

Does **Six Sigma** have a place in this brave new world?

I remember my old granny telling me all about the way organisations rushed into the computerisation of their processes without taking the time to first review them. The net result was that all of the defects and errors built into the design of the process were now produced and distributed much faster than before.

People simply hadn't taken the time to review and change their processes in a way that took full advantage of the available technology. Looking at the evolution of ebusiness, have things changed and does Six Sigma have a place in this brave new world?

Before seeking to answer these questions, it's worth reminding

ourselves of some of the key principles involved in Six Sigma. Firstly, it's essential to identify the customer and to understand their prioritised requirements. Secondly, we need to ensure that our processes seek to meet these prioritised requirements. Thirdly, we need to understand how well our processes are meeting the customer

requirements – and to do that, we need an appropriate measurement system in place. Finally, we need a systematic approach to the design and improvement of our processes.

Let's start with the customer! So many businesses assume that they know the customer's requirements – they don't need to ask their customers, they simply know! But do

Beeston Productivity Services Limited

Consultants and Trainers in Productivity Achievement

22 Queens Road East, Beeston, Nottingham NG9 2GS

Tel / Fax: (0115) 9431287 Mobile: 07866 974137

E-mail: davidwcole@hotmail.com



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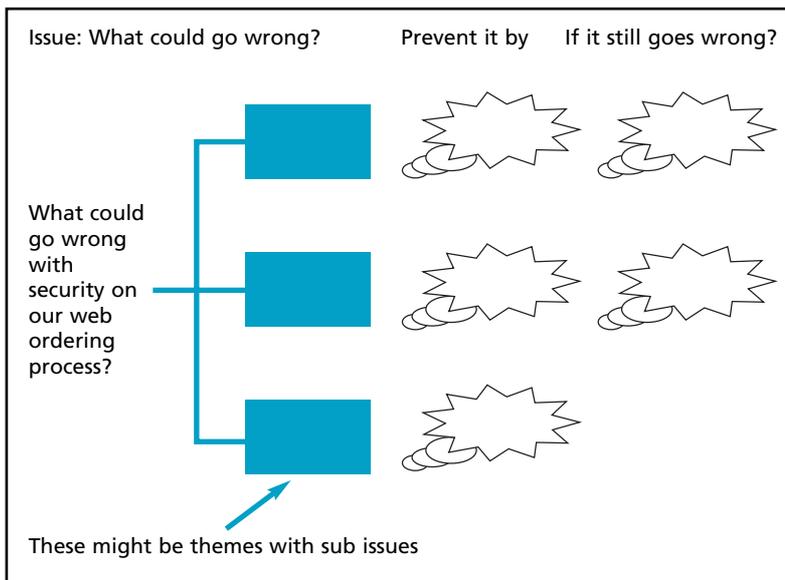


Figure one, the PDPC. Causing something not to happen

they? How many ebusinesses assume that their customers require delivery of product within 24 hours of order? My guess is quite a number.

And yet, the reality may be something quite different. Certainly that has been the recent experience of organisations like GE in clarifying their customers requirements. What's most important, is that the delivery is made in line with what's been agreed.

Customers may be ordering from the web for a whole variety of reasons including, for example, convenience and price. Delivery will be a specific requirement depending on the circumstances of individual customers. Certainly customers will be particularly concerned with the aspect of security and there have been plenty of publicised occasions when security and privacy seem to be far from provided.

Mistakes made by ebusinesses do seem to travel at speed – prevention should be a key element built into the design of their processes. Certainly, prevention is a key element of a Six Sigma approach and is supported through the use of tools such as the process decision programme chart and failure modes

and effects analysis (FMEA).

Of course, I'm assuming that ebusinesses really are ebusinesses and are not pretending to be through the use of smoke and mirrors. I've seen several examples that lead me to the conclusion that some organisations are taking on-line customer order information and are then re-keying it into other back office systems – often making mistakes in the data entry. I wonder how many of you have spotted something similar in your own internet dealings?

In terms of measurement, ebusinesses have potential to really capitalise on the currency and flow of data, particularly if they are able to link their scorecards to SPC control charts.

In terms of the systematic approach to process improvement, the foundation has to be management by fact. The next article in the series looks at the need for a systematic approach, and provides some detail of the methods used by 'Six Sigma organisations'.

Tools for Prevention – FMEA and PDPC

The most effective and efficient way of achieving quality and maintaining improvement gains is to build prevention into your processes. There's nothing new in this concept, as the following quote demonstrates:

- Before it move, hold it
- Before it go wrong, mould it
- Drain off water in winter before it freeze
- Before weeds grow, sow them to the breeze
- You can deal with what has not happened

- Can foresee harmful events and not allow them to be.

LAOTZU (Circa 600 BC)

Failure modes effects analysis and process decision programme chart are two of the tools associated with prevention. Incidentally, the Japanese refer to prevention as PokeYoke.

The PDPC is very easy to use. It is one of the seven new tools for management and planning and it links with the tree diagram.

So, what might go wrong, how could we prevent it, and what would we do if it still goes wrong?

FMEA is a little more involved. Here we are looking at what might go wrong, how often is it likely to occur and how likely are we to detect the failure before its effect is realised?

For each of these, we assign a value, usually on a scale of 1 to 10 to reflect the risk. The example below provides a typical rating scale – you could adapt this for your business or produce your own.

To determine priorities for action we calculate a risk priority number. This value is simply the result of multiplying our ratings for the severity of the risk, the frequency of occurrence and the likelihood of detection.

In coming up with your RPN, do remember that these numbers are subjective and use common sense in determining the action needed.

Depending on the nature and complexity of your processes and products, you may feel it appropriate to simplify the scales and descriptions used. You might adopt a '3' level approach, using, for example, 'high', 'medium' or 'low' business impact for severity.

The key to prevention is action – you want to cause something not to happen, but if it does, you always want to know what to do.

Rating Criteria:	a failure could:
10	Injure a customer or employee
9	Be illegal
8	Render the product or service unfit for use
7	Cause extreme customer dissatisfaction
6	Result in a partial malfunction
2	Be unnoticed & have only a minor performance effect
1	Be unnoticed with no effect

Figure 2: Severity Rating Scale

John Morgan
 John Morgan is a director of Catalyst Consulting. His many years of experience include operational and management roles for major insurance companies. He is a regular speaker on the conference circuit, and leads the BQF workshops 'Six Sigma and business excellence'. He has co-written SPC in the office – a practical guide to continuous improvement and a range of articles for quality press magazines.