AIN SHAMS UNIVERSITY
FACULTY OF ENGINEERING
DESIGN AND PRODUCTION ENGINEERING
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Design of Customer-Oriented TQM Systems

by
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A THESIS

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In
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Supervisor

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بسم الله الرحمن الرحيم

﴿ .....هَلْ يَسْتَوِى ٱلَّذِينَ يَعْلَمُونَ وَٱلَّذِينَ لَا يَعْلَمُونَ إِنَّمَا يَتَذَكَّرُ أُوْلُوا۟ ٱلْأَلْبَٰبِ ﴾

صدق الله العظيم

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STATEMENT

This thesis is submitted to Ain Shams University – Faculty of Engineering for the degree of Ph. D. in Mechanical Engineering (Production Engineering)

The Work included in this thesis was carried out by the author in the department of Design and Production Engineering, Ain Shams University, from September 2003, to April 2009.

No part of this thesis has been submitted for a degree or a qualification at any other University or Institute.

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Abstract

In this thesis a new model is proposed for achieving quality organization "Customer-Oriented TQM organization"

The model is based on the following four pillars:

- Customer Involvement
- Enhancing leadership
- Ensuring total involvement
- Maintaining focus on continuous improvement

The suggested model has the following distinguishing features:

- Customer involvement is emphasized as a basic factor in the production/service cycle to promote quality and decrease loss.

- A strong insistence throughout all organizational levels on systems and processes that focus on the customer—a "customer first" orientation.

- Promoting leadership role to achieve employee's participation, and improving working conditions.

- The extensive use of work teams to define, simplify, measure, control, and improve organizational processes (especially cross-functional processes).

- Ceaseless efforts by everyone in the organization to simplify and improve processes and surrounding support systems, provide total product quality, and further promote customer service.

- Continuous quality improvement is the basic philosophy to achieve better quality.

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Introduction

Scott (234) emphasizes that it is almost impossible to continue considering Total Quality Management in the way it has been defined and implemented over the past 50 years as constant, whilst everything else has changed very significantly. Change is the only constant in this world.

Product and service orientation whilst still fundamentally important for gaining and maintaining customer relationships, are no longer sufficient as focal points for achieving true competitive differentiation.

Advocates of 'customer centricity' as a new philosophy, argue that there is a real need to study how the whole organization behaves towards customers, not just the touch points, the decision points, but how the whole business is organized and optimized around the needs of the customer. Achieving and maintaining an effective customer-focused culture would, therefore, require considering all of the following (286):

- First of all, being customer focused means that one is attempting to get closer to customers, know them better, be clearer about their needs, be aware of what concerns they may have, and have a feel for their future needs.

- It is also very important to get some direct feedback on how well one is doing from the customer's perspective. Sometimes profitability and increases in business are extremely poor measures.

- Customer focus means that one is in a position to assess the adequacy of current approaches for fulfilling customer needs and in a position to know what new services, products, and innovations are required in the future.

- Customer focus means that through concentrating on customers, one can identify strengths and weaknesses and assess performance from a competitive perspective.

- Finally, the external feedback is the echo of the efforts and the "acid test" for determining whether one is doing the right things and thereby gauging employee performance and the most appropriate reward and recognition systems.

Customers today do not just want a fair product at a fair price, they want more — sometimes much more. They want customized, individualized products and services. They want personal relationships with their suppliers. And they do not want to be forgotten after the sale.

Success in the twenty first century depends on organization's willingness to put customer in the driver seat and to focus on emotional reactions rather than just mesmerizing customers with new functionalities and additional attributes.

The concept of the "customer as organization driver" suggests that the customer be brought in to join the organization enterprise. Here, one places the customer in the driver's seat in key organization decisions and offers ways to accomplish a partnership right from the beginning. Here, one considers the monitoring processes from the customer's viewpoint, anticipating quality issues and dealing with them early instead of waiting for problems to surface.

Using this approach, the management system operates to anticipate and respond to the customer voice and expectations, and is willing to include the customer, or the customer voice into the production cycle.

Customer-Oriented (CO) means that the organization structure is specifically designed to reflect customer issues and to answer anticipated customer interests. In this kind of open system, the customer participates in the development and review processes as a full team member and has access to all the performance data available to team members — except selected proprietary information.

In Customer Oriented Organizations (COO), one proposes an advanced application of TQM based on redefining Customer's role through the organization.

Simply customer- oriented organizations use the customer or customer's voice as the driver of its deliverables. It stresses total customer satisfaction, continuous improvement, people involvement, and measurements from total quality management. It targets new patterns of relationships and new processes between and within organizations in order to meet the challenges of today's world.

This type of organizations faces a swirl of forces and pressures from within and without. From within comes increased awareness of the immense potential of employee involvement and empowerment. This potential comes from a reservoir of energy and innovation that once unleashed by an enlightened leader can reassert the leadership of industry and government in the global economy. From without, however, comes the realization that this energy must be focused to continually connect with customer's needs and expectations. When it is not, production issues tend to drive the work at the expense of customer satisfaction.

For many decades, industries were enjoying monopolists regime. The manufacturers' voice was on top and the customers didn't have any opportunity to voice their opinion. Customers were forced to buy whatever that was produced, irrespective of the quality or the price of the product. Supply-demand match was never an issue. The supply was controlled to keep the price high. However, the open economy system which is in vogue now, has changed the market scenario. Monopoly is totally eradicated. Multinational companies are allowed to come into the country. This has made the supply to be in excess. Customers have varieties to choose from. Competition emerged among industries, to supply high quality goods at lower price. At this juncture everyone started thinking and focusing on customers. Customers want became an identity by itself, and customers started demanding. This made the industries and all other organizations to

orient all their planning towards customers. This has called for well directed actions which will guarantee good business.

The customers of today are very different compared to yesteryears. No longer is he contents to accept inferior quality, limited choice and monopolistic margins. Today, the customer is demanding quality in product, in services, in life, in everything. Industry, today, is working through the following main features:

- Open economy has driven away monopoly. It is buyers market which is in existence now.
- Without customers no business can exist.
- Internal customer orientation will improve productivity.
- One dissatisfied customer can create havoc by unprecedented actions.
- Retention of customer is the key issue in business.

This led to the emergence of what is called: "Customer-Oriented Organizations".

1.1 Forces Affecting this Type of Quality Organizations

Five forces affect the development of this type of quality organizations (17):

- Individual work ethic
- Flexible organizational structure with purpose and direction
- Full-cycle customer involvement
- Embedded quality
- The age of the Internet

Individual work ethic

The philosophy that focused us on teams and teamwork for such a long time has been an important ingredient to building organization but the team itself is not the secret to quality work. It still remains that unless individual team members understand customer requirements and their role in accomplishing customer satisfaction, quality will remain an elusive and increasingly foreign concept.

Flexible organization

The flexible organization of the future will create the conditions of success for quality management. New telecommunication networks and techniques will allow the development of virtual groups that work together without the need to meet regularly in one place. Customers will be fully integrated into the process, helping to make key decisions and participating and learning as team members.

Full-Cycle Customer Involvement

The customer becomes a full and assimilated partner in the formulation of teams. Instead of a self-directed team, a new concept will surface that might be termed a customer-directed team. The customer will be able to drive the quality process by direct decisions on specifications, design issues, change, and team performance. The customer

relationship management (CRM) is built on the concept of continuous relationship building as an integral part of the product and service development process.

The organizations can take an advantage of customer competencies in the management process itself. This new development treats the customer as a co- developer of products and services, depending on customers for valuable insights in every production phase. The co-creation of deliverables demonstrates the coming of age of the customer- oriented management concept. Co-development and co-creation are indicators of an evolving management process that involves the customer in key decisions such as marketing concepts, product design selection, safety and reliability testing, and quality assurance. This kind of customer involvement requires multilevel access to information and constant communication of actionable information.

Embedded quality

Quality should be fully embedded into people, policies, and processes and team/group practices. Quality should be embedded into tasking assignments, product design and development processes, corporate marketing and human resources policies, and team training.

The internet

The internet is changing the quality management by opening up new lines of communication and partnering with customers as well as vendors and key stakeholders. The Web now allows information to flow freely to unlimited points throughout the world.

This will create customer value without any direct, day-to-day contact, thus realizing the virtual partnership so long addressed in the business literature.

Quality is increasingly defined by organizations who can communicate with a wide variety of quality stakeholders through the internet.

Further, the Internet provides the opportunity to find an objective third party to the quality management process that provides immediate just-in-time analysis of data, benchmarking information, counseling and mentoring, and targeted research.

Customer relationship management is changed by the Internet, which can be used to create a real-time collaborative, information-based relationship between firms and customers.

In the new millennium, the Internet will affect the management of Customer oriented Organizations in a number of ways as has been given by the following:

- Managers can develop a real-time relationship with the customer to ensure that the customer's voice is part of every dialogue.
- There is essentially no lost time in communication and approval cycles. The logistics of approval and communication are significantly reduced with the use of the Internet.
- Teams rely on the Internet as an action implementer in the hands of the customer.
- The Internet facilitates customer control over the deliverables because it allows the planning and design stages to reflect customer decisions. Deliverables can be built around the customer.