

THE FIVE DIMENSIONS OF TQM ON PROJECTS

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Abstract

The paper addresses the development of a model for reciprocal relationships inside and between independent parties participating towards a common objective. The principles of Total Quality Management (TQM) are considered and five dimensions of application are distinguished. These dimensions are horizontally from the contractor to the external client, vertically upwards inside the contracting party, vertical downwards inside the contracting party, horizontally inside the contracting party and horizontally from the client to the external contractor, respectively.

In each dimension, every party or individual considers the other as its “client” in respect of services and relationships based on the principles of TQM. This model is then superimposed on the delivery of services and the management of relationships inside, as well as between businesses in a commercial context or as parties on a project.

Keywords: total, quality, management, project, dimensions, relationships, services

Introduction

Very few businesses, if any, operate in an isolated vacuum, most operate through a proactive interplay with the environment. Similarly, very few are absolutely self-sufficient in providing their services or products to external clients or customers. The latter process, to a lesser or larger degree, entails collaboration with other companies, being it only as suppliers of supporting items or intimate participation to reach the final result. In all cases where services or products are delivered through a combined effort by independent legal entities or are supplied on a “one-to-one” basis to single clients, relationships and the management thereof are of paramount importance towards the achievement of a mutually satisfactory final outcome.

Similar circumstances apply to the planning and execution of projects. In the case of projects, especially construction projects, the multiplicity of entities involved is even more pronounced. This increases the demand for and importance of any technique or methodology which enhances cooperation between parties partaking as members of the team. The major differences between business and project environments are the long versus short term characteristics of their operations, respectively, rendering the application of any system to its full extent infinitely more difficult in the case of projects due to the time constraint.

It is against this background that a model for relationships between participating entities is developed by extending the principles of Total Quality Management (TQM). This model should be suitable for application to collaborating companies in either a business or project context. The application to projects would be more opportune due to the multiplicity of stakeholders, but also more difficult due to their short durations.

Overview of TQM

The theory of Total Quality Management (TQM) is well-developed, well-known and well-entrenched in its application inside and between various types of companies. Only a brief overview will thus be included to serve as a reference to the extension thereof, the latter being the real objective of the paper.

TQM can be considered as the mature stage of quality management. TQM is a culture that requires a total commitment to customer satisfaction through continuous improvement and innovation in all aspects of business [4]. It is reached when a culture of quality is established and becomes entrenched at all levels of an organisation. Management dedication should filter down to everybody, compelling them to be not only involved, but to become fully committed to quality.

TQM has a strong client or customer orientation and the objective is to continually satisfy or exceed customer requirements in respect of all products and services or it can be viewed as "... a philosophy, a set of tools and a process whose output yields customer satisfaction and continuous improvement" [1]. Defects are prevented through care and motivation, rather than policing and detection, leading to delivery to the expected standard the first time, every time. Due to the self-driven nature of TQM results are achieved at optimised durations and costs. The central theme thus becomes continuous improvement of the quality of services delivered by not only meeting, but exceeding requirements and impacts positively on customer or client relations.

These relations are protected and built upon as primary and all-embracing focus in the delivery of services and/or products.

The five dimensions of TQM

The model presented in the following paragraphs apply TQM to the various dimensions or interfaces encountered between and inside companies involved in achieving the same objective, being it in a business or project context. The different dimensions proposed are depicted schematically and numbered in figure 1. Each arrow represents the delivery of a service or product in terms TQM principles by the one party to the other as indicated by the direction of the arrow.

First dimension

The first dimension is horizontally from the service delivering entity or contractor to the external service receiving entity or client. It coincides exactly with the classical theory of TQM, i.e. service excellence from the provider (supplier) towards the client or customer (recipient).

Second dimension

This dimension depicts the internal behaviour by employees to their top management according to TQM principles. It should be viewed on a level-by-level basis, where each lower

level considers the next higher level as its client and is committed to provide services vertically upwards in typical TQM fashion.

The fulfilment of TQM in this dimension is a strong (indispensable) prerequisite for the delivery of TQM compatible services by top management to the external client in terms of first dimension, defined above.

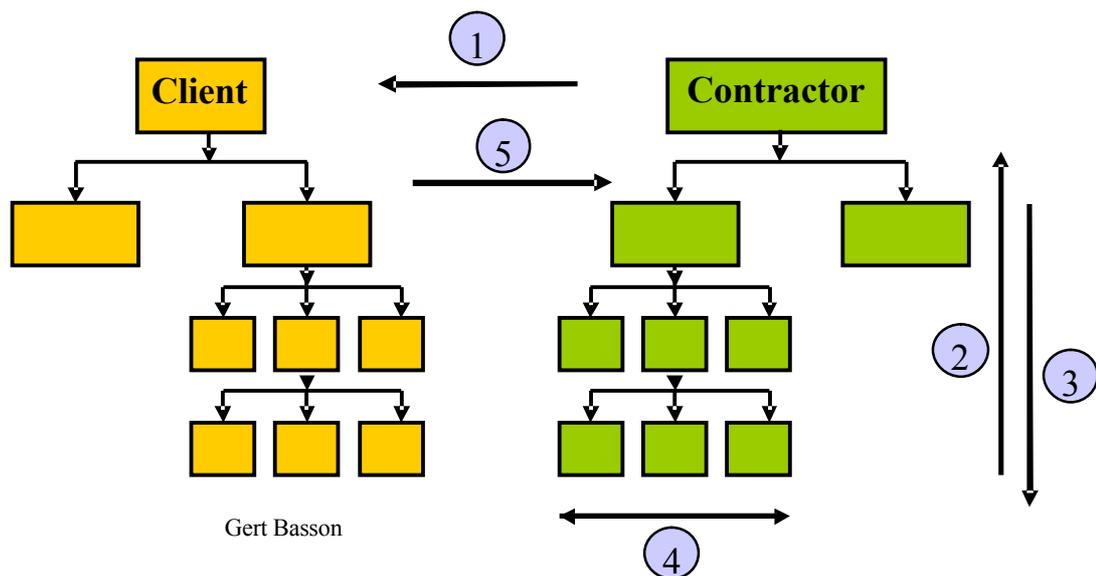


Figure 1: The five dimensions of TQM

Third dimension

In this case, top management considers its employees internally as their clients and acts towards them in harmony with the prescriptions of TQM. It should, again, be viewed on a level-by-level basis, filtering vertically downwards through the organisation.

Apart from a conventional TQM relationship, it extends further to the training and empowerment [1 & 2] of subordinates to take decisions and assume responsibility through knowledge and recognition. This, in turn, renders participation through brainstorming possible, leading to reciprocal advantages and motivation. It also includes the creation and fostering of an enabling environment towards all employees to deliver services provided in terms of the second dimension possible and optimising it.

The third dimension thus becomes a prerequisite for the realization and optimization of the second dimension and the second for the first, as stated above.

Fourth dimension

The fourth dimension entails horizontal relationships between members of the personnel. "In TQM the view is taken that each person or departmental activity within the organization

affects another and is, in turn, affected by others. As each person or department receives output from another, it makes the said person or department a customer of the other” [3].

In this dimension each employee views its fellow employee as his/her client, acting according to the principles of TQM, the one towards the other.

This dimension enhances the third and second dimensions internally to strengthen the first dimension externally.

Fifth dimension

The fifth dimension can be defined as intra-organisational maturity in TQM. It is reached when all participating parties or companies are internally fully developed to the fourth dimension of TQM and reciprocating it externally between one another, i.e. the client now also considers the service provider as its client or customer in respect of their relationship. It results in the culmination of TQM in intra-group context.

This dimension or level opens up vast possibilities of beneficial co-operation between a group of entities to create a multi-organisational unit catering proactively in the demands of the external environment.

Application to companies

Having achieved the fifth dimension of TQM in an interlinked group of companies may lead to the advancement from symbiosis to consortia, partnering and, eventually, to alliance arrangements between them in rendering mutually dependent services to communities or consumers at large.

It creates an unsurpassable vehicle towards success for all parties involved, although each retains its individual autonomy, a prerequisite, obviously, being the full development to TQM by each participating entity.

Application to projects

In the case of companies supplying services or products, development towards the fifth dimension of TQM, and the logical extension thereof into more formal arrangements, may take an appreciable time as all relationships may not be absolutely mandatory due to the higher level of self-sufficiency of many entities and, being “on-going” concerns, time may not be as “of the essence” as on projects with stringent time constraints.

On projects, especially construction projects, a multi-disciplinary project team is, mostly, a given. The respective disciplines or functions, on most projects, also represent separate legal entities. This creates an ideal launching pad for the application of TQM up to the ultimate dimension. The challenge, obviously, lies in the early commitment of all parties to participation according to all dimensions of TQM and rapid progress towards the fifth dimension to enable the group to reap the benefits on a specific project.

Collaboration based on the TQM principles of service delivery and relationships will lead to mutual trust between the parties. Mutual trust, in turn, may lead to the intra-group application of central planning (even to theory of constraint or critical chain principles), “open-book”

negotiations in case of variations, optimisation through value engineering, benefit sharing as an alliance, etc., all of which will contribute to a project “machine” with inexhaustible motivational energy.

Repeated collaboration in this fashion may lead to more “permanent” arrangements between all or some of the participants, as indicated for companies in the previous section. The latter enhances their impact on the environment as a group.

Conclusion

The objective of the paper is stated as the development of a model to enhance relationships between participating parties striving to achieve a common goal. The goal may be in an “on-going” business or “temporary” project milieu.

The theory of TQM was summarised as a methodology to achieve service excellence by and between companies or individuals. It was then extended by means of a sketch and the definition of five dimensions of application inside and between organisations.

The result is a simple, yet, powerful model explaining, extending and applying TQM to both the business and, especially, the project environments. It enhances relationships and serves as a self-energising motivational vehicle inside and between these entities.

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