Total Quality Management in Today's Market

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I have reviewed this completed senior honors thesis with this student and certify that it is a project commensurate with honors level undergraduate research in this field.

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Total Quality Management in Today’s Market

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Early in the 1980's total quality management (TQM) began to emerge in the United States. Hewlett-Packard sparked the TQM fire after criticizing American chip manufacturers for poor quality compared to that of Japanese competitors (Talha, 15). The Japanese had adopted TQM years earlier and were experiencing a great deal of success. Interestingly, they were the first to adopt TQM after it was proposed by W. Edwards Deming. U.S. companies, however, rejected its initial introduction (Talha, 15). Despite the rapid emergence and push for TQM in the United States, the majority of U.S. companies still have yet to grasp the idea or practice of TQM.

One continuing difficulty in the theory and implementation of TQM is defining total quality management. A quick Internet search or keyword search on a library database will reveal a plethora of TQM definitions. According to Talha, "TQM refers to the broad set of management and control processes designed to focus an entire organization and all of its employees on providing products or services that do the best possible job of satisfying the customer." Another possible definition of total quality management is "the core strategy for the continuous improvement of product and service quality to achieve customer satisfaction" (Ambroz, 93). The list of possible definitions is virtually endless.

With the progress of TQM there are many people that consider themselves experts. However, there are no so well versed as those described as the quality gurus. As pioneers in the field of total quality management, these gurus are mostly responsible for building the foundation and theory at the bottom of all TQM endeavors. The first of these gurus is W. Edwards Deming. Deming is perhaps most famous for his Plan, Do, Check, Act technique and his 14 Points for Management. Although initially only embraced within Japanese industry, both are now utilized around the globe as guidelines for conducting business. Some of the points addressed in the fourteen points include: adopting a new philosophy, refusing to accept defects,
continually making improvements, driving out fear, eliminating numerical goals, and providing intensive and continuous education and training (Mouradian, 96).

The second of the quality gurus is Joseph Juran. Juran created a trilogy on how to manage for quality. The trilogy separates business functions into three categories: 1) the quality planning process, 2) the quality control process, and 3) the quality improvement process. The quality planning process involves addressing customer needs, design, manufacturing capability, developing the process, and quality goals. The next phase, the quality control process, involves more of the daily operations. During this process it is important to control measurements, maintain standards of performance, and investigate differences between actual performance and standards of performance (Mouradian, 95). The last phase of improving quality requires the consideration of current processes and possible improvements to the product itself, processes, productivity, safety, and other options such as cost reduction.

Philip B. Crosby entered the quality scene much later than the other gurus but still made a significant contribution. Much like Deming, he also came up with fourteen points, which he titled his 14 Practical Points. His first point states that you must "maintain management commitment" (Mouradian, 96). Other points involve utilizing quality councils, supervised training, recognition programs, knowing the cost of quality, and establishing goal setting. Interestingly, the fourteenth point simply turns the practical points into a cycle; repeat the first 13 points. Crosby is also well known for his book *Quality is Free*.

Armand Feigenbaum made one of his first major contributions to the field in 1951 when his book *Total Quality Control* was published. Following the release of this book, Feigenbaum went on to outline his four management principles and ten benchmarks of total quality control (Mouradian, 93). Though he addresses similar issues as the other gurus, Feignenbaum's management principles and benchmarks are much broader. In addition, he does not address the importance of education and training, although he does in his book (Mouradian, 94).
The last of the quality gurus to address is Karoru Ishikawa. As one of the first Japanese authors on quality, his cause and effect diagram provided a new problem-solving tool (Mouradian, 99). This diagram is designed to aid in identifying possible causes of a specific problem or effect. It is also referred to as the fishbone diagram (Mouradian, 192).

There are many important elements involved in a TQM program. Each element plays a crucial role in the overall success of any TQM initiative. One of the first major aspects of such a program is the design or engineering component. As one of the beginning steps in providing a quality end product, engineering is imperative. It is impossible to produce a good product or service if it is not adequately planned and designed.

The second component of a successful TQM program is the production or service element. It is important that such processes be controlled and monitored for quality and opportunities for improvement. Without this, conformance to standards would be difficult and constantly vulnerable to problems.

At this point it is important to distinguish between product quality and service quality. Product quality is associated with companies such as manufacturing firms that create a tangible good. Therefore, the quality of this good is related to the design of the item, the resources used to create the item, the process that produces it, and the final product that is delivered to customers. Service quality differs in that organizations that provide services provide intangible goods. Subsequently, there is not an assortment of tracking and measurement tools available to assess quality. These companies must rely heavily on customer feedback in order to assess quality. This feedback is crucial for providing insight into company interactions with customers, customer satisfaction with the services rendered, and areas for improvement.

Following these elements of design and process control, analysis of quality efforts is a must. However, it is extremely important that analysis be quantitative rather than qualitative. Statistical analysis of processes allows for accurate measurements and conclusions to be
drawn in regards to the state and progress of various processes. It is at this stage that important statistical analysis tools such as Six Sigma come into play.

Human resources is another component that plays a pivotal role in any TQM system. Employees at all levels are responsible for the success or failure of a total quality initiative. The first major role of this component is empowering employees. It is imperative that employees are in charge of their tasks. They should feel a sense of responsibility along with dedication. The dedication and commitment of employees means that they will be more inclined to embrace and support changes within the organization. The second major role of human resources is training and education. In a system focused on quality and continuous improvement, the same measures should be employed in regards to employees. As the driving force behind TQM, employees should evolve and grow along with the company.

Finally, of the utmost importance is the role of management, senior management in particular. Senior management is a key element because they are responsible for implementing change and the TQM system. They must not only support the initiative, but also be visibly passionate and dedicated at every step. Senior managers must lead, encourage, coach, drive, and actively participate.

When all of these elements are applied successfully, a company is able to benefit from the resulting improvements in processes and quality. Followers of TQM praise it for its ability to improve the operations of a company in addition to allowing a company to develop a competitive advantage. Supporters of TQM hail it as the step necessary for any business that wishes to continue being competitive in today’s global market.

Although there are many that praise TQM, there are also a number of critics. Most critics of TQM describe it as yet another passing management fad. In addition, many feel that it is simply rhetoric that does not extend into realm of practice. There are many reasons why these critics feel total quality management will never achieve the possible successes preached of by its supporters. One such reason is that TQM is a costly undertaking. Not only does it
require sufficient monetary resources, but it also requires a substantial number of man-hours. Moreover, a total quality system often requires a complete restructuring of an organization and its culture. This is an incredibly difficult task that most companies cannot achieve with total success. Yet another common factor in the failure of TQM is the lack of long-term vision. Rather than view the long-term, continuous opportunities provided by TQM, most organizations view it as a short-term program that will fix all problems. Therefore, they deem it a failure when they do not experience the originally anticipated grand results. Lastly, efforts to implement a total quality program typically fail due to lack of involvement from senior management. When senior managers are not at the forefront of a quality program it usually discourages other employees and spells doom for the program itself.

Establishing a concrete TQM program will inevitably benefit a company. Once this is achieved, there are a number of forms of recognition and awards designed to spotlight exceptional companies. The Malcolm Baldrige National Quality Improvement Act of 1987 was signed into law August 20, 1987 by President Ronald Reagan. This act was designed to improve the competitiveness and quality management practices of American firms. Subsequently, the Malcolm Baldrige National Quality Award was created in order to promote the awareness of quality, understand the components of quality excellence, and exchange information regarding successful quality strategies and benefits (Stading and Vokurka, 935). The Baldrige award is administered by the National Institute of Standards (NIST). As an award given to companies that strive to continually improve, the award itself is reviewed and refined each year with changes being implemented every two years. Some of the main principles analyzed during consideration are leadership, continuous improvement, continuous learning, customer-driven change, vision, design quality, and results. In any given year, if a company does not achieve the standards outlined, no award is given (Przasnyski and Tai, 475).

The second form of recognition, ISO 9000, is not a reward. An international form of recognition, ISO 9000 is a registration process "by which a company proves it has a system of
process quality standards verified through documentation" (Stading and Vokurka, 933). In some situations a company must be registered under ISO 9000 in order to conduct business with other organizations. There are four separate categories or subgroups of ISO 9000, aptly labeled ISO 9001 through ISO 9004. Each level is more and more comprehensive and addresses a more detailed list of requirements (Talha, 16).

The Deming Award is perhaps the oldest quality award around. The Union of Japanese Scientists and Engineers established the Deming Award in Japan in 1951 (Stading and Vokurka, 937). The prize, named after W. Edwards Deming, is awarded to both public and private Japanese organizations for successfully implementing quality control activities.

The last award is neither an international nor a national quality award. However, it is an important award that deserves being mentioned. The Tennessee Quality Award is patterned after the criteria of the Baldrige award. However, unlike the Baldrige award, the Tennessee Quality Award is available to all businesses, including government agencies, and public and private educational institutions. In the area of state quality awards, the Tennessee award is one of the most rigorous award programs.

Many companies feel that they can continue to experience success without ever implementing a quality initiative. However, in today's market, quality is becoming more and more important. Customers are demanding higher quality from every business in every industry. As a result, an increasing number of companies are instituting total quality programs. To remain competitive with these companies, and maintain a competitive advantage in the market, businesses will be forced to adopt quality programs. In addition, many companies argue that they do not have a budget or cannot afford the cost of a quality program. However, the budget for quality lies in the sales lost due to a poor quality product or service. Or, their budget lies in the money lost due to damaged products, rework, or poorly controlled processes.

Many companies have taken the all-important step of implementation and experienced success. Each year there are a number of successful companies, the best of which are
awarded the Malcolm Baldrige National Quality Award. According to recent studies, companies that have received quality awards outperform companies that have not in operating income and revenues over a ten-year period. In addition, the stock performance of these firms is significantly higher, approximately 38% to 46%, than companies that have not received quality awards (Beer, 624). It is important to note, however, that despite improved market performance of companies, studies indicate that the market places a higher value on the process itself than the outcome of the process (Przasnyski and Tai, 486). The 2003 winners of this award are great examples of companies that have successfully incorporated total quality management in their operations. A wealth of information about these companies and their quality related advancements can be found on the National Institute of Standards and Technology web page.

Medrad, Inc. was the 2003 Baldrige winner in the manufacturing category. Located in Indianola, Pennsylvania, Medrad develops, manufactures, markets, and provides services for medical devices that allow and enhance imaging of the human body. Since their implementation of TQM they have become the U.S. and European market leader in vascular injection systems and related services. Their results for on-time delivery of assorted products range from 98% to 100%, thus equaling or exceeding best-in-class levels of the industry. In a 2002 industry survey conducted by Medical Imaging Magazine, they ranked in the top four in all ten performance areas that were measured, while their main competitor did not fall in the top ten in any of the ten areas. Internally, employee satisfaction with the company has exceeded industry best-in-class benchmarks since 1999. They are dedicated to education, consequently committing significant resources to tuition reimbursement and training programs. In addition, a systematic strategic planning process has been implemented, meant to review the company's five corporate scorecard goals and identify where the company has fallen short of their goals.

In the service category, Caterpillar Financial Services Corporation U.S. (CFSC) was the 2003 award recipient. CFSC, located in Nashville, Tennessee, is responsible for providing financing for the complete line of Caterpillar products. Since 1998, the results of their quality
efforts have been considerable. Since 1998 they have increased their assets 34% and their profits 54% while the industry declined 21% and 35%, respectively. Their contributions to the parent company's total earnings has grown from 5.6% in 1998 to 25.6% in 2003. Within the company they utilize a balanced scorecard of measures to gauge company performance. CFSC was one of the first companies in its industry to launch new technologies. Moreover, the value placed on employees is demonstrated through employee recognition programs. Investment in these programs has grown almost four times since 1999.

Total quality management can be successful in a company of any size. This is made clear by Stoner, Inc. This 2003 award recipient in the small business category has only 45 full-time employees and 5 part-time employees. Stoner, Inc. is a privately owned manufacturing company from Quarryville, Pennsylvania that makes over 300 specialized cleaners, lubricants, and coatings. Since 1990 they have increased their sales 400%, and seen retail sales jump from zero in 1996 to 20% of total sales in 2003. Since 1991 their manufacturing productivity has increased 150%. Continual increases in employee satisfaction have exceeded best-in-class industry benchmarks each year. Newly implemented systems allow 100% of their orders to be shipped the same day they are received. In order to get an accurate reading on customer satisfaction senior leaders meet with 100 customers per year. In addition, team members have the authority to spend up to $1000 without supervisor approval in order to quickly satisfy customer questions and complaints.

In the education category the 2003 winner was Community Consolidated School District 15 in Palatine, Illinois. This kindergarten through eighth grade school system serves 12,390 students in northwest suburban Chicago. This school district has implemented a variety of programs and services to help students reach performance goals, including intensive reading intervention programs. Due to these programs students now read at their grade level or above. There has been a significant decrease in first-year teachers' attrition rate. Perhaps most
significant, students outperformed its comparison districts at all levels and in all subjects from 1998-1999 through 2001-2002 on the Illinois Standards Achievement Test.

Lastly, Baptist Hospital, Inc. of Pensacola, Florida won the award in the health care category. Patient surveys place hospital staff near the 99th percentile in regards to staff sensitivity, attitudes, concerns, and overall cheerfulness. The overall satisfaction of inpatients has been near the 99th percentile every quarter since 1998. In addition, Training magazine rated BHI as a “Top 50” learning organization in 2003. Many of these positive results stem from a listening and learning approach taken by the hospital. This approach, which incorporates items such as survey and a Customer Value Analysis, collects information regarding customer needs and analyzes it to be used in strategic planning and future service designs.

Although the successes of implementation are indeed apparent in the previously mentioned examples, implementation failures are extremely prevalent. It is speculated that approximately one-half to three-quarters of firms implementing TQM drop their efforts within the first two years (Brown, Hitchcock, and Willard, 1). Beer postulates that TQM failures are the result of failures in implementation, not the theory or methods behind TQM. “Failure to solicit and receive feedback about potential gaps between their TQM rhetoric and the reality of implementation prevents senior management from learning how their own actions and policies may be responsible for the gap and then making changes accordingly” (Beer, 624).

While it is important to implement quality programs, some companies cannot fully adopt such a program all at once. However, there are way in which they can adopt specific aspects of a program and build upon those at a later time. For example, companies could become more focused on human resources. A company assuming this strategy should become more employee-focused. They should empower employees with more responsibility and significant tasks. In addition, efforts to recognize employees are key. Moreover, a strong emphasis should be placed on training and education. By investing in employees, companies will see employees investing more into their jobs and the company as whole. However, for this method to succeed,
it is important that companies take a serious look at their goals. According to Brown, Hitchcock, and Willard, many times companies fail because they implement the wrong training or go about implementing training the wrong way. It is important that management consult with employees to discover what areas employees feel would be beneficial. Another way in which management can avoid pitfalls in this area is to attend these training courses themselves, thereby showing commitment to the process while also learning. It is essential that managers learn quality concepts and skills along with other employees. It could also prove beneficial to have specialized training and education courses for executives (Brown, Hitchcock, and Willard, 9).

Another component of a quality program that companies could institute is better process control. Businesses and industries could strive to monitor processes more closely. Statistical analysis of these processes would allow companies to gain a more accurate picture of what could be done to better control operations. By maintaining more control of processes, companies could become more efficient and lower costs. It is important that process control efforts start at the beginning. This often means completely reengineering the entire process. Many companies attempt to circumvent this step by simply making changes to the current process. However, this will most often result in a failure of implementation. "When TQM does not work, it is because managers are not truly implementing total quality ideas" (Lemak, Mero, and Reed, 392). Implementation of quality ideas requires a complete overhaul of processes to ensure that quality is incorporated at each and every stage.

Total quality management is a field with a wealth of potential. As the global market becomes more and more competitive, quality will also become more important. Although often criticized, TQM programs have been extremely beneficial to a number of companies. While adopting a TQM initiative is a great strategy, there are also ways for companies to adopt certain aspects of a total quality program and still see great results. All businesses and industries need to realize that quality is not a passing fad. Quality is here to stay and is becoming a major driving force in the marketplace.
References


