TQM in Higher Education: A Search for New Insight

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Abstract: The number of higher education institutions, particularly universities, both public and private, has been enormously increased in Bangladesh. Despite the significant growth in number, there is an increasing concern for quality education in these higher education institutions. In order to address this concern, a number of scholars believe that Total Quality Management (TQM) can be an effective solution. However, there is a doubt to the extent to which it (TQM) will be applicable in higher education as it was originally developed for the manufacturing sector. In due course of evolution, TQM is now a well-accepted philosophy in service organizations. Since education is within the service sector, therefore, it can be assumed that it could play a vital role in assuring quality in higher education. The prime objective of this paper is to assess the potentials of TQM in improving and assuring quality in higher education and to develop general guidelines by highlighting key issues for quality assurance. Data and information for this qualitative paper have been collected through literature search, policy document analysis, expert interview, and personal observation. It is expected that the findings of this study would be able to offer a thoughtful insight regarding the applicability of TQM in higher education in a developing country context like Bangladesh.

1 Introduction

In Bangladesh, the number of higher education institutions, particularly, both public and private universities, has been enormously increased in recent years. Despite the significant growth in number, there is an increasing concern for quality education in these higher education institutions. Private universities are also experiencing severe competition in attracting students. While attracting new students, often they highlight the quality aspect of their programs because it is widely believed that quality education is one of the success factors in the education sector. In this circumstance, there is a growing interest to adopt total quality management in higher education. Growing competition, the need for acclimatization with the evolving educational environment and meeting the expectations of stakeholders are the main driving forces for applying TQM in higher education [1]. However, there is a doubt regarding the applicability of TQM education since it was developed originally for the manufacturing organizations in the USA and later on, it was further refined and improved in Japan. In due course of evolution, TQM has been espoused by the service sector and since educational institutions are within the service sector, therefore, it can be assumed that it (TQM) can play a vital role in assuring quality in higher education.
2 Objective, Rationale and Significance of the Study

The prime objective of this study is to apply TQM in assuring quality in higher education in Bangladesh. Since organizations are unique in their unique context, therefore, the intention of this study is not to propose any universal or all fitting model for incorporating TQM in higher education rather offer flexible and general guidelines in this regard. There are quite a good number of researches have been conducted on this topic but a very few in developing country context. This research will definitely provide an excellent opportunity to understand the indigenous perspective for designing quality initiatives, too. This understanding no doubt will assist academic institutions not only to assure quality but also shaping their teaching and learning process, evaluating learning outcomes, developing support infrastructure, and preparing a course curriculum, etc.

3 Research Methodology

Apparently research topic is simple but due to the involvement of a wide array of stakeholders, and inherent socio-economic and cultural factors, it is imperative to collect information from various sources by using multiple data collection methods. This is also important for the reliability and validity of the research. Data and information have been collected through literature search, expert interview, policy document analysis, interviewing stakeholders and personal observation. In order to get a rich understand of the problem, an exploratory approach has been adopted, too.

4 Total Quality Management—Nature and Imperatives

Quality perhaps is the most buzzing world in our day-to-day life. And it is one of the most decisive success factors for business success. This fluid term is very much context specific. The connotation of quality changes as the industry, product, stakeholders, etc. changes. It can be defined as the degree of excellence or meeting the standard or as per expectation and so on. According to Ali and Shastri [2], it (quality) is meeting persistently the needs and expectations of customers. The ubiquitous demand for quality product and service has given the rise of a concept total quality management (TQM).

Quality assurance or quality confirmation is the key theme of this concept. Crosby [3] defines quality management as the systematic approach of ensuring that arranged activities occurred the way they are determined. Corrigan [4] construes that “TQM is a management philosophy that builds a customer-driven, learning organization dedicated to total customer satisfaction through continuous improvement in the effectiveness and efficiency of the organization and its processes”. It is a preemptive approach, to assure quality into the product, service, and arrangement of the process and then to continually improve it [5]. Total quality management (TQM) is a philosophy and a business system that firms should adopt to attain organizational excellence [6]. Yang [7] describes TQM is a bundle of practices that emphasize the systematic improvement, satisfying the customers’ needs, and decreasing rework.

As a philosophy, TQM views organization as a unified system. It (TQM) comprises persistent upgrading activities, engaging everyone in the business as a totally integrated effort towards improving performance at every level [8]. Belén Escrig-Tena [9] acknowledges TQM as a strategic act that focuses on managing the total organization to provide products or services that fulfill their customer requirements by utilizing all resources. TQM explicitly believes and promotes quality culture. According to Gaither [10], TQM is the process of changing the basic culture of an organization and redirecting it towards the superior product or service quality.

These definitions and descriptions expose a number of imperatives and directives of TQM such as, the systematic and proactive approach of quality improvement; integration of people, functions, and resources; learning and growth; ingenious utilization of resources; quality control and
assurance; and quality culture and environment and so forth. These imperatives and directives have made this philosophy simultaneously universal and flexible.

5 TQM in Higher Education—A Critical Analysis

Regarding the application of TQM in higher education there is a debate whether TQM is applicable in higher education. The findings of the literature on the effectiveness of TQM in education are differing [11]. There are three different schools regarding the applicability of TQM in education: agreement; to some extent applicable; and disagreement.

The first view is: agreement, i.e. TQM is fully consistent with education. A number of scholars convincingly believe that the values of TQM are equally befitting in higher education [12] and these are also attuned with higher education [13]. TQM is a way of achieving and maintaining excellence in higher education [14]. According to this school it (TQM) is not merely a mechanistic method rather a philosophy of continuous improvement. While discussing the nature and imperatives of TQM it is also revealed that it has a universalistic appeal. It is naturally relevant to higher education because it is a process-oriented approach which is designed to increase productivity, decrease costs and improve quality [15].

The second view: is to some extent TQM is applicable in higher education. Due to the dynamic and changing environment of modern higher education the values of TQM is to some extent useful [15, 16]. One reasonable explanation is that the suitability of TQM depends on how it is applied in higher education [16]. This is because the nature of the academic institution is completely different from traditional manufacturing and business organization. Although higher academic organizations are not like companies however, some of the fundamental principles and tools are applicable to those are instruments at the service organizations [17, 18]. The effectiveness of some tools and techniques in some specific areas are impressively effective. Quality function deployment (QFD) has been used to incorporate customers’ and other stakeholders’ in designing program [12]; Six Sigma, Service Quality (SERVQUAL), and ISO9000, etc. were used in higher education, too [19]. Even so, ‘hard aspect’ is more dominant in TQM however some researchers have discussed the usefulness of ‘soft aspect’, too. They highlight the role of educational leadership [12], academic management and process management [13], people management [1].

The third opinion: is disagreement i.e. opposed to the application of TQM in higher education. [15] observe that it has a noticeably insignificant impact on colleges and universities though it has many supporters. The management theories which have been derived from industry are non-applicable because these are not consistent with the ethos of higher education [20, 21]. The terms such as product, client, empowerment, or even strategy, reengineering, which do not easily correspond in higher education institutions [22] tools and techniques of TQM are not consistent with the nature of learning and teaching process [23] because these were exclusively developed for manufacturing organizations. According to this thought, artificial implant of TQM might not bring any meaningful benefit to higher education.

Since TQM was originated for manufacturing organizations and as a result most of its tools and techniques were developed in order to solve problems in that sector. Due to flexibility the jurisdiction this is evolving from manufacturing it service sectors. According to [24], although TQM developed within the manufacturing background the benefits are in the same way relevant to service organizations such as higher education institutions.

6 The Barriers in Implementing TQM in Higher Education

Since TQM was originated for manufacturing organizations and most of its tools and techniques were developed in order to solve problems in that sector. As a result, there are TQM might face some difficulties and challenges in implementing TQM in education. The academic institutions are very much different in terms of different philosophy and characteristics that might make it challenging or even impossible to implement a philosophy that has been originated from industry
Culture, commitment, convention, etc. all these might create significance obstacles in implementing TQM in education, too. Lack of top management commitment affects TQM efforts negatively, which is one of the main reasons of failure of TQM attempts [27]. The resilient academic culture may resist TQM concepts, principles and practices and make it challenging to apply in higher education [28]. Massy [20] observes professors to raise extreme resistance to quality process improvement, who consider TQM nothing but another business-oriented craze. Ineffective leadership; resistance to change; inconsistent policies; unfitting organizational structure; and poor management of the change process are also identified as difficulties in implementing TQM in education [29]. According to Kosgei [30] the challenges are: lack of commitment of the management and some workforce, institute's culture, poor documentation, lack of training of staff, and ineffective communication can create obstacles in implementing TQM in education.

6.1 Quality in Education: Identifying Key Success Factors

Worldwide, there is an undisputed demand for quality education since education is one of the fundamental requirements human progress and to escape from poverty [31]. And in the era of intense competition quality education has become more a foremost concern [32]. Quality education is at the center of education discussion across the world. ‘Quality assurance’ and ‘quality enhancement’ are two extensively discussed matters in higher education [33] due to the growing interest in applying TQM in higher education.

Inherently, quality in education is a complex notion since the perception of quality is multifaceted and very much context specific. The notion of quality is slightly different from the manufacturing sectors. Customer-focused definitions of quality do not match with the perspective of higher education properly [34]. Quality in education can be defined in several ways [35]. Longanecker and Blanco [36] define quality in education as by who and how learners are taught rather than by what learners learn. Their definition clearly mentions both the aspects of education: teachers and administration. The implication of this definition is that for assuring quality, an effective teacher training scheme and supportive administrative system are needed.

A very useful understanding of quality in education has been offered by [32]; he classified the quality of education in five categories: (1) ‘transcendent quality’ which is the outcome of reputation and capability of teaching staff, (2) ‘manufacturing-based quality’ which is the conformity of service to specifications and matching in a manner for which it was planned, (3) ‘product-based quality’ which is resulted in improved student learning by the curriculum and academic staff, (4) ‘value-based quality’ is acceptable performance at an acceptable price, and (5) ‘user-based quality’ is the needs, wants, and preferences of students. This understanding not only provides various aspects of quality education but also prove a clear direction in terms where to focus for quality assurance. Competent teachers, effective curriculum, catering needs and preferences of students, the interaction between teachers and students, and teaching and learning process all are essential elements of an effective teaching and learning system. Skolnik [37] comment that “quality assurance system in higher education are the activities offering quality services to satisfy the minimum needs of all parties benefiting from higher education facilities and giving them confidence, and evaluation and review activities”. Here quality refers to the systems, procedures and facilities related to education, evaluation and review activities that are devised to serve the threshold needs of all the parties and giving them confidence.

There are some studies which exclusively focus on key factors for success in implementing TQM in higher education. Ernest Osseo-Asare and Longbottom [38] propose two essential criteria: enabler and result; ‘enabler’ criteria that influence performance and assist organizations to achieve organizational excellence; these enabler criteria are leadership, policy and strategy, people management, resources and partnerships and processes; the same ‘result’ criteria include customer satisfaction, people satisfaction, and impact on society and key performance results for measuring the effectiveness of TQM implementation. Bayraktar, et al. [1] in their seminal work also recommend: leadership, vision of the higher education institutions, student and other stakeholders’ focus, process design and resources, measurement and evaluation, employee involvement,
recognition and rewards, education and training, and quality system improvement as key success factors for implementing TQM in education.

In addition, a number of experts were also interviewed in this connection. They also identified several important factors. These are institutional and individual commitment, visionary leadership, a dynamic curriculum, an effective evaluation system, competent academic and administrative staff and their continuous development, resources and logistic support including physical infrastructure, teaching and learning process, etc. In a search for key factors for success policy papers of few successful private universities also considered to know how they are maintaining the quality of their various programs. By synthesizing all these information, it was possible to identify a number of agreed key success factors. These factors have been categorized into two categories: policy guidelines, and process development and supports. Under policy guidelines the factors are - leadership, vision and mission, institutional and individual commitment and Employee development and empowerment; and under the process development and support category, the factors are: teaching and learning process, developing standardized curriculum, monitoring and evaluation, and resources, logistics and administrative support.

Figures 1. Clustering key factors for success.

1) Leadership—A dynamic leadership is absolutely important in implanting TQM successfully. Efficient leadership confirms the better performance of TQM in education through influencing workforce within an organization [39]. Leadership at different strata of education is vital. Top management would guide the institution as a whole; faculty members would lead their respective courses, and non-academic staff would lead their support activities. It (leadership) facilitates in demonstrating the commitment of top-management, empowering employees, creating a shared vision, neutralizing resistance and so forth. It can create a total quality culture in an organization.

2) Shared Vision—Vision is a public declaration of what type of organization to be in future and is reflected from organizational values, beliefs, and business practices [1]. Every organization
should develop a quality oriented vision which will guide the academic institution to achieve excellence in terms of quality standards. Common vision can remove the barriers like conflicting objectives, lack of commitment, ineffective communication, and typical mindset, etc.

**Figure 2. TQM in Education: A Conceptual Framework.**

### 3) Institutional and individual Commitment

The commitment of top management, teachers, administrative staff and students is simply essential. In particular, the commitment of top management is utmost critical. If management does not buy TQM completely then the implementation will be unsuccessful [40]. The commitment of top management helps the workforce to get a clear direction of functioning and working [41].

### 4) Employee Development

Training is vital to the internal diffusion of quality ideas and practices, as without it there is no solid foundation for a formal quality program [42]. People
whether teacher or supporting staff, involved at various levels of education need intensive training and development. It enhances people morale, changes mindset, ensures commitment and so forth.

5) **Empowerment**—Employee empowerment means giving employees more authority (power) to make decisions [43]. It is the process of enabling workers to set their own work goals, make decisions, and solve problems within their sphere of responsibility and authority [44]. In education, the empowerment of faculty members is just indispensable. Administrative personnel will also be given sufficient autonomy so that they can complement faculty members. Empowerment enhances self-esteem, reduces resistance, increases self-efficacy, removes powerlessness and decreases bureaucracy, etc.

6) **Standardized Curriculum**—Quality education is directly connected to the effective curriculum [45]. A standardized curriculum must be developed by considering the various needs of the students and other relevant stakeholders. The more attention is paid to curriculum design and development, it is more likely to ensure transparency for the students regarding the intended learning outcomes for any course or program as well as more preciseness in aligning assessment strategies and processes with the intended learning outcomes [46]. Academic programs should be regularly reviewed to address the needs of different stakeholders [1].

7) **Teaching and Learning Style**—The teaching and learning style must be matching with the learner’s learning style. An alignment is needed in between curriculum development and teaching and learning style, and student evaluation system. If learning approaches do not meet individual needs it will not be possible for that institution to claim that it has attained total quality [47]. The system must be as interactive as possible; as problem-solving as possible so that it can develop the competency of students. Like curriculum development, teach and learning process also subject to continuous monitoring, evaluation, and improvement.

8) **Monitoring and Evaluation**—Monitoring and evaluation refer to the quality control of various activities of education process i.e. developing academic curriculum, teaching, and learning system, managing resources, and logistics, monitoring student progress, etc. are subject to continuous monitoring and evaluation. It (controlling) facilitates goal attainment of an organization [48]. It also keeps all the activities on track, ensures a trash-hold quality level, makes all concerned people accountable and works as the basic source of management information.

9) **Resources, Logistics, and Administrative Supports**—Being a systematic process, education needs adequate resources, logistic and administrative supports like libraries, laboratories, study rooms, class routine, examination schedule, student admission, registration, fee collection, student welfare, etc. Physical infrastructure like a well-equipped classroom promotes better teaching and learning process; modern laboratory facilities paving the way for better skill acquisition, and these infrastructure and other facilities often serve as a major attraction to the end user [2]. Educational and infrastructural facilities have a substantial positive impact on overall school functions [45]. These infrastructure and logistics support ultimately create a TQM ambiance in the organization.

The traditional system operates with an assumption as the organization meets a certain criterion the quality has been achieved and no need any further improvement. Again when the quality falls below the standard level then only need to take corrective action. The philosophy of TQM is completely radical. It believes in continuous improvement. Higher education institutes must foster this approach in every sphere of the education system. This continuous improvement can be easily achieved with the help of iterative four-step technique PDCA (plan–do–check–act or plan–do–check–adjust). This flexible technique can be particularly used in curriculum development, teaching and learning process, monitoring and evaluation, and designing resources, logistics and administrative support. In addition, there are some TQM tools and techniques which can be used in education, too. Cause-and-effect diagrams are mainly used to identify potential causes for particular quality problems. This diagram can be used in identifying and analyzing students’ poor performance in the examination and real-life job. And by using those information academic curriculum and teaching and learning system can be revamped. Teaching and learning process and administrative activities, evaluation and monitoring process can be demonstrated with the help of the flowchart.
There is no hard and fast policy for choosing a right tool for quality assurance. An organization must choose a right tool or tools which are consistent with the very indigenous context of that higher education institution. Because the random selection of TQM tools, techniques and concepts shall not provide any meaningful benefit.

7 Conclusion

Change is at the core of TQM philosophy. In order to ensure successful implementation of TQM in higher education it is imperative to make a shift from conventional academic culture to dynamic quality culture because this philosophy necessitates a radical cultural change from orthodox management style to continuous improvement management style in an organization \[49\]. A similar thought also echoed by \[47\]; he mentions that it (TQM) requires a change in culture; it requires a change of attitudes and working methods, as well as a change in institutional management. A traditional teacher-student relationship is neither more value adding for the higher education institution or value adding to the students. A change is also needed to make higher education more interactive, practical and problem-solving. For a successful implementation of TQM and the desired result, it is needed to give sufficient time and resource supports. Here point to be noted that it did not come into reality as a complete improvement solution rather the elements of it have evolved over time \[23\]. It is assumed that further researches would be done in future to make TQM more consistent with TQM in education so that academic institution can use TQM for quality assurance without any hesitation or reservation.

The adoption of TQM will help institutions of higher education maintain their competitiveness, eliminate inefficiencies in the organization, help concentrate on the market needs, attain high performance in all areas, and fulfill the needs of all stakeholders \[50\]. It improves educational organizations in many ways such as improving the education process, making the educational environment inspiring, improving academic curriculum, furthering the speed of training services and reducing costs \[51\].

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