



# Lean and six sigma: The same or different?

Lean and six sigma are both planned change initiatives with objectives to reduce or eliminate waste, but there the similarity ends, says Douglas Ferguson.

**B**oth are often referred to as programmes, but that is not accurate. Six sigma may be a programme, but lean is a philosophy. As a programme, six sigma uses a methodology called DMAIC (determine, measure, analyse, implement, and control) to identify and eliminate waste. As a philosophy, lean is all about continuous improvement through the elimination of waste.

## People

Six sigma is about exclusion. A six sigma team is identified for a specific area or project. The team may include several green belts led by either a black belt or master black belt. The team may disappear for several days of extensive training in DMAIC, team building, communication, and so forth, before it starts plotting and gathering data for the 'six sigma' project. Because of the complexity of six sigma, it does not make business sense to train everyone, or assign all employees to projects.

There is great excitement within the six sigma project team: learning, participating and contributing. But everyone else becomes a bystander, waiting for change that may or may not have included his or her participation.

Countless stories tell of huge successes and cost savings from six sigma projects. Testimonials abound as trade publications provide

articles on six sigma. I have even witnessed and led some of these successes in accounting, material management and manufacturing.

However, in most of those cases, only the manufacturing people know about the manufacturing projects; only the accounting staff knows about the accounting projects; and only the materials group is aware of the materials management project. There is little or no participation beyond the project team. While organisations realise huge cost reductions, there is no effect on the culture or the organisation as a whole.

What happens at the end of the project? Unfortunately, some six sigma projects become personality driven. When the team leader goes on to another project, the team members fade away. Once in the spotlight, getting attention and recognition, they now may feel no one remembers them. Has there been a permanent behaviour change? When the project loses visibility, will improvement be sustained?

Lean is inclusive. Lean teaches us that success is achieved when the entire value stream improves, not when one discrete element of it does. In a successful lean implementation, the entire organisation may be involved in improving the value stream. All systems must be aligned. Purchasing, scheduling, manufacturing, engineering, accounting and human resources must all be active believers and participants in the lean journey.

Without 100% inclusion, the effort will stall when it reaches the excluded part of the organisation. The lean organisation educates, engages, and empowers the entire workforce to identify and eliminate waste throughout the value stream.

#### Approach to change

Transformational change and change management are two approaches to effective implementation of planned changes. As change management, six sigma tends to focus on cost, quality, and schedule. This narrow focus is apparent even in the names of project teams: inventory reduction team, accounts receivable cycle time team, manufacturing scrap reduction team, etc.

Lean is a transformational change, one that moves the organisation to a planned state. It involves the business strategy, organisational design, structure, culture, and processes of the entire value stream. It creates and reinforces the concept of continual change through the elimination of waste, improving the entire value stream's effectiveness. A lean change transfers knowledge and creates a learning organisation.

#### Improvement philosophy

Six sigma is aimed at specific targets in the value stream. The objective is to realise a level of improvement using the structured approach offered by DMAIC. The project teams keep the group focused on specific goals and objectives.

The teams work hard to identify root causes, test hypotheses, validate their analysis, implement their recommendations, and monitor them to ensure expected results are attained. When the projects are complete, the group celebrates, disbands, and the individuals return to their previous jobs. At best, they leave metrics or control charts to prevent roll-back.

Control charts, however, only encourage maintaining the status quo. Now before the statisticians get alarmed, remember that for a process to be in control there should be an expected

deviation around the average. Processes that show a number of points above or below the centre line are considered 'out-of-control.' Unfortunately, even if the trend is positive, indicating continuous improvement, statistical thinking will still consider it out of control. The negative implication can make the typical human being flinch after having made a large investment in time and energy in a six sigma project.

Lean is all about continuous improvement. The philosophy says there will always be waste to be extracted from the value stream. Lean is an ongoing celebration of waste removal, a never-ending process. In the transformed learning organisation, members are continually building skills and improving, making lean a daily part of their lives.

#### Summary

The differences between lean and six sigma are greater than the similarities. When the differences are recognised, returns can be maximised by knowing when lean or six sigma is the right choice.

#### About the author

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