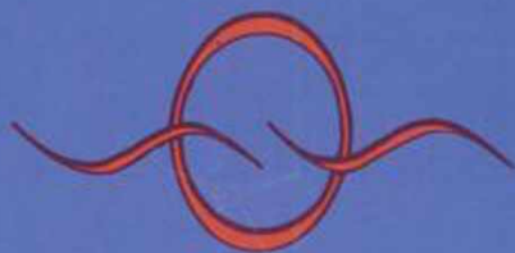


Managing Quality in the Apparel Industry



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Introduction

Quality has been with us since the dawn of civilization, however, since after second world war it has been used more and more as a competitive weapon or competitive advantage. In order to understand this we have only to look at Japan which is a textbook case of how a nation used quality to become a world player in trade and industry. In the first few years after the second world war as Japan was rebuilding from the war, many business executives went through training in quality, which was conducted by Drs. Deming and Juran. These executives took the quality message to heart and we can see the results today, which are too obvious to mention. Soon on the heels of Japan, some of the other countries such as South Korea, Taiwan, Singapore in Asia/Pacific followed this model and became very successful in the world arena. This success resulted in raising standard of living for their citizens. These countries understood very well that in order to grow and prosper they had to tap the world market, and the only way they will be able to do that would be to offer quality products. Customers all over the world have become so demanding and expecting good quality that increasingly, quality is no longer a competitive advantage, but it is becoming a sheer necessity to survive in the marketplace. Therefore, quality has to be designed and built into products and not just "inspected" into products. In order to design and manufacture quality into products, quality must be managed, and in order to effectively manage quality, it must be clearly understood just what is quality?

1.1 Just What is Quality?

Quality is unusually slippery and difficult to come to grips with and therefore, someone has said, "quality is something I know when I see it." To some, quality defined is like 'love' explained. Once the concept of quality is understood fundamentally it stops being slippery and becomes something which you can hold by the tail.

The simplest way to answer the question "What is quality?" is to look it up in a dictionary. According to Webster's II New Revised University Dictionary, quality is essential character: nature, an ingredient or distinguishing attribute: property, a character trait, superiority of kind, degree of grade or excellence.

Quality means different things to different people. If we asked several people, "What is quality?", we may get answers like:

- The best money can buy
- Meeting a specification or conformance to specifications
- Craftsmanship
- The degree of excellence that an item possesses
- No more than 1% defective lot
- Anything Japanese or German

These responses, of course, depend on peoples' perception of the value of a product or service under consideration and their expectation of performance, durability, reliability, etc. of that product or service.

Quality can also mean the absence of variation in its broadest sense. For example, consider the case of Ford vs. Mazda.....which unfolded just a few years ago [1].

Ford owns about 25% of Mazda and asked the Japanese company to build transmissions for a car it was selling in the U.S. Both Ford and Mazda were supposed to build to identical specifications. Ford adopted zero defects as its standard. Yet, after the cars had been on the road for a while, it became clear that Ford's transmissions were generating far higher warranty costs and customer complaints about the noise. To its credit, Ford disassembled and carefully measured samples of transmissions made by both companies. At first, Ford engineers thought their gauges were malfunctioning. Ford parts were all in spec., but Mazda gear boxes betrayed no variability at all from target. Could that be why Mazda incurred lower production, scrap, rework, and warranty costs? That was precisely the reason.

Automobile battery is another example [2].

An automobile battery is charged with an alternator. The alternator has a regulator that controls the charge to the battery. The alternator voltage regulator assembly must let out a charge of 13.2 volts to keep the battery's charge at 12 volts. If the alternator produces a charge of less than 13.2 volts, the electrolyte (acid) in the battery will gradually turn into water, resulting in failure of the battery. The lower the alternator output, the more quickly this will happen. If the alternator output is more than 13.2 volts, excessive heat will build up in battery. As the alternator output increases, this effect will occur more quickly.

Quality can also mean meeting or exceeding customer expectations — all the time. The key here is to know accurately customer expectations on a continuing basis because unless you know customer expectations how can you meet or exceed them? The expectations of quality and the ability to distinguish various quality characteristics also vary from one group of customers to another. Generally, the more educated and sophisticated the customer, the more specific are the expectations of quality and more precise the ability of the customers to explore those expectations.

John Rabbitt of The Foxboro Company [3] defines quality as:

the ability to exceed a customer's expectations while maintaining a cost competitive market position.

Garvin [4] proposed that a definition of quality can be product based, user based, manufacturing based or value based.

A product based definition of quality views quality as a precise and measurable variable. Differences in quality reflect differences in the quantity of some ingredient or attribute possessed by a product. For example, we tend to associate finer rugs with a higher number of knots per square inch — therefore higher, better quality.

A user based definition of quality simply means that quality is whatever the customer says or wants — which goes back to meeting or exceeding customers' requirements and expectations

A manufacturing based definition of quality means meeting specifications, conformance to requirements, etc. Any deviation from meeting requirements means poor quality.

A value based definition of quality takes into consideration cost or price of a product or service. The question from a customer's viewpoint is what is the value of this product or service to us? Or how valuable is a given product or service?

Garvin goes on to say that companies may want to take a multiple approach to defining quality, that is, start out with a product based approach which identify quality characteristics or properties through market research that cannot quality. Then use a user based approach to translate those characteristics into manufacturing base approach as products are being manufactured and finally use a value based approach to offer the customer better value than your competitors. When defining quality this way, everyone in the company has a role in "quality."

Garvin also proposed that there are eight dimensions of quality. They are performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Performance is based on primary operating characteristics of a product. Features of a product are those secondary characteristics that supplement a product's basic functioning. Reliability refers to the probability of a product's malfunctioning or failing within a specified period of time. Conformance refers to the degree or extent to which a product's design and operating characteristics meet pre-established standards. Durability means length of time a product will last or product life. Serviceability refers to the speed, courtesy, competence, and ease of repair of a product. Aesthetics refers to how a product looks, feels, sounds, tastes, or smells. Perceived quality refers to what customers perceive to be the quality of a product based on image, advertising, and brand name reputation.

By influencing or varying any one or more of these eight dimensions of quality, a company can position itself in the market place, so quality is then a strategic variable.

Why do we buy a product? We buy a product primarily because we want to use that product.

Now, if the product we bought has some deficiency, what happens? We can't use it, so, in that case, can we say that the product we could not use is defective? Sure, we can, isn't it? Therefore, quality can be defined in terms of "fitness for use"[5]. Dr. Joseph M. Juran came up with this concept sometime in the late 50's or early 60's. Companies should judge fitness for use of a product from a customer's viewpoint and not from a manufacturer's or seller's viewpoint.