

# Six Sigma – the route to business excellence

John Morgan of Catalyst Consulting looks at the links between Six Sigma and the European Foundation for Quality Management's (EFQM) excellence model.

The model shown (Figure 1) provides an ideal framework to review organisational performance against world class best practice, and to identify strengths and areas for improvement. If it's not an integral part of your strategy review and business planning process, you should really be asking 'why not?'

By way of a refresher, or as a high level introduction, the model contains nine criterion that link together in a variety of ways. Essentially, though, the 'results' (the criterion on the right hand side), are caused by the 'enablers' (the criterion on the left hand side). The enablers represent the 'what you do' and 'how you do them' activities of the organisation. Get them right, and the results follow.

Six Sigma and the excellence model are complementary approaches. Indeed, two of the early winners of the American equivalent, the Malcolm Baldrige National Quality Award, have been Motorola and Allied Signal, both proponents of the Six Sigma approach and in Motorola's case, the organisation that first packaged the approach. There is a straight-line link through the model from leadership, setting the policy and strategy, and achieving it through the organisation's processes.

Six Sigma requires very determined leadership. It must set the framework for the management system of the organisation, and that system should be built around the principles of Six Sigma and management by fact. Too many organisations rely on sixth sense and gut feel.

In many ways, measurement is at the heart of the excellence model. It's certainly at the heart of Six Sigma. Measurement is so important, yet it is usually done in a very ineffective way by organisations. Get it right and it helps you understand the state of your processes and why performance isn't perhaps where you would like it to be. Using statistical process control charts (SPC), (see figure 2) will help;

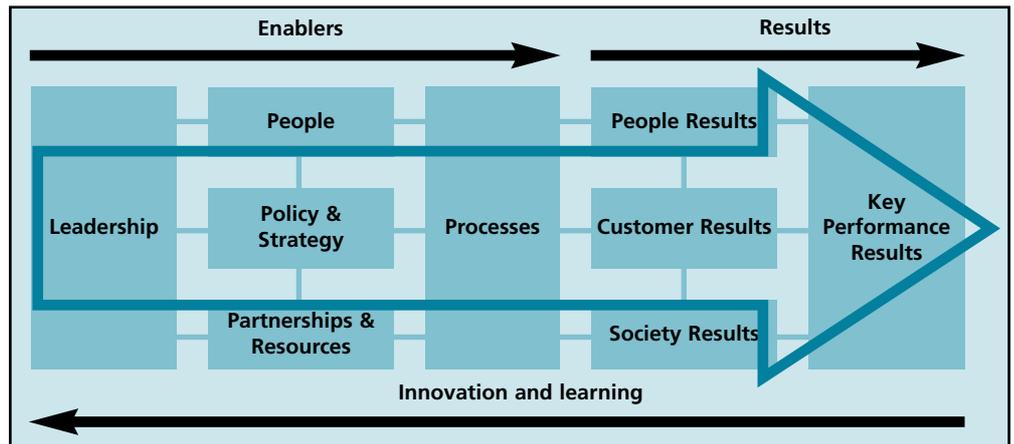


Figure 1. EFQM model

SPC is one of the key statistical tools and techniques applied in a Six Sigma initiative.

#### So, what state are your processes in, and how do you know?

In an 'ideal' state, the process is in statistical control and meets the customers' requirements. If you use a traffic light system at your operations meetings, then this is a green light - no discussion is needed. By continuing to use the control chart, you can monitor the process and make sure it stays ideal.

A 'threshold' state describes a process that is in statistical control,

but that doesn't meet the customer specifications. This is an orange light and you would need to know the action being taken or planned to bring the process into an ideal state. By continuing to use the control chart, you can monitor the effectiveness of your improvement effort and provide evidence that it has worked.

When a process is 'on the brink', it's meeting the customers' requirements, but is not in statistical control. In other words, it has special causes and is not predictable. You'll probably find a lot of fire fighting going on, with managers making

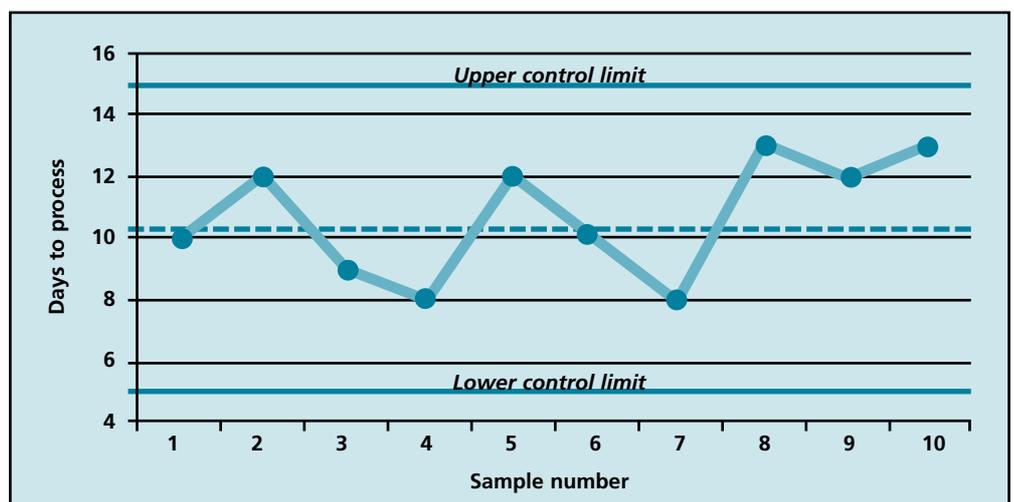


Figure 2: SPC chart

decisions on the hoof. At any moment the process is likely to slip into chaos.

'Chaos' indicates a process that is not in statistical control and that doesn't meet the customer specifications.

When a process is in a state of chaos or on the brink, we have a red light situation. The continuing use of the control chart can help you monitor the removal of special causes and the eventual improvement of the process. It's essential to remove these special causes from the process before you begin to change it, because they will otherwise frustrate your improvement efforts.

The improvement of the process will be undertaken using the appropriate Six Sigma methodology. This may sound improbable to you, but, not only are organisations usually poor at measurement, they also seem unsure how to tackle improvement projects.

Six Sigma provides the way and highlights another link to the model - people involvement. It's essential that people are trained in the methodology, tools and techniques, and supported and encouraged to make process improvements. They need to feel able and be able to challenge their processes and improve the way they work.

There are clear links with Six Sigma in the partnerships and resources criterion, too. Resources need to be invested into a Six Sigma methodology and approach. And partnerships can be forged with suppliers and customers in joint improvement teams using the Six Sigma methodology. What better way of improving the value chain in your organisation than to involve your key suppliers and key customers.

The links to results are clear. The whole approach looks to ensure excellence in results. And what results they can be! GE produced Six Sigma related savings of \$2 billion in 1999, against a training investment of \$465 million.

There is increasing evidence from both sides of the Atlantic demonstrating a clear correlation between the effective application of quality and both stock and bottom line performance. Robinson Capital Management has developed a quality index (Q-100). The 100 companies in the index represent the leaders in management quality, weighted in the same way Standard and Poor's weights its companies. It is diversified to align with the sectors in the S&P 500.

Using a measure of management quality as the primary factor, the 100 best managed companies in the S&P 500 would have paid an investor 22% more over the 18 month period ended 31 December 1999 than would have been received on an S&P 500 index fund.

The Q-100 supports the 1998 study by Kevin Hendricks and Vinod Singhal. This compares the performance of more than 600 publicly traded companies that had won quality awards with companies in the same industries and of similar size that had not. During the winners' post-implementation period (one year before they won the award to four years after winning), their operating income, total assets, and sales grew more than twice as fast as the control group's.

It's a compelling case for the application of business excellence and Six Sigma. But you have to do it properly if you want to achieve the full potential.

To complete this high level comparison of the two approaches,

## 'Resources need to be invested into a Six Sigma methodology and approach'

it's worth looking at how close the 'fundamental concepts of excellence' that underpin the excellence model are to the underlying foundation values of Six Sigma. It's also worth asking how well you match up against these demanding, but effective principles.

**Results orientation** – Six Sigma is results driven with a clear focus on the customer and the needs of all relevant stakeholders. Are you?

**Customer focus** – Six Sigma focuses on meeting the customer's key requirements. The customer specifies defects, not the organisation. Where do you sit here? Have you asked your customers, or simply assumed that you know their requirements?

**Leadership and constancy of purpose** – Six Sigma can be successfully achieved only when there is genuine leadership and management commitment that is evidenced by them 'walking the talk'. Do you walk the talk or do you simply say the words?

**Management by processes and fact** – Measurement and management by

fact are at the heart of Six Sigma process improvement activity. As we touched on earlier, is this you, or are decisions based more on gut feel and sixth sense?

**People development and involvement** – Six Sigma provides the basis for a common language and shared values. It requires a culture of pro-active improvement activity that itself can be achieved only through the development, empowerment and involvement of the organisation's people. Well? What do your staff have to say on this? Have you asked them?

**Continuous learning, innovation and improvement** – Six Sigma demands continuous improvement, innovation and learning. Without it, the ambitions of defect free products and services cannot be achieved. If only your organisation knew what your organisation knows.

**Partnership development** – Six Sigma recognises the need to work with customers and suppliers in order to develop the potential for mutually beneficial relationships. Joint improvement activity is a common feature of mature Six Sigma organisations. Have you tried this? If you have I'm sure you will have seen the type of impact it can have on improving performance results.

**Public responsibility** – Six Sigma organisations recognise their responsibilities here, too. Defect free processes, products and services have their own beneficial impact on the community, not least through the creation of jobs, as market share rises on the successful achievement of such performance.

So, how well did you match up, and how do you view your need to adopt the excellence model and the rigour of Six Sigma? The links between them are clear, and so, too, are their links to bottom line improvement.

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