REVIEW OF TOTAL QUALITY MANAGEMENT CONCEPT

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ABSTRACT

The definition of TQM continues to be a debated issue to organizational management. Not only is there an absence of a uniform definition but also there is no prescriptive standard outlining TQM concepts. This supports an argument that TQM is not merely a tool or method that is ready for use, but there is a set of underlying principles, philosophies and paradigms that must be applied in the unique organizational context. This paper will discuss the concept of TQM at three integrated levels in an organization from inside out; namely paradigm level, system and structural level and technical and operational level in the purpose for helping organizations to grasp the comprehensive substance of TQM.

Keywords: TQM, philosophy

1. INTRODUCTION

Quality has become one of the primary elements in global competition today. This certainly does not intend to relinquish other elements, namely cost, delivery (time) and service since those elements to some extent are significantly affected by the performance of quality. Better quality will result in cost reduction and shorter delivery time; thus enhancing service performed to customers. People now understand that quality needs to be thoroughly managed. Among the many quality management models, Total Quality Management (TQM) has emerged as a predominant business issue over the past few years. The definition of TQM continues to be a debated issue to organizational management. Not only is there an absence of a uniform definition but also there is no prescriptive standard outlining TQM concepts. This supports an argument that TQM is not merely a tool or method that is ready for use, but there is a set of underlying principles, philosophies and paradigms that must be applied in the unique organizational context. Many admit that TQM concepts and practices are shaped by a number of individuals. Some of them are honored as " *quality gurus*", such as Deming, Juran, Crosby, Feigenbaum and Ishikawa. Without ignoring few different views and perspectives among those people, they all share a common set of assumptions and principles. Others then followed the initial concepts with more tangible tools or methods, such as Taguchi with the quality loss function and robust design, Akao with Quality Function Deployment (QFD) and Singo with *poka yoke*; all aligned with the basic philosophy suggested by quality gurus. Only few mentioned about Shewhart despite his worthwhile contribution on the utilization of statistical methods for quality control. Each individual proposed definition of quality, quality control, quality management and other quality-related concepts or tools from which many have tried to summarize and make condensation on TQM definition and developed a "how to" idea for implementing TQM. Until now, there is still no such common definition on TQM. It is left open to any organization or anyone to define it in accordance with the contextual situation and needs yet the essence should be unchanged.

As mentioned before, TQM itself consists of both *soft* and *hard* elements. Like the human body with a brain inside, so does an organizational structure with its culture and paradigm. Some papers have discussed this issue. Lau and Anderson (1998) try to explain TQM in a three-dimensional perspective, namely philosophical, strategic and measurement. Plenert (1996) divided TQM into philosophical and operational level in which he proposes an idea of putting structure behind the philosophy to make TQM usable and implementable. In essence, TQM should be implemented in an organization at three integrated levels in an organization from inside out; namely paradigm level, system and structural level and technical and operational level. A sound approach should begin with the inner aspect that will actualize an outer appearance.

2. TOTAL QUALITY MANAGEMENT (TQM) EXPLAINED IN TERMS OF PHILOSOPHICAL LEVEL

The understanding and belief of the philosophy and principles of TQM is essential for companies attempting to implement TQM. Some papers cite the failure of TQM programs caused by the weak understanding of leadership on TQM basic concepts. By and large, TQM can be defined based on its three components, namely Total, Quality and Management. Whilst many have read TQM as a whole word, it is still helpful to interpret it with a simpler understanding; which is *management of quality in a total perspective*. Adopting TQM philosophy will result in a situation where an organization cannot say that it has a TQM program, instead it has to be a TQM organization or TQM must be its characteristics. Among many management philosophical issues on total quality; customer focus, understanding of the process and variation, supplier relationship, next process is your customer, system thinking, cross-functional team, continuous improvement and leadership commitment on quality are the popular and commonly mentioned in many literatures. This is reflected in its culture, policy, strategy and decision, structure and system, and finally all activities, operations and performance.

2.1 Quality

There are a number of definitions have been proposed on quality, but usually they focus on quality in the context of (end) product. Garvin (1990), for example has listed an "*eight quality dimensions*" of quality of product and has appeared as the most frequent quoted definition in many literatures. Looking at the elements of the dimensions, it is clear that the definition is heavily concerned with manufacturing / physical goods. As quality gained more attention in business and industrial world, the definition of product quality has been enhanced more widely and deeply in the respect of customer's needs and expectations. This has led into a simpler but deeper definition of quality; which is *total customer satisfaction*. In accordance with the growth of service industry, people began to look at product beyond merely physical goods, but also service elements that support and enhance the total value of products offered to customers. Lovelock (1994) proposes a concept of "*product plus*" which suggests the role of service as value-addition or value-leverager attached to the physical product. Modern perspective on product has directed more and more toward customer-oriented and service-oriented; in which product is perceived as the form of service delivered by producer to the customer. In other words, product is the interface between producer and customer. At the internal level of

understanding, quality is defined as meeting the specification that is determined together by customer and producer. Then people try to develop tools and methods to realize this goal. Inspection is the most traditional method that is employed in the context of ensuring product resulted conforms to defined specification. So, at this stage the focus of quality is on the end product.

2.2 Total

The understanding of quality has grown in a much wider and deeper manner. As mentioned, the concept of quality has extended from physically core products into the total value delivered to customers. Such extension also applies on quality management aspects. Deming (1988) pioneered the enlargement of scope on beyond inspection of product quality. He asserted that relying on inspection would not help much other than segregating bad products from good products. He then suggested that care of quality should be focused on the process (upstream) rather than on the end product (downstream). What Deming did has cracked perspective of people on quality to be more comprehensive and holistic. Soon after Deming proposed his ideas on quality management, the development of what is called total quality grew rapidly. People began to recognize that quality of product requires quality of "*everything*" in the organization. This has brought a significant change in respect of the responsibility on quality. Traditionally, the QC/QA Department was the (only) one that bears (almost) all consequences (especially problems) resulted from quality performance of products or services delivered to customers. Todays, management must realize that everybody in the organization has a contribution directly or indirectly for producing quality products or services; hence quality demands corporate responsibilities. Crosby (1986) asserted that there was no such as quality problems. They were just symptoms and therefore could not be cured by addressing QC/QA Department. The root causes often lie in other departments, which (usually) were not considered as concerned with quality. Therefore, quality must be viewed in a total context of an organization: quality of the process, quality of the people, quality of the organizational structure and system, quality of leadership and other aspects of the organization. Failure to address the aspect of totality of quality will result in failure of the organization to fully embrace TQM. A number of researches have revealed the high rate of failure among companies attempting to implement TQM (Brown, 1993) due to such reasons.

2.3 Management

Many concepts are built during the development of understanding of total quality. Some of them are perceived as new, even "revolutionary", against prevailing paradigm of business and management which is mostly influenced by the philosophy of scientific management generated by Frederick Taylor. Among many gurus, Deming is probably the one who addresses the philosophical aspect of quality management most intensely; not necessarily mean that the others do not make significant contribution in this respect. His fourteen points on quality management (Deming, 1986) and later his profound knowledge (Latzko and Saunders, 1995) constitutes transformation, even opposition, against traditional management paradigm. Other than Statistical Process Control (SPC), Deming does not suggest specific tools or methods for quality-related purposes. What he tried to

emphasize while introducing SPC was the shift of management's focus from product into process. He asserted that controlling product was not only too late but also did not bring any improvement in the performance of an organization. aditional concept of management is concerned with four basic activities, namely planning, organizing, directing, controlling (Stoner, 1990). In accordance with the rise of TQM, Joiner (Joiner, 1993) proposed the fifth task of management; which is improvement. This has been sharpened by Peter Senge (Senge, 1994) who introduced the concept of learning organization which is very much similar to continuous improvement or Plan-Do-Check/Study-Act (PDCA) concept introduced by Shewart and Deming. The traditional concept of management also emphasized on bureaucracy and divisional hierarchy. This has resulted in a number of problems; such as social isolation, adverse relationship among departments, slow reaction, rigidness and unbalanced and not optimum growth (Bound *et al*, 1994). This is an opposite of the reality that the flow of process and products (which bears quality) runs horizontally; thus cross-departmental. Therefore, Japanese companies shift their management model from divisional into cross-functional which promotes teamwork. This shall be more substantial once management gains understanding of the need of total responsibilities on quality, as discussed in the previous section.

3. TQM EXPLAINED IN TERMS OF SYSTEM AND STRUCTURAL LEVEL

In respect of the principle that an organization's structure will follow its strategy (Chandler, 1930), belief and commitment on total quality will become visible in the system and structure within an organization which embrace it. Feigenbaum (1988) and Juran (1987) provide clear ideas; one of them is that personnel or a unit, which is responsible on quality, must be put in a proper place in the organizational structure equipped with necessary power and authority. The development of those basic ideas has resulted in the establishment of ISO 9000. ISO 9000 is the commonly accepted quality system that provides a generic guideline for organization in designing and establishing system which ensures actuality of quality in many sectors inside an organization. Despite many weak even wrong understanding of the genuine intent of ISO 9000, it is truly rooted on an understanding of total quality philosophy; customer focus, consistency and (almost) total perspective on the process. Surely ISO 9000 does not address TQM comprehensively that it can be claimed as a TQM model (Corrigan, 1993), however, it does have a correlation or can be respected as the element of TQM. The proper employment of ISO 9000 will surely bring benefit for an organization.

Whatever the structure is, the most important is that it has to ensure the chain of processes will run smoothly and effectively in producing quality products that satisfy customer needs and expectations.

4. TQM EXPLAINED IN TERMS OF TECHNICAL AND OPERATIONAL ASPECTS

Quality techniques and methods maybe the most visible element of TQM. Many organizations claim that they have implemented TQM simply because they have used a number of tools or techniques such as control chart, cause and effect diagram, scatter diagram, or even ISO 9000 certification. More advanced quantitative tools were also

proposed; such as Statistical Process Control (SPC) and Taguchi method for robust design. By and large, the operational level of TQM can be classified using what Juran proposed as quality trilogy; which consists of quality planning, quality control and quality improvement (Logothetis, 1992, p. 63). This will help us to understanding the cycle of quality activities in daily operations. Table 1 below enlists a number (not all) of tools and techniques of quality categorized in three phases of quality operations.

Table 1. Technical and Operational Level of TQM Implementation

Quality Assurance (Planning and Prevention)	Quality Control (Detection and Recovery)	Quality Improvement (Problem solving)
Customer survey	Statistical Process Control	Quality tools
Training	Engineering Process Control	Problem solving methods
Failure Mode and Effect Analysis	Inspection	Benchmarking
Prevention plan	Calibration	Re-engineering
Quality plan	Jidohka / autonomation	Quality circle
Supplier evaluation		Suggestion system
Quality Function Deployment		Performance measurement
Poka Yoke		Waste elimination
Andon		Customer feedback
		Design of Experiments

5. CONCLUSION

Until now, TQM is always problematic for many companies attempting to implement. It is not uncommon to hear that many organizations have adopted TQM tools and techniques extensively, in fact, they fail to gain satisfactory benefits from them. It can be due to, as mentioned before, the ignorance of the organizations of the comprehensive substance of TQM. The others also fail since they just imitate what their counterparts do and abandon their own organizational condition.

Despite its unclear definitions, TQM has been widely preached as one of the most powerful answer for business survival today. Many also have tried to suggest a model or guideline for implementing these parts of TQM especially in using the tools and techniques. However, it must be understood that tools and techniques will not be useful unless they are used in a supportive environment; namely the organizational structure, system, process and culture. The environment itself is based on a set of belief or paradigm, particularly on quality.

It must be kept in mind that there will not be a single best model for TQM, which has general application, but it should be understood, on the other hand, that there are some basic TQM elements that have been proven as powerful world-wide.

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