

Deming's Approach to Management

I Basic Philosophy

Deming's theory of management details the steps that must be taken to transform a company's quality culture. It is a theory that means it is insufficient to simply solve problems that arise. A culture of continuous improvement must be established and maintained with the overall goal of achieving customer satisfaction. Along with the fourteen basic points of his theory of management, Deming also defines what he calls the deadly sins and diseases that virtually every company in the West is being crippled by.

It is vital to grasp from the outset that Deming's philosophy requires the highest level of corporate cultural change. The initiative to implement the Deming approach must start at the top and will almost without doubt change many of the traditional views held by the organisation. Without support from the top, changes of this nature will fail.

2 Deming's fourteen points for management

2.1 Create constancy of purpose for continual improvement of product and service.

The meaning of the first point is that the long-term future is important and should serve as the focus for changes. Target the future, become more competitive, grow, and provide for the long-term needs rather than short-term profits. The existence of a long-term purpose brings with it the climate of stability and longevity and a climate within which continuous improvement is realistic. Investment in process quality and product innovation both have their rewards in the future.

Clearly, long-term constancy of purpose is a top management output. Deming considers this to be management's number one priority and obligation. Deviations from the purpose must be dealt with by appropriate action immediately.

Clear long-term aims lead to clear policies, clear targets, and clear resourcing plans etc. These make it easy to communicate what is happening within the company to the workforce which leads to higher levels of morale, lower staff turnover etc.

The striving for long-term aims cannot be achieved by ignoring the day to day problems that occur. Short-term survival depends on the resolution of these problems, however Deming warns of the danger of 'staying bound up in the tangled knot of the problems of today'. A balance has to be found at all levels within the organisation. It must be remembered that if you spend all your time fire fighting to stand still you are actually slipping behind because your competitor is always moving forward.

According to Logothetis [1]. ‘Statistically speaking, the problem of establishing constancy and maintaining consistency of purpose can be related to the problem of respectively achieving the mean (target) and minimising the dispersion (variability) around the mean. Indeed, simply establishing constancy of purpose is equivalent to setting the course towards the target and achieving it; this is a necessary condition for business success but is not sufficient. Maintaining long-term consistency is equivalent to striving for a reduction of the spread around the course so that the target is consistently achieved.

2.2 Adopt the new philosophy for economic stability

The crux of the second point is that without innovation a company will not survive in today’s global competitive environment. Just striving to stand still will ensure failure against forward moving competition. The days of quantity being more important than quality are over, it has to be realised that quality is paramount. What is often missed is that, in the long run, higher quality actually costs less.

2.3 Cease dependence on inspection to achieve quality

On line inspection and quality control is necessary although should always be there to improve the overall process. Product and process quality should be built in at the design and development stages through proactive quality assurance. To ensure thorough quality throughout the product, subcontractors and suppliers need to adopt the same quality practices as you, 100% inspection of every parameter will only screen out bad parts, it will do nothing to the spread and variability. According to Deming routine 100% inspection is the same thing as planning for defects, it is an acknowledgment that the process cannot function correctly, or that the specification made no sense in the first place. The whole concept of inspection focuses on the ‘bad’, on failures, on acceptance that poor quality abounds. Mass Inspection should be replaced with inspection practices that detect and identify defects, these defects are then fed back into a continuous improvement environment for elimination. Good use can be made of statistical data gathering and analysis throughout the processes and provide the metrics for the quality improvement.

Inspection has another, associated problem, the variability of inspection quality between inspectors and, over time, through boredom and/or tiredness. A common reaction to this is to increase the number of inspectors, with an attendant increase in variability. Deming calls this the fallacy of divided responsibility. More inspectors can result in complacency, with each inspector relying on the others to do what should be done. The net result can be that nobody actually inspects correctly.

2.4 End the practice of awarding business on price tag alone.

Closely allied to the previous point, is the reward for high quality. Parts purchased from 'quality' suppliers may command a premium price. The common practice of tendering and selecting the cheapest supplier may well not result in the lowest overall price. An example of optimisation of one part of the process resulting in a sub-optimal overall process performance. This leads to more like a partnership arrangement between suppliers and customers as opposed to the perhaps more common place old-fashioned confrontation over price and subsequent poor quality.

A supplier that can provide SPC charts showing past and current performance levels tell a lot about the 'quality' of the supplier and the likely problems that will be encountered in using their parts. Also an example of investing in the future this point seeks to put long-term higher in priority to short-term profit (through lowest apparent purchase price). Also like point 3 in the longer-term, the use of higher quality parts will reduce the overall cost through less problems, less fire-fighting time, less distractions and smoother production etc.

2.5 Improve constantly and forever the system of production and service.

There is always room to improve the consistency of product or service provided. It should be management's top priority to strive to constantly seek out problems and resolve them to improve quality and to decrease costs. This striving should lead to more and more prevention of problems rather than inspect and correct. Data gathering can again be used to predict problems from past and current trends.

2.6 Institute training on the job

Education at all levels is an integral part of Deming's new management method, top managers included. Modern training methods help all employees to do a better job whilst helping them fulfill their own self-actualisation. Training can also help to ensure consistency of output through use of common approaches (and not just in production). Sending employees on training courses and expecting an improved output is a fallacy. Close after training monitoring and follow-up is required to ensure value is being gained from the training.

Training of new recruits should not be neglected. An effective induction and training programme can help to bring new blood up to speed quicker and more effectively than their 'being thrown in at the deep end'.

Deming advocates a 'System of Profound Knowledge' as a necessity in the training of every manager. The four ingredients of the system being:

1 Knowledge of (or appreciation of) the system and the theory of optimisation.

The system as a whole should be optimised rather than the optimisation of parts of it. According to Deming any system that results in an 'I win, you lose' result is sub-optimal. The optimal system results in 'I win, you win', in the long-term. This applies to everybody and everything associated with the organisation. This can only be achieved through a thorough understanding of the system and some ability in the methods of optimisation, although the latter can often be imported when the problem is understood and the goal defined.

2 Some knowledge of statistical theory (or the theory of variation)

Statistical theory and variation have much to do with uncertainty. The sources of the uncertainty in a process, yield valuable information about the stability or otherwise of the system and how

stability can be controlled. Once the system uncertainty is understood reliable predictions can be made about the achievable performance, the whole system becomes more familiar.

3 Some knowledge of theory

Experience provides answers, the best questions however come from a sound understanding of the theory underlying the system.

4 Some knowledge of Psychology

When it comes to managing people, which most systems involve in some way, some knowledge of psychology is of great benefit.

All the above four aspects of the 'System of Profound Knowledge' must of course be trained-in, they will not simply happen. As Deming says 'We don't install knowledge, I wish we could

2.7 Adopt and institute modern methods of supervision and leadership.

The new management philosophy relies on people and machines doing what they are required to do better. Supervision has a key role in the people and, through the rapid resolution of problems via people machine aspects of this goal. The old fashioned way of looking at supervision, that of being an overseer of work should be replaced by a supportive, counseling, encouraging facilitator. Clearly there will be times when stern words are required however the thrust must be towards helping the employees improve the system through reduced variability and greater efficiency.

2.8 Drive out fear

Fear within the workforce is the antithesis of the new management philosophy. Fear leads to insecurity within the workforce, general disquiet and are the cause of enormous waste in terms of both poor product and time spent on non-productive activities. The new order calls for two-way communications, the listening to the workforce, the gathering of ideas from the people doing the work. Basically a joint partnership between the workers and management.

Deming believes that an atmosphere of fear makes the implementation of most of his other management points impossible. The climatic change away from fear is therefore a crucial first step (if it exists) in the implementation of the Deming philosophy.

Some managers use fear as a weapon to gain control over their employees in the belief that people work better when they fear for their jobs. Deming believes this to be a complete fallacy and a sign of a failure to manage. Management by fear does not serve the best interests of the company.

2.9 Break down barriers between departments and individuals

The key here is teamwork, cross-functional teamwork so that the whole job can be done right first time, everytime. A multidiscipline team must replace the old-fashioned 'over-the-wall' product development approach. This point has many ramifications, no department is more important than any other - or any less. Any individual department's performance should be evaluated in terms of the performance of the company as a whole rather than the individual profit it makes. A strong disincentive to making the purchasing department, for example, a profit centre in its own right.

2.10 Eliminate the use of slogans, posters and exhortations

Any poster demanding something without the methods to achieve it should be eliminated. The emphasis should be turned towards 'the how' and not 'the what'. 'The how' will always result in movement towards achieving 'the what', simply stating 'the what' will not necessarily result in its achievement. The majority of problems are problems of the system, individuals cannot solve system problems, system problems require management intervention. Simply demanding people work harder will be counter productive because as Deming believes, everybody is already doing their best. To achieve more requires a change to the system through the provision of better tools, more information, better parts, better training, etc.

2.11 Eliminate work standards and numerical quotas

This point calls for a focus on quality rather than quantity and thereby decries management by objectives, management by targets. etc. Remember though, that deadlines and hence quotas, must be achieved if customer satisfaction is to be achieved. Delivery of the goods is, however, not the whole story, the delivered goods must be of the required quality as well. MBO and quotas are the keys to short-term thinking, frequently at the expense of the long-term.

2.12 Remove barriers that rob the hourly worker of the right to pride in workmanship

Deming describes the right to pride in workmanship as the birthright of every employee. This birthright can easily be taken away if the employee is forced to work on substandard material, or with poor tools or with poor training. These are all system problems and the responsibility of management to correct. This point brings together many of the others requiring a good communications system to listen to the employees and provide them with what they need to do a quality job on a continuous basis.

2.13 Institute a vigorous programme of education and retraining

Deming advocates that management should encourage continual training in new developments (product and process) and in innovative techniques. In this way companies can keep up with and, hopefully, gain competitive advantage over their competition. This point is clearly different to point 6. 'Institute training on the job' in that the training focuses on retraining for new techniques

and for self-improvement for everyone. The simple truth of both points is that without training the system will neither function for its current desired objectives nor improve to gain competitive advantage or improve to keep abreast of the competition who are improving.

2.14 Define top management's permanent commitment to ever-improving quality and productivity

It is top management's responsibility to ensure a permanent commitment to quality and productivity improvements that can be transmitted down the organisation to everybody. As Deming advocates: 'Quality is made in the Board Room...[however]... limitations on quality are also made in the Board Room.'

Short Narrative

Deming's fourteen points can be applied at any level within the organisation (once the organisation as a whole adopts it) and in any function (marketing, R & D, production etc.). The points are a general philosophy that require the processes undertaken within the organisation or function to be reconsidered and changed with a view to continuously improving them. Changes cannot happen instantly, there needs to be a planned and controlled change of climate and culture if the changes are to be effective. In essence management must relinquish the old way of being the thinkers and the workers the doers, in today's competitive environment everybody must be thinkers and doers.

The points all focus on achieving and maintaining competitive advantage and achieving quality. It must be assumed that the competition is advancing, any company that merely strives to stand still will undoubtedly move backwards. Quality and competitive advantage in all respects need to be the driving goals of modern companies irrespective of the business they are in.

3 Deadly sins and diseases

Deming, as part of his management philosophy identified a set of bad practices which may be current practice within an organisation and which must be removed before the benefits of his philosophy can be gained. Deming called these bad practices 'unforgivable sins or deadly diseases'. This section lists the deadly diseases and briefly describes each.

3.1 Lack of constancy

Following the definition of constancy outlined in philosophy point number I Deming considers the absence of a defined constant purpose as unforgivable. Effectively the absence of a constancy of purpose is tantamount to a ship drifting in the ocean, how can it know where it is going? Another manifestation of lack of constancy is 'flavour of the month' management initiatives which again convey the wrong message to the employees, customers and competition.

3.2 Short-term profits

Drives for short-term profit tends to kill long-term constancy and hence cannot allow the continuous improvement advocated in the overall philosophy. Clearly there are short-term financial needs, however a balance must be struck with careful attention being paid to the long-term.

3.3 Performance appraisals

Deming considers performance appraisals or any other form of merit rating as a potential disaster area. The principle reason behind this being that it encourages rivalry, internal competition between employees and isolation, the opposite needs of co-operation, teamwork and mutual respect. Appraisals especially, concentrate on the short-term with a focus on achieving personal targets to achieve personal gains rather than on overall company achievements

3.4 Job-hopping

People hopping between jobs in different companies cannot make good judgment decisions other than those based on their previous experiences. Such experience may well be out of context with the current organisation. It takes time to become familiar with the workings of an organisation and to become integrated into the various teams. The blind application of experience, especially towards achieving higher short-term profits (a common way of impressing new bosses) can lead to long-term bottled up problems that can be disastrous.

3.5 Use of visible figures only

It is very easy to look at the end of period shipments, end of period profit, etc. Indeed it is almost equally easy to manipulate them by panicking and shipping product at the end of a quarter irrespective of quality. All to make the visible figures look good. Deming believes that 'he who runs his company on visible figures alone will in time have neither company nor figures!'. The only figures that are reliable indicators of performance are those based on carefully planned statistical data.