Business Excellence and Management
Volume 3 Issue 2 / June 2013

MANAGING CHANGES FOR IMPLEMENTING TQM IN INNOVATION PROCESS

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Abstract
The purpose of this article is to study the application of total quality management in the innovation process. This article describes and evaluates concepts and techniques in the field of quality and innovation and identify and symbiosis between these two philosophies.
Keywords: TQM, Innovation, Quality, Leadership.

1. INTRODUCTION

Companies around the world have paid special attention for improving the quality of various products and services for customer satisfaction. Large companies such as General Motor, General Electric, Honeywell, Sony who always said had substantial financial benefits, put a strong emphasis on improving the quality of products and services, using different programs, especially TQM. By implementing TQM organizations have received products and services of superior quality, low cost, improved financial statements, quality and innovative performance in accordance with customer satisfaction.

2. LITERATURE REVIEW

For more than two decades, TQM is the most popular, durable and used management concept. There are many definitions accepted in the literature based on the opinions of five quality gurus: Juran, Crosby, Deming, Feiganbaum and Ishikawa.

Juran, the father of quality management, did not directly use the term “total quality management”, he said that quality management is not simply the issue of identifying and eliminating variations, it is

serving customer needs by focusing the entire company on customers. Juran's approach to quality control and its management is two-sided:

1. Companies' mission in terms of fitness for use by providing products and services which conform to customer specifications plus issues of reliability, availability, maintainability, customer service, etc.

2. The role of senior managers is providing leadership, in providing the required resources, in encouraging awareness and participation in the developing policy systems, goals, plans, measures and controls for quality (Juran and Godfrey, 1999).

Although Crosby (1980) is also acknowledged as one of the TQM theorists, Drensek and Grubb report that he did not actually use the term "total quality management" in his book Quality Is Free (Crosby, 1980), or in Quality without Tears (Crosby, 1987), or in Completeness: Quality for the 21st Century (Crosby, 1992). The essence of Crosby's quality drive is the concept of prevention. He argued that quality is free. The costs are only related to the various obstacles which prevent workers from producing right first time. According to Crosby, the major objective of organizations implementing total quality should be Zero Defect (ZD).TQM is presumed to have emerged in place of total quality control (TQC), which was originated by Feigenbaum (1991). Feigenbaum sees TQC as an effective system for integrating the quality development, quality maintenance, and quality-improvement efforts of the various groups in an organization so as to enable production and service at the most economical levels possible that allow for full customer satisfaction. It was argued that further control must start with the design of the product and end only when the product has been placed in the hands of a customer, with product satisfaction guaranteed. Feigenbaum believes that all departments in a company have some responsibilities for the achievement of quality, but his conceptualization of TQC did not include other management ideologies like people empowerment, teamwork, and supplier development relationships. These management ideologies are now incorporated into the new management concept, TQM. Thus, TQM is an alternative to management by control. Hence, Feigenbaum was considered as the originator of the term "total quality management".

Ishikawa is considered the man who led Japan in the area of quality management. His inspiration came from the tremendous job of Deming and Juran and, to a lesser extent, Feiganbaum.

Business Excellence and Management
Volume 3 Issue 2 / June 2013

3. APPROACH TO TQM

In the 90s, TQM was seen as a revolution in management methods due to which many organizations are beginning to rethink how to increase productivity, reduce costs and improve profitability. Recent literature shows that, today, TQM has reached maturity, but also became much more controversial.

TQM is a process implemented in the long term. It can take up to 10 years to put into practice the principles, practices, procedures, create a culture conducive to continuous improvement and change values and attitudes of its people.

TQM is considered by some researchers as a philosophy, not a simple tool or management practice, which is divided into two distinct elements: the "hard" and the "soft". The "hard" part includes a wide range of techniques, systems and tools and the "soft" part is the missing link that makes less successful TQM paradigm.

In essence, TQM is based on three fundamental principles:

a. focus on customer and stakeholders;

b. participation and teamwork of all employees in the organization;

c. process focused on continuous improvement and learning.

Another approach taken by Reed, Lemark&Mero examines the work of the five experts above and identifies six similarities:

a. Customer satisfaction
b. Leadership Commitment
c. Organizational Culture
d. Teamwork
e. Training & Education
f. Cost Reduction.

Collins believes that “TQM describes a continuous quality improvement approach to quality assurance that emphasizes the importance of creating a culture in which concern for quality is an integral part of product and service” (Collins, 1994).

Conti believes that TQM principles and methods can be implemented both "doing things right" and "doing the right things", where "right" means, ultimately, the ability to convert purpose for competitive purposes, strategies and objectives (Conti, 1997).

"TQM is a management concept that aims at integrating all functions of the organization to focus on customer needs and organizational objectives" (Conti, 1997). TQM emphasizes creativity, innovation and risk taking in customer satisfaction.

3.1. Symbiosis between TQM and innovation process

Regarding the relationship between TQM and innovation, in the literature, there are two different meanings. One school believes that TQM supports innovation, while the alternative school argues that TQM prevents innovation.

Our opinion is that TQM environment and culture stimulate innovation because they create organizational practices and implement principles. Companies that implement TQM must explore and find the best ways to serve the needs and expectations of customers, create an incentive for companies to be innovative in developing and launching new products and services according to customer requirements.

"The concept of quality includes innovation because it refers to everything that makes the organizations work" (Conti, 2003).

Drucker defines innovation as "to be an entrepreneur means to create new wealth-producing resources or endow existing resources with enhanced potential in order to create wealth" (Drucker, 1985).

An old saying suggests that starting with the differences will lead to endless squabbles over details, while starting with the similarities will elicit synergies. And so, we start with some of the principles and practices of TQM that also support the process of innovation. If we carefully study the principles of Quality and Innovation as described in Table 1, we find that there is a strong relationship between various aspects of the principles.

TABLE 1 – COMPARATIVE STUDY OF QMS AND INNOVATION PRINCIPLES FOR SMES

QMS Principles (ISO 9001:2000)	Principles for SMEs Humphreys, McAdam, Leckey(2005)
Customer Focus	Empowerment
Leadership	Leadership
Involvement of People	Culture
Process approach	Technology
Systemic approach to management	Learning
Continual improvement	Structure
Factual approach to decision	Management
Mutually beneficial supplier relationship	

So, for example, leadership is a common principle for success of both Innovation and Quality. The Yin-Yang concept in Figure 1 is a powerful metaphor to understand duality of a firm's unified value-

Business Excellence and Management
Volume 3 Issue 2 / June 2013

generating system. Here the 'Yang' (the male) represents quality as an organisation's current capacity to provide present value with existing products/services, i.e. "fitness for use". The dual opposite 'Yin' (the female) represents innovation as the capability to give birth to new value. This distinction is important because it enables a more nuanced analysis of a firm's present and future potential to generate value for its stakeholders.

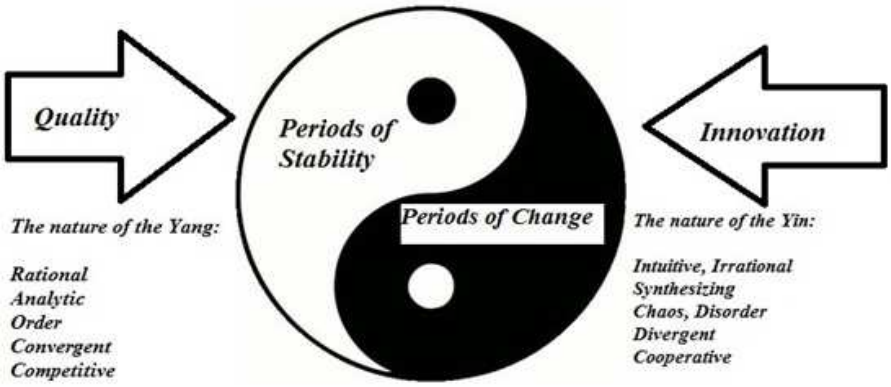

FIGURE 1 – QUALITY AND INNOVATION: THE COMPLEMENTARY "YIN" AND "YANG" APPROACH, AS A UNIFIED VALUE GENERATING SYSTEM

"The business recently passed the competitive advantage of quality innovation" (Prajogo and Brown, 2004).

"Companies need both stability and rapid change of products and services as they face the need to protect against an unstable environment" (Prajogo and Brown, 2004).

Many leading companies have increased profits and market share through innovation. Their success would not have been possible if the products manufactured accepted as ISO standards were not satisfied. Therefore, TQM is the right way to improve quality while facilitating the process of innovation. An example is given by Nokia's cell phones which have quality but Apple's innovative iPhone has that something special with unique features that get customers excited all over the world. Coupled with a new business model allowing for easier and wider distribution, the iPhone has attracted tens of millions of new customers, changing in just a few years the entire cell phone market. Apple sales and profits have reached new heights, raising Apple's stock from $87 per share in 2007 to around $700 per share late in September 2013, Innovation-driven firms like Google, 3M, BMW and others have also shown profits, managing to satisfactory weather the 2008–2009 global economic crisis. Even though for many managers the process of innovation is still poorly understood, often appearing as a creativity-based random process, several surveys reveal that good innovation performance is the result of sound innovation management (Boston Consulting Group, 2009). A key conclusion in these surveys is that the

innovation process can be improved significantly only by institutionalising innovation management and making it a core process, in the same way as it was done with quality management and finance management.

4. RESEARCH METODOLOGY

The research methodology includes both literature and conclusive opinions of management experts, PhD Professors, managers of companies in Romania, entrepreneurs. They answered a few questions in the form of a questionnaire. Therefore, the questionnaire contains three punctual questions, with the ability to add feedback and suggestions. 80 questionnaires were analyzed, these being filled by 20 professors, 25 PhD students with knowledge and experience in the field, plus 35 managers and entrepreneurs.

The questions are:

i. Do you believe that TQM implementation has a major impact on the innovation process?
ii. What imperative elements do you consider important for the TQM implementation in the process of innovation?
iii. Do you think Romania is a country with potential development and interest in this area?

5. FINDINGS AND DISCUSSIONS

For the first question, most respondents consider that TQM implementation has a major impact on the innovation process. The results are represented in Figure 2.

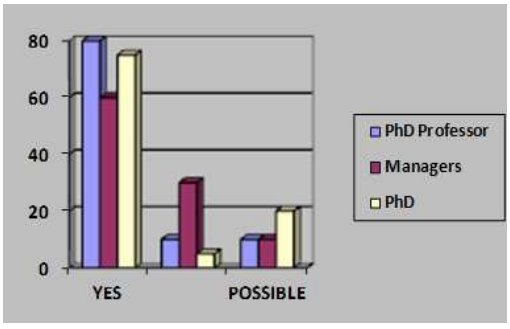

FIGURE 2 – RESPONSES REGARDING THE IMPACT OF TQM IMPLEMENTATION ON THE INNOVATION PROCESS
Source: Authors calculations.

At the second question, respondents were able to list as many items that they consider imperative. Thus, the most common elements and responses were: Leadership is considered by 83.4% of respondents imperative and a paramount requirement in an organization through which has a clear

Business Excellence and Management
Volume 3 Issue 2 / June 2013

focus and commitment in fulfilling customer requirements with utmost care for quality and promoting innovation.

The culture of the organization (OC) should have a single-minded focus on the customer. The customer should remain the centre of all activities of the organization, and customer satisfaction and customer delight should be the goal. This will in turn bring quality and innovation in the organization.

Management (MAN) commitment is an absolute prerequisite for the success of both quality and innovation. Management should have a quality and innovation policy where total commitment from them should be documented and communicated to everyone involved in the organisation. Management commitment should focus on empowerment in the organisation and process improvement to drive the organization on the path of quality and innovation.

Structure. The organization should be structured in a way that it promotes involvement of people and considers suppliers as an integral part of the organization. The structure should make sure that the innovation and quality in the organization flow from bottom to top, and there is strong involvement of people in giving key directions to innovation and quality of the product and services.

Continuous Improvement. Continuous Improvement (CI) is the key input to the innovation process in any organization. CI should focus on training and technology upgrade, to stay up to date with customer requirements. Right implementation of CI would surely mean that innovation is embedded in the organizational culture and is a cohesive process.

79.4% of respondents said that customer satisfaction (CS) is imperative for all items mentioned above.

4. CONCLUSIONS

From this study it is observed that TQM is a powerful management tool for innovation. The reason for the success of TQM implementation is primarily the potential to bring about a change in company culture through creative accumulation and integration of knowledge. The organization must meet the necessary conditions: to focus primarily on human resources for knowledge creation and storage, to ensure strong participation and formation processes of innovation. The second is to create a conducive working environment / corporate culture to promote transparency, clear objectives, togetherness, safety and autonomy in the labour force, so that the contribution of creativity will be enhanced. Therefore, emphasis on human resources and working conditions will generate creative potential in the innovation process.

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