

## DETERMINING CRITICAL SUCCESS INDEX FOR TQM IMPLEMENTATION A CASE STUDY OF CABLE INDUSTRY

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### ABSTRACT

Now a day, improving quality has turn into a company-wide endeavor as the escalating globalization of trade & commerce underscore the inevitability of incessant enhancement. Total quality management (TQM), is one of the favored technique to conquer this stratum. TQM plays a vital role in improving productivity as well other developments in the arena of cable industry. This paper aims to determine critical success index for TQM implementation in Bangladesh Cable Shilpa Ltd (BCSL). With the establishment year of 1967 through joint venture of Bangladesh government & M/s Siemens Aktiengesellschaft of West Germany, Bangladesh Cable Shilpa Ltd added a new dimension in the arena of manufacturing of telecommunication cables and wires in the country. It is sited in Shiromoni industrial area, Khulna on the bank of the river Bhairab (Geographical Position: 22°54'27.86"N and 89°30'56.42"E) about 50 Kilometer north from Mongla Sea Port and 13 Kilometer north from Khulna City.

In this article, three types of research methodologies ( face to face semi structured interviews, personally administrative questionnaires and observation) are followed to investigate critical success index for TQM implementation in Bangladesh Cable Shilpa Ltd, with a view to stimulating the performance and find out the main barriers to implement TQM successfully in this field.

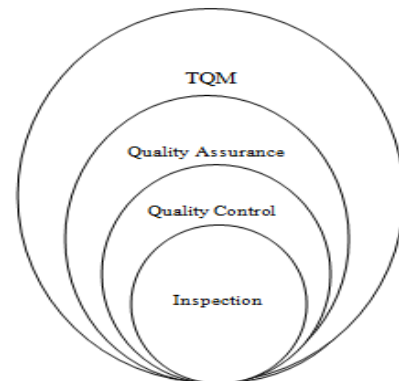
**Keywords:** Total Quality Management, Critical Success Index, Bangladesh Cable Shilpa Ltd, Benchmark

### 1.0 Introduction

Total Quality Management is a management approach that originated in the 1950's and in 1970s, competition based on quality has grown in importance and has generated tremendous interest, concern, and enthusiasm & became steadily popular in early 1980's. Total Quality is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The culture requires quality in all aspects of the company's operations, with processes being done right the first time and defects and waste eradicated from operations. [1]

Therefore most organization possess an endeavor to appease their customer demand and expectation. This can only be attained through customer focus, incessant improvement and benchmarking. So, TQM is the focus on identifying root causes of quality problems and correcting them at the source, as opposed to inspecting the product after it has been

made. Not only does TQM encompass the entire organization, but it stresses that quality is customer driven. TQM attempts to embed quality in every aspect of the organization. It is concerned with technical aspects of quality as well as the involvement of people in quality, such as customers, company employees, and suppliers.[2]



**Fig1.** Evolution of TQM

Implementing total quality management requires broad and sweeping changes throughout a company. It also affects all other decisions within operations management. The decision to implement total quality management concepts throughout the company is strategic in nature. It sets the direction for the firm and the level of commitment. For example, some companies may choose to directly compete on quality, whereas others may just want to be as good as the competition. It is operations strategy that then dictates how all other areas of operations management will support this commitment. Also, supply chain management is affected as our commitment to quality translates into partnering with suppliers. As you can see, virtually every aspect of the operations function must change to support the commitment toward total quality management.[2]

Bangladesh economy is dominated by a diversified private sector, along with sidestate-owned enterprises. The Bangladesh textile industry is one of the largest in the world, employing 13 million people and generating over \$25 billion in foreign exchange. Other major exports include medicine, software, seafood, leather goods, ceramics, electronics and ships. There are reserves of natural gas and coal, with further exploration planned in the Bay of Bengal. Agriculture holds a crucial position in the economy and employs most of the country's workforce.

However, Cables industry is one of emerging sectors contributing a significant role to develop the economy of Bangladesh. To ensure maximum utilization of energy this industry produces cables in domestic and industrial arena.

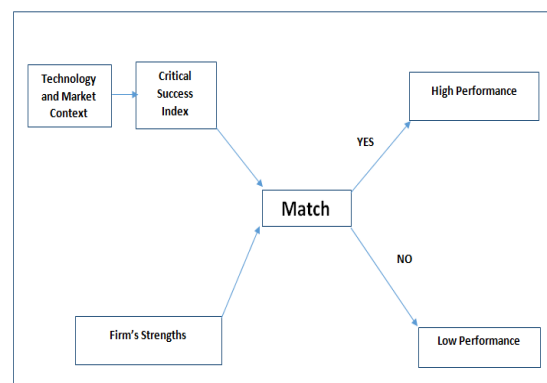
Bangladesh Cable Shilpa Ltd produces different types of cables with Foam-skin insulation, Cellular Polyethylene and Polyvinyl Chloride insulation and PE/PVC sheathed cables for telecommunication. In addition, this company also manufactured other specifications of cables as per customer demand which is very rare.

## 2.0 Critical Success Index for TQM

Critical success Index( which is also known as critical success factors) is the term for an element that is necessary for an organization or project to achieve its mission. It is a critical factor or activity required for ensuring the success of a company or an organization. TQM CSFs have a positive impact on the operational performance i.e TQM firms perform better in contrast to non-TQM firms in operational

performance such as improving delivery performance, reduction in production costs, increasing productivity, improving flexibility, reducing scrap and improving the quality of products. And the term key success factor can be used in four different ways:

- a) as a necessary heuristic tool for managers to sharpen their thinking.
- b) as a necessary ingredient in management information system.
- c) as a description of the major skills and resources required to be successful in market.
- d) as a unique characteristics of a company.



**Fig 2.** The shared experiences view on key success factors (From Sousa de Vasconcellos & Hambrick;1989)

## 3.0 Research Methodologies

In this study, three process are followed to accumulate the data; a) Face to face semi structured interview (Qualitative research methods), b) questionnaires (Quantitative research methods) and c) observation. The interview method is mainly used to support the finding while questionnaires aimed to identify critical success index of TQM implementation in BCSL and finally observation process is use to compare between these two methods.

Face to face interviews were conducted with the key persons of different departments of BCSL to find out the issues that are related to TQM implementation and recent struggle of this industry.

Questionnaires often seem a logical and easy option as a way of collecting information from people. They are actually rather difficult to design and because of the frequency of their use in all contexts. However, 55 personally administrative questionnaires were

distributed among the targeted workforce of BCSL. The questionnaires includes 23 statements to identify the critical success index and possess five point likert scale (strongly disagree, disagree, impartial, agree, strongly agree). All the statements of the questionnaires are made by discussing with four TQM specialists. And SAP Lumira software & Zoho Sheet program were used to analysis the data.

Table 1. Five point likert scale

Criteria	Point
Strongly disagree	1
Disagree	2
Impartial	3
Agree	4
Strongly agree	5

Where,

3< implies overall disagreement with the statement

Average =  $(1+2+3+4+5)/5=3$

3> implies overall agreement with the statement

Finally, observation was taken place to make compare among the aggregated data of two previous methods.

#### 4.0 Findings of Critical Success Index

The factors of the survey can be carved up into two ways:

1. Individual level factor
2. Group level factor

##### 4.1 Individual level factors

- Proper vision & plan (factor A)
- Dynamic leadership (factor B)
- Motivation (factor C)
- Production of diversified product (factor D)
- Education & training (empowerment) (factor E)
- Employee fulfillment (recognition & reward) (factor F)
- Improvement of tools & technique (factor G)
- Quality data report (measurement & feedback) (factor H)
- Development of human resource department (factor I)
- Customer focus & supplier management (factor J)
- Proper Government support (factor K)

##### 4.2 Group level factors

- Strong group cohesiveness (factor L)
- Strong level of cooperation among the workforce (factor M)

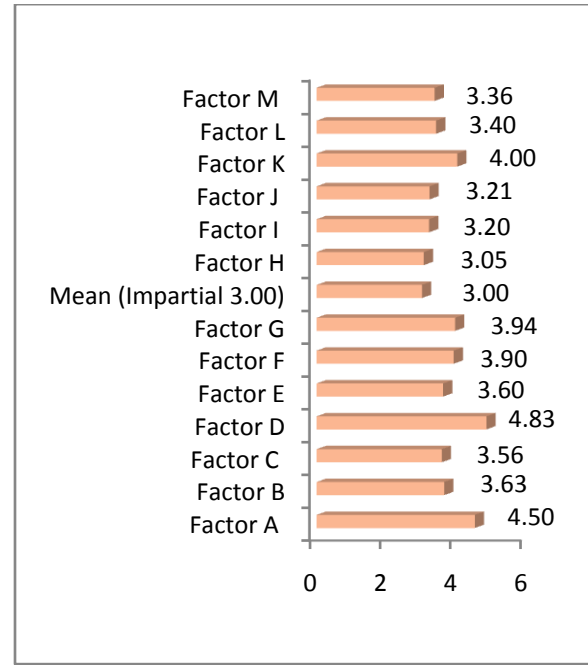


Fig 3. Critical success factor of BCSL

##### 5.0 Hindrance to TQM implementation

The major barriers are:

- Lack of proper strategic planning & vision
- Government bureaucracy
- Rapid increase of demand of supplementary products (mobile phone)

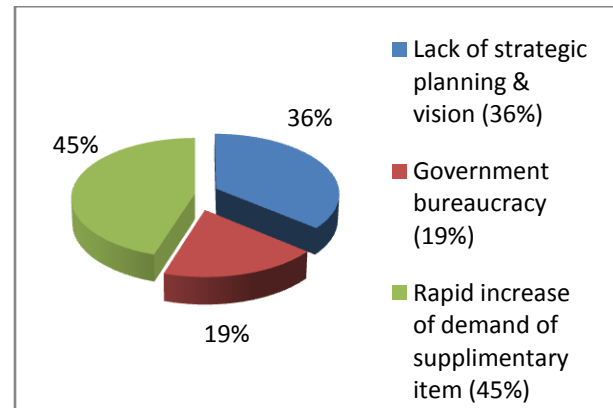


Fig 4. Major barriers to TQM implementation (% wise)

It is evident from the above figure that lack of proper strategic planning and vision is the one of the barriers to TQM implementation. Therefore, a detailed long term planning and vision should be stated clearly to implement TQM tools and technique in this cable industry.

Government bureaucracy should be minimized as much as possible for the sake of proper execution of TQM tools.

Due to advent and popularity of mobile phones, now a day public often feel reluctant to use land telephones. Therefore the demand of telecommunication wires falls rapidly. So, government should take some initiatives and launch some package or program to make this popular among the mass people.

## 6.0 Conclusion:

As long as this is the first survey to investigate TQM execution in the field of cable industry in Bangladesh and within a short period of time 13 success factors & 3 major barriers are found to execute this issue. Therefore further detailed and well directed researches & analysis are suggested to find the factors to implement the TQM and upgrade the overall performance of the industry.

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