

## Linking TQM and Financial Performance

Mostafa MOBALLEGHI<sup>1</sup>

Islamic Azad University – Karaj Branch

Dept. of Industrial Management, Islamic Azad University (IAU) - Karaj Branch, P.O. Box 31485-313, Karaj, Iran, E-mail: m\_moballeghi@yahoo.com

Golnessa GALYANI MOGHADDAM

Shahed University

Dept. of Library and Information Science, Shahed University, Opposite Holy Shrine of Imam Khomeini, Persian Gulf Highway, Tehran, IRAN, Postal code: 3319118651, E-mail: g\_galyani@yahoo.com

**Abstract.** For more than a decade, companies have searched for quantifiable link between profitability and various aspects of their firms, employees and customers. Many companies attempted to incorporate Total Quality Management (TQM) activities into their companies in the hopes of reducing the per-unit cost of their products/services thereby increasing profitability. While there were many positive results from quality improvement the results were mixed. This article tries to establish a quantifiable connection linking TQM to financial performance. Once this link has been formed, management can focus their efforts on these factors to increase and enhance customer loyalty and reap the financial benefits thereof.

### 1. Introduction

Total Quality Management (TQM) is defined as both a philosophy and a set of guiding principles that represent the foundation of an excellent organization (Bester field *et al.*, 1999). It has become an accepted technique to ensure survival in today's industrial economy. Deming (1995) stated that the success of quality management efforts depends on the effective integration of various management subsystems. TQM integrates fundamental management techniques, resources and its implementation stands as both support and a challenge to top management. Several recent studies have attempted to predict customer perceptions of quality in service industries while others engaged in theory-building or principles related to TQM. In addition, some claimed that the successful implementation of TQM could generate improved products and services, as well as reduced costs, more satisfied customers and employees, and improved financial performance (Garvin (1991; Hendriks & Singhal, 1997).

Although there is growing awareness that a well-designed and well-executed TQM process is one of the most effective routes to increased product and service quality, productivity and profitability, many organisations are still mired in "quality confusion". For example, many CEOs have incorrectly perceived the idea that gaining certification to ISO 9000 quality standards is the same as becoming a quality organisation (Reimann and Hertz, 1994). Despite thousands of articles in the business and trade press, TQM and ISO 9000 remain hazy and ambiguous concepts. Indeed, the meaning of the term quality itself is still being debated. Due to this ambiguity, people's reactions to TQM vary as a function of their own beliefs and experiences.

### 2. The TQM Philosophy

---

<sup>1</sup> Corresponding author. Tel.: +98-9125117328; fax: +98-21-51212426.

E-mail address: m\_moballeghi@yahoo.com

Total quality management (TQM) is known by several names, but it has always had common goals: customer satisfaction and continuous improvement of quality and productivity (Fisher, et al., 1993). The basis of the TQM philosophy and process can be stated simply: to design and manage a process that satisfies the customer in an increasingly effective way. In some organizations this way of life is called “Total Quality Control”.

According to Ross (1995), TQM is based on a number of ideas. It means thinking about quality in terms of all functions of the enterprise, and it is a start-to-finish process that integrates interrelated functions at all levels. It is a systems approach that considers every interaction between elements of the organization. Thus, in the TQM approach, the overall effectiveness of the system is higher than the sum of the individual effectiveness of the subsystems. The subsystems include all of the organizational functions in the lifecycle of a product, such as design, planning, production, distribution, and field service.

Management is seen as one of the sub-systems in this approach. Therefore, the management system also requires integration with the others, through a strategy that focuses on satisfaction, the tools of quality, and employee improvement.

The term “TQM” integrates the term “quality” and “management.” In TQM philosophy, management is seen as providing the impetus for making total quality the guiding process of the organization. That is the reason for the name “TQM.” Hinton and Schaeffer (1994) defined TQM as a disciplined approach to keeping everyone’s attention directed to the actions they can take to keep the organization on task toward providing greater customer satisfaction. The objectives of TQM are expressed in the acronym “PDCA,” as follows: “P” for “Plan” stands for developing a plan or standard for establishing the goal; “D” for “Do” refers to enacting the plan; “C” for “Check” means measuring and analyzing the results; and, finally, “A” for “Act,” means implementing the necessary reforms.

Leadership issues in an organization are of prime importance for Total Quality Management. Without a genuine hands-on commitment from an organization’s manager, TQM cannot succeed. Furthermore, the corporate leader plays a pivotal role in the implementation of a TQM program in his or her plant. It is the responsibility of the senior corporate leader to lead, to dream, and to create the future for his or her organization (Hinton & Schaeffer, 1994). The leader commits people to action, converts followers into leaders, and converts leaders into agents of change.

### **3. Link between Quality and Performance**

During the past few years a number of studies that empirically demonstrated the positive impact of quality on performance have appeared in the literature (Hendricks & Singhal, 1997; National Institute of Science and Technology, 2000). Most of these studies utilized empirical data and clearly demonstrated a positive link between quality and performance. One of the earlier attempts to empirically demonstrate the impact of quality on financial performance was reported by Buzzell and Gale (1987), who explored the relation between the two by using cross-sectional data from the profit impact of market strategy (PIMS) dataset.

Hendricks and Singhal (1997) further explored the relationship between quality and financial performance by comparing the financial performance (operating income, sales, total assets, return on sales, and return on assets) of firms that have won quality awards, against a control group of non-winners. Their results showed that quality award winners outperformed the control firms on a series of operating-income based measures.

Similarly, Easton and Jarrell (1998) examined the impact of total quality management (TQM) on the performance of 108 firms that began TQM implementation between 1981 and 1991. The impact of TQM was measured by comparing each firm’s performance to a control benchmark designed to capture what the performance would have been without TQM. Their results showed that the improvement was consistently stronger for firms with more advanced TQM systems.

Finally, Hendricks and Singhal (1997) and National Institute of Science and Technology (2000) have documented the positive impact of quality on organization performance. Hendricks and Singhal further

explored the relationship between quality and financial performance by comparing the financial performance (accounting data) of firms that have won quality awards, against a control group of non-winners. Their results showed that quality-award winners outperformed the control firms on a series of operating income-based measures such as operating income, sales, total assets, return on sales, and return on assets. Winners experienced a ninety-one percent (91%) increase in operating income compared to the forty three percent (43%) increase experienced by the control firms.

#### **4. TQM and Organisational Performance**

Over the last two decades, many studies have reported on the implementation of total quality management (TQM) principles and methods in organisations around the world. However, until recently, there have been only a few attempts to empirically establish the link between TQM practice and organisational performance. For example, Garvin (1991) studied quality practices and performance in the room air conditioner industry, and Roth et al. (1997) examined the relationship of various quality practices and performance in the USA, Europe and Japan. Many studies have reported on the link between TQM practice and organisational performance. For instance, Garvin (1991) investigated the impact of TQM improvement strategies on the performance of 20 US companies that had performed well on the MBNQA in 1988/1989. He found a strong link between TQM practices and organisational performance measured in terms of productivity, profitability, customer satisfaction and employee relations. Madu et al. (1995) compared the quality practices and performance in manufacturing firms in the USA and Taiwan, as did Flynn et al. (1995) among world-class manufacturing firms in the USA. Madu et al. (1995) found that the practice of quality as perceived by middle managers in Taiwan is different from that of the USA. Taiwan's managers view customer satisfaction as the major factor in achieving significant improvement in organisational performance, whereas US managers view employee satisfaction as the primary element in achieving significant improvement in organisational performance. Powell (1995) studied 39 US manufacturing companies and found that only the "soft" aspects of quality practices, such as employee commitment, shared vision and customer focus contributed to organisational performance.

Several empirical studies have been conducted to establish the link between TQM practice and organisational performance in the contexts of Australia and New Zealand (e.g. Terziovski and Samson, 1999; Dow et al., 1999). The results of these studies indicate that TQM implementation has had a mixed success. For example, Terziovski and Samson (1999) and Dow et al. (1999) analysed data collected by the Australian Manufacturing Council (AMC, 1994) for 962 Australian and 379 New Zealand manufacturing companies and found a significant relationship between quality management practices and organisational performance. However, the results of these studies showed that only a handful of "soft" quality management practices have a positive relationship with organisational performance.

#### **5. Importance of Financial Performance Measures**

Studying whether quality initiatives are viable requires evaluations of outcomes, namely performance measures. It is important to measure the success of new initiatives like TQM with measures of financial performance for two reasons: 1) most technologies and investments are justified on the basis of their impact on financial and accounting measures, not operational measures and, 2) financial performance measures are the only internally generated measures that directly reflect whether the company's strategy, implementation, and execution are generating wealth by contributing to firm value. For these reasons, even though impacts of initiatives are not easily quantified, financial performance measures are the most important measures of the efficacy of these initiatives. Financial performance measures indicate whether the company's strategy, implementation, and execution are contributing to bottom-line improvement. Typical financial goals have to do with profitability.

#### **6. TQM and Financial Performance**

Many empirical studies have examined relationships between managerial practices, dimensions of quality, and business performance. Adam (1994) studied the relationship between alternative quality improvement approaches and operating and financial performance, finding a strong relationship between the

approach used and performance quality. Terziovski and Samson (1999) examined the relationship between TQM practices and operational performance, focused on the relationship between performance outcomes and award categories, and demonstrated that leadership, people management, and customer focus were particularly strong predictors of performance.

Choi and Eboch (1998) found some paradoxical relations among TQM practices, plant performance, and customer satisfaction. Flynn, et al., (1995) examined reasons for differences in high- and low-quality plants. Curkovic, Vickery, and Droge (1999) examined relationships between competitive dimensions of quality. Sinclair and Zairi (1995) analyzed results from 22 organizations, focusing on relationships among performance measures, strategic goals, and improvement areas in order to investigate their alignment. Their results suggested a gap between goals and the performance measurements that are implemented.

Some empirical studies have addressed cause-and-effect linkages or correlations among organizational performance measures. These studies include Norreklit (2000), which examined the assumptions and cause-and-effect chain in the balanced scorecard. Also in this category are several studies of the relationship between customer satisfaction, value and loyalty, and financial performance (Bernhardt, Donthu, & Kennett, 2000; Brandt, 2000; Edvardsson, Johnson, Gustafsson & Strandvik, 2000) and several studies of the relationships between employee attitudes and customer satisfaction. Similar studies include those on relationships between work environment and customer service as related to financial performance and relationships between customer attitudes and market share/financial performance (Naumann & Hoisington, 2000).

Easton and Jarrell (1998) examined the impact of TQM on the performance of 108 firms that began TQM implementation between 1981 and 1991. The impact of TQM was measured by comparing each firm's performance to a control benchmark designed to capture what the performance would have been without TQM. Their results showed that improvement on stock price was consistently stronger (by 16.05%) for firms with more advanced TQM systems. (Advanced TQM systems are based on the principles of total customer satisfaction, employee involvement, continuous improvement, and long-term partnerships with suppliers and customers.)

## **7. Discussion and Conclusions**

This paper investigates the use of new business initiatives like TQM and its association with improvement in financial performance. Knowledge of the efficacy and synergy of business initiatives is of significant interest to three communities: 1) the practitioner community (including accountants, managerial decision-makers, potential project leaders, professional associations, and consultants) using, promoting, instructing in the use of or contemplating the implementation of initiatives, 2) researchers contributing to the substantial theoretical and limited empirical literature regarding these initiatives, and 3) educators who communicate the commonly believed benefits and instruct in the use of initiatives.

Based on the results of this study it can be concluded that TQM has a significantly positive effect on operational and business performance, employee relations and customer satisfaction. However, it appears that there are significant differences in the relationship between TQM and organisational performance across industry sectors and different size companies, particularly on the effect of defect rates, warranty costs and innovation of new products. However, these results do not guarantee that TQM will definitely produce superior profitability nor that improved returns can only be obtained by those organisations with higher quality of products and services. There are certainly organisations that achieve good returns without TQM. On the other hand there are TQM organisations that have not turned in a good profit record. Based on the findings it can be concluded that a typical manufacturing organisation is more likely to achieve better performance in employee relations, customer satisfaction, operational performance and business performance, with TQM than without TQM.

Finally, what has not been accomplished in the past is the establishment of a quantifiable connection linking TQM to financial performance. Once this link has been formed, management can focus their efforts on these factors to increase and enhance customer loyalty and reap the financial benefits thereof.

## 8. References

- [1] Bernhardt, K. L., Donthu, N., & Kennett, P.A. A longitudinal analysis of satisfaction and profitability. *Journal of Business Research*, 2000, 47, 161-171.
- [2] [2] Besterfield, D.H. Total Quality Management. New Jersey: Prentice Hall Incorporation. 1999.
- [3] Brandt, D. R. Linking measures of customer satisfaction, value, and loyalty to market and financial performance: Basic methods and key considerations. In *Proceedings of ASQ's 54th Annual Quality Congress.2000*, Milwaukee, Wis.: ASQ Quality.
- [4] Buzzell, R. & Gale, B. *The PIMS principles: Linking strategy to performance*, New York: Free Press. 1997.
- [5] Choi, T. Y., & Eboch, K. The TQM paradox: Relations among TQM practices, plant performance, and customer satisfaction. *Journal of Operations Management*, 1998, 17, (1), 59-75.
- [6] Curkovic, S., Vickery, S. K., & Droge, C. Quality and business performance: An empirical study of first-tier automotive suppliers. *Quality Management Journal*, 1999, 6 (2), 29-40.
- [7] Deming W.E. Out of the Crisis. MIT Press, Cambridge, MA.1995.
- [8] Dow, D., Samson, D., & Ford, S. Exploding the myth: Do all quality management practices contribute to superior quality performance? *Production and Operations Management*, 1999, 8 (1), 1-27.
- [9] Easton, G. S. & Jarrell, S. L. The effects of total quality management on corporate performance: An empirical investigation, *The Journal of Business*, 1998, 71(2), 253-308.
- [10] Edvardsson, B., Johnson, M. D., Gustafsson, A., & Strandvik, T. The effects of satisfaction and loyalty on profits and growth: Products versus services. *Total Quality Management*, 2000, 11 (7), 917-927.
- [11] Fisher, K., Rayner, S. & Belgrad, W. *Total quality control*. ASQC Quality. 1993.
- [12] Garvin, D. A. *Managing quality: The strategic and competitive edge*. New York. 1991.
- [13] Hendricks, K. B. & Singhal, R. V. Does implementing an effective TQM program actually improve operating performance? Empirical evidence from firms that have won quality awards. *Management Science*, 1997, 43 (9), 1258-1274.
- [14] Hinton, T. & Schaffer, R. Successful change programs begin with results, *Harvard Business Review*, 1994, July, pp 80-89.
- [15] Mostafa Moballeghi and B. Shivaraj. Why TQM Initiatives fails? *The ICFAI Journal of Operations Management*, Vol.4, No.4, 2006 November, pp.65-74.
- [16] Mostafa Moballeghi. Total Quality Management (TQM) in Practice, *SCMS Journal of Indian Management*, Vol.4, No.3, 2007 July-September, pp. 67-73.
- [17] Muchinsky. *A quality system for education*. Wisconsin, ASQC Quality Press. 1993.
- [18] Naumann, E., & Hoisington, S. H. *Customer centered Six Sigma*. Milwaukee, Wis.: ASQ Quality. 2000.
- [19] National Institute of Science and Technology (NIST). Baldrige quality award program, criteria for performance excellence, Washington, D.C.: *National Institute of Standards and Technology*. 2000.
- [20] Norreklit, H. The balance on the balanced scorecard—A critical analysis of some of its assumptions. *Management Accounting Research* 11, 2000, pp.65-88.
- [21] Powell, T C. Total quality management as competitive advantage: A review and empirical Study. *Strategic Management Journal*, 16, 1995, pp. 15-37.
- [22] Ross, J. *Total Quality Management: Text, cases and readings*. Delray Beach, FL.: St. Lucie.1995.

- [23] Sinclair, D., & Zairi, M. Benchmarking best-practice performance measurement within companies using total quality management. *Benchmarking for Quality Management & Technology*, 2, (3), 1995, pp.53-71.