

Benchmarking the critical success factors of TQM implementation: A review of 21 national quality awards

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Abstract

TQM has assumed a great importance in today's highly competitive education industry. TQM has been widely implemented throughout the world. Many institutes have arrived at the conclusion that effective TQM implementation can improve their competitive abilities and provide strategic advantages in the marketplace. There are many approaches used for implementation of TQM in education sector. These approaches are based on number of National Quality Awards (NQA's) developed by governments of various countries. Further each National Quality Award has its own different set of critical success factors (CSFs). It therefore creates a lot of confusion for the educational institutes, as to, which critical success factors to choose and which not, so as to implement the concept of TQM for achieving excellence. This paper aims to develop a new framework for TQM implementation by doing a comparative study of 21 major National Quality Awards. The comparative study will be beneficial for the institutes to find out comprehensive list of CSFs for TQM implementation and thus helps in achieving excellence in the educational field.

Keywords: Total quality management (TQM), critical success factors (CSFs), national quality award (NQA)

In the face of globalization, education is under a great deal of pressure to restructure itself. In the past few decades a lot of transition have been seen in the education system all over the world, with far reaching consequences on the very set of paradigms of teaching and learning. As the most important resource in any country, education has multiplying effects on every aspect of development in a society. The wealth of the nation depends more on its people, management and government, than on its natural resources. Education helps to enhance the knowledge base of the nation and therefore it plays a vital role in shaping the future of the nations (Nayeri *et. al.*, 2008).

The Indian higher education industry is facing turbulent times. Lowering of entry barriers, the advent of distance education, international educational institutes ready to enter the country, the huge growth in student numbers, internationalization

of education, the need to reduce dependence on government funding and increasing competitive pressures have prompted a need to focus on quality and customer service and the rise of consumer culture. Thus quality issues have become quite challenging in the education sector.

For achieving quality in today's competitive market every single activity has to be properly planned, organized and controlled. All levels of management and all stake holders need to take steps to achieve and maintain quality in their domain of work. Accordingly all technical institutes must adopt and implement a set of operations management practices that have been successful elsewhere and that will help them to identify changes in the environment and to respond proactively through continuous improvement (Fassoula, 2006). One such form of operations management practices is TQM which

has received great attention in the last two decades (Jung *et al.*, 2006). Total quality management thus assumes a great importance in prevailing scenario. TQM implementation can improve the institute's competitive abilities and provide strategic advantages in the market place (Anderson *et al.*, 1995).

Review of Literature

There are many approaches used for implementation of TQM. These approaches are based on number of NQA's developed by governments of various countries. Further each NQA has its own different set of critical success factors (CSFs). It therefore creates a lot of confusion, in term, which Critical Success Factors to choose and which not, so as to implement the concept of TQM for achieving

excellence (Singla *et al.*, 2011). This paper aims to develop a new framework for TQM implementation by doing a comparative study of 21 major National Quality Awards. The details of various NQAs as identified from the literature are given in Table I. The table shows a nomenclature for every National Quality Award.

National Quality Awards: A Comparison

Table 2 shows the comparison of various National Quality Awards with respect to 15 different CSFs of TQM implementation. Symbol 'X' in front of particular CSFs signifies its inclusion in a particular National Award Category. The last column of the Table signifies the frequency of occurrence of a particular CSFs in all National Quality Award categories taken together.

Table 1. Nomenclature for Various National Quality Awards

S.No	National Quality Award	Nomenclature
1	Malcolm Baldrige National Quality Award (MBNQA, 1999)	MBNQA
2	Deming Prize (Deming Prize, 1996)	DP
3	European Foundation for Quality Management (1994)	EFQM
4	Rajiv Gandhi National Quality Award (Tan and Khoo, 2002)	RGNQA
5	IMC Ramakrishna Bajaj National Quality Award (www.imcrbnqa.com)	IMCRBNQA
6	Japan Quality Award (Khoo and Tan, 2003)	JQA
7	Costa Rica Excellence Award (Hui and Chuan, 2002)	CREA
8	South African Excellence Award (Hui and Chuan, 2002)	SAEA
9	Golden Peacock National Quality Award (www.goldenpeacockawards.com)	GPNQA
10	CII Exim Business Excellence Award (Hui and Chuan, 2002)	CII Exim BEA
11	Jordon: King Abdullah II Award for Excellence (Hui and Chuan, 2002)	JAFE
12	Australian Business Excellence Award (Hui and Chuan, 2002)	ABEA
13	Singapore Quality Award (Hui and Chuan, 2002)	SIQA
14	Canadian Award for Excellence (Hui and Chuan, 2002)	CQA
15	The National Quality Award of Brazil (Miguel, 2001)	NQAB
16	The Taiwan National Quality Award (Su, Li and Su, 2003)	TNQA
17	The German Quality Award (Zink and Voss, 1998)	GQA
18	Fiji National Quality Award (Djerdjour, 2004)	FNQA
29	The Swedish Quality Award (Erikssonon, 2004)	SQA
20	Thailand Quality Award (www.tqa.or.th/en/nodel/743)	TQA
21	Dutch Quality Award (Nabitz and Klazinga, 1999)	DQA

Table 2. Comparison of Various National Quality Awards

	MBNQA	DP	EFQM	RGNOA	IMCR-BNQA	JQA	CREA	SAEA	GPNQA	CII Exim	JAFE	ABEA	SQA	COA	NQAB	TNQA	GQA	FNQA	SQA	TQA	DQA	Frequency	
Top Management Support	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	20
Education and Training	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	20
Customer / Human Resource (Students)	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	20
Employee Empowerment and Involvement / Human Resources-Faculty and Staff)	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	20
Process Flow Management / Teaching and Learning Methodology	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	21
Reward and Recognition	X	X	X	X	X			X	X	X					X	X	X	X	X	X	X	X	15
Benchmark	X																						01
Strategic Quality Management	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	21
Information, Evaluation and Analysis	X	X			X	X	X	X	X			X	X	X	X	X		X	X	X	X	X	13
Unity of Purpose		X																	X				02
Quality System Improvement	X	X					X																03
Resources (Physical, Financial and Supplementary)			X	X				X		X							X				X		07
Market Focus						X		X				X									X		05
Innovation and Technology Research and Development				X												X							02
Knowledge Management																X							01

The frequency of occurrence of CSFs in various award categories taken together is shown in figure I. The figure depicts that Process Flow Management (Teaching and Learning Methodology) and Strategic Quality Management get the maximum score of 21 and this implies that all the NQAs have included these two CSFs in their award framework.

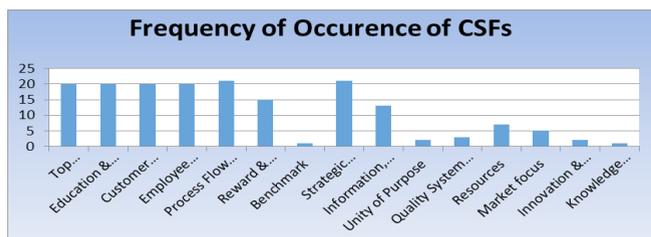


Figure I. Frequency of Occurrence of CSFs (Award Based Comparison)

CSFs of Top management Support, Education and Training, Customer Orientation (Human Resource -Students), Employee Empowerment and Involvement (Human Resources-Faculty and Staff), have got a good score of 20 out of 21 and this shows that importance of these CSFs is also emphasized by maximum frameworks and only one NQA has not included them in its framework. The CSFs which have got the least score (just one) are: Benchmark and Knowledge Management thus showing their least importance in terms of various NQA frameworks. Table III depicts the five best CSFs i.e. those CSFs which attained a maximum score, in the descending order and Table IV depicts the five CSFs which got the poor score i.e. those CSFs which attained the minimum Score of frequency of occurrence in the ascending order

Table 3. Five CSFs Getting Highest Score

S No	Critical Success Factor	Score
1	Process Flow Management / Teaching and Learning Methodology	21
2	Strategic Quality Management	21
3	Top Management Support	20
4	Education and Training	20
5	Customer Orientation/ Human Resource (Students)	20

Table 4. Five CSFs Getting Lowest Score

S No	Critical Success Factor	Score
1	Benchmark	01
2	Knowledge Management	01
3	Unity of Purpose	02
4	Innovation and Technology / Research and Development	02
5	Quality System Improvement	03

A brief Discussion about the five best CSF's that got the highest Score as mentioned in Table III is given below:

Teaching and learning Methodology: A good teaching learning methodology is very important for increasing the quality and level of education in an educational institute. Each program should be comprehensive to provide the students with sufficient inputs in basic sciences, technical subjects (including general and specific/chosen), different technologies and training in relevant experimental/technical skills, so as to embark on a technical career as a professional (McKeachie, 1983).

Strategic Quality Management: Strategic Quality Management allows organizations to set clear priorities, establish clear target area for improvement activities and allocates resources to the most important things to be done (Godfrey, 1993). Crosby (1979) sees quality planning as a standard practice that sets priorities by influencing the entire organization on what to do and what not to do. The study by American Quality Foundation and Ernst and Young (1992) in the US, Canada, Germany and Japan, found that strategic quality management had significant effects on organizational performance. The importance of strategic planning process based on total quality is also stressed by quality gurus and many writers of TQM (Crosby, 1979; Deming, 1986; Juran, 1974; Oakland, 1993; Zairi, 1994)

Top Management commitment: Top Management Commitment / Leadership have proved to be the key in the continuous quality improvement process and the driver of quality management practices (Crosby, 1979; Deming, 1982; Garvin 1983; 1984; Gibson, 1990; Gilbert 1990; Gryna, 1991; Juran 1986; Leonard and Sasser, 1982; Steeples, 1992). It is the senior management who is responsible for developing a comprehensive policy based on clear vision and

mission statement, including the deployment of quality goals at all levels of Institution (Baidoun and Zairi, 2003). A TQM programme cannot succeed without Top management's effective participation.

Education and Training: Within an Institution only a good education and training programme helps in starting a successful quality culture. Training and education at all levels is vital to success of TQM (Singla et al, 2011). The need for organization wide education and training programme is also emphasized by Crosby (1989), Juran (1974), Feigenbaum (1961). Education and Training should start from Top management and then go to the students, faculty and other staff members. One of the most important reasons cited for failure of TQM programme is lack of proper education and training.

Human Resources (Students): Students act as mirror to see the level of implementation of TQM practice in an educational institution. Student's performance in competitive exams and academics, their pass percentage, their placement record are some of the parameters that reflect the institutional effectiveness. The graduation requirements should be made known to every student. The diploma/degree awarded should appropriately reflect the student's attainments. Information with regard to employment of the graduates and feedback from the employers helps the institution to reorient its goals so as to enhance effectiveness.

Conclusion

The Paper attempts to classify the various CSFs according to their frequency of occurrence in various National Quality Awards (NQA's). The paper gives a comparison of 21 NQA's in the light of 15 CSFs of TQM. From the study, it was found that there are commonalities as well as differences in terms of CSFs suggested by various NQA's. The study also gives the details of the five best CSFs, which are highly emphasized by most of the NQA's. Implementation of these CSFs will add to the competitive position of an institute and thus provides it with strategic advantage in the marketplace. The paper also enlists the five least significant CSFs. Although the study includes a whooping comparison of 21 National Quality Awards and 15 CSFs, yet the list is incomplete, as the comparison of many other CSFs can be done in the light of some more NQA's of

various other countries. Further the importance of particular CSF may vary from institute to institute and from country to country, thus the score (frequency of occurrence) of a particular CSF may vary accordingly. Future research can be suggested in terms that these CSFs can be clubbed together to develop a framework which can be empirically tested through a questionnaire survey to get more accurate results.

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