

Business Management Advisory

For Precision custom Manufacturers

TC26 File: TECHNICAL

CONTINUOUS IMPROVEMENT THROUGH DEMING'S FOURTEEN POINTS

SUMMARY

Not since the invention of the steam engine has anything had an impact on the organization and structure of American industry as Dr. W. Edwards Deming's "FOURTEEN POINTS." The fourteen points have made managers rethink their position and actions on key issues that affect business survival, namely the business's purpose, relationships with employees, past practices, and so on. The central theme is a philosophy of creating an environment that will help your workers, managers, and, ultimately, your customers. Deming's view of quality is broad. It encompasses every job and every activity. The horizons of quality do not stop with the manufacturer of the product.

THE DEMING CYCLE

The Deming cycle describes the benefits of his approach. Improvements in quality result in higher productivity, which in turn, produces lower costs and the opportunity to capture the market. Deming's Fourteen Points describe the path and the direction. They are in opposition to many of our familiar practices, and contrary to what has been taught in the country's business schools. Controversy and change are what this is all about.

1. CREATE CONSTANCY OF PURPOSE FOR IMPROVEMENT OF PRODUCT AND SERVICE

This first point is the keystone of Deming's system. All of the others support this theme and are a call for change in the traditional practice of business and are needed for long term survival of the company.

Managers must deal with the problems of today, but what is equally important is also the time and energy devoted to plans for the future. Staying in business and providing jobs require solid plans for all of the elements of business, including innovation, research, and constant improvement.

When I visit a company, I'm almost always told how long they have been in business. They are proud of their accomplishment, and they should be. But that misses the whole point! What really is important is "How long do you intend to stay in business?" and "What are your plans to achieve this goal?"

2. ADOPT THE NEW PHILOSOPHY

The new philosophy that Deming speaks of is one that is intolerant of waste, such as poor workmanship and inattentive service. This waste is a roadblock to better quality and productivity.

Anything that doesn't add value is waste! Acceptance of less than you expect will only perpetuate inadequate performance. Winston Churchill once said, "Your very best is barely acceptable." When one can adopt that attitude, then continuous improvement is the only direction to follow. The new philosophy is an invitation to look for opportunities to improve.

Some of life's little disciplines needing control are: WASTE, LATENESS, SAFETY, REWORK, LITTER, ABSENTEEISM, SCRAP, and PEOPLE TURNOVER.

These are all KEY measurements of a company's ability to survive.

3. CEASE DEPENDENCE ON INSPECTION

Quality comes from your manufacturing process, not from inspection. Efforts to improve quality must focus on the process. We have all had the experience of having defective products "escape" detection of the inspection screen. We know that tightening the screen will do precious little to help. Only work done to understand and improve the process can have long lasting effect.

Inspection is not a mechanical exercise, it is intellectual. No one can see what goes on inside the head of the inspector. No one can maintain perfect attention. Distractions do occur. Inspections are unreliable, boring, and tiresome. Experiments to determine the effect of increased inspection were once conducted. To the surprise of the experimenters, the quality of the results got worse with increased inspection, not better. Divided responsibility never has worked. When a poor product is made, it will escape! This point asks us to examine our processes and get them under a state of control, to prevent nonconforming products. Inspections will fade away, but measurement to prove and improve the process will persist.

4. END THE PRACTICE OF AWARDING BUSINESS ON THE BASIS OF THE PRICE TAG

When you know and understand the meaningful measures that impact cost and delivery in your business, you will recognize that the price of the materials and services you buy may be one of the smaller ones. There are times when you could afford to spend twice as much for the on-time delivery of good material to avoid the terrible costs of waste caused by the use of deficient material.

Timely delivery, a solid management system, processes under statistical control, and a process of continuous improvement, are all ingredients that are likely to allow your supplier to stay in business and to reduce the total life cycle cost of the materials and supplies that he provides.

5. CONSTANTLY AND FOREVER IMPROVE THE SYSTEM OF PRODUCTION

Management's job is to identify and eliminate the causes of waste. This job requires that you understand the production and service system. The tool to provide that understanding is statistics.

So many excuses for not using statistics: "I only operate a small shop," "I make one of a kind." The process is the process and that's where the effort has to go: improving the processes. Identify the dominant features of the process, then work to perfect them.

Movie producer Sam Goldwyn understood acting and what made it work. He said, "The most important thing about acting is honesty, and once you can fake that, you've got it made!" Sounds like a joke, but it isn't. It identifies the true art of make-believe.

6. INSTITUTE TRAINING ON THE JOB

I think it is important that Deming did not call it "on-the-job-training." When managers and supervisors delegate the job of training to others, without knowing the work themselves, the results can be disastrous and often are. Workers have to know what is expected of them by careful selection, planned training sequences, meaningful written

instructions, and regular evaluation and feedback on their results.

7. INSTITUTE SUPERVISION

The role of supervision is to help your people do a better job. This requires a full understanding of the machines, the processes, and the capability of the people to do the job.

Leadership is the job of management. It starts at the top and goes down to the first-line supervisor. Good supervisors eliminate communication barriers on the shop floor. They know the work to be done. They select, train, help and work with their people. But, management at any level is not a job for unsupervised beginners. Newly appointed supervisors need help, too.

8. DRIVE OUT FEAR

I do not know of any other emotion that can lock a person's mental brakes faster and tighter than fear. In a state of fear, one cannot think or act rationally. You can only protect yourself from the cause of the fear.

Fear takes many forms: people blaming; pride; meeting quotas; performance rating; unfamiliarity with computers or statistics; being afraid to ask questions; protecting others; fear of stopping the job; fear of change; and short term profits. The economic losses that result from fear are appalling.

Management by fear exists in all too many companies. "Shape up or ship out," "My way or the highway," "Don't mess up or you'll be sorry."

I'm reminded of a situation where a machinist was turning a very large and very expensive titanium forging and took off too much metal. He was afraid to stop and tell his supervisor. So, he simply reduced the whole part to chips, hoping that he wouldn't be identified as the culprit. He was ultimately found out and lost his job. Had he told his supervisor, a simple engineering change might have saved the job at little cost. FEAR was the real villain.

Managers, as well, must learn not to fear asking and seeking answers to the tough questions: "Where do we really need to improve?" "How do we stack up against our competitors?" "How can we serve our customers better?"

9. BREAK DOWN BARRIERS BETWEEN DEPARTMENTS

Departmental barriers result in the optimization of the department and the sub-optimization of the company. Who is the competition? Engineering—production—quality—accounting? When these are perceived as the competition, team work and commitment to improve are possible to achieve.

10. ELIMINATE SLOGANS, EXHORTATIONS, PICTURES AND POSTERS FROM THE WORK FORCE

These approaches have never helped anyone because they do not attack the problem—which is improving the process. “Work Harder, Do Better” implies that people are not working hard enough. “Don’t Work Harder, Work Smarter” implies that people are dumb. Posters are great art, but they don’t make better products or services.

11. ELIMINATE NUMERICAL QUOTAS

Quotas, time standards, and meaningless objectives are all the same kind of animal. They guarantee mediocrity, not superior performance. Just ask the operators in an incentive shop how often they have been asked to hold down their performance. Quotas guarantee inefficiency and high cost—the very things they were supposed to prevent. Quotas are the most pervasive fortress against improvement yet invented.

12. REMOVE BARRIERS THAT STAND BETWEEN THE HOURLY WORKER AND HIS PRICE OF WORKMANSHIP

Again, Dr. Deming strikes at the barriers—this time at poor working environment, worn out and poorly maintained tools and equipment, or defective material provided by the lowest bidder. People want to do a good job. What was their attitude the first day they reported for

work? Enthusiastic, confident. If they’ve lost their pride of workmanship, there must have been a cause.

13. INSTITUTE A VIGOROUS PROGRAM OF EDUCATION AND TRAINING

The art of management is “operator dominant” and training and retraining are the critical elements of success. Determine the retraining needs of the company. Try new approaches. Build on the ones that have been successful. Improve on the ones that have helped. Consider when the need for refresher training will occur. As long as people manage business, education and retraining will be cardinal elements in providing a future.

14. CREATE A STRUCTURE IN TOP MANAGEMENT THAT WILL PUSH EVERY DAY ON THE PREVIOUS THIRTEEN POINTS

That is what Deming calls a “constancy of purpose.” When a manager understands the urgency of the message of the fourteen points, and when he realizes that any company that follows them and uses statistics to manage the decisions of their business is going to out-perform any company that doesn’t, then that management will push every day in every way to be a performer. Continuous improvement is the only road that management will follow.

This BMA was prepared by Don Ekvall, a respected consultant on quality. He is a Fellow of the American Society for Quality Control and was part of the team that developed NTMA’s Doing Things Right program. The key elements of this program have been integrated into a new manual titled “Total Quality” by William E. Ruxton. For information on ordering this or other products call the NTMA Publications Department @ 1-800-832-7753 or go our online store: www.ntma.org.