The Development and Use of Six Sigma Competencies

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Summary

Keywords
AOQ-QLD
Australian Organisation for Quality
Six Sigma
Competency
Competencies
ASQ
American Society for Quality
RPL
Recognition of Prior Learning

How did it all Begin?

In 2004/05 the Australian Organisation for Quality Queensland Inc (AOQ-QLD), through its consulting and training arm, put out a tender for a Green Belt training programme to all the major providers of Green belt training in Australia.

There was no surprise when the quotes varied widely in money terms, but what was surprising was that it was impossible to determine value for money. Each provider seemed to have a different idea what a Green Belt was required to do, so the training programme from each provider was quite different in terms of what was being taught and the time involved. The proposal was then put aside until a set of competencies could be developed that could be used in the brief for the tender.

In 2005, the AOQ-QLD developed the concept of Divisions, similar to the ASQ Division structure. In 2006, the Six Sigma (now the Lean Six Sigma) Division was formed. The Division was concerned that Six Sigma training in Australia was not effective in developing Six Sigma belted individuals with a common base of knowledge and competencies.
As stated above, some individuals were trained by National or internationally based providers. Others sourced the American Society for Quality (ASQ) Body of Knowledge and sought ASQ registration/certification. In essence, this programme offers a participant the opportunity to develop a project to be reviewed by an ASQ committee and then can sit the (multiple-choice) examination to obtain Green Belt Certification, for example. Approved trainers are available to provide training and it might be possible for Recognition of Prior Learning (RPL) to reduce the training cost.

So what to do?

AOQ-QLD offered to champion the process, if the Division wanted to develop a set of standardised competencies that could be registered internationally. RABQSA was chosen to assist. RABQSA is a body that registers competences, training providers and individuals in a variety of activities.

In 2007, the Six Sigma Division decided to facilitate the derivation of an appropriate set of international competencies for assessment to Black, Green and Yellow belts.

The Standardisation Process

RABQSA has a standard process for developing and registering competencies.

- Need
- Facilitation by RABQSA.
- Scheme Committee – developed by AOQ-QLD,
- Facilitated Meeting to agree on Competencies and Measures,
- Review Period – total of about 6 weeks.
- Registration & launch to RABQSA Web Site.
- Feedback welcomed

Scheme Committee

The role of the Scheme Committee is to assist RABQSA in four key areas:
1. key stakeholder engagement;
2. ongoing review of scheme requirements;
3. advice on RABQSA policies and procedures; and
4. independent review of Complaints and Appeals.

The role of each Sub-Scheme Committee is to:
- provide key stakeholder engagement;
- develop certification requirements for a specific scheme or schemes;
- identify requirements for maintenance of certification;
- provide advice on methods for examination of defined competencies; and
- provide validation of certification requirements to ensure ongoing relevance to industry.
The AOQ-QLD Six Sigma Scheme committee that was developed consisted of:
- AOQ-QLD as Champion
- AOQ-Six Sigma Division
- Facilitator - RABQSA
- Minitab
- NAB
- Quality-Associates International South East
- Pragmatic Improvement
- SAI Global
- Segla
- SGS
- Snowden Group


The facilitated Meeting was conducted 22nd June, 2007. The task was completed in one day.

The meeting was required to develop Six Sigma Competencies, i.e. a set of competencies that are the minimum capability that a competent person can perform.

This may not be sufficient for some employers. It is important to state that these are minimum competencies, so that everyone being trained to these competencies has the same capability. Organisations that require more skills can then arrange for

Following the meeting, the draft competencies were distributed widely for comment, and finally were registered by RABQSA and loaded on the Web.

**The Competencies**

The competencies are laid out as follows:

Competency  Performance Criteria  Evidence Guide

An example of the competencies that are on the Web Site from each of the belts follows:
<table>
<thead>
<tr>
<th>Competency</th>
<th>Performance Criteria</th>
<th>Evidence Guide</th>
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</table>
| 1. Describe the Value of Lean Six Sigma | 1.1: Describe why Six Sigma is an important tool for business:  
- Philosophy of six sigma  
- Origins of Six Sigma | Demonstrate the impact that Six Sigma has on businesses operations.  
Demonstrate knowledge of the origins of Six Sigma, including:  
- Motorola  
- GE  
- Statistical Origin |
| 1.2: Explain Organizational drivers and metrics:  
- Identify key drivers for business | Identify KPIs that are important for an organization in order to measure its progress against strategic objectives:  
- Profit  
- Market share  
- Customer satisfaction  
- Efficiency  
- Product differentiation |
| 1.3: Describe the importance of utilizing organizational goals:  
- Project selection | Demonstrate knowledge of the project selection process and when to apply DMAIC (Define, Measure, Analyze, Improve, Control) as opposed to other problem solving tools. Identify organizational goals as they relate to the project selection process. |
| 2. Identify Lean principles | 2.1: Identify Lean concepts and tools. | Describe Lean concepts and how to apply common tools to reduce waste. These include:  
- Value chain  
- Flow  
- Pull  
- Perfection  
- Kaizen  
- 5S  
- Error-proofing |
| 2.2: Recognition of value-add vs. non-value-add activities:  
- Identify waste | Be able to identify waste in terms of excess inventory, space, test inspection, rework, transportation, and storage. |
| 3. Utilize DMAIC – Define | 3.1: Outline process elements:  
- Components  
- Boundaries | Define and describe process components and boundaries. Explain how processes cross various functional areas and the challenges that result for process improvement efforts. |
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| 1. Define Lean - Six Sigma | 1.1: Explain why Lean - Six Sigma is important for business:  
- Philosophy of Six Sigma  
- Overview of DMAIC (Define, Measure, Analyze, Improve, Control)  
- Philosophy of Lean  
- How Lean and Six Sigma work together | Describe the impact that Lean - Six Sigma has on a business's operations, citing the philosophies:  
- Enablers of change  
- Measures of quality  
- Methodologies for improvement  
Describe the theories of customer focus, data driven, reduction of variation and statistical methodologies.  
Identify waste in terms of:  
- excess inventory  
- space  
- test inspection  
- rework  
- transportation  
- storage  
- reducing cycle time to improve throughput  
- skills  
Describe project selection process and when to apply DMAIC as opposed to other problem-solving tools.  
Confirm that projects support organizational goals.  
Describe how projects and kaizen events are selected, when to use Six Sigma instead of other problem-solving approaches, and the importance of aligning their objectives with organizational goals.  
Describe the roles and responsibilities of Six Sigma participants: black belt, master black belt, green belt, yellow belt, champion, process owners, and project sponsors. |}

| 1.2. Identify Organizational drivers and metrics: |  
- List key drivers for business  
- Explain the development of metric scorecards | Be able to describe how process inputs, outputs and feedback impact the larger organizations. |
There are seven (7) competencies for Yellow Belt.
There are seven (7) competencies for Green Belt.
There are nine (9) competencies for Black Belt.

The competencies build on each other. So if you want to be competent as a Black Belt you need to prove competency to Yellow, Green and Black Belt competencies.

Where are the Competencies?

The competencies are available at:
or
Can be linked from [www.aoq.org.au/sixsigma.htm](http://www.aoq.org.au/sixsigma.htm)
Uses for the Competencies

- **Trainee**

  If training is provided against the registered competencies, an individual will know what his capabilities will be compared to other individuals undertaking the same course of training.

  It will be a simple task to compare advertised courses when they can be compared to the standardised competencies and so assist in discriminating between providers.

- **Potential Employer**

  Employers will know what the capability of an individual is when they apply for a position. This does not mean that further training is not required, because each employer’s requirements are different. However, applicants for positions will have a minimum set of competencies and capability.

  Discriminate between Providers. Employers seeking to arrange in-house training will be able to better judge the effectiveness of the course presented and discriminate between providers.

- **Training Provider**

  The competencies provide a basis for developing training programs. With a common set of minimum competencies to which customers can expect training, providers can concentrate on customer service and improving their training skills, rather than try to convince the potential trainee that their training is better than the oppositions.

  Provides a basis for recognition of prior learning (RPL) to reduce training costs.

  The competencies can be used as a basis for benchmarking Six Sigma Training programs.

**Lean Six Sigma Accreditation Register**

The AOQ-QLD has developed a *Lean Six Sigma Accreditation Register*, to provide appropriately qualified members with accreditation as Lean Six Sigma practitioners.

The feature of the accreditation is that it requires successful completion of a course and assessment approved by AOQ-QLD™ that addresses the Six Sigma Competencies registered with RABQSA.

Accreditation is available for Yellow, Green, Black and Master Black Belt practitioners.
When Will Registered Training Begin?

Some providers in Australia are already training to the standardised competencies, even though there are no RABQSA registered providers. Providers will only seek registration when the market demands it.

AOQ-QLD requires that all its Six Sigma trainers train to these competencies. An arrangement with an USA company is in place to provide training to these competencies throughout the country in 2009.

Conclusion

AOQ-QLD through its Six Sigma Division has championed the development of a set of Six Sigma competencies and had them registered internationally by RABQSA.

The competencies are the minimum standards that any person should aspire to for each of the recognised belts, ie Yellow, Green and Black.

Training to the competencies is a requirement for registration on the Lean Six Sigma Accreditation Register.

References

www.rabqsa.com/docs/downloads/ISD01.pdf
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