

DEMING'S 14 POINTS

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Deming's 14 Points for management and his focus on continual improvement can be used successfully in the tape industry to improve our processes and products. Each of his points can be applied to our industry and his Plan Do Check Act cycle is especially useful in not only problem solving but in both preventive and corrective actions necessary for customer satisfaction. Using Deming's tools can help improve productivity, reduce waste, maximize efficiencies and ultimately stay competitive in the marketplace. Once you have senior management commitment, these tools can be used by everyone in the organization to continually improve.

Deming made a significant contribution to Japan's reputation for innovative high-quality products and its economic power. He is regarded as having had more impact upon Japanese manufacturing and business than any other individual not of Japanese heritage. Despite being considered something of a hero in Japan, he was only just beginning to win widespread recognition in the U.S. at the time of his death

His 14 points are the basis for transformation of industry. Adoption and action on the 14 points are a signal that the management intends to stay in business and aims to protect investors and jobs. Such a system formed the basis for lessons for top management in Japan in 1950 and in subsequent years resulting in the transformation of Japanese industry from producers of low quality products to industries throughout Japan noted for superior quality.

Although still considered a radical system by many in United States, case studies of the application of his 14 points in various industries, including the pressure sensitive tape industry, demonstrate the value of applying Deming's 14 points.

His first point is to create constancy of purpose toward improvement of products and services, and is really self-explanatory.

When organizations focus on continuous improvement by constantly improving the design of their products and services, they demonstrate that the best way to make money is to stay in business and provide jobs through innovation, research, constant improvement and maintenance. Firms generally face two sets of problems: those of today, and those of tomorrow. American management has a tendency (some might say "obsession") with the problems of the present. Long-term thinking provides a foundation for doing meaningful work. Short-term thinking characteristically undermines meaningful work. Managers should take the time to explain the purpose of the organization, key aspects and insights about the business and the industry, what the important organizational values are –why we should be learning them, and how can we demonstrate them in our daily work. Long-term thinking which fosters discussions of constancy of purpose is a win for managers because the employees will be more engaged, enthusiastic, and productive.

Point two: Adopt the new philosophy. Quality costs less, not more, look at your customers not the competition.

A company in our industry with a high rate of returned goods for quality issues began a systematic approach of inspecting incoming raw materials and work in process rather than just finished goods. After the first year of looking at quality from raw material through the entire production process they were able to reduce their substantiated returns to less than 20% of what they were prior to the implementation of the new quality system.

Point three: Cease dependence on mass inspection.

Require instead statistical evidence that quality is built in. (defect prevention rather than defect detection). The old way of doing business is to manage outcomes by detecting defects, inspection results in rework (a loss) or product to the customer (a profit). Instead, performing mass inspections use process feedback and customer feedback to manage outcomes by building quality into the product in the first place. Process feedback should include; people, material, equipment, methods and environment. An example of this can be seen in the use of quality circles. Forming quality circles made up of employees from production, administration, quality and management and tasking them with improving quality can result in better ways to prevent defects. More on a specific example after point five.

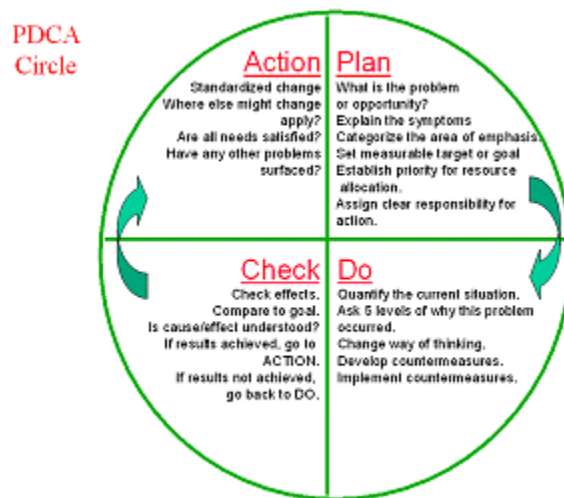
Point four: End the practice of awarding business on the basis of price tag alone. Work toward a single source and long term relationship. Establish a mutual confidence and aid between purchaser and vendor. Eliminate suppliers that cannot qualify with statistical evidence of quality.

Even though this example is not for a PSA industry, the lesson learned can be applied to our industry as well. Several years ago a supplier of milk products to Pal's, a Tennessee Malcolm Baldrige award winner was faced with the dramatic increase in diesel fuel costs. They informed Pal's that they would have to raise the prices to offset the new higher fuel costs, since their tractor trailers were making the return trip to the factory (over 100 miles) empty. Instead of shopping for a new supplier, Pal's management team went to work looking for a way to help their supplier and found a company willing to provide loads for the return trip back to the same city where the milk products supplier was located and at a fee that allowed the supplier to actually lower the cost of the milk products charged to Pal's.

Point five: Improve constantly the system of production and service.

Quality starts with the intent of management. Teamwork is fundamental. Forever, continue to reduce waste and continue to improve. Find Problems. It is management’s job to work continually on the system (design, incoming materials, composition of material, maintenance, improvement of machines, training, supervision, retraining)

Example: Quality circles and the use of Deming’s Plan, Do, Check, Act cycle.



A company that took a look at its rates of waste, seconds and rework to find areas of improvement established a series of quality circles to address these issues. The quality circles were comprised of employees from production, material handling, quality, customer service and supervision. They were tasked by management with looking at the processes and procedures in place and using the Plan, Do, Check, Act cycle to reduce their rates of waste, seconds and rework. After meeting periodically and submitting recommendations for improvement to management, the suggestions from these quality circles resulted in a significant increase in efficiencies with a corresponding reduction in waste and seconds.

Point six: Institute modern methods of training on the job.

Too often, workers learn their jobs from other workers who were never trained properly. Workers can’t do their jobs well because no one tells them how to do so. This is management’s new role. Faster learning for us also comes in the form of a manager sharing his/her experiences with us. Tell us about your theories, your knowledge and the proof you have. Tell us the things that you do, how and why.

These interactions build our capability over time and increase our efficiency and effectiveness, which in turn leads to higher productivity and innovation. Two methods of ensuring that employees learn their tasks well are using ISO level three work instructions and picture process maps for every job/task/process in the workplace. When used for training, these two documents will help to ensure employees are well trained to the standard specified in the terminal learning objectives.

Point Seven: Adopt and institute leadership.

The job of managers and supervisors is not to tell people what to do or punish them, but to lead. Leading consists of helping people to do a better job and to learn by objective methods. The old way of doing things and slogans like Management By Objectives, Zero Defects, need to be replaced with leadership. Deming often said “A leader’s job is to help people and to know when people need special help. He is not a leader unless he does know”.

Point Eight: Drive out fear.

Drive out fear, so that everyone may work effectively for the company (create the culture where it's expected for employees to ask questions and make suggestions). Employees who are afraid to ask questions will continue to do things the wrong way, or not do them at all. The economic losses from fear are appalling. If employees think that they are afraid to admit that they made a mistake will result in management getting a filtered view of what is happening in their department.

Point nine: Break down barriers between departments.

Know your internal suppliers and customers. The quality you insist on from you suppliers must also be the quality you deliver to your internal customers. The coating team is the internal supplier to the converting or slitting department. Promote teamwork.

Point ten: Eliminate numerical goals, posters, slogans for the workforce.

Instead use posters that explain what management is doing to improve the work environment. Eliminate numerical goals, posters, and slogans for the workforce, asking for new levels of productivity without providing methods. Let workers formulate their own slogans. They will be committed to the contents.

Point eleven: Eliminate numerical quotas.

A person's job becomes meeting a quota. Instead of purely numerical quotas, include the quality standard as well as the number of items. 500 acceptable units per measure of time is much better than 500 units in that same measure of time.

Point twelve: Remove barriers to pride of workmanship.

People are eager to do a good job and often distressed when they cannot. Too often, misguided supervisors, faulty equipment and defective materials stand in the way of good performance. Allow people to take pride in their workmanship.

Point thirteen: Institute a vigorous program of education and training.

Make a commitment to lifelong employment. Work with higher education of needs. Both management and the work force will have to be educated in the new knowledge and understanding, including teamwork and statistical techniques. Training for a skill or task is finite, it ends when ability has reached the terminal learning objective. In comparison, education is never-ending.

Point fourteen: Create a structure in top management that will push every day on the above 13 points.

Management must: Struggle over the fourteen points. Take pride in the new philosophy. Include the critical mass of people in the change and ensure they understand and support the 14 points.

Bibliography

1. Deming, W. Edwards. (1986). *Out of the Crisis*. MIT Press
2. Deming, W. Edwards. (2000). *The New Economics for Industry, Government, Education* (2nd Ed.). MIT Press
3. Kilian, Cecelia S (1992). *The World of W. Edwards Deming - 2nd Edition*. SPC Press Inc.