



EFFECT OF TQM ON CUSTOMER SATISFACTION: A STUDY OF INDIAN AUTO COMPONENT INDUSTRY

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ABSTRACT

This research presents new data and insights into the relationship between TQM implementation and customer satisfaction. The main purpose of this research is to determine the impact of TQM implementation on customer satisfaction in the context of Indian manufacturing industries.

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INTRODUCTION

Total Quality Management (TQM)

Total Quality Management (TQM) refers to management methods used to enhance quality and productivity in organizations, particularly businesses. TQM is a comprehensive system approach that works horizontally across an organization, involving all departments and employees and extending backward and forward to include both suppliers and clients/customers.

TQM Principles

Specifics related to the framework and implementation of TQM vary between different management professionals and TQM program facilitators, and the passage of time has inevitably brought changes in TQM emphases and language. But all TQM philosophies share common threads that emphasize quality, teamwork, and proactive philosophies of management and process improvement.

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As Howard Weiss and Mark Gershon observed in *Production and Operations Management*, "the terms quality management, quality control, and quality assurance often are used interchangeably. Regardless of the term used within any business, this function is directly responsible for the continual evaluation of the effectiveness of the total quality system." They go on to delineate the basic elements of total quality management as expounded by the American Society for Quality Control: 1) policy, planning, and administration; 2) product design and design change control; 3) control of purchased material; 4) production quality control; 5) user contact and field performance; 6) corrective action; and 7) employee selection, training, and motivation.

Making TQM Work

Joseph Jablonski, author of *Implementing TQM*, identified three characteristics necessary for TQM to succeed within an organization: participative management; continuous process improvement; and the utilization of teams. Participative management refers to the intimate involvement of all members of a company in the management process, thus de-emphasizing traditional top-down management methods. In other words, managers set policies and make key decisions only with the input and guidance of the subordinates that will have to

implement and adhere to the directives. This technique improves upper management's grasp of operations and, more importantly, is an important motivator for workers who begin to feel like they have control and ownership of the process in which they participate. Continuous process improvement, the second characteristic, entails the recognition of small, incremental gains toward the goal of total quality. Large gains are accomplished by small, sustainable improvements over a long term. This concept necessitates a long-term approach by managers and the willingness to invest in the present for benefits that manifest themselves in the future. A corollary of continuous improvement is that workers and management develop an appreciation for, and confidence in, TQM over a period of time. Teamwork, the third necessary ingredient for the success of TQM, involves the organization of cross-functional teams within the company. This multidisciplinary team approach helps workers to share knowledge, identify problems and opportunities, derive a comprehensive understanding of their role in the over-all process, and align their work goals with those of the organization. Jablonski also identified six attributes of successful TQM programs: Customer focus (includes internal customers such as other departments and coworkers as well as external customers) Process focus Prevention versus inspection (development of a process that incorporates quality during production, rather than a process that attempts to achieve quality through inspection after resources have already been consumed to produce the good or service) Employee empowerment and compensation Fact-based decision making Receptiveness to feedback.

Customer satisfaction

Customer satisfaction has recently drawn much more attention than ever before. According to Fornell (1992), not only do many firms continually monitor customer satisfaction at the firm level, but some countries also make the effort to measure customer satisfaction on a nationwide basis (e.g., Sweden, US, Japan, Singapore, and EC countries). Customer satisfaction should be one of firms' key performance measures (Naumann and Giel, 1995). The attainment and maintenance of satisfactory levels of customer satisfaction is today fundamental determination for business health, growth, and economic viability (Feigenbaum, 1991). The Malcolm Baldrige National Quality Award (1999), a case in point, considers customer-focused results the most important. For the European Quality Award (1994), customer satisfaction is the most important in terms of points assigned. According to Fornell et al. (1996), customer satisfaction is a new type of market-based performance measure for firms. It provides an important measure of the firm's past and current performance, as well as future financial health. Customer satisfaction represents a new means of evaluating performance for the modern firm and the modern economy. Marketing scholars and practitioners have long recognized that customer satisfaction is an important and central concept, as well as an important goal of all business activities. Dean and Bowen (1994) believed that customer satisfaction to be the most important requirement for long-term organizational success. In fact, a firm can exist because the firm has customers; it is very clear that no customer means no business.

Research Methodology

There were four main steps in the methodology used in our research study:

- Choosing the appropriate performance measures.
- Gathering a sample of organizations that have effectively implemented TQM.
- Developing a questionnaire and distributing it to the selected organizations.
- Empirical analysis of data obtained, to find the impact of TQM on organizational performance.

Any attempt to establish the link between TQM and organizational performance must focus on firms that have implemented TQM effectively. This is important because while most firms will claim that they have implemented TQM, few are doing it effectively. Including non-effective implementers will obscure the impact of TQM. Effectively implementation means that the key principles of TQM such as focus on customer satisfaction, employee involvement, and continuous improvement are well accepted, practiced, and deployed within the firm. We used the ISO 9000 : 2000 certified company as a proxy for effective implementation of TQM. A review of ISO 9000 : 2000 criteria confirmed that the core concepts and values emphasized are those that are widely considered to be the building blocks of effective TQM implementations. ISO 9000: 2000 certifications are given after the applicant goes through a multi-level evaluation process where internal or external experts judge the applicant.

A questionnaire survey was developed and distributed. The empirical data were obtained from a survey of award winning Indian manufacturing industry. The responses of questionnaire survey were analyzed using a multiple regression technique. The reliability and validity (construct, content, criterion) of the practice and performance measures were evaluated. Confirmatory factor analysis is used to test the psychometric properties of the measurement scales and the hypothesized relationship between TQM practices and firm's performance are examined using structural equation modeling. Also we present evidence on the financial results that publicly traded organizations have achieved from implementing TQM effectively. Financial results are measured using variables such as stock returns, operating income, sales and costs.

Analysis

Reliability Analysis

Cronbach alpha is a measure for the internal consistency of the items, that together covers the specific (new and underlying) factor. In general, a value of 0.60 is acceptable.

Table 1.

S. No	Item	Cronbach Alpha
1.	Customer Focus	0.62
2.	Communication	0.63
3.	Delegation	0.69
4.	Continuous Improvement	0.64
5.	Results & recognition	0.63
6.	Leadership	0.64
7.	Process Improvement	0.67
8.	Supplier Focus	0.64
9.	Team Work	0.65
10.	Value & Ethics	0.67
11.	Work Culture	0.64
12.	Strategy	0.66

All our factors has Cronbach alpha value above 0.60 which shows the internal consistency of items.

Correlation Analysis

Correlation between TQM Constructs and Results (Clients')

Table 4.

S. No.	Item	Correlations
1.	Customer Focus	0.79***
2.	Communication	0.35**
3.	Delegation	0.69***
4.	Continuous Improvement	0.47***
5.	Results & recognition	0.82***
6.	Leadership	0.64***
7.	Process Improvement	0.42**
8.	Supplier Focus	0.80***
9.	Team Work	0.52***
10.	Value & Ethics	0.58***
11.	Work Culture	0.54***
12.	Strategy	0.54***

* p < 0.05, **p < 0.01, ***p < 0.001

Conclusion

TQM can be a powerful technique for unleashing employee creativity and potential, reducing bureaucracy and costs, and improving service to clients and the community. TQM is focused on quality, presumably a concern of both management and workers, and methods improvements should eliminate wasteful bureaucratic activities, save money, and make more human resources available for core activities, specifically client service.

It is concluded from this analysis that high scores on TQM constructs [e.g Customer Focus, Delegation, Results & Recognition and supplier focus] leads to high scores on customer satisfaction. In order to make TQM yet a successful venture and transfigure the organization into a 'whole' one, the following action points are proposed:

- Organize customers' surveys and communicate the voice of customers to all employees through interaction.
- Understanding and acting upon customer perceptions can help drive heightened performance of an organization at all levels.

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