AC 2007-809: REINVENTING ORGANIZATIONS TO MEET THE CHALLENGES OF A HIGHLY COMPETITIVE GLOBAL ENVIRONMENT

William Loendorf, Eastern Washington University

WILLIAM R. LOENDORF obtained his B.Sc. in Engineering Science at the University of Wisconsin - Parkside, M.S. in Electrical Engineering at Colorado State University, and M.B.A. at the Lake Forest Graduate School of Management. He holds a Professional Engineer certification and was previously an Engineering Manager at Motorola. His interests include engineering management, real-time embedded systems, and digital signal processing.
Reinventing Organizations to Meet the Challenges of a Highly Competitive Global Environment

Abstract

Today’s markets are highly competitive and global in nature. Only those organizations with the highest quality products, most efficient operations, and the desire to improve will survive, grow, and be profitable. In many cases this means reinventing the organization and this can be a terrifying experience. One proven methodology to accomplish this task is Total Quality Management (TQM). However, initiating a TQM system is analogous to progressing through an evolutionary process requiring a variety of steps, stages, transitions, and transformations. It is an endeavor that begins by accessing and evaluating the costs and benefits to the organization and ends with a successful implementation.

The focus and direction of a TQM implementation has many facets. This is due, in part, to the varying management strategies employing its philosophy and the unique requirements of the particular organization. As a result, implementing a TQM program requires overcoming old paradigms on how people work and even think about their jobs and work environment. It is a process of change that needs regular reinforcement if it is to become part of the organization’s culture. It requires a constant state of analyzing and modifying work processes as well as a continuous training and education program.

However, there is no one magical method of TQM implementation. A cookie cutter approach that guarantees success for all implementations in all organizations doesn’t exist. The actual TQM strategies utilized will vary depending on the particular application along with the distinctive circumstances and structure of the organization. As a result, there is no best method or scheme to implement TQM. Rather, TQM is a set of useful tools, concepts, and ideas that leaders, managers, and workers can utilize to affect change and improve overall quality, efficiency, and effectiveness. This makes each TQM implementation relatively unique.

A successful TQM implementation requires that the quality philosophy be understood and accepted throughout the entire organization. A management mandated top-down approach will most likely always result in failure. People at all levels of the organization need to be comfortable with the emphasis on quality and accept as well as understand the anticipated benefits from its employment. The challenge then is to get everybody on the quality bandwagon working together to reach the organization’s TQM expectations, objectives, and goals.

Reinventing Organizations

The process of reinventing organizations has become more than just a buzzword. The quest for new and improved methods, strategic planning, and results oriented performance measurements are on the rise. The implementation of Total Quality Management is one of these reforms. In fact, it is seen as the primary mechanism for organizational change even though it is recognized as being far from simple. Rather it is seen as a commitment to strategic change that will
ultimately restructure the organization and its processes. It is a change in attitude that is often
difficult and can actually be quite frustrating at times, considering the dynamics of the quality
philosophy.

This often leads to the overlooked and unexpected outcome that instituting TQM techniques does
not guarantee success. All too frequently organizations are too energetic and anxious to start
without properly evaluating their current position, which frequently leads to frustration and
skepticism. However, planning is the key. As proposed by Williams, Davidson, Waterworth, and
Partington\textsuperscript{11} (2002, p. 2) a thorough review of six critical areas is needed prior to beginning a
TQM program, however they can be basically summarized as three: pace, degree, and extent. In
other words, how soon can and are results expected to take place; how and to what degree are
changes needed; and how much of the organizational structure is involved. The goal becomes
one of breaking down barriers and empowering employees at all levels to make decisions on
issues affecting their work and departments. It involves changing attitudes, putting people first,
and freeing them from the numerous restrictions that currently exist.

In order to be successful promoting efficiency and effectiveness, TQM must be truly
organization wide and it must originate with the highest level of management. The Chief
Executive Officer, the President, the most senior Directors, or their equivalents must all
demonstrate that they are serious about quality. Middle managers have a particularly important
role because they must not only understand the principles themselves, but they must also pass
that knowledge on to those who work for them. Their level of commitment is no less important
than that of their upper level management counterparts. As a result, the critical factors for a
successful TQM endeavor include: “commitment, … training, … constancy of purpose, …
regular improvement, … and empowerment” (Sila & Ebrahimpour\textsuperscript{7}, 2003, p. 262).

There is obviously no substitute for quality. It does not matter how large or small an organization
is, one of their fundamental purposes for existence is to provide a product or service to their
customers. However, creating and maintaining a competitive advantage takes more than just the
concerted efforts of a few workers. It must be a team effort, based on a quality philosophy, with
everyone committed to achieving higher standards of excellence. It becomes a thought process
that in turn instills trust and confidence from both employees and customers.

Obstacles

TQM is not, however, without its problems and barriers. Once an organization begins the
transition to TQM it will encounter many difficulties along the way. Both Beer\textsuperscript{2} (2003) and
Besterfield, Besterfield-Michna, Besterfield, and Besterfield-Sacre\textsuperscript{3} (2003) discuss extensively
the barriers and obstacles that typically cause TQM implementation problems. These obstacles
that often interfere with TQM implementation strategies can also be viewed in a slightly different
fashion as insufficient commitment from leaders, poor planning, improper coordination, lack of
constancy of purpose, time limitations, focus on short term profits, insufficient training, and
consistently relying on figures alone to determine an organization’s health. All too frequently,
the obstacles are exacerbated by concentrating on hard results rather than on the transformations
in culture and processes.
Many organizations are also driven to complete the TQM transition as fast as possible. However, since all organizations are different in design, scope, and services, it is important to realize that there is no set time by which an organization must complete the transformation. The important point to remember is that a change in philosophy must be an on-going process of transformation, one that never ceases to inspire creativity and constancy of purpose.

Overcoming the resistance to change is also crucial for success. Quite frequently workers that have been with the organization for a long time find it difficult to change what had been perceived as acceptable levels of performance. As a result, it is important to have an understanding of human behavior and the dramatic effect it can have on implementation strategies. Change must begin with upper management through understanding, involvement, and commitment. Then for a total transformation to occur, it must cascade down through the organization into every facet of operation.

Upper management must also learn to set aside excuses, stop trying to control the past, and ultimately resist blaming individuals inside the system, or for that matter, forces outside the system. There is no doubt that the push toward more quality driven organizations has progressed substantially, but the continued use of the term quality or TQM has drawn considerable levels of criticism. Most often, this has been the direct result of misguided representation and implementation techniques.

Workers often see TQM as another passing fad (Beer\textsuperscript{2}, 2003, p.625-626), such as the past emphasis on Management by Objectives (MBO) and Zero Base Budgeting. In addition, many management promises to share decision making with workers and increase their levels of empowerment have been replaced with organizational cutbacks, restructuring, and even role ambiguity. Quite frequently it is believed that the problems are behavioral and not technical. Workers typically believe the implementation of TQM is just another top-to-bottom bureaucratic program, pushed by management, without the opportunity for any constructive input from them. Empowerment, however, is the key to this issue (Goetsch & Davis\textsuperscript{5}, 2003, p. 277-278). Workers from all levels within the organization must be given the opportunity, by upper management, to participate in the planning and implementation of TQM. They must also contribute to the organization’s vision statement, strategic planning, quality action councils, and process action teams.

All too often, the same individuals are selected to participate in these types of programs diluting the credibility of the entire process. Similarly, upper level managers believing they are the only ones capable of developing an organization’s vision statement may in fact be overestimating their own importance while underestimating that of their workers. This also holds true for strategic planning. Good ideas originate from everywhere within the organization and are not the sole contribution of a single person or elite group of individuals.

It is not enough for upper management to be given the opportunity to acquire a clear understanding of a quality environments culture. Each worker must also be acquainted with the proper tools and understanding of the quality processes in order to affect a change in the organization’s philosophy, direction, and future. In fact, the basic essence of TQM reflects a process through which training and education must be supported by all levels of management.
The challenge is to infuse it into organizations. In order to be successful the organization along with its managers and workers must strive to acquire and utilize the following characteristics: “strategically based, customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, employee involvement and empowerment, continual process improvement, bottom-up education and training, freedom through control, and unity of purpose” (Goetsch & Davis, 2003, p. 34).

In spite of all the reasons motivating the implementation of TQM, there are still those contributing to a sense of hesitation about its usefulness. For instance, some believe it is just a passing fad; the full spectrum of effects are not known; loss of control on the part of upper management may in effect result in increased levels of inefficiency; delays in other services as resources are redirected; and the fear by middle managers over the loss of power and control (Beer, 2003, p. 625-631). Regardless, there is a definite need to enhance the quality of products and services in America in order to remain competitive globally. Many organizations realized that TQM actually improved quality, reduced waste, decreased costs, enhanced efficiency, and improved productivity while increasing the confidence level of their customers (Besterfield et al., 2003, p. 13).

**Theoretical Framework**

The dynamics of TQM lends itself to several diverse theoretical interpretations. The essence of TQM is the recognition that the management of any organization is actually the management of a system. In order to be effective this systems view requires a totally new way of looking both at the organization and the problem that is being addressed. This most often goes against traditional management philosophies. “‘System’ … refers not to things in the world, but to a particular way of organizing your thoughts about the world; and being an organizing concept it may be used to structure thinking about organizations and problems” (Taiwo, 2001, p. 969). A system is, for all practical purposes, quite complex. It is important and indeed critical for a leader to view their organization on a much broader perspective, one that entails a unique system of interrelated parts. Each of these systems or processes has a distinctive, but independent and significant role in guiding the organization toward achieving its objectives.

It is also a matter of recognizing the varying beliefs and values of those within the organization. Management must constantly strive to satisfy some very basic needs of the workforce for safety, belonging, and self-worth. Empowering employees to make decisions which impact customer satisfaction will also help fulfill some of their very basic needs. In addition, it will ultimately help provide organizational direction and goal attainment.

The descriptive-explanatory theory embodies several disciplines and conceptual ideas common to TQM philosophy. The thought of “administration being viewed as a pattern of interaction involving a series of formal and informal linkages” (Bailey, 1968 p.130) ties directly to the 14 points Deming referred to as the basis for TQM (Walton, 1986). The people within the organization and the correlation of individual and group responsibilities, as well as ties to senior management and customers, form the linkage and bond necessary for the organization to prosper.
Once again, leadership makes it happen. A cascade effect from top-to-bottom, with management taking the lead position, ensures a successful TQM implementation. Without an increasing level of commitment to all phases of the TQM philosophy, the essential linkages between processes, employees, and customers will result in a less than desirable outcome.

“Refining existing topologies and inventing new ones are also common to the very essence of TQM” (Bailey, 1968, p. 131). They are reflective in the concept of Deming’s fifth point of constant improvement. The point reflects that to move forward with the aim of satisfying customer needs, an organization must constantly seek feedback and subsequently refine and develop as well as incorporate new procedures (Walton, 1986). This systematic TQM framework is depicted in Figure 1. Without this change process, no improvements will result. Everything will, quite simply, be done the same old way with the same old results.

Figure 1. A TQM Framework Utilizing a Feedback Control System.

Perhaps the most powerful theoretical application to which the employment of a TQM philosophy can be associated is control theory. The concept of control theory explains why people behave the way they do. It contends that all our behavior is purposeful and intended to satisfy our basic needs of “(1) survival; (2) love and belonging; (3) power or recognition; (4) customer focus and satisfaction, management commitment, leadership, worker involvement, supplier partnership, benchmarking, training, information technology, management tools, statistical process control, experimental design, quality control, concurrent engineering, cross functional teams.
freedom; [and] (5) fun” (Glasser$^4$, 1994, p. 53-54). Glasser$^4$ (1994) proposed that: Based on their common sense, almost all American managers are so convinced that they know why the people they manage behave the way they do that it never occurs to them that they are wrong. Managing workers with what they have known all their lives will not lead to the quality work necessary for their company to remain competitive. (p. 1)

Glasser$^4$ (1994) also contends that the Japanese have instituted a completely different management style, called “lead-management, which consistently produces quality” (p. 1). Americans, on the other hand, “continue to use boss-management, a traditional system that has always produced a lot of work and was quite competitive as long as everyone used it and no one’s products were significantly better than anyone else’s” (Glasser$^4$, 1994, p. 1-2). However, the consumers demanded quality and they found it in imported and not domestic products. The road to success must focus on how people are managed and not on technology, statistical process control, or profits. It has become obvious that the reason organizations fail is not because they aren’t proficient in these areas but because they are failing with their people. After all, people are the most important asset of any organization.

Comparison of TQM Methodologies

There are basically two ways of looking at quality, the traditional method and TQM. In the traditional scheme, employees were considered simply as passive laborers that blindly followed their boss’s orders. They were not expected or encouraged to think. TQM on the other hand, empowered and encouraged the workers to be critical, think, and make recommendations for improvements. Only one improvement was expected from each worker during the year in the traditional mythology, while ten or more are expected each year in the TQM organizations. Short-term profits were the main focus of the traditional programs whereas in TQM programs the focus was on constant improvements and long-term profits. The TQM methodology requires an entirely different mindset from both management and the workforce along with a new way of looking at quality.

The successful use of TQM practices requires a change in the organization’s culture. Since this is a substantial change it cannot occur overnight, it requires an extended period of time. Some organizations are able to make the change faster than others. For example, smaller organizations tend to make the transformation quicker than larger organizations.

Perhaps the best way to fully understand the implications of TQM on the organization is to begin with a basic statement of its objectives. “Total quality is an approach to doing business that attempts to maximize the competitiveness of an organization through the continual improvement of the quality of its products, services, people, processes, and environments” (Goetsch & Davis$^5$, 2003, p. 7). However, TQM is not just a few independent concepts or ideas. Rather “it is a number of related concepts pulled together to create a comprehensive approach to doing business. Many people contributed in meaningful ways to the development of the various concepts that are known collectively as total quality” (Goetsch & Davis$^5$, 2003, p. 17). Three of the major contributors were W. Edward Deming, Joseph M. Juran, and Philip B. Crosby. A number of basic similarities can be extracted from these philosophies. These include management commitment, training, and continuous improvement.
These methodologies offer support and provide direction for organizations interested in beginning or improving a total quality system. All of these methodologies utilize and involve the same common practices: “Establish an organizational policy, implement that policy through documented procedures, practice the procedures and policies in the work environment, and show proof that the company’s day-to-day business practices support the policies” (Summers, 2003, p. 625).

**Building an Effective TQM Program**

Organizations continually seek to gain a competitive edge or advantage in order to increase market share and profits. One of the most often used tools by organizations to set them apart from the others is TQM. However, it still takes a world-class organization to compete successfully in the global marketplace. “Global competition has also encouraged companies to seek out and emulate best practices. The term ‘best practices’ refers to choosing a method of work that has been found to be most effective and efficient…” (Summers, 2003, p. 20-21). The key elements of TQM are based on a set of best practices. However, as is often the case, there is a difference of opinion concerning exactly what constitutes this set of TQM best practices.

Goetsch and Davis (2003) consider TQM best practices to be customer service, quality control, new product development, innovation, planning, continual improvement, teamwork, and training. A different approach to determine the best practices and critical success factors for TQM also involved using existing data. An extensive study of current literature listed as best practices “top management commitment and leadership, customer focus, information and analysis, training, supplier management, strategic planning, employee involvement, human resource management, process management, teamwork, product and service design, process control, benchmarking, continuous improvement, employee empowerment, [and] quality assurance” (Sila and Ebrahimpour, 2003, p. 262). Rahman (2004) lists them as management commitment, quality culture, involvement and empowerment of all workers, manage by facts, continually improve, and get suppliers involved. Reviewing these lists clearly indicates that many of the items are directly associated with TQM. The bottom line is that to successfully compete in a global fashion the organization must have a strong TQM foundation and well executed program.

A number of similarities exist between these descriptions of core TQM best practices. This is how it should be. After all, they both summarize the key strategic elements of TQM required for a successful quality improvement program whether in the industrial sector or service field. Together they create a set of core TQM values and concepts or a framework from which the quality organization can be established and built. In effect they define the organization’s culture.

Since every organization, whether it is product or service oriented, is fundamentally different, each needs to determine and develop its own values. As a result, their list of best practices and critical factors for TQM success may well be different than those presented. Regardless of the organization’s exact situation, they offer a good solid starting point from which to build.

The effectiveness of this systematic feedback control approach to TQM was put to the test by a small industrial organization. They were experiencing financial difficulties caused by increased global competition and if the situation wasn’t corrected they would surely go out of business.
The TQM framework as shown in Figure 1 was implemented using the best practices for their unique situation as determined by a team composed of both management and workers. They never envisioned the operation of their organization as a system with feedback loops. Rather they viewed their operation as linear, from order receipt to delivery of product. Performance measures were enacted using feedback from the manufacturing floor that led to a continuous improvement cycle. As a result, the quality of their product improved, delivery dates were met, customers were satisfied, and sales increased. The organization’s fortunes were turned around by utilizing this systems approach to TQM.

Controlling the Cost of TQM Programs

There are a number of terms used to describe the costs related to providing a quality product or service, including cost of poor quality, poor-quality cost, and the cost of quality. It appears that quality is not free. However, there is often a much higher cost associated with poor quality and that is loss of customers and profits perhaps leading to the organization actually going out of business. But what exactly are quality costs? “A quality cost is considered to be any cost that a company incurs in order to ensure that the quality of the product or service is perfect…. Quality costs are also the costs associated with the prevention of poor quality” (Summers, 2003, p. 552). Obviously there is a cost associated with producing a truly quality product or service. However, there is a certain value, sometimes intangible, that is related to the final product or service that frequently more than offsets the cost.

There are many ways to look at the cost and value of quality. One interesting approach is in terms of profits while another established way of looking at the cost of quality is actually in terms of the outlay of money required to insure quality products or services. It is often viewed as a luxury that should only occur when the organization can afford it. A fully implemented TQM program would surely dictate almost the entirely opposite approach. That is, during the slow periods the organization should allocate more, not less, resources to improve and insure the quality of their products or services. The approach should be, scaling up the quality level by taking the initiative and leading the way toward recovery. Potentially this practice could lead to gaining new customers, expanding sales, and improving profits.

Quality costs often originate from all departments and groups within an organization. No single entity is responsible for the mistakes affecting quality. Rather everyone associated with the organization is responsible for producing a quality product or service. Poor products, services, or other nonconformities greatly increase the cost of quality.

Perhaps quality is the most important factor that allows either a product or service oriented organization to retain and boost its customer base. Catching and detecting defects and nonconformities always incurs a cost. However, the earlier, in either the production or service cycle, the nonconformity is detected, the lower the cost to correct the defect. This cost increases as the product or service approaches the customer. Since these costs of quality can be significant, it is imperative to catch the defect or nonconformity as early as possible in order to minimize the expense of correction.
Primarily there are four quality cost categories: prevention costs, appraisal costs, failure costs (consisting of both internal failure costs and external failure costs), and intangible costs. The list is not exhaustive, but rather is intended to offer a general understanding of what is involved with each category. If a detected cost fits the general description of the quality cost, then that category should be used. Many subcategories of these costs of quality exist and it would be impossible to describe all of them.

Once the costs of poor quality have been identified projects can be implemented to improve the situations. Those projects that have the greatest potential for improvement or highest possible return (either in quality or monetary gains) should be selected first for realization. The process to accomplish this task, once the priorities have been established are: “identify all activities that exist only or primarily because of poor quality, decide how to estimate the costs of these activities, collect data on these activities and make cost estimates, [and] analyze the results and take necessary corrective actions” (Goetsch and Davis, 2003, p. 44). These steps aid the organization in the decision process by selecting the high priority quality cost projects. The order in which they are addressed is up to the management of the organization.

**Implications of TQM Implementation**

The introduction of a well planned TQM program has lead to many benefits for the sponsoring organization. The implications of these benefits are far reaching and affect all aspects of the organization. “According to a survey of manufacturing firms in Georgia, the benefits of TQM are improved quality, employee participation, teamwork, working relationships, customer satisfaction, employee satisfaction productivity, communication, and market share” (Besterfield et al., 2003, p. 13). In the final analysis, these items include all of the reasons for implementing a TQM program in the first place.

These findings have been supported by other studies with similar results. “TQM is a good investment as shown by a ten-year study by Hendricks and Singhai. They showed that there is a strong link between TQM and financial performance” (Besterfield et al., 2003, p. 13). This is significant since management is keenly aware of programs with a positive affect on profits and the bottom line.

A very interesting outcome from the study concerned the size of the organization. It was determined that smaller organizations were actually outperforming their larger counterparts. This is both surprising and expected. It is surprising because smaller organizations usually lack the resources (time, money, and manpower) to implement a new program like TQM. However, it is also expected since smaller organizations are typically more flexible and open to change than well-established ones with multiple layers of bureaucracy. It is apparent from this study that implementing TQM successfully has lasting implications on the viability and growth of the organization. The benefits gained far outweigh the cost of planning, developing, and implementing a TQM program. After reviewing these finding how can organizations continue to ignore TQM programs?

It is interesting to note that “recent studies have shown that only about 30% of the manufacturing organizations have successfully implemented TQM” (Besterfield et al., 2003, p. 13) programs.
This does not indicate that many more haven’t tried, although unsuccessfully. It may actually be a matter of degree. Perhaps the expectations were exaggerated and the bar set too high for some making the desired results unreachable. Those were doomed to fail from the start. Still many other organizations tried and perhaps failed due to obstacles or insufficient resources (management commitment, poor planning, lack of constancy, etc.). However, it is still clear that many organizations have not yet understood the benefits and advantages that a TQM program can bring to them. For those organizations, not implementing a TQM program only has negative implications including lost sales, lost customers, and lost profits.

**Future Quality Transformations**

It is a certainty that circumstances will be different for the industrial or service organization in the future. In fact, the entire business environment may hardly resemble today’s climate. It is bound to be faster paced, global, and even more competitive. The only thing that is certain is change and there will be a great deal of it.

The trends according to Rahman (2004) include two broad strategies to cope with these changes. The first is globalization of the organization while the second is modularization of the organization. Both involve flexibility, innovation, speed, and adaptability. In addition, a trend away from continuous improvement and toward innovation may also emerge. This appears to be a paradox when compared to the traditional way of looking at TQM. However, it is actually a modification of the practices necessitated to keep up with the ever changing competitive environment. As a result, innovation may become the cornerstone of the TQM philosophy and methodology of the future.

Therefore, in order for organizations to flourish in the highly competitive global markets of the future, they must function within an extremely efficient quality management system. As a result, TQM must play an even bigger role in the operation and success of the organization. Goetsch and Davis (2003) describe the critical characteristics as increasing value for customers, investors, and employees; being market driven; quality is defined by customers and not the company; continuous improvement; and improved communication. Organizations that embrace and extend these characteristics will be ready and able to effectively compete in the future global economy. Consequently, TQM will play an integral part in the success of the organizations of the future. Perhaps, in fact, TQM is the main ingredient in the future profitability, competitiveness, and success of all organizations.

**Conclusions, Reflections, and the Future**

The quest for quality continues or should continue for all organizations whether they produce a product or perform a service. Quality is no longer a differentiator among companies; it has become the desired norm. Since the awakening to TQM many ways to attain it have been proposed. All of them have been implemented in one form or another by organizations large and small around the world.

What all of these principles, practices, and methodologies have in common is the central desire to improve. That is, to improve customer satisfaction, improve customer loyalty, improve
quality, improve working conditions, improve employee job satisfaction, improve their reputation, improve profits, and improve stakeholder returns. Things are never simply ‘good enough’ for them; there is always room for improvement.

Those organizations that have adopted this approach to quality are better off and more able to successfully compete in today’s highly competitive global economy. They have become the leaders in their field. However, those organizations that have ignored the benefits of TQM will become the laggards in their field, struggling to survive right up to the time they go out of business.

Bibliography