

QFD - The Quality Concept for Today's Customer-Focused Society

By: Felipe C. Abala

"Time was when a man could order a pair of shoes directly from the cobbler. By measuring the foot himself and personally handling all aspects of manufacturing, the cobbler could assure the customer would be satisfied", lamented Dr. Yoji Akao, one of the founders of QFD, in his private lectures. (*The Quality Function Deployment Institute*)

Today it seems everyone is striving to be the organization (employer or supplier) of choice, may it be profit-oriented entity, not-for-profit organizations and even governmental departments. The media, professional journals, books, and other sources of information are overwhelmingly crammed with new concepts and models of organizational development programs. Quality Management methodologies such as Total Quality Management, Continuous Improvement, Business Process Reengineering, Concurrent Engineering, Lean Enterprise Management, Six Sigma Methodology, Quality Function Deployment and many other techniques have been increasingly adopted by various organizations in order to increase their organizational productivity and improve the quality of their products or services. All of which are directed towards reducing waste of time, materials, energy and other resources while satisfying customers' requirements and delivering it at the right time.

In this short article, I would like to briefly highlight the QFD concept as defined by *The Institute of Industrial Engineers* and further explained by *The Quality Function Deployment Institute*. This concept is perceived to be timely and relevant to the present thrust of market globalization in general and the Australia's economic programs in particular. I believe that the Engineers in the Australia could play a pivotal role in the development and support of a competitive market in response to the government's effort of maintaining its sound economic status. The application of QFD in the Australia based organizations will perhaps contribute to this desired outcome.

Quality Function Deployment (QFD) is a system that pays special attention to customer wants and integrates these into the marketing, design, manufacturing, and service processes. Activities that do not contribute to customer wants are considered wasteful. (*The Institute of Industrial Engineers*)

QFD was developed to bring this personal interface to modern manufacturing and business alike. In today's industrial society, where the growing distance between producers and users is a concern, QFD links the needs of the customer (end user) with design, development, engineering, manufacturing, and service functions. It helps organizations seek out both spoken and unspoken needs, translate these into actions and designs, and focus various business functions toward achieving this common goal. QFD empowers organizations to exceed normal expectations and provide a level of unanticipated excitement that generates value. (*The Quality Function Deployment Institute*)

The following excerpt from a document by *The Quality Function Deployment Institute* in a question and answer format could help explain further the concept of QFD:

How does QFD differ from other quality initiatives?

QFD is quite different in that it seeks out both "spoken" and "unspoken" customer requirements and maximizes "positive" quality (such as ease of use, fun, luxury) that creates value. Traditional quality systems aim at minimizing negative quality (such as defects, poor service). With those systems, the best you can get is zero defects - which we see is not enough when all the players are good - or in products that fail to sell despite being defect-free.

What are the characteristics of QFD as a quality system?

- ❑ QFD is a quality system that implements elements of Systems Thinking (viewing the development process as a system) and Psychology (understanding customer needs, what 'value' is, and how customers or end users become interested, choose, and are satisfied, etc.).
- ❑ QFD is a quality method of good Knowledge or Epistemology (how do we know the needs of the customer? how do we decide what features to include? and to what level of performance?)
- ❑ QFD is a quality system for strategic competitiveness; it maximizes positive quality that adds value; it seeks out spoken and unspoken customer requirements, translate them into technical requirements, prioritize them and directs us to optimize those features that will bring the greatest competitive advantage.
- ❑ Quality Function Deployment (QFD) is the only comprehensive quality system aimed specifically at satisfying the customer throughout the development and business process -- end to end.

How long has the methodology been around?

Research papers on then-emerging QFD concepts began appearing in Japan in the 1960s. It was not until 1983 when the ASQ's *Quality Progress* magazine published an article on QFD, followed by the Kaizen Institute (then Cambridge Research) inviting Dr. Akao to Chicago to give a lecture on QFD that it was presented to an American audience.

What industry and business are using QFD?

QFD can be and has been applied in virtually every industry and business, from aerospace, manufacturing, software, communication, IT, chemical and pharmaceutical, transportation, defense, government, R&D, to service industry. Organizations that have in the past presented at the Symposium on QFD include 3M, AT&T, Accenture, Boeing, DaimlerChrysler, EDS, Ford, GM, Hewlett-Packard, Hughes, IBM, Kodak, Lockheed-Martin, Pratt & Whitney, Motorola, NASA, Nokia, Raytheon, Texas Instrument, United Technologies, Visteon, Xerox and many other Fortune 500 companies.

Why is a conventional design process not sufficient?

Conventional design processes focus more on engineering capabilities and less on customer needs. When they do try to incorporate customer perspectives, these tend to be engineer-perceived or producer-perceived. Quality Function Deployment (QFD), however, focuses like a laser all product development activities on customer needs.

What are "expected quality" and "exciting quality?"

"Expected" quality or requirements are essentially basic functions or features that customers normally expect of a product or service. "Exciting" quality or requirements are sort of "out of ordinary" functions or features of a product or service that cause "wow" reactions in customers. Expected requirements are usually invisible unless they become visible when they are unfulfilled. Exciting requirements are also usually invisible unless they become visible when they are fulfilled and result in customer satisfaction. They do not leave customers dissatisfied when left unfulfilled.

The original research on expected vs. exciting quality was conducted and reported in a paper called "Must Be Quality" by Dr. Kano, Japan.

How does QFD offer strategic advantage?

The expected and exciting requirements provide the best opportunity for competitive advantage - if you can find a way to make them visible and then deliver on them. However, in this fast changing world, hitting the right target of customer satisfaction is made more difficult by fragmenting customer segments, new technology, and competitive pressures. QFD makes invisible requirements and strategic advantages visible, allows you to prioritize and deliver on them in a focused product development process.

In today's changing environmental demands, i.e. customers/clients/end-users demand a quality product or service, organizations, if competitiveness is crucial to its stability and existence, has to positively respond to that need by implementing development programs aimed at improving organizational effectiveness. However, moving towards organizational change does not only entail program design and formulation of action plans. One has to pick up the right technique that is timely and relevant to the need of the time.

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