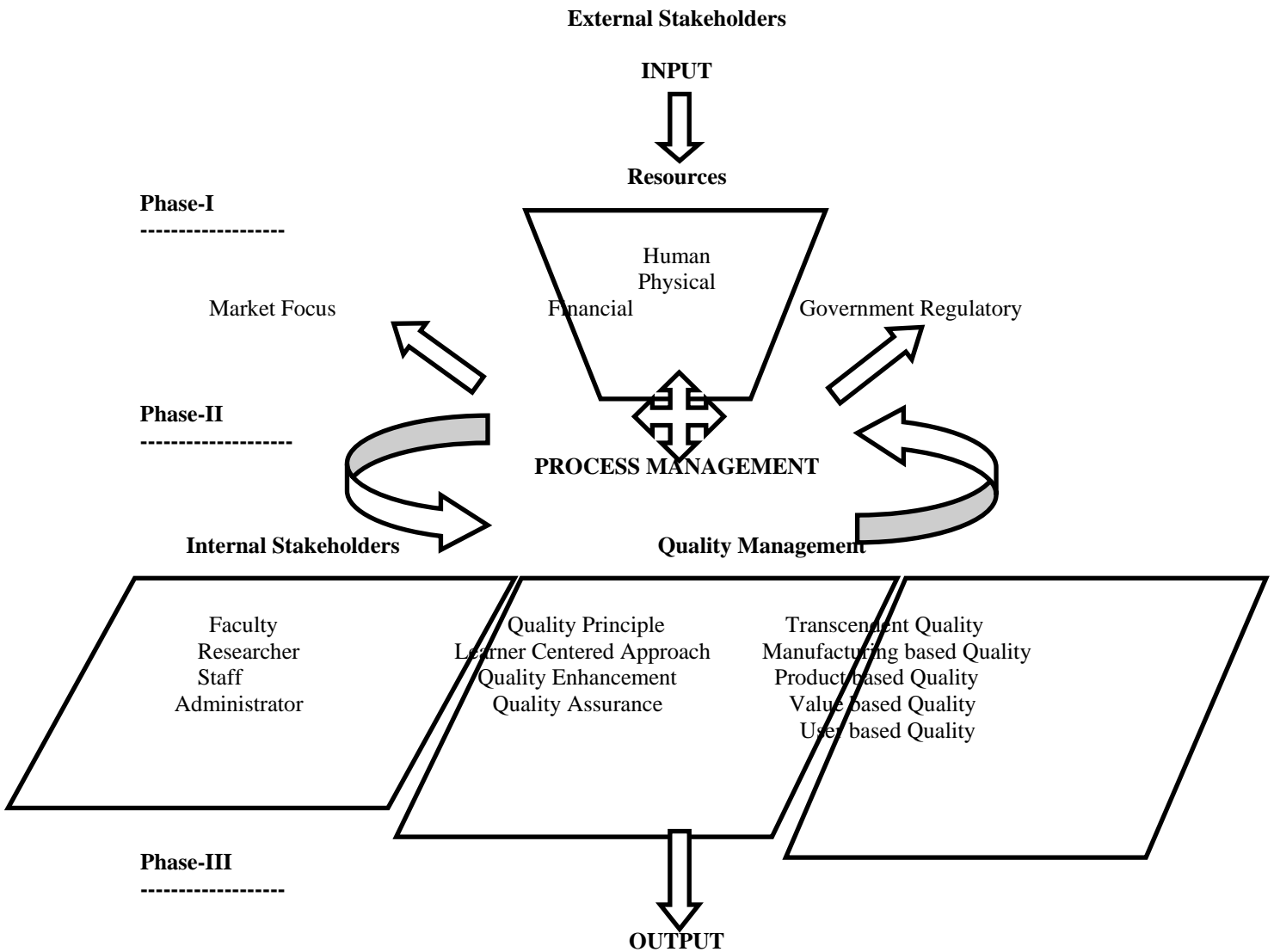
¹ http://hec.gov.pk/QALI/Quality_Assurance/

² http://hec.gov.pk/components/com_bnvcontent/images/resources/2312_qa-framework.pdf

4. QUALITY MANAGEMENT CYCLE AT HIGHER EDUCATION- FRAME WORK

The Quality Management Cycle is created by the researcher in Figure-1, for the higher education system. Basically it reflects the true picture of the scenario. All the components considered in creating this frame work are interdependent, thus creating a network. The researcher has applied the (Input-Process-Output) IPO Model in the higher education system with respect to the Quality Management. The information gained from the created framework would form the basis, from where the institution can apply quality proposal to the education industry.

FIGURE: 1
QUALITY MANAGEMENT CYCLE AT HIGHER EDUCATION



4.1. DISCUSSION

Managing quality at the higher education system is an intricate task. But at the same time quality would be viewed by the internal and external stakeholders differently (Becket & Brookes, 2008). The **External stakeholders** are customers or students in case of higher education system. Usually external stakeholders are concerned about the quality assurance, that the offered product will give successfully results as promised by the institution (Bohran & Ziarati, 2002). Therefore in order to guarantee such future security external government bodies offer their services by providing certification or recognition to the institution. Thus education commission when committed to quality gives refuge to the institution (Harvey, 2005).

PHASE-I

The first phase of this frame work is the Input. The institutions invest its resources in to the production side. In case of higher education system the human resource are referred as the faculty and staff, where as the physical resources are the infra structure and lastly the financial resources are required to run the institution. While making the investment the **Government Regulatory Body** i.e Higher Education Commission in Pakistan has to be consulted. Making sure that the institution follows their standards and policies. Besides that a proper industry review needs to be done with respect to the Public and Private Institutions. In Figure-1, the **Market Focus** basically caters to the education industry which consists of direct and indirect competitors such as other universities and colleges. Thus the institution also has to observe their system closely at the time of input.

PHASE-II

The second phase is the Process Management. That's when the entire system is run on a standard. The internal stakeholders are like the fuel to the institution.

i. INTERNAL STAKEHOLDERS

The internal stakeholders of an institution are the Faculty members, researchers, administration and staff members. Their main emphasis goes beyond the quality assurance; in fact they are more concerned about the quality enhancement (McKay & Kember, 1999). Changes and development in the teaching and course material are done by the internal stakeholders. At the same time the Quality management has to be maintained, since the set standard has to be achieved.

ii. QUALITY PRINCIPLES

The main idea behind application of quality standards is to do it systematically. Those institutions that jumped into making decisions were in loose, as their approach was not effective. Freed, Klugman & Fife (1997) did extensive work on the proposal of quality principle. According to Freed, Klugman & Fife "Quality principles are defined as a personal philosophy and an organizational culture that uses scientific measurement of outcomes, systematic management techniques, and collaboration to achieve an institution's mission". The basic factors of quality principles highlighted by Freed, Klugman & Fife (1997) are "vision, mission, and outcomes; systems dependent; transformational leadership; systematic individual development; decisions based on facts; delegated decision making; collaboration; plan for change; and a supportive leader". Thus a proper road map is essential for the survival of the institution. Usually a rivalry occurs among the department in an institution, due to change in the system (Sirvanci, 2004). For the sake of maintenance of such system it is very important to assign a leader. That leader should have proper communication skills and should be able to consider the need of stakeholders (Freed, Klugman & Fife, 1997; Wood, 2007).

iii. LEARNER CENTERED APPROACH

The idea of learner centered approach emerged in 1990's when institutions were looking for new methods of bringing change in the system (O'Banion, 1997). Basically in learner centered approach the faculty had to become a facilitator, so besides instructing, the faculty member taught the students the process of working creatively. Because of this new method the course material was renewed and the facilitator training was provided to the faculty (Harvey-Smith, 2003; Flynn, 2003). According to Flynn (2003) "The learner-centered approach has been instrumental in prompting administrators to rethink how we organize ourselves, how we structure our colleges, and how we interact with each other as employees of an institution".

iv. NATURE OF QUALITY IN HIGHER EDUCATION

The emphasis of quality maintenance in higher education has increased as the numbers of students are increasing and at the same time their expectations are also increasing, as they have to pay the tuition fee so they look for an appropriate outcome (Becket & Brookes, 2005). Seymour (1992) has narrowed down the types of quality and applied them specifically to the higher education industry. According to Seymour (1992) the types of quality refer to some part of the system. The Transcendent quality is achieved through training and professional programs in the institution. Manufacturing based quality is that the structure of degree is perfectly in aligned to the requirement of the customer. Product based quality is focusing on the addition of courses in a specialized degree. Value based quality is achieved by providing the appropriate outcome to the customer. Lastly User based quality is gained by fulfilling the requirements of the customer (Seymour, 1992).

v. QUALITY ENHANCEMENT

Quality enhancement in an institution refers to the internal environment of the institution. It focuses on the strategies adopted to provide the final product to the customer. Gosling in 2005 has mentioned the funding policy of the higher education council. They created three levels of funding to the institution on the basis of quality, they are the subject level referring to the availability of resources and knowledge of particular subject, secondly the institutional level focusing on the pedagogical methodology adopted by the institution and lastly the individual level where the education of the teacher is flourished through scholarships and training programs (Gosling, 2005). The idea behind such funding program was to force the institutions to make strategic changes a part of their system and their emphasis should be on improvement of existing methods (Lomas, 2007).

vi. QUALITY ASSURANCE

According to Hodson & Thomas, (2003) Quality Assurance "emphasis compliance and accountability". So in quality assurance certain standards are adopted by the institutions to promise a good outcome to the customer. Thus the main purpose behind evaluations of faculty and system is to keep a check on the standards (Lillie, 2003). Universities are giving quality assurance more preference so that they can promote their business in the market (Delanty, 2001). Increase in competition and development of the education industry lead to shortage of resources, this directed to the realization of a creation of system where the available resource give maximum payoff (Piana & Agasisti, 2009). Universities are under extreme inspection, so they have to go through constant strategic changes from role to the infrastructure. These exercises are conducted by referring to the managerial approaches from the literature (Barnabe & Riccaboni, 2007).

Phase-III

Lastly the Output refers to the end product. Here the end product is the student with increased knowledge and satisfaction. According to Becket & Brookes, 2008 the "output of the education system can be tangible, intangible or value addition". Thus demand of the fresh graduate in the market is a pay back, even mental satisfaction gained gives the output to the customer. The output in this figure refers to the end product of the institution. All the efforts made by the institution to maintain Quality standards would now be prominent in their final product. The fresh

graduate would be the mode of advertisement, of the institution in the market. This would eventually attract more external stakeholder to apply for admission at the institution.

CONCLUSION

Quality management is essential for the survival of institution in the industry. Every institution has different parameters to measure the quality of education. Setting up standards is the most crucial activity of an education institution. However if the institution identifies correct components then quality is achievable. The framework created in this research paper is an attempt to identify the instruments that leads to a greater outcome. Due to the intense competition in the industry, every institution is facing threat. The main idea is to maintain an appropriate system with quality standards. Thus exercising efficient activities leads to the best results. All the recognized institutions should develop their own quality management unit. The creation of such department in the university will encourage the institution to adopt self assessment methodology. Quality assurance agency has provided guidance in detail to the institutions relating to the quality standards and policies. It will then also help the institution scan their entire system from pedagogy to the course development. Even the offering of new courses to the adoption of new teaching method would be done through the quality management unit. The quality management system is new in Pakistan. However due to increase knowledge of the customer many institutions are gaining edge out of this system. Thus all the institutions should adopt the quality assurance practices.

REFERENCES

- Agasisti, T. and Piana, D. (2009). "Should We Trust Students Evaluations? A Study in an Italian University". The FedUni Journal of Higher Education, Vol. 4, No. 1, pp. 56-72.
- Baba, M., Kamibeppu, T., & Shimada, K. (2001). "What universities can learn from corporations about quality control of students: A proposal from Japanese perspective". Total Quality Management, 12, 159-166.
- Barnabè F. and Riccaboni A. (2007), "Which role for performance measurement systems in higher education? Focus on quality assurance in Italy". Studies in Educational Evaluation 33, 302-319.
- Becket, N. and Brookes, M. (2005). "Analysing quality audits in higher education". Oxford Brookes University eJournal of Learning and Teaching, Vol. 1 No. 2, pp. 1-22
- Becket, N. and Brookes, M. (2008). "Quality management practices in higher education- what quality are we actually enhancing". Oxford brookes university, Oxford. Journal of hospitality, leisure, sport and tourism education. Vol:7 No:1.
- Biggs, J. (2003). "Teaching for Quality Learning at University, 2nd ed.". SRHE/Open University Press, Buckingham.
- Bogue, E. G., & Bingham-Hall, K. (2003). "Quality and accountability in higher education". New Haven, CT: Praeger.
- Bonstingl, J. J. (1992). "Schools of quality: An introduction to total quality management in Education". Alexandria, VA: Association for Supervision and Curriculum Development
- Borahan, N. G. and Ziarati, R. (2002). "Developing Quality Criteria for Application in the Higher Education Sector in Turkey". Total Quality Management, 13(7), 913-926.
- Bradley, L. H. (1993). "Total quality management for schools". Lancaster, PA: Technomic.
- Brown, M. G., Hitchcock, D. E., & Willard, M. L. (1994). "Why TQM fails and what to do

about It". New York: Irwin.

Creech, B. (1994). "The five pillars of TQM: How to make total quality management work for you". New York: Truman Talley Books/Plume.

Delanty, G. (2001). "Challenging Knowledge". Open University Press, Buckingham.

Eagle, L. and Brennan, R. (2007). "Are students customers? TQM and marketing perspectives". Middlesex University Business School, London, UK. Quality assurance in education, Vol: 15 No: 1.

Edler, F. H. (2004). "Campus accreditation: Here comes the corporate model". Thought & Action: The NEA Higher Education Journal, XX, 91-104.

Flynn, W. J. (2003). "The learning decade". League publications, Learning Abstracts, 6, 1-5.

Freed, J. E., Klugman, M. R., & Fife, J. D. (1997). "A culture of academic excellence: Implementing the quality principles in higher education". Washington, DC: George Washington University Press.

Fuhrman, S. H., & Elmore, R. F. (2004). "Redesigning accountability systems for Education". New York: Teachers College Press.

Gates, S.M., Augustine, C.H. and Benjamin, R. (2002). "Ensuring quality and productivity in higher education: an analysis of assessment practices". ASHE-ERIC Higher Education Reports, Vol. 29 No. 1, pp. 1-171.

Gosling, D., D'Andrea, V. and Blackwell, R. (2005). "Promoting quality enhancement in the UK: the experience of collaboration between national agencies". Tertiary Education and Management, Vol. 11 No. 1, pp. 55-79.

Hansson, J., & Klefsjo, B. (2003). "A core value model for implementing total quality management in small organizations". TQM Magazine, 13, 71-81.

Harvey, L. and Green, D. (1993), "Defining quality". Assessment and Evaluation in Higher Education, Vol. 18 No. 1, pp. 9-34.

Harvey, L. (2005). "A History and Critique of Quality and Evaluation in the UK". Quality Assurance in Education, 13(4), 263-276.

Harvey-Smith, A. B. (2003). "A framework for transforming learning organizations: Proposing a new learning college". League publications, Learning Abstracts.

Hodson, P. and Thomas, H. (2003). "Quality assurance in higher education: fit for the new millennium or simply year 2000 compliant?". Higher Education, Vol. 45 No. 3, pp. 375-87.

Johnson, F. C., & Golomskiis, W. A. J. (1999). "Quality concepts in education". TQM Magazine, 11, 467-474.

Koslowski, A. Fred. (2006). "Quality and assessment in context: a brief review". Quality assurance in education. Vol.14. No. 3.

Lillie, E. (2003), "Convergence and divergence: differing approaches to quality and accreditation in Europe". Egging, H. (Ed.), Globalisation and Reform in Higher Education, SRHE/Open University Press, Maidenhead, pp. 99-116

Lomas, L. (2007). "Zen, motorcycle maintenance and quality in higher education". Quality assurance in education. Kings college London, UK. Vol. 15 No.4

- Longanecker, D. (1995). "High performance higher education: The federal role". *Thought & Action: The NEA Higher Education Journal*, XI, 105-110.
- McKay, J. and Kember, D. (1999). "Quality Assurance Systems and Educational Development. Part 1: The limitations of quality control". *Quality Assurance in Education*, 7(1), 25-29.
- Montano, C. B., & Utter, G. H. (1999). "Total quality management in higher education". *Quality Progress*, 32, 52-59.
- Oakland, J. S. (2000). "Total quality management: Text with cases (2nd ed.)". Woburn, MA: Butterworth-Heinemann
- O'Banion, T. (1997). "The purpose, process, and product of the learning revolution in the community college". League publications, Learning Abstracts.
- Owens, R.G. (2001). "Organizational Behavior in Education: Instructional Leadership and School Reform, 7th ed". Allyn & Bacon, Boston, MA.
- Parker, M., & Slaughter, J. (1994). "Beware! TQM is coming to your campus". *Thought & Action: The NEA Higher Education Journal*, 10, 5-30.
- Peat, M., Taylor, C.E. and Franklin, S. (2005), "Re-engineering of undergraduate science curriculum to emphasise development of lifelong learning skills". *Innovations in Education and Teaching International*, Vol. 42 No. 2, pp. 135-46.
- Politi, J. J. (1995). "Applying quality to education". Maryville, MO: Prescott.
- Scrabec, Q. (2000). "A quality education is not customer driven". *Journal of Education for Business*, 75, 298-302.
- Seymour, D.T. (1992). "On Q: Causing Quality in Higher Education". Macmillan, New York, NY.
- Sirvanci, M. B. (2004). "TQM implementation: Critical issues for TQM implementation in higher education". *Total Quality Management Magazine*, 16, 382-386.
- Soni, R. G., Chaubey, M. D., & Ryan, J. C. (2000). "Implementing TQM in higher education institutions: A strategic management approach". *Academy of Educational Leadership Journal*, 4, 99-107.
- Spanbauer, S.J. (1992). "A Quality System for Education, American Society for Quality Control Standards". Milwaukee, WI.
- Spanbauer, S. J. (1995). "Reactivating higher education with total quality management: Using quality and productivity concepts, techniques and tools to improve higher Education". *Total Quality Management*, 6, 1-17.
- Vazzana, G. S., Winter, J. K., & Waner, K. K. (1997). "Can TQM fill the gap in higher education?" *Journal of Education for Business*, 72(5), 313-316.
- Venkatraman, S. (2007). "A framework for implementing TQM in higher education programs". School of Information Management, Victoria University of Wellington, Wellington, New Zealand. *Quality assurance in education*, Vol: 15 No: 1.
- Wood, R. C. (2007). "How strategic innovation really gets started". *Strategy & Leadership*, 35, 21-27.

Zairi, M., & Youssef, M. (1995). "Benchmarking critical factors for TQM part I: Theory and foundations". *Benchmarking for Quality Management & Technology*, 2, 5-15.

WEBSITES

http://hec.gov.pk/QALI/Quality_Assurance/

http://hec.gov.pk/components/com_bnvcontent/images/resources/2312_qa-framework.pdf