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Service Quality Research / 14

Quality 'Gurus' and Their Relevance to Research

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Research Methods and Basic Assumptions

In service quality and customer satisfaction research-perhaps more than in any other area of research-our philosophy of quality will determine our research methods and analyses.

The first few articles in this series discussed research methods without reference to any philosophy of quality. Our objective was to identify research methods that will achieve our objectives, whatever they may be. Subsequently we discussed whether some of the methods are relevant at all if we adopt a specific philosophy of quality. For instance, if we question performance based measures as a tool for improving quality, it does not matter how precisely we measure performance.

In the past few articles, we have been discussing the theoretical bases for measuring quality. My articles were mainly based on the work of Dr. Deming, who is generally credited with fostering Japan's post war economic miracle.

However, there are other views on quality. Since research projects will be related inextricably to what one believes should be measured, it may be time to review briefly the acknowledged 'gurus' of quality.

Dr. W. Edwards Deming

Dr Edwards Deming is now 92 years old and continues to offer his 4-day seminar on quality on a regular basis, besides being a University Professor and consulting statistician to many companies. Dr Deming has a PhD in Physics and describes himself as a 'consulting statistician'.

Deming's Paradigm

Improve Quality --> Productivity improves --> Costs come down --> Consumer gets quality at lower cost --> Market Share increases

In the 1920s Deming came under the influence of Walter Shewhart, an AT&T Bell Laboratories statistician who applied statistical concepts that originated in agricultural research to manufacturing.

After the second world war, Deming became an independent consultant, addressed Japanese business leaders and pronounced that "The customer is the most important part of the production line". This philosophy was very quickly adopted by the Japanese. In 1951, Japan created the Deming prize, Japan's most coveted industrial award.

We have already discussed Deming's philosophy of quality at length. He insists on constancy of purpose. While he uses statistics, he insists that the heart of his message is not in quantitative measurement or visible numbers. The problem is invariably the same -management. Because the problem is management, the solution should start there. Top management should commit itself to quality. A clerical worker dealing with a customer cannot perform properly without Management's prior and consistent commitment to quality. In fact, Deming is known to turn down invitations to consult unless invited by top management, since he strongly believes that such top management commitment is vital to quality improvement programs.

According to Deming, reducing variability of output is a major component of quality. When quality improves, the cost comes down and consumers are happy and tell other people. This brings in more customers. As a result, your profitability improves. The process of improving quality, according to Dr Deming is 'so simple'.

It is so simple ...

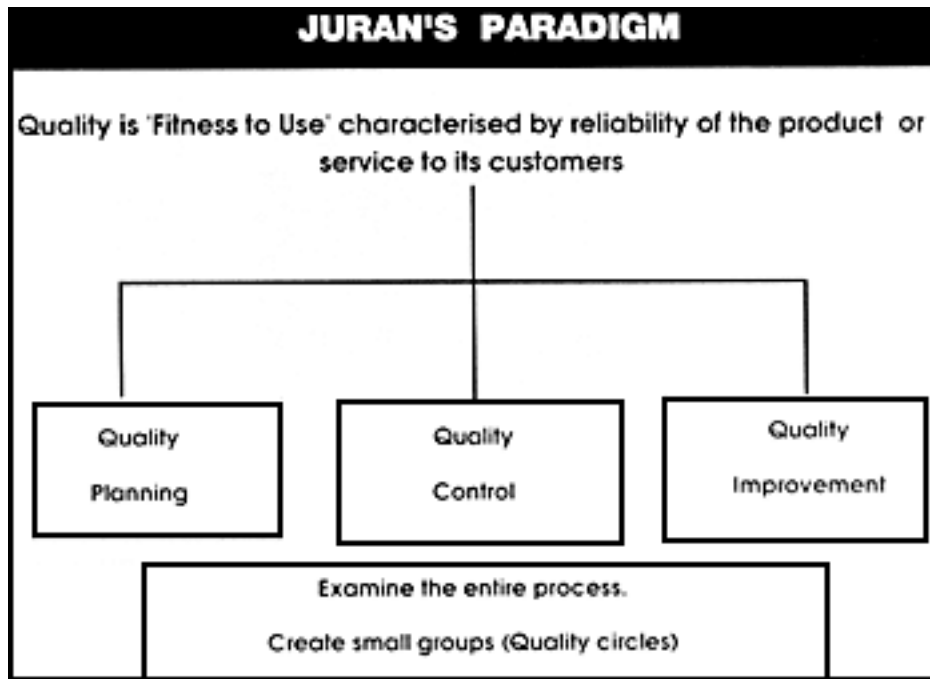
Improve the quality [and] you automatically improve productivity. You capture the market with lower price and better quality. You stay in business and you provide jobs. It is so simple. *W. Edwards Deming*

Implications For Research

If we accept Deming's view of quality, we need to refrain from customer satisfaction research with a view to rewarding or punishing the staff based on the results. As we discussed earlier, rewarding and punishing employees when the system is stable results in lowering rather than enhancing quality. Measuring performance should have only one goal-to help employees who perform below the control limit.

Joseph Juran

Joseph Juran is 87 years old. If Deming is the 'Socrates of the quality movement', Juran is the elder statesman. Juran's career paralleled that of Deming. Like Deming, Juran worked for Westinghouse Electric and came under the influence of Walter Shewhart. After WWII Juran, like Deming, became an independent consultant and propagated his philosophy in Japan.



Juran looks upon quality as a step-by-step process. Every step in a process affects the next step. Work on a project is passed on from one employee to the next. When this happens, the employee who receives the work becomes the client (customer). The process becomes one of meeting the needs of the customer. This process is called 'identifying your customer'. In practical terms it could mean management listening to employees, who are 'clients' of management.

Juran defines quality as 'fitness to use'-reliability of the product or service to its customers. There are three aspects to this: quality planning, quality control and quality improvement.

Juran's philosophy urges management to examine the entire process to identify problems-from subcontractors to the ultimate consumer. Every employee should be trained to do the same. In practice, this means breaking up into small groups (quality circles) which should be trained in problem solving, group dynamics and teamwork. Employees should be taught to identify cause-and-effect relationships in workplace problems.

Quality improvement does not come free ...

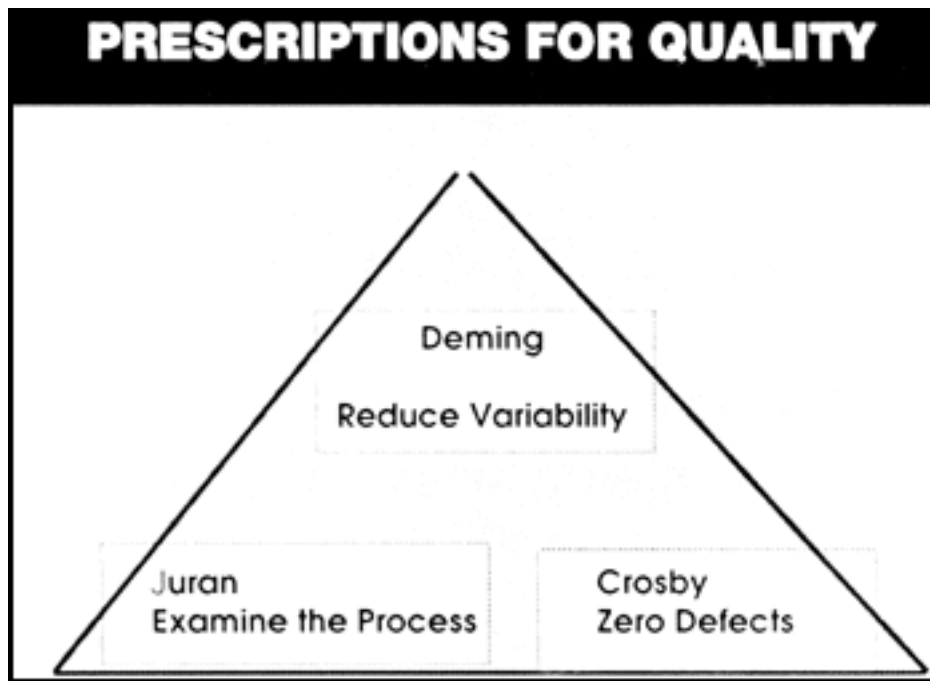
There is a cold reality that has been unwelcome to many upper managers. Quality improvement does not come free.

Joseph Juran

There are two types of costs associated with quality: avoidable and unavoidable costs. The avoidable costs are waste, failure and rework.

The unavoidable costs are those associated with quality improvement measures. Some firms appear to treat waste, failure and rework as unavoidable costs while quality improvements are avoidable costs. Juran's aim is to eliminate avoidable costs. They are eliminated when adequate quality improvement programmes are instituted.

Like Deming, Juran believes that most quality problems (80% according to Juran, 85% according to Deming) are the responsibility of management.



Implications For Research

Joseph Juran's approach would concentrate on the process. Customers are not defined just as those who consume the product or service in the end but as everyone who is connected with the process at any level. A research programme should concentrate not just on the ultimate consumer but on everyone involved from the beginning to the end.

Philip Crosby

Philip Crosby, who runs Florida based Philip Crosby Associates and is the author of *Quality is Free*, is another major figure in this area. Crosby calls for zero defects in products. While he uses statistical methods, he places less emphasis on them, compared to Deming or Juran.

All three emphasize total commitment. However, their approaches differ. Deming starts from the top and works down. Juran concentrates on the middle management—you can work up or down the ranks. Crosby, on the other hand, emphasizes conformance requirements and consequently puts greater responsibility on employees.

The cost of doing things wrong.

You can determine how much it costs to do things wrong, down to a penny.

Philip Crosby

Like Deming, Crosby has his own list of 14 points and then some. He believes in four quality absolutes: a definition of quality, prevention rather than appraisal, a performance standard of zero defects and measurement of quality (or the cost of nonconformance).

"The problem with statistics is that there is no zero in statistics", says Crosby who strongly believes in zero defects. Crosby further believes that if people do not believe in zero defects it will be impossible for them to achieve that goal.

Implications for research

Crosby's approach does not present any specific strictures on research methods.

Other Prominent Experts

While Deming, Juran and Crosby may be the three biggest names in quality consultancy, there are other prominent names such as Feigenbaum, Ishikawa and Teguchi.

Armand Feigenbaum

Armand Feigenbaum published an article called Total Quality Control in 1956. The title summarizes Feigenbaum's approach.

Since quality is everyone's job, the purchasing department (for example) must check with the users of the materials it buys to determine their desirability and suitability. Feigenbaum believes that quality is a technology that can be systematized and taught.

Who is responsible for quality?

Quality is everybody's job.

Armand Feigenbaum

Kaoru Ishikawa

Kaoru Ishikawa, a Japanese quality management expert, simplified the statistical methods of Deming and others into seven basic tools, which are charts that anyone can use. Such tools include Pareto charts, histograms and scattergrams.

Ishikawa set out to turn quality control into a mass movement. He believes that the seven tools can solve about 95% of all problems. His book *Guide to Quality Control* written originally in Japanese for workers is the most popular text written on statistical quality control.

Implications for research

Many of Ishikawa's tools, such as Pareto charts and the fishbone diagram, have already been discussed in earlier articles.

Genichi Taguchi

A four time winner of the Deming prize, Genichi Taguchi contends that quality must be built into the product because defective products result in 'losses' to the society from the time they are shipped.

Taguchi calls his methods quality engineering. He places emphasis on the design stage with the objectives of product and process robustness, inherent capacity to withstand environmental variations and maintaining optimal performance.

Making Sense of Conflicting Approaches

A newcomer to the field of quality measurement can easily be baffled by the conflicting views held by the top experts. Crosby has slogans such as 'Zero defects!', 'Quality is free!' but Deming says 'Eliminate slogans'. Juran says fear can bring out the best in people while Deming insists that fear should be banished. There are many other differences. So who is right?

Many believe that the differences among quality experts are not that critical. The differences have more to do with style than with substance. For instance each of the top three experts-Deming, Juran and Crosby-believe that

- the entire organization should be committed to quality improvement;
- quality improvement is basically the responsibility of management;
- you should identify your internal and external customers and satisfy their needs;
- you should eliminate waste;
- the organization should instil pride in workers; and
- the organization should create an environment of constant quality improvement.

Such agreement on basic principles make disagreements trivial by comparison.

BusinessWeek recently mentioned in its special issue *Quality Imperative* the rivalry between the two giants of the quality movement: Juran and Deming. Juran replied: *"My 'duelling' with W. Edwards Deming consists mainly of editorial effervescence. We have followed different paths, but they have intersected in the field of managing for quality. Our area of agreement is much greater than our area of difference."* (BusinessWeek, December 9,

1991.)

Differences among quality experts exist. The differences are not always trivial. But when we look at all the areas of agreement, it looks as though one could hardly go wrong adopting the philosophy of any one expert consistently.

But one should still distinguish the high priests from the hucksters (as BusinessWeek put it). As Philip Crosby says "Most of the quality movement is still fairy dust". It is not difficult to see why.

Similarly, we should be concerned about whether most of what passes for service quality research or customer satisfaction studies is of any value. Such measurements with no theoretical basis may do more harm than good.

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