

Can Lean and Six Sigma be Blended with Other Disciplines?

By Paul Odomirok, MEd

In recent years, Lean and Six Sigma have gained a great deal of momentum and popularity in commercial, governmental, and non-profit organizations. Some of this reputation can be credited to the success of Toyota and GE. At Toyota, the management paradigm is TPS, or the Toyota Production System, which is mostly referred to as “Lean.” During Jack Welch’s tenure at GE, he made Six Sigma a central focus of his business strategy. Other reasons for their attractiveness stem from the capabilities they provide in the areas of complex problem solving, business performance improvement, and increased profitability.

A brief comparison of both provides insight into why these modern-day “quality sciences” have become so popular in both the public and private sectors. Lean is focused on increasing overall value, improving the velocity of processes, eliminating waste, and delivering products and services that customers want, when they want them. Six Sigma concentrates on reducing variation, removing defects in processes, and instituting a facts-based problem solving. Taken together, they provide a framework and foundation for increasing efficiency and effectiveness for improving processes and ensuring operational excellence.

Many years ago, back in the early ’80s, I heard Ret. Rear Admiral Grace Hopper (now deceased) tell an audience of thousands of business people, “You can manage things like budgets, processes, tools, material properties, and even broom closets. But know this: people are unmanageable. People must be led.” This statement speaks to both the quantitative side of Lean and Six Sigma (L&SS), which is commonly understood, as well as the qualitative side—the human factor. Often, these are mistaken for completely quantitative tools void of any “people” or human infrastructure. Hence, organizations typically institute them and integrate them with other leadership designs.

L&SS purists hold strong that Lean and Six Sigma are management philosophies and structures to

be implemented exclusively and not toolsets nor subsets of other philosophies. In fact, Lean advocates often dismiss the need for Six Sigma and vice versa. Although both are management philosophies and constructs that can be used unilaterally, in practice, most companies opt to either alter them to fit their intent or combine them with the management archetype that is being embraced by the organization’s leaders.

For example, if one were to support Dr. John Kotter’s approach, documented in his books *Leading Change*¹ and *What Leaders Really Do*², the eight-step framework he uses for change (from creating a sense of urgency through instituting change and making it stick), and the three primary attributes of a leader (setting direction, aligning resources, motivating people), would fit nicely with the people-centered approach of Lean and the facts-based problem-solving DMAIC method of Six Sigma. In this scenario, both would be considered supportive toolsets for implementing change and leading the people.

Since both methods are built upon a proven foundation of traditional quality methods, they mix nicely with the Dr. W. Edwards Deming philosophy of management. His “14 Points for Management,”³ although somewhat dated, are still applicable in today’s chaotic business environment. His use of statistics is an exact match for Six Sigma, while his people-centered approach for removing waste is in synch with Lean. Although Dr. Deming’s approach is sometimes considered too traditional, the core of the philosophy still resonates with successful business leaders today.

Another framework to consider for blending would be “The Malcolm Baldrige Model.”⁴ The components and focal points of “The Baldrige” (i.e., leadership, planning, customer, information management, workforce, process, and results) provide a platform for utilizing Lean and Six Sigma tools and techniques for organizational development. L&SS is customer focused, process based, people centric, fact dependent,

and results oriented with inclusion of leadership and planning at tactical, operational, and strategic levels. In addition to the three examples mentioned above, there are numerous other models and frameworks with which L&SS can be blended. A few of them include;

- Kaplan and Norton's Balanced Scorecard
- McKensey's 7 S Model
- Kouzes and Posner's Leadership Challenge
- Peter Senge's Learning Organization and Five Disciplines
- Tom Peter's Eight Attributes
- Michael Porter's Value Chain
- Michael Hammer's Business Process Reengineering
- Peter Drucker's Management by Objectives
- Stephen Covey's Seven Habits
- Others: Shewhart, Ishikawa, Taguchi

It would be remiss to only mention options for blending, without identifying pitfalls and roadblocks that are incurred when combining the two with other disciplines. In The Wall Street Journal article "Why Six Sigma Projects Fail" (Jan 25, 2010), Satay S. Chakravorty points out that there are a number of reasons for project failures that utilized Six Sigma. Experts in the beginning eventually transfer responsibility over to unequipped managers. Performance and compensation are not tied to improvement projects. Project size, scope, and time are often expanded to levels of breakdown and collapse. Executives who advocate the organizational changes do not participate directly in the improvement projects themselves. This list, although not all-comprehensive, is representative of the primary reasons why any organization effectiveness change effort may fail. When L&SS is blended with other disciplines, many of the same conditions contributing to the downfall remain.

There is also a similar list for why Lean fails. The list below was created from research and experience over a period of 15 years (1995-2010), and illustrates the barriers for implementation:

- Lack of full leadership support from the top down
- Lack of customer focus
- Unclear purpose

- Unclear vision, mission, and strategy
- Skills poorly or inconsistently developed in the workforce
- Motivation to change is not considered
- The current environment was not prepared for change
- "Management Flavor of the Month" syndrome (history of too many initiatives)
- Leadership (not listening, not involved, not engaged)
- Lean as a reduction tool Lee employees are needed
- Need for Lean coaches and mentors
- Lean is overblown as the "end all" solution
- Lack of communication
- Lack of middle management buy-in and support
- No understanding this is about developing people
- No improvement measures
- People goals not aligned with improvement goals
- Kaizen events are the only improvement method and tool
- Compensation not linked to Lean Success
- Unclear purpose.

To avoid these pitfalls, whether by implementing a pure L&SS approach, or some hybrid using other disciplines, there are several critical factors for consideration. Below is a checklist for integrating and implementing L&SS as a standalone design or with other disciplines.

L&SS Implementation and Integration Checklist

- Ensure leadership involvement through engagement, support, dedication, advocacy, role modeling
- Be customer focused
- Be people centered
- Make sure suppliers are included
- Have definite purpose, values, vision, mission, strategy, goals, objectives, metrics and measures
- Improvement Philosophy

- ❑ Decide on a problem-solving methodology
- ❑ Define the work systems/processes, products, and services targeted for continuous improvement
- ❑ Develop an effective structure and resource alignment
- ❑ Ensure critical knowledge and information availability
- ❑ Integrate rewards, recognition, and motivation with the chosen paradigm and design
- ❑ Create a culture of communication

Within the American Archetype Research conducted by AT&T Bell Labs during the 1980s, it was discovered that Americans, as a society, are unique in that they naturally seek innovative ways to do things and strive to invent new methods for defining and accomplishing success when faced with challenges. It is apropos to expect American leaders of organizations to define their own standard for strategy, structure, and systems.

For the past 25 years L&SS has gained popularity for developing abilities and capabilities for making positive impact on organization success and work systems improvement. When instituted properly utilizing the checklist above, substantial gains and results can be realized.

Whatever the organization model, L&SS can be integrated as a supportive element of the infrastructure even if it is not the governing model. Components of both practices contain ingredients that have been proven over time. Simply instituting subsets of each may yield some trials and tribulations, but if introduced correctly, the tools and methods within L&SS will provide problem-solving results and operational excellence outcomes.

ABOUT THE AUTHOR

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