

Can Six Sigma and Lean be separated?

Roger Hilton, Principal, Six Sigma Academy; Chair, Six Sigma Division, AOQ Qld

When Motorola won the Malcolm Baldrige National Quality Award in 1987, the company was recognised for their initiative in Six Sigma which focused on 3.4 defects per million opportunities (allowing for a process shift). The first development of the phases of the DMAIC methodology by Mikel Harry and Richard Schroeder in the late 90's made no reference to the Lean tools, such as 5S, Total Productive Maintenance, Visual Management etc.



Since then the phases of the DMAIC methodology have developed to include Lean tools. For example the American Society for Quality Six Sigma Body of Knowledge includes Waste analysis using Toyota's seven wastes in the Analysis phase, Waste Elimination (eg 5S, error proofing and standardisation) in the Improve Phase and Visual factory and Total Productive Maintenance in the Control Phase.

Many organisations now are recognising the powerful synergy that is produced when the two methodologies are combined. However, these implementations are not without some difficulty. The experiences of the first implementations of Lean and Six Sigma methodologies are unique based on leadership and culture. Subsequent implementations of Lean and Six Sigma have benefited from the literature and experiences produced by such companies as Toyota, GE, Raytheon and Motorola. In particular the companies in the Transaction and Service sector appear to have leveraged off the insights gained from the manufacturers who have implemented lean and/or Six Sigma.

Some small to medium sized manufacturers (SME's) on the other hand appear to be using Lean to improve their processes and gain a competitive advantage but they are staying away from the significant training costs associated with Six Sigma. In the author's experience these SME's may be still be using some statistical analyses to identify root causes and monitor the process capability once an opportunity for improvement

has been identified using a Value Stream Map. Large multinationals both in the manufacturing and transaction/services sectors are deploying both lean and Six Sigma together since the training costs are relatively low compared to the funds available for training.

Dr Jiju Antony originally from the Caledonian University in Glasgow in some of his ongoing significant research in Six Sigma concludes that "... the disciplined and systematic methodology of Six Sigma combined with the speed and agility of Lean (methodology) will produce greater solutions in the search for business and operations excellence". This is evidenced by the large number of advertisements for lean sigma consultants.

Both Lean and Six Sigma have been defined as philosophies by various academics and practitioners and there are some fundamental differences. The literature on the compatibility and combination of Six Sigma and Lean is limited and, moreover, disappointing when examined for a common model, theoretical compatibility or mutual content or method. According to Tony Bendell in the TQM Magazine this alleged combination is "no more than a philosophical or near-religious argument about professed compatibility of approaches".

In conclusion more research is necessary in examining the impacts of combining Lean and Six Sigma and it makes sense for the management team to investigate the combined synergies of Lean and Six Sigma. It is also critical for the cost of the training of the Lean Sigma practitioners to be reduced so that SME's can consider the combination also as a viable alternative improvement strategy.

More info: Request **Hilton** to ProgBus@aoq.org.au

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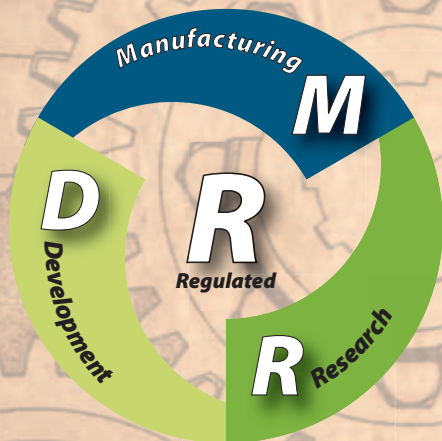
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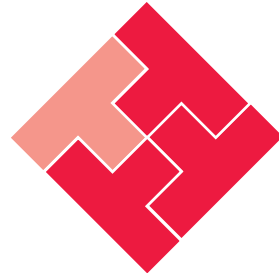
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The Aerospace Division was formed to:

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- disseminate knowledge of the science and practice of quality management and business improvement in the Aerospace industry;
- initiate, conduct, supervise, and assist in research and investigations into the science and practice of quality management and business improvement in the Aerospace industry
- participate in and contribute to industry Benchmarking.
- foster integration between organisational interfaces.

The Division conducts member activities (details available at www.aq.org.au/aerospace.htm).

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NZOQ Conference 2008

Learn – Share – Grow
Quality, Productivity and Sustainability

Final request for papers

An exciting programme is emerging for the NZOQ Conference to be held in Queenstown from 22 to 24 October 2008.

We now invite members to present papers. If you have something exciting to tell the delegates we want to hear from you.

Since our first call for papers the streams have narrowed down to:

- Quality Management
- Six Sigma and Lean
- Environment and Sustainability

Plus all the other things we mentioned previously – but let's focus on these and see them reflected in these questions. If you can answer yes to one or more of the following we want to hear from you:

Creativity and Innovation:

- Have you been involved in a new initiative?
- Have you been innovative with a quality tool or have you adapted one?
- Have you embarked on a new quality innovation?
- Have you been creative in the quality area?

Professional Development:

- Have you devised a professional development opportunity?
- Have you attended an international conference?
- Have you attended an exciting professional development opportunity?
- Are you responsible for professional development in your company?
- Have you identified a professional development need?

Quality Strategies and Best Practice Initiatives:

- What quality strategies have you used?
- Can you define best practice?
- Have you introduced best practice?
- Have you identified a tool that ensures best practice?
- Can you define your quality strategies?

Knowledge Management:

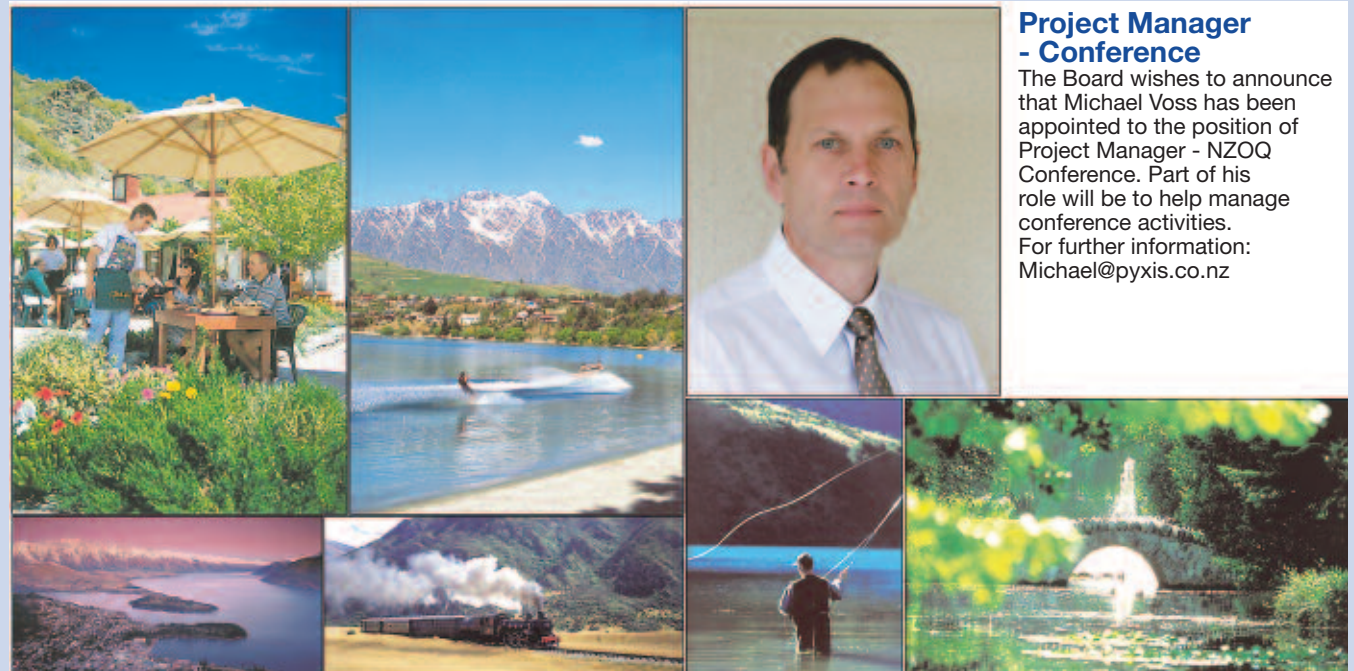
- Do you have a policy for knowledge management?
- Is it possible to manage knowledge?
- How do you plan succession?
- Do you have strategies for retaining and imparting knowledge?
- Do you have processes for updating knowledge?

Other areas of quality...

- Have you recently won an award for quality?
- Have you recently completed an educational initiative?
- Do you have a career structure for quality personnel?
- Have you recently employed quality personnel?

We want to ensure the highest calibre of papers at conference and now ask that you submit an outline of your proposed 20 minute presentation to the conference committee. Your proposal is to include all of the following: the author(s), contact details, abstract (not more than 500 words), and an indication of the industry sector(s) relevant to your presentation e.g. health, food, manufacturing etc.

Please send your proposals to: helen.baines@nzoq.org.nz before 4pm 15 February 2008.



Project Manager - Conference

The Board wishes to announce that Michael Voss has been appointed to the position of Project Manager - NZOQ Conference. Part of his role will be to help manage conference activities. For further information: Michael@pyxix.co.nz

Entrepreneurs' Divison

The objectives of the Entrepreneurs' Division include to promote and contribute to the science, understanding and practice of entrepreneurship and to conduct and assist in research and investigations into the science and practice of quality management, quality assurance and business excellence in entrepreneurial activities;

In 2006 entrepreneurial activities sponsored by AOQ-QLD included:

- Providing sponsorship, mentors and judge for Griffith University Innovation Challenge.
- Providing mentors (from the membership) for University students
- Providing presenters (from the membership) for Engineering and Business programs at Universities (Undergraduate and Post Graduate)
 - Partnering with Certification bodies for various activities
- Sponsoring and providing a judge for the Queensland Business Icon.

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- Conferences and Training
- Surveys and Benchmarking
- Resources and Member Support

Mark your diary with this quarter's not-to-be-missed events!

Advanced Business Continuity Management Workshop: 6 February 2008, Melbourne

Testing Recovery Plans Workshop: 27 February 2008, Sydney

Crisis Management Workshop: 5 March 2008, Sydney

***** Business Continuity Conference: 18 March 2008, Sydney *****

Introduction to Business Continuity Management: 19 March 2008, Sydney

Testing IT Disaster Recovery Workshop: 27 March 2008, Sydney

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