

Veeder-Root

I: Veeder-Root is a leading global supplier of automatic tank-gauging and fuel management systems. Some years ago the UK branch of the company engaged in an organisation-wide change programme in order to maintain their competitive edge in an uncertain and rapidly changing environment. The managing director, Hugh Chapman, provided us with the background to this change programme.

HC: Veeder-Root is an American-based company. Today they are known, probably, for their electronic gauging equipment on garage forecourts. We have something like 60% of market share within the US and in the order of 90% in the UK. We've got 27 (people) on this site, but the site here is responsible for manufacture, distribution and sales and marketing for the old core products. So, we're talking, probably, from here a turnover of about £8 million.

We sat down with our colleagues from the States and reviewed this particular operation and we came up with some sort of plan of how we wanted to develop the business. There are various tools and techniques available for moving companies forward. It would seem natural that we went and visited the States and talked to our American colleagues to see how they did it.

I: At first the management of Veeder-Root implemented broad-based organisational changes to kick start the change programme. They drew heavily on proven performance enhancing techniques originally developed by Japanese manufacturers. In this instance, Hugh Chapman describes the shift from batch to cellular production at Veeder-Root.

HC: In the old days we used to have the batch runs. People used to do 100 , 150 something else, 250 something else. We were set up and would only do five. If there was a customer requirement for something very quickly, a spares order for example, we'd stop in the middle of those five and take an operator out and produce something else. In the early days the people in the factory area had something in the order of four different tasks. Today we're up to around about 32 different tasks. So, we have a very, very fluid workforce, highly trained.

Within this area I would think we have six or seven people that are trained to come in here. So, if anybody's sick or any holidays or we have a rush order, we have open stations, as you can see. Normally there are two people working in this area. If necessary, we can provide six people in the area, quite easily.

This is another example of one of our sales. John and I are of a sufficient nature know that we used to go in and do one job and one job only. But this is a classic alteration in our working patterns. In the old days, John or I, when I was on the shop floor, weren't allowed to test anything. We do our own testing here now and John will do the packing. So, there's been a complete transformation in the sort of duties that we perform.

I: Along with broad level change the management of Veeder-Root decided to engage in an organisation-wide process of focused and sustained incremental innovation, known as Kaizen or Continuous Improvement. In Veeder-Root the implementation of Kaizen has been driven by policy deployment: an approach where the strategic goals of the company are linked to the improvement activities of all the employees.

HC: When you first start out it's quite easy. So, we had quite a few successes, major successes in the early days, which were easy to quantify. Then, like everybody else, you come across this problem of 18 months/two years in of where do we go from there. Then we started to adopt a philosophy we use in this company, which is well-known and well-documented, called 'policy deployment'. Now, policy deployment has taken us forward. As we use policy deployment, the board will sit down and draw up some general criteria for where they want the company to go. This is in very simple terms. It can be we want to be world class. Having established these, individual directors and managers take those wishes of the board into their areas. Then they will split that out into probably six or seven items that they can actually contribute within their operational area towards the general goal. They are then taken back and each of those targets within that area are quantified. Those are then put onto what we call a 'bowling chart' and we monitor progress every month.

The beauty about policy deployment is that, though it drives the company in the direction the board wishes it to go, but from the individual point of view, of the individual director and the individual operations area, there is a lot of freedom and they're doing all sorts of things. It's all funnelling up towards this central goal.

This is where we actually document, on a monthly basis, our progress. So, we have our mission statement, which we haven't talked very much today, but we have one. We bore that down and what we think we have to do within this particular part of the organisation. Then we have a policy deployment overall matrix. Then we have our policy deployment bowling chart, is how we're doing monthly. From there on, we plot various graphs so that everyone can see where we are, where we're doing.

I: Examples of improved performance as a result of the Kaizen programme can be found throughout Veeder-Root. Along with improvements in manufacturing, administrative processes are also scrutinised and subjected to incremental innovation.

HC: Here we look at the whole of the business system. So, we're looking at marketing, we're looking at the administration side, we're looking at the manufacturing, we're looking at distribution. You have to have all aspects of the company finely tuned in today's competitive world.

Bill came up with the idea. We went round, the guy next door, who's a fabricator, we made these simple little racks to put the probes in. Now, one of the things, when

you're designing these, any racking system, you'll always get it wrong, because the product fluctuates in volume. Then you find it won't go on that rack. It goes somewhere else, you can't record it and you get into all sorts of problems. So, all we do is we put the part number onto a piece of Perspex, we take it off on Velcro and we can move it up there, so we can extend our racks to cope.

B: When we first started you'd get a big, long list of little bits to pick. So, some of the kits we've got, this for instance, there are about five or six different items in here and you'd have five or six trays that you'd actually have to along and pick three of each from one of those. Whereas now you can just grab a bag from the shelf and think, right, that's all in here. That helps tremendously.

HC: Recently, Bill has put this area in on his own. He just specified it, tidied up, cleaned it up and made it more efficient. So, Bill has done quite a lot of Kaizens with us and we've done some joint projects, but we find individuals now are doing their own thing.

These are what we call carrying tubes. Originally, these were done in a horizontal plane, one at a time. The problem with this is the solder didn't necessarily run all the way around, we had leaks on it, we had to wait while it cooled down, because there were several soldering operations, to move on. The pattern is now vertical, the solder will run round, our qualities have improved and we don't have to stop now for various operations, waiting for the item to cool, as we have a line and we just keep moving that.

In this unit we actually calibrate the gauge. Now, originally this was on three different types of benches and the operator had to keep moving his head and his body from the main area to the calibration machine, to the computer. Recently, we re-engineered the whole area so it almost becomes like an aircraft cockpit now. The reorganisation of this area was totally driven by Phil and his colleagues. It wasn't a management initiative by any stretch of the imagination.

This is the area where we stuff boards. In essence, this whole area was built by the operators and it didn't have any facilitators or management expertise behind it. The group, I think it was five or six, went off to an electronics show at the NEC and came back with various ideas on how they could improve production. Originally, we used to get parts out of the stores in bags, stuff them into the boards ready to go for tests, then in batches, ready for assembly, etc, to and fro. So, now we have all the stock on line, in the carousels. We are placing the components in the boards, as you can see, and then soldering them up and then passing them through for test.

This we use to rack rods with dipsticks. The dipsticks will go on here, to make it easy we can band them quite simply through the hole. At times we want to use this as a bench for other processes. All we need to do is to move the flap over and we have a bench.

We've also tried to extend our philosophy in the office areas, because we found that, with only one person operating in this area, Shelley could be bogged down for two days with just customer calls and you just can't switch off from customers. The net result of that was nothing was coming out of the shop floor. So we had a major problem. So, the first operation was to have a look at the process and build a cell, take the cellular approach to it where we'd have somebody else in. The idea was to take someone from the shop floor on the basis that they'll get involved with the customers and the quality would improve, etc. We were getting this interface and breaking down the barriers.

I: Kaizen, or Continuous Improvement, draws on the expertise and problem-solving capabilities of all employees. Hugh Chapman explained to us how the Kaizen process actually functions in Veeder-Root and how all staff are involved in the constant refinement of tasks and routines.

HC: In the Kaizen process we are not looking for 100% completion. It is far better to get a gain than to go for utopia and end up getting nowhere. So, we look at an area where we think there is potential, we will get a realistic amount of potential out of that area in a given time, and then we'll go and find somewhere else where we think there's some more potential, and we keep going round and round the circle. Typically, from a first Kaizen will see on average something like a 30-40% improvement in productivity. The second time we will probably get about another 20-30% out, third time something 10-15% out.

We're at a very advanced stage here that people are well versed in Kaizen and they know what they're doing. But, in essence, in the early days we set off with teams. Ideally, we have found that six members are the right number. Two of the people in that team must know the process. The other four should be fairly enlightened people not from that area. The team will document the current process. They will come up with all sorts of ideas on how to change that process and, ideally, we'd like to have that process change within a day or two days. If it can't be cracked within the two days, we draw up what we call a Kaizen newsletter. Supposing that particular area wants some software, that would go on the Kaizen newsletter as a requirement for it and, at times, an employee would be put against that and held responsible for it. That would be monitored.

I: For Veeder-Root the benefits of pursuing Kaizen have been clear. In the three years after implementing the system, the company saw a 71% reduction in stock and work in progress; a drop in delivery time for new equipment from eight weeks to three days; a 50% fall in manufacturing costs; and a rise in turnover of 47%. Not surprisingly, the company have also one a fistful of awards, well-earned recognition for what can be achieved through simple, systematic, high involvement in the innovation process. A clear incentive for others to pursue a similar strategy.

HC: We want to be the world leaders in our field, and it's as simple as that.