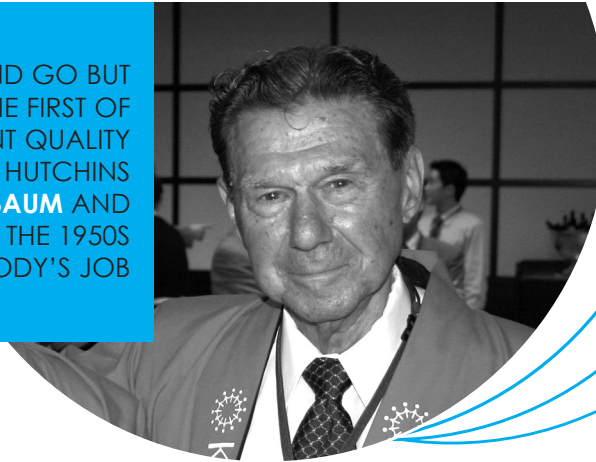


TOTAL RECALL

CELEBRITIES CAN COME AND GO BUT GURUS WILL LAST FOREVER. IN THE FIRST OF A NEW SERIES ABOUT SIGNIFICANT QUALITY THINKERS OVER THE YEARS, DAVID HUTCHINS LOOKS AT **DR ARMAND V FEIGENBAUM** AND HIS REVOLUTIONARY CONCEPT IN THE 1950S THAT QUALITY WAS EVERYBODY'S JOB



When quality professionals refer to the 'four quality gurus' they are referring to Dr W Edwards Deming, Professor Kaoru Ishikawa, Dr Joseph Juran and Dr Armand Feigenbaum (pictured above). In the UK it is reasonable to say that while Deming and Juran have been given a lot of exposure, Feigenbaum is less well known. However, this is not the case in either the US or in the far east where he is held in very high esteem.

EVERYONE'S JOB

I was first introduced to the work of Feigenbaum in the late 1960s. At that time, his book, *Total Quality Control*, which was first published in 1951, was listed as essential reading for the IQA course in quality management. My reading of the book was very influential in the subsequent development of my career and, in particular, his statement in the fourth section in which he maintains that 'quality is everybody's job'.

In those days this was far from being the case in the majority of organisations. Quality control grew out of 'inspection' and inspection was an 'off-line activity', usually carried out by individuals whose reporting structure was not directly headed by anyone responsible for production. In fact, there is a significant quantity of documentation from military procurement sources that demand that the two activities of production and inspection are kept separate due to a clash of interests. The argument was that since it was the job of the production department to ship as much product as possible, there would be a conflict of interest if it was necessary to delay shipment because some parts might not be within the specification requirements.

As a consequence, it became an accepted principle in most organisations that inspection, and therefore qual-

ity control, became police force-type activities parallel to production rather than being inherently part of it. Of course, upper management was also more interested in 'getting the product out of the door' than listening to the arguments of inspection or quality control officers.

Feigenbaum clearly showed the fallacy of this approach and in doing so possibly set the stage for the development of quality circles in Japan: 'The simple fact of the matter is that the marketing man can best evaluate customers' quality preferences. The design engineer is the only man who can effectively establish specification quality levels. The shop supervisor is the individual who can best concentrate upon the building of quality. Total quality control programmes thus

LIVING IN THE NOW

Dr Feigenbaum, somewhat younger than his peer group, is still very active on the international stage and was a keynote speaker at the recent IQC conference in Tokyo in 2005. He wrote the first edition of his book *Total Quality Control* while a doctoral student at Massachusetts Institute of Technology.

At the time of its initial popularity in Japan he was the worldwide director of manufacturing operations and quality control at General Electric Company before forming his own General Systems Company which he heads today.

require, as an initial step, top management's re-emphasis of the respective quality responsibilities and accountabilities of all company employees in new-design control, in incoming material control, in production control, and in special process studies.'

MANAGEMENT VERSUS CONTROL

Feigenbaum then goes on to elucidate the conditions which must be met in order for the operating forces to be able to conduct their own inspection and quality control activities while working with quality management in a no-conflict situation. It was this organisation that he named total quality control.

The term was immediately adopted by the Japanese and is still used by them to this day. In the west however, the term was neither understood nor used by many. In fact it was not until the late 1980s that the slight variant total quality management (TQM) began to appear in western companies' corporate strategy. Part of the problem was due to the use of the word 'control'. Unfortunately, so called TQM was a very pale imitation of what total quality control had become and still is in Japan.

COST MODEL

A second concept that it appears to be attributable to Feigenbaum was the basic Prevention, Appraisal and Failure costs (PAF) model for quality related costs.

It is interesting that he was quite conservative about the ratio of quality related cost to revenue from sales compared with perceptions today. He suggests that these costs are in the order of seven to eight per cent of sales. In the 1970s and 1980s, the view was that these costs might be ten per cent or more of sales but today experts claim them to be well in excess of 20 per cent. Using Feigenbaum's argument, it is found that these costs can be reduced by some 50 per cent in three years or less.

Not included in his books but very graphically described by Feigenbaum at the World Convention on Quality held in Brighton in 1984 was an argument that could be used to explain why six sigma is so important of today.

He explained that if an organisation produced 100 products with a defect level of ten per cent then ten people would have a negative experience that they might each share with ten others. If production was


'Total quality control programmes require top management's re-emphasis of the respective quality responsibilities and accountabilities of all company employees'

increased to 10,000 units still with ten per cent defective, then 1,000 would receive the defects and if the information was shared with others then 100,000 would have the negative perception. It follows, therefore, that with a greater volume of production or provision of a service, quality levels must improve at least at the same rate – preferably better.

RESPONSIBLE QUALITY

The third concept developed by Feigenbaum was the 'quality responsibility grid'. In an age where process based management and matrix-type management systems are becoming more popular it could prove to become a very powerful organisation design tool. Today, it would be regarded as a specific element in quality function deployment but Feigenbaum has predated the use of that concept by a few decades.

If the history of Japanese post war business development is studied carefully, it becomes apparent that the sequence of the respective visits to Japan by Deming and Juran, and the publication in the late 1950s of Feigenbaum's book, might well be critical to Japan's industrial success. In 1949 Deming dramatised the importance of the use of factual data to make decisions and in 1954 Juran showed that quality was the responsibility of upper management.

But by studying in great detail how and why quality was everybody's responsibility, and by coining the term total quality control, it was Feigenbaum who bought all these features together into a common, shared cause 

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