

OBSTACLES IN ACCOMPLISHING TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION

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Abstract - Throughout the globe Quality education is a great concern in many societies. The success of educational establishments depends on the quality of education. Educationalists are taking their high interest for the total quality management (TQM) because it is known as an efficient management philosophy for continuous improvement and organizational excellence. This theory was primarily developed in the manufacturing sector, hence, people has the doubt that whether this philosophy is appropriate in education sector. In this regard, the main aim of this study is to look into the application of TQM with education. Further this study would try to find main challenges in putting into practice TQM in education. It is predicted that this study would be able to find a significant conclusion concerning the applicability of TQM in education and also to create a knowledge concerning the challenges which may create barriers in putting into practice TQM in education.

Key Words: Total Quality Management (TQM), Higher Education, Challenges, incessant Improvement, Quality Improvement

1. INTRODUCTION

Total Quality Management (TQM) is a management philosophy which is applied as an approach for business excellence. Yet the idea of TQM was put by Dr. W. Edwards Deming in the late 1950's in USA; but, Japan was the first who used this conception to recuperate their economy after the II

World War. The accomplishment of TQM in Japan made this idea illustrious in many nations across the globe. At first, the idea was developed for manufacturing firms; afterward, it achieved recognition to service organizations, like bank, insurance, non-profit firms, health care etc. Lunenburg states that TQM is also relevant to corporations, service organizations, universities, and elementary and secondary schools [1]. Currently, TQM is known as a common management instrument and relevant to any institution.

In this era of intense competition, quality education is a major concern, according to Koslowski, [2]. The demand for quality education is rising. All concerned educational institutes are enthusiastically considering implementation of TQM since it is supposed that quality education is one of the basic building blocks of economic growth. For applying TQM in education, there is a serious argument because this concept was primarily developed for manufacturing firms. During an initial investigation it was also found that there are serious challenges in implementing TQM in education sector. It is also very important to look at the type of those challenges so that educational institutes can take correct measure proactively while applying TQM in education sector.

2. OBJECTIVES AND SCOPE OF THE STUDY

The major objective of this study is to evaluate the matching of TQM with education. Also, this study

would attempt to make out those challenges which may obstruct the TQM application in education. While achieving these objectives this study would make a particular focus on the phrase TQM so that the distinctiveness and the latent benefits of taking up TQM can be obvious to all.

3. METHODOLOGY

The qualitative technique has been selected for this study. This investigative approach would give a prospect to know and elucidate the major problem of this study. Data and information for this study are collected through extensive literature, interviewing experts and personal experience.

4. TOTAL QUALITY MANAGEMENT, DEFINED

TQM is a management approach that was brought about in the 1950s and has become popular with time since the early 1980s. The phrase 'quality' is at the center of this philosophy. While defining TQM, people present their views regarding this term in many ways; hence, many definitions come out with different suggestions. According to Crosby quality management is a methodical way of ensuring that organized activities happen the way they are planned [3]. According to Short & Rahim TQM is a proactive philosophy, to verify quality into the goods, service and design of the process and then to incessantly enhance it [4]. Hence, TQM can be comprehended as a plan, a systematic methodology to ensure quality and incessant development. Deming explains TQM is a continuous cycle of progress in the system of production ought to change into obtaining improved performance and quality standards for the product [5]. According to Yang TQM is a set of practices that focuses on the methodical improvement, fulfilling the customers' needs, and

lessening rework [6]. TQM is a system and set of practices which are targeted at unremitting quality enhancement and improved business performance.

TQM sees an organization as a set of interconnected processes. It is a technique by which management and workforce are involved in incessant improvement of the production of products and services. Goetsch and Davis has the opinion that TQM consists of persistent improvement activities, involving everybody in the business in a completely integrated attempt towards enhancing performance at each level [7]. Vinni states TQM creates such setting in which all the assets are used cleverly and effectively in order to offer quality service the organization requirements to become accustomed in this fast paced world [8].

As per Witcher, TQM is the blend of three terms—Total: meaning that everyone is involved, including customer and suppliers; Quality: representing that customer needs are met exactly; and Management: indicating that senior executives are committed [9]. As per Oakland TQM is a methodology encompassing the entire organization for understanding each activity of each person at every management layer [10]. TQM endeavors to integrate all organizational functions (marketing, finance, design, engineering, and production, customer service, etc.) to focus on fulfilling customer needs and organizational goals. Escrib believes TQM as a tactical action that focuses on managing the whole organization to give products or services that carry out their customer requirements by utilizing all resources [11]. TQM is the holistic management approach that includes all the organizational activities to fulfill customers' needs and obtaining overall organizational objectives as given by Kumar *et al.* [12].

Spanbauer finds TQM as a realistic model focuses on service to others [13]. Yudof and Busch-Vishniac state that TQM stresses the norm that organizations

ought to pay attention to their customers, constantly assess how well they are responding to their needs and initiate change in order to meet or exceed the requirements of the customers [14]. The message is clear that business is improved by the satisfied customers and it is ruined by the dissatisfied customers as expressed by Anderson and Zemke [15]. Lee and Hwan say customer satisfaction is very much related to service quality and it is an important aspect for service organizations [16]. According to Wani and Mehraj, TQM is a management philosophy which creates a customer-driven learning organization, devoted to total customer satisfaction through continuous improvement in the effectiveness and efficiency of the organization and its processes [17]. In TQM customer is an elite issue and customer satisfaction is taken as a key source of successful business. TQM supports about the people development very clearly because business excellence mainly depends on the degree employees of an organization are competent in their respective areas. TQM employs employee capabilities in all activities and processes and makes collaboration feasible and real as comprehended by Schargel [18]. It leads constant improvement of the potentials of the workforce.

TQM encourages a quality culture since it can ensure improved product and service quality. Gaither believes that TQM is the process of changing the basic culture of an organization and forwarding it towards advanced product or service quality [19]. Yusof and Aspinwall state that TQM helps in creating a culture of trust, participation, team-work, quality-mindedness, enthusiasm for continuous improvement, constant learning and as a result, a working culture that contributes towards a firm's success and existence [20]. In a TQM attempt, all affiliates of an organization take part in improving processes, products, services, and the culture in which they work.

Ishikawa stresses on the significance of total quality control to improve organizational performance; as per his view, quality initiatives ought to go further than the product and service; whole organization is with the influence of TQM which will result in improved business performance [21]. As specified by British Standard Institution, TQM is composed of a "management doctrine and company patterns which intent to rein the human and material resources of an organization in the most efficient way to attain the goal of the organization" [22].

From these views, it is easily possible to recognize the necessary characteristics as well as the important offerings of TQM, such as: continuous improvement; integration of people, functions and resources; systematic and structured approach; quality control at every level of the organization and at every step of the operating process; developing human and organizational capabilities; efficient utilization of resources; people partaking; customer contentment; generating a quality culture and so on. To have the benefit of these academic institutions are tending to adopt TQM into their process.

5. COMPATIBILITY OF TQM WITH EDUCATION

Stated by Michael *et al.*, 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 achieving quality, with quality being a continuous improvement as determined by customers' satisfaction with the services they have received [23]. It points out the flexible aspect of TQM, *i.e.* it is appropriate to any organization and subject to alteration as per need of the situation. An academic institution with the help of TQM would be able to build up its own description of quality, benchmark, and quality improvement practices in the view of customers'

need.

Meirovich and Romar found that the findings of the literature on the value of TQM in education are differing [24]. Some authors are greatly confident concerning the applicability of TQM in education sector. Srivanci believe that the values of TQM are in the same way suitable in higher education [25]. TQM principles are well-matched with higher education as stated by Helms and Key [26] and Venkatraman [27]. As per James and James TQM is obviously pertinent to higher education, because it is a process oriented methodology that is planned in escalating productivity, lessening costs and upgrading quality [28]. According to Deming the adoption of TQM will assist institutions of higher education to keep their competitiveness, eradicate inefficiencies in the institution, helps to focus on the market needs, achieve high performance in all parts, and accomplish the requirements of all stakeholders [29]. Tribus considers that education can be made superior by quality management [30]. Peak states that TQM gets better educational institutions in several ways, such as getting better education process, building the educational setting motivating, getting better curriculum, improving the pace of training services and lessening costs [31]. TQM is a way of attaining and maintaining quality in higher education as stated by Eriksen [32]. According to Dobyns and Crawford-Mason whatever the determining incentive, where quality management has been implemented in education, it has made an enormous difference as mentioned [33]. According to De Jager and Nieuwenhuis, even though TQM developed within the manufacturing environment, the benefits are equally applicable to service organizations such as higher education institutions [34]. Murad and Rajesh perceive TQM is a general management philosophy and a mix of various tools which induce educational institutions to pursue a description of quality and the means to achieve it

[35].

Others consider that TQM is applicable in education to some extent. TQM values are only somewhat useful in a dynamic and changing environment which is a characteristic of modern higher education as observed by Koch and Fisher [36], and Houston [37]. According to Dill [38] and Harvey [39], Yet higher education institutions are not like companies but, some of the basic principles and tools are applicable as these are instruments at the service institutions and their governance and management boards subject to the institution's academic mission, goals and strategies. In two different studies by Venkatraman and Peat *et al.* it has been observed that TQM is a managerial instrument to resolve the issues associated with services as well as tactics in the academic industry and it can conform to the standard the education industry [27] [40].

According to Williams, continuous quality improvement; quality consistency; participation of academics, students and non-academic staff; satisfaction of the clients; and the existence of management procedures that reinforce quality are a number of quality management programs that nobody would consider irrelevant in the context of higher education [41]. Arcaro has the opinion that quality can create an environment where educationalists, parents, government officials, community representatives, and business leaders work jointly to deliver students with the resources they need to meet up present and prospect academic, business, and societal requirements [42]. Bayraktar *et al.* tell that a number of TQM elements have a vital role in process improvement including, "leadership", "vision", "measurement and evaluation", "process control and improvement", "program design", "quality system improvement", "employee involvement", "recognition and reward", "evaluation and training", "student focus", and

“other stakeholder focus” in higher education [43]. A good number of researchers find that some TQM tools and techniques are convincingly appropriate in education. For instance, Sirvanci states that the application of quality function deployment (QFD) which is used to include the preference of customers and other stakeholders in program design [25]. Quinn *et al.* talk about the application of Six Sigma, Service Quality (SERVQUAL), ISO9000, and TQM in higher education [44]. It has the ability to provide realistic solutions, affirmative results in academic and administrative jobs.

Now, it is obvious that TQM is convincingly well-suited with the education. Nevertheless, in this connection the remark of Sousa and Voss is quite thought provoking; they comment that TQM principles are not universally applicable across all contexts but are contingent on contextual factors [45] [46]. It means that TQM tools and techniques are needed to fine tuned while putting in education.

6. MAJOR OBSTACLES IN TQM IMPLEMENTATION IN EDUCATION

Undoubtedly TQM has full capacity to serve education sector. Still there are challenges in implementing TQM in education sector. Some educationists believe that thinking which is developed for business may not be proper for service organization like education. Academic institutions are very much dissimilar with a unusual ethos and characteristics that made difficult, or even impossible to apply a philosophy which has been taken from industry [47] [48] [49] [50]. Rosa *et al.* argues that the terms like product, client, empowerment, or even strategy, reengineering do not easily correspond in higher education institutions [51].

The major barrier might be the commitment from the people involved with education system, particularly

the top management and educators. Brown *et al.* found that be deficient in of top management commitment have an effect on TQM efforts negatively, which is one of the major reasons of failure of TQM efforts [52]. Massy states that the tremendous resistance to quality process enhancement comes from educators who believe it as just another business-oriented trend; a typical mindset may undermine the effectiveness of TQM is education[50]. The role of teachers are often informal and less bureaucratic in conventional education system. Koch and Fisher observe that TQM philosophy appers to be more administrative and bureaucratic; there is a propensity to produce relentless meetings, generate enormous amounts of paper, and delay or escape critical decision making [36].

A extensive discussion is there about the description of quality in education. According to Sarrico *et al.* quality can have numerous meaning in higher education and this diversity has substantial influences on the development of methods and instruments of measuring quality; and this variety also can create different stakeholders for the higher education institutions [53]. Houston argues that the way the definition of quality is given based on the customers’ needs and expectations in business and industry environments is not at all appropriate for education [54]. Generally, this term quality may produce a complex situation for the educational institutions.

The term customer could be well defined in manufacturing or business organizations. Yet, defining and recognizing customer in education is a challenge. Ali and Shastri argues that ambiguity in customer identification also creates obstructions in TQM implementation [55]. According to Houston, the definition (customer) prevails in industry or business environment which based on the idea of satisfying customers’ needs and expectations, is a

problematic one in education [54]. Education has multitude interested parties. In the case of elementary and high school level, it is relatively easy to define; parents are the customers and students are the consumers. Youssef *et al.* stated that the customers of higher education are much more diverse and not so easily defined [56]. This condition is complex in the case of tertiary level of education. A student can be both the consumer and customers if he or she pays his education. In the case of scholarship students, sponsors are the customers. Seymour identifies a number of reasons for unsuccessful application of TQM in higher education, such as resistance to change; lacking of administration commitment; high time investment due to personal training; difficulty in applying TQM tools to higher education institutions; insufficient experience of team leaders and staff in teamwork; the anxieties of higher education institutions have with their own results not being sufficient enough [47].

Koch admits a extensive range of reasons, these are: lost in focus, *i.e.* TQM put more stress on non-academic activities rather than core academic activities (e.g. curriculum development; teaching and learning style, tuition fees, student welfare etc.); resistance from the faculty members as TQM hinders their power and freedom, violate the secrecy related to assessment, promotion, salary and so forth and practice of teamwork in education process as these are not consistent with the traditional teaching process; and defining customers and measuring outcomes are two major difficulties in implementing TQM in education since a wide range of customers (like students, parents, researchers, alumni, business firms and so on) are involved in higher education so it very difficult who are the real customers in education, it is equally difficult to measure the outcomes of quality initiatives [57].

Rosa and Amaral *also mention a number of barriers*

in implementing TQM in education: the absence of effective communication channels; the problem in measuring higher education institutions results; the co-existence of multiple purposes and objectives for higher education institutions; the emphases in the individualism and significant degree of internal competition; the bureaucratic decision-making process; and the lack of a strong leadership, highly committed to the ideas and principles it wants to apply and capable of involving all the institution's members [58]. Dale, *et al.* notice some critical obstacles such as: ineffective leadership; obstruction to change; contradictory policies; inappropriate organizational structure; and poor management of the change process are other shortcomings in implementing TQM [59]. Kosgei detects a number of challenges in this regard, too; these are: lack of commitment by the administrators and some workforce, school's organizational culture, poor documentation, insufficient training of staff, and inefficient communication [60].

7. CONCLUSION

This study is involved in explanation what might motivate an academic institute to include TQM into its working, probing to the level to which TQM is pertinent and matching with education; and what may obstruct the successful execution of TQM in education sector. Yet, in general, it can be believed that in order to make TQM successful, it is necessary to make a quality culture, *i.e.* a change is needed from traditional management culture to a total quality culture. According to Deming, TQM is a management philosophy that requires a radical cultural change from traditional management to continuous improvement management style in an organization [5]. A similar thought is also echoed by Sallis; he tells that TQM needs a transform of culture; it necessitates a change of attitudes and

working style, as well as an alter in institutional management [61]. A quality culture is a structure of shared values, beliefs, and norms that focuses on pleasing customers and continuously enhancing the quality of goods and services. Quality culture can promote the TQM principles like continuous improvement, open communication, fact-based problem solving and decision making, etc. Further, academic institutions ought to take on a more customer oriented approach in dealing with their student. Conventional teacher student association is no more value adding to any person. It is essential to extend professional management practices in the educational institutions. There is a ample range of tools and techniques available in TQM. Unsystematic selection of TQM tools, techniques and concepts shall not provide any significant advantage. In its place, it is better to select those tools and techniques which are reliable with an academic institution. The progression toward total quality is a slow and steady process; it requires time, this transform can be attained with endurance, teamwork, and support. Also, each institution ought to be a learning organization concentrating on the individual development of the learner, as well as the empowerment of all staff as stressed by Spanbauer [13].

REFERENCES

- [1] Lunenburg, F.C. (2010) Total Quality Management Applied to Schools. *Schooling*, 1, 1-9.
- [2] Koslowski, A.F. (2006) Quality and Assessment in Context: A Brief Review. *Quality Assurance in Education*, 14, 277-288.
- [3] Crosby, P.B. (1979) *Quality Is Free*. New American Library, New York.
- [4] Short, P.J. and Rahim, M.A. (1995) Total Quality Management in Hospitals. *Total Quality Management*, 6, 255-263.
- [5] Deming, W.E. (1986) *Out of the Crisis*. MIT Press, Cambridge.
- [6] Yang, C.C. (2005) An Integrated Model of TQM and GE-Six Sigma. *International Journal of Six Sigma and Competitive Advantage*, 1, 97-105.
- [7] Goetsch, D.L. and Davis, S. (1994) *Introduction to Total Quality: Quality, Productivity, Competitiveness*. Macmillan College Publishing Co., New York.
- [8] Vinni, R. (2011) Total Quality Management and Paradigms of Public Administration. *International Public Review*, 8, 15-23.
- [9] Witcher, B.J. (1990) Total Marketing: Total Quality and Marketing Concept. *The Quarterly Review of Marketing (Winter)*, 12, 55-61.
- [10] Oakland, J. (2003) *Total Quality Management: Text with Cases*. Elsevier, Butterworth Heinemann, Oxford.
- [11] Escrig, A.B. (2004) TQM as a Competitive Factor: A Theoretical and Empirical Analysis. *International Journal of Quality & Reliability Management*, 21, 612-637.
- [12] Kumar, V., Choise, F., Grosbois, D. and Kumar, U. (2009) Impact of TQM on Company's Performance. *International Journal of Quality & Reliability Management*, 26, 23-37.
- [13] 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, 519-537.
- [14] Yudof, M.G. and Busch-Vishniac, I. (1996) Total Quality: Myth or Management in Universities. *Change*, 28, 19-27.
- [15] Anderson, K. and Zemke, R. (1998) *Delivering Knock Your Socks off Service*. Amacom, New York.
- [16] Lee, M.C. and Hwan, I.S. (2005) Relationships among Service Quality, Customer Satisfaction and Profitability in the Taiwanese Banking Industry. *International Journal of Management*, 22, 635-648.
- [17] Wani, I.A. and Mehraj, H.K. (2014) Total Quality Management in Education: An Analysis. *International Journal of Humanities and Social Science Invention*, 3, 71-78.
- [18] Schargel, F.P. (1994) *Transforming Education through Total Quality Management: A Practitioner's Guide*. The Leadership Management Series, Princeton.
- [19] Gaither, N. (1996) *Production and Operations Management*. Duxbury Press, Cincinnati.
- [20] Yusuf, S.M. and Aspinwall, E. (2000) TQM Implementation Issue: Review and Case Study. *International Journal of Operation and Production Management*, 20, 634-655.
- [21] Ishikawa, K. (1985) *What Is Total Quality Control? The Japanese Way*. Translated by Lu, D.J., Prentice-Hall, Englewood Cliffs, New Jersey.
- [22] Zakuan, N., Muniandy, S., Mat Saman, M.Z., Ariff, M.S.M., Sulaiman, S. and Jalil, R.A. (2012) Critical Success Factors of Total Quality Management Implementation in Higher Education Institution: A Review. *International Journal of*

Academic Research in Business and Social Sciences, **2**, 19-32.

[23] Michael, R.K., Sower, V.E. and Motwani, J. (1997) A Comprehensive Model for Implementing Total Quality Management in Higher Education. *Benchmarking for Quality Management and Technology*, **4**, 104-120.

[24] Meirovich, G. and Romar, E.J. (2006) The Difficulty in Implementing TQM in Higher Education. A. S. Md. Sohel-Uz-Zaman, U. Anjalintion, **14**, 324-337.

[25] Sirvanci, M.B. (2004) Critical Issues for TQM Implementation in Higher Education. *The TQM Magazine*, **16**, 382-386.

[26] Helms, S. and Key, C.H. (1994) Are Students More than Customers in the Classroom? *Quality Progress*, **27**, 97-99.

[27] Venkatraman, S. (2007) A Framework for Implementing TQM in Higher Education Programs. *Quality Assurance in Education*, **15**, 92-112.

[28] James, V. and James, L. (1998) Higher Education and Total Quality Management. *Total Quality Management & Business Excellence*, **9**, 659-668.

[29] Deming, W.E. (1993) Total Quality Management in Higher Education. *Management Services*, **35**, 18-20.

[30] Tribus, M. (1993) Why Not Education: Quality Management in Education. *Journal for Quality and Participation*, **16**, 12-21.

[31] Peak, M.H. (1995) TQM Transforms the Classroom. *Management Reviews*, **84**, 13-19.

[32] Eriksen, S.D. (1995) TQM and the Transformation from an Elite to a Mass System of Higher Education in the UK. *Quality Assurance in Education*, **3**, 14-29.

[33] Dobyns, L. and Crawford-Mason, C. (1994) Thinking about Quality: Progress, Wisdom, and the Deming philosophy. Random House, New York.

[34] De Jager, H.J. and Nieuwenhuis, F.J. (2005) Linkages between Total Quality Management and the Outcomes-Based Approach in an Education Environment. *Quality in Higher Education*, **11**, 251-260.

[35] Murad, A. and Rajesh, K.S. (2010) Implementation of Total Quality Management in Higher Education. *Asian Journal of Business Management*, **2**, 9-16.

[36] Koch, J.V. and Fisher, J.L. (1998) Higher Education and Total Quality Management. *Total Quality Management*, **9**, 659-668.

[37] Houston, D. (2007) TQM and Higher Education: A Critical Systems Perspective on Fitness for Purpose. *Quality in Higher Education*, **13**, 3-17.

[38] Dill, D. (1995) Through Deming's Eyes: A Cross-National Analysis of Quality Assurance Policies in Higher Education. *Quality in Higher Education*, **1**, 95-110.

[39] Harvey, L. (1995) Beyond TQM. *Quality in Higher Education*, **1**, 123-146.

[40] Peat, M., Taylor, C.E. and Franklin, S. (2005) Re-Engineering of Undergraduate Science Curricula to Emphasize Development of Lifelong Learning Skills. *Innovations in Education and Teaching International*, **42**, 135-146.

[41] Williams, G. (1993) Total Quality Management in Higher Education: Panacea or Placebo? *Higher Education*, **25**, 229-237.

[42] Arcaro, J. (1995) Quality in Education: An Implementation Handbook. St. Lucie Press, Delray Beach, Florida.

[43] Bayraktar, E., Tatoglu, E. and Zaim, S. (2008) An Instrument for Measuring the Critical Factors of TQM in Turkish Higher Education. *Total Quality Management and Business Excellence*, **19**, 551-574.

[44] Quinn, A., Lemay, G., Larsen, P. and Johnson, D.M. (2009) Service Quality in Higher Education. *Total Quality Management and Business Excellence*, **20**, 139-152.

[45] Sousa, R. and Voss, C.A. (2001) Quality Management: Universal or Context Dependent? *Production and Operations Management*, **10**, 383-404.

[46] Sousa, R. and Voss, C.A. (2008) Contingency Research in Operations Management Practices. *Journal of Operations Management*, **26**, 697-713.

[47] Seymour, D.T. (1991) TQM on Campus: What the Pioneers are Finding. *AAHE Bulletin*, **44**, 10-13.

[48] Birnbaum, R. and Deshotels, J. (1999) Has the Academy Adopted TQM? *Planning for Higher Education*, **28**, 29-37.

[49] Brinbaum, R. (2000) Management Fads in Higher Education: Where They Come from, What They Do, Why They Fail. Jossey-Bass Inc., San Francisco.

[50] Massy, W.F. (2003) Honoring the Trust: Quality and Cost Containment in Higher Education. Anker Publication, Bolton.

[51] Rosa, M.J., Sarrico, C.S. and Amaral, A. (2012) Implementing Quality Management Systems in Higher Education Institutions, Quality Assurance and Management. In: Savsar, M., Ed., InTech Janeza Trdine, Rijeka, 129-146.

[52] Brown, M.G., Hitchcock, D.E. and Willard, M.L. (1994) Why TQM Fails and What to Do About It. Irwin, Burr Ridge.

[53] Sarrico, C.S., Rosa, M.J., Teixeira, P.N. and Cardoso, M.F. (2010) Assessing Quality and Evaluating Performance in Higher Education: Worlds Apart or Complementary Views? *Minerva*, **48**, 35-54.

[54] Houston, D. (2008) Rethinking Quality and Improvement in Higher Education. *Quality Assurance in Education*, **16**, 61-79.

[55] Ali, M. and Shastri, R.K. (2010) Implementation of Total Quality Management in

Higher Education. *Asian Journal of Business Management*, **2**, 9-16.

[56] Youssef, M.A., Libby, P., Al-Khafaji, A. and Sawyer Jr., G. (1998) TQM Implementation Barriers in Higher Education. *International Journal of Technology Management*, **16**, 584- 593.

[57] Koch, J.V. (2003) TQM: Why Is Its Impact in Higher Education So Small? *The TQM Magazine*, **15**, 325-333. [58] Rosa, M.J. and Amaral, A. (2007) A Self-Assessment of Higher Education Institutions from the Perspective of the TQM Excellence Model. In: Westerheijen, D.F., Stensaker, B. and Rosa, M.J., Eds., *Quality Assurance in Higher Education: Trends in Regulation, Translation and Transformation*, Vol. 20, Springer, Dordrecht, 181-207.

[59] Dale, B.G., Van der Wiele, T. and Van Iwaarden, J. (2007) *Managing Quality*. Blackwell Publishing, Oxford.

[60] Kosgei, J.M. (2014) Challenges Facing the Implementation of Total Quality Management in Secondary Schools: A Case of Eldoret East District, Kenya. *Global Journal of Human Resource Management*, **3**, 12-18.

[61] Sallis, E. (2002) *Total Quality Management in Education*. Kogan-Page, London