



- White Paper -

The Deming Guide to Quality

By Christophe Barriere-Varju
BvW Global

Dr. Deming does not consider it as sufficient merely to solve problems, big or small. He seeks a major transformation in the current practices of Western management. He suggests that a basis for this transformation is provided by his fourteen points, whose adoption and implementation would be a sign that "the management intend to stay in business and to protect investors and jobs" (Logothetis, 1992, p. 29).

Point One – Create Constancy of Purpose for Improvement of Product and Service

Companies today must create a constancy of purpose toward improvement of product and service, with the aim to become competitive, stay in business, and provide jobs. Dr. Deming has said for decades that customers are the most important part of the production line. Everything must be oriented toward them. Therefore, customer research becomes an integral part of production because it will drive the products and its features. Then, becoming efficient at producing zero defects become nil if the product does not meet customer specifications.

Manufacturers used to think of manufacturing in three steps:

1. Design the product
2. Make the product
3. Try to sell the product

Those three steps were thought of as completely, independent steps. Deming inserts a fourth step, consumer research, in a cycle approach.

Companies will have a hard time being competitive in markets unless they clearly define customers' needs. And in order to meet those needs and expectations at a price they are willing to pay, the company must first know those needs.

Constancy of purpose affects the opportunities of tomorrow. Nevertheless, the course of action must be set today. Knowing what to do--establishing the constancy of purpose and then doing your best--maintaining consistency of purpose is necessary.

Point Two -- Adopt the New Philosophy of Refusing to Allow Defects

The basic message of Dr. Deming here is: stop looking at your competition, instead look at your customers. Companies that continuously improve signal the new economic age. They will be able to produce higher quality at lower cost. Many people in America believe that either you have high quality/low quantity or low quality / high quantity. Wrong. If you steadily improve quality, then companies will be able to have both high quality and produce in high quantity.



Why is it that productivity increases as quality improves? The answer is "less rework." Reduction of waste transfers man hours and machine hours from the manufacture of defective products into

the manufacture of additional good products; thus, the capacity of the production line is increased. The company will be able to produce better quality products, lower its cost per unit, increase its market position and its productivity. These will lead to lower prices and happier customers.

If companies only try to meet the competition, they will not survive. Instead, companies must try to meet the customer, not just the competition. And it is you who must change, not the competition. Dr. Deming says that everything, quality included, starts and ends with management (Bhote, 1991, p. 10).

Point Three – Cease Dependencies on Mass Inspection and Rely Only on Statistical Control

Deming's point number three concentrates on eliminating the need for inspection on a mass basis by building quality into the product in the first place to achieve zero defects. The inputs (people, material, equipment, method, environment) need to be defect free at the base so that the whole process is defect free when it reaches the outcomes (people, material, equipment, method, environment).

Because many processes are interrelated, it is very important to eliminate defects at the source. The old expensive way of doing business is to try to manage the outcomes by detecting defects (as opposed to the Poka Yoke methods). Defects are found by mass inspection. You will send the good product to the customer and rework the defectuous one. It is the old way of doing business (design it, make it, sell it). Companies might give customers good quality, but it will be at high cost (mass inspection cost, dissatisfied customers cost, rework cost).

Point Four – Constantly and Forever Improve the System

Deming's fourth point emphasizes the need to improve quality, service and productivity, which will decrease costs.

The Deming cycle shows four steps that occur over time.

- (1) Recognize the opportunity
- (2) Test the theory to achieve the opportunity
- (3) Observe the test results
- (4) Act on the opportunity (back to (1))

(1) Recognizing the opportunity deals with defining the opportunity and defining the theory.

Defining the opportunity is the relationship between customer needs and process performance while defining the theory will help in forming rational predictions.

(2) Testing the theory deals with testing it onto your customers to get a feel of their satisfaction and to improve your understanding of what you think they want.

(3) Observing the results means being able to analyze them by quantitative or qualitative means which in turn, could better predict tomorrow's results.

(4) Whatever was learned in the previous step must be acted upon in order to improve the whole system.



The following task is a repeat of step number one. This cycle should be continuous in order to achieve better results.

Point Five -- Remove Barriers, Train All Employees

Abolishment of the annual merit rating and management by objective must be removed. Dr. Deming says that if management really expects to meet their customers' needs at a price they are willing to pay, they must change company systems. Three systems are considered major inhibitors, (1) performance appraisal system, (2) daily production reports and (3) financial management system.

The performance appraisal system is the biggest inhibitor to continuous improvement in any organization. Such a system destroys teamwork, fosters mediocrity, increases variability, confounds the people with the other resources, and last but not least, focuses on the short term. So, what is a good system? Dr. Deming has always said that it is management responsibility to counsel and to develop its people. The principal purposes should be to nurture and sustain individual employee contributions to the continuous improvement of the organization. The system must be based on a deep regard for people and recognize that employees are the organization's most important resource. The system should contribute to the development and motivation of all employees. This process is separated into three parts: the outcomes, the process and the inputs. The outcomes contain people, materials, equipment, methods and environment. The emphasis should be on the method or the process used to meet customer's needs and not on the short term results.

The process contains group objectives which help in identifying customers' needs, determining possible sources of improvement, identifying who can help accomplish improvement and develop mutual objectives.

The inputs relate to any of the sub-processes and its variability. The inputs have the same components as the outcomes (people, material, method, equipment, environment) and should be treated as the outcomes.

Point Six – Drive Out Fear, Give All Employees the Proper Tools to Do the Job Right

The sixth point emphasizes that fear should not be a component of the workplace. If it was not, everyone could work effectively for the company. It will be very difficult to get rid of this component because it comes in different forms and it is a very powerful tool. Dr. Deming has found that the removal or reduction of fear should be one of the first obligation management ought to implement. He says that, without an atmosphere of mutual respect, no management system will ever work. The waste due to fear is enormous. It is one of those invisible figures that does not get management's immediate attention.

Point Seven – Encourage Different Departments to Work Together on Problem Solving

People in research, design, sales, and production must work as a team to foresee problems. Destructive competition within the same company has to be replaced with cooperation. The close cooperation of many diverse organizations within the same company is imperative for the eventual market success of a particular product (Logothetis, 1992, p. 39).



Point Eight – Eliminate Numerical Goals, Posters and Slogans

Dr. Deming's point number eight eliminates slogans, exhortations, and targets from the work force that ask for zero defects and new levels of productivity. Motivation and personal awareness contribute to limiting the variability of the people in a process. Flashing signs urging workers to do better or surpass the latest figures will result in greater variability and frustration. With respect to prespecified targets, one of the following could happen (Logothetis, 1992, p. 41):

1. If the target is reasonable and is eventually achieved, the individuals involved will probably become complacent and have a well-earned rest, and no greater efforts are likely to be made for further improvement -- an attitude that has no place in today's competitive world.
2. If the target is unreasonable, then either it will not be attained (resulting in unfair blame, increased anxiety and demoralization), or it will be attained by cutting corners, by fiddling the figures or by lowering quality standards -- something that is bound to affect the customer and eventually the future of the whole company.

Point Nine – Eliminate Work Standards

Leadership should be the way to go. Quotas, management by objective, numbers, numerical goals should leave place to leadership. Dr. Deming says that machinery in a factory is but one resource in a process. And management has still to invest (through training...) in their most important asset, and that is their people. Concentrating on the incoming resources is key to understanding why numerical goals and targets are inhibitors to continuing improvement (Deming, 1995, p. 53). Any time you focus on the outcomes and not on the upstream process, you limit your ability to meet your customers' needs at a price they are willing to pay. A big problem in training arises from a flexible standard of what is acceptable and what is not. The standard is too often dependent on whether the worker is in difficulty to meet his daily quota in terms of numbers (Deming, 1995, p. 53)

Point Ten -- Institute Modern Method of Supervision

Leadership ought to be implemented and will help people to do a better job. Leadership suggests that more of a 'follow me' mentality rather than 'I am behind you all the way' must exist. A supervisor must be more than a judge or overseer. He must be a coach and a teacher. The prime responsibility of a supervisor must be to develop his people so that continually improve, so that they can do a better job. An interested worker will want to do the job well and will accept advice, training for doing it better. If this is achieved, the worker's interest will increase further (Logothetis, 1993, p. 37).

Point Eleven – Institute Modern Method of Training to Keep Pace with Changing Products and Methods

Companies must implement continuing training and education commitment to all employees. Training deepens the knowledge a person has about a subject but inhibitors to training must be removed in order for training to be effective. Often, management feels that they do not have the time for the details of this kind of technical material. Or may be they cannot see how training applies to their particular department/jobs. They feel that 'their' problem is different. The way to improve is to use statistical thinking and statistical methods. They are powerful tools in helping opportunities for improvement. Design of experiments, scatter diagrams, control charts are some of the tools managers ought to use. That way, managers will be better able to understand what



they are trying to manage. Statistical methods must be used to monitor a worker's mistakes (Deming, 1995, p. 259).

Point Twelve – Institute a Program of Education and Retraining

Dr. Deming says that companies' most important resources are their people, and that it must be perfectly clear in the beginning that management will reinvest in them. Life time employment must be implemented. Management will recognize the need for education and retraining when they realize that people are an asset and not an expense. Dr. Deming has observed that management treats people as commodity. Rather, corporations must treat its people as an investment, not an expense. It is about elevating people's minds (Latzko, 1995, p. 113). And since good minds are hard to find, we need to make good ones.

Point Thirteen – End the Practice of Awarding Business on Price Tag

The focus of today's businesses should not be on price tag, but rather on minimizing total cost. Businesses should move toward a single supplier and long term relationship of loyalty and trust. That single supplier should exhibit financial stability, statistical process control, quality conscious management, political stability, low or no downtime, dependable vendor relations (Gitlow, 1987, p. 56). The reason for a long term relationship is obvious, suppliers will be able to invest in the future and feel secure that they will not be replaced by another supplier next year. As long as both the business and the supplier can satisfy their needs the system will work. They will be able to implement continuous improvement and work closely on new projects and on reducing total cost.

Feedback will be easier to implement for customers' satisfaction. By having fewer suppliers, businesses will be able to better assist their outside suppliers to achieve cost reduction (profit stays the same and/or increase due to cost reduction).

Point Fourteen – Define Top Management's Permanent Commitment to Ever Improving Quality and Productivity

Skills in leadership, not just skills in management, must predominate an organization making the transition to continuing improvement. Sometimes the problem resides in management not living up to their responsibilities to change the processes that they are responsible for. Dr. Deming theme is to create a top management structure that pushes all 14 points (Talley, 1991, p. 14).

A permanent management structure has to be created at the top to help toward the achievement of the transformation (Logothetis, 1992, p. 45). Without full management belief, progress will be at best temporary; no real change will ever take place, even if every body from the middle management down believes in it. As Deming advocates: 'Quality is made in the Board Room... [however]... limitations on quality are also made in the Board Room.'



New Ways of Thinking... Delivering Value!

Bibliography

Bhote, R. Keki. (1991). World class quality: Using design of experiment to make it happen. New York: AMACOM

Deming, W. Edwards. (1995). Out of the crisis. Massachusetts: Massachusetts Institute of Technology.

Gitlow, S. Howard, Gitlow, J. Shelly. (1987). The Deming guide to quality and competitive position. New Jersey: Prentice-Hall.

Latzko, J. William, Saunders, M. David. (1995). Four days with Dr. Deming: A strategy for modern methods of management. New York: Addison-Wesley Publishing Company.

Logothetis, N. (1992). Managing for total quality: From Deming to Taguchi and SPC. New York: Prentice-Hall.

Schonberger, J. Richard. (1994). Operation management: Continuous improvement. New York: Irwin.

Talley, J. Dorsey. (1991). Total quality management: Performance and cost measures. Wisconsin: ASQC Quality Press.

#

About BvW Global

BvW reduces costs and increases profit across the entire business chain through its proprietary Revenue Management, Cost Management and Trading Partner Management systems.

BvW delivers strategic, operational and tactical outcomes through tailored technology enablers. Our practitioners provide ongoing business mentorship through 'best of breed' expertise in local and international markets.

For more information contact Christophe Barriere-Varju on 0403.444.101 or email info@bvwwglobal.com