

Lean Six Sigma Leads Xerox

SINCE 2003,
XEROX HAS
FOCUSED ON
INTEGRATING
LEAN SIX SIGMA
CORPORATEWIDE.

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The origin of Xerox Corp.'s lean Six Sigma program can be traced back to the company's initial "leadership through quality" initiative in the early '80s. Improvement processes, tools and techniques were deployed across the corporation and centered on improving business processes to create higher levels of customer satisfaction, quality and productivity.

As improvement processes evolved through the '80s and '90s, Xerox explored various approaches to improving its business results. In the late '90s, Six Sigma and lean concepts were adopted locally by Xerox manufacturing and supply chain operations. While these efforts improved the overall efficiency and effectiveness of specific processes, they were very focused and limited in scope.

In mid-2002, Xerox leaders decided to integrate lean and Six Sigma across the corporation by committing the resources required to enable a robust deployment. They agreed to identify projects based on value creation and economic profit impact and engage every function and value chain. Key deployment management positions were staffed in every major organization, full-time Black Belt (BB) candidates were identified based on the individuals' performance records and leadership potential, and intense training began in January 2003.

Since then, Xerox Lean Six Sigma, as it is called, has gained increasing momentum. More than 400 BBs have been trained, more than 700 high business impact projects have been executed, and significant financial benefits have been delivered. Additionally, 2,000 leaders have participated in two-day workshops, another 2,500 employees are in some phase of the Green Belt (GB) certification process, and more than 10,000 employees have been through Yellow Belt (YB) awareness training.

Leaders at all levels are working to integrate lean and Six Sigma principles into all business processes, including product design and development, integrated supply chain, marketing and sales, customer service, infrastructure, governance and strategy deployment. Plans are



Anne Mulcahy, chairman and CEO, visits with Teamwork Day participants. Xerox's annual Teamwork Day celebrates the accomplishments of teams in a science fair atmosphere.

in place to continue this momentum into 2005 to drive even higher levels of customer value and financial benefits across Xerox.

Selecting Xerox Lean Six Sigma Projects

The management teams identify Xerox Lean Six Sigma projects based on customer experience improvement opportunities, alignment of strategic plans, ability to close business gaps and key areas for process improvement. As shown in Figure 1, Xerox views the lean Six Sigma process in two distinctly different stages:

1. The first phase focuses on project selection and prioritization. Potential projects are assessed based on their potential business impact and estimated effort. The business unit deployment manager works with the leadership team to identify the next best opportunity based on various business factors. To ensure alignment with Xerox goals, the leader of the operation is held accountable for the projects selected.
2. Once the project is selected and the appropriate sponsor confirmed, the project is queued up for

assignment to the next available BB. The BB uses the define, measure, analyze, improve and control (DMAIC) improvement process or one of the design for lean Six Sigma processes to identify and deploy the best solution for the defined business problem.

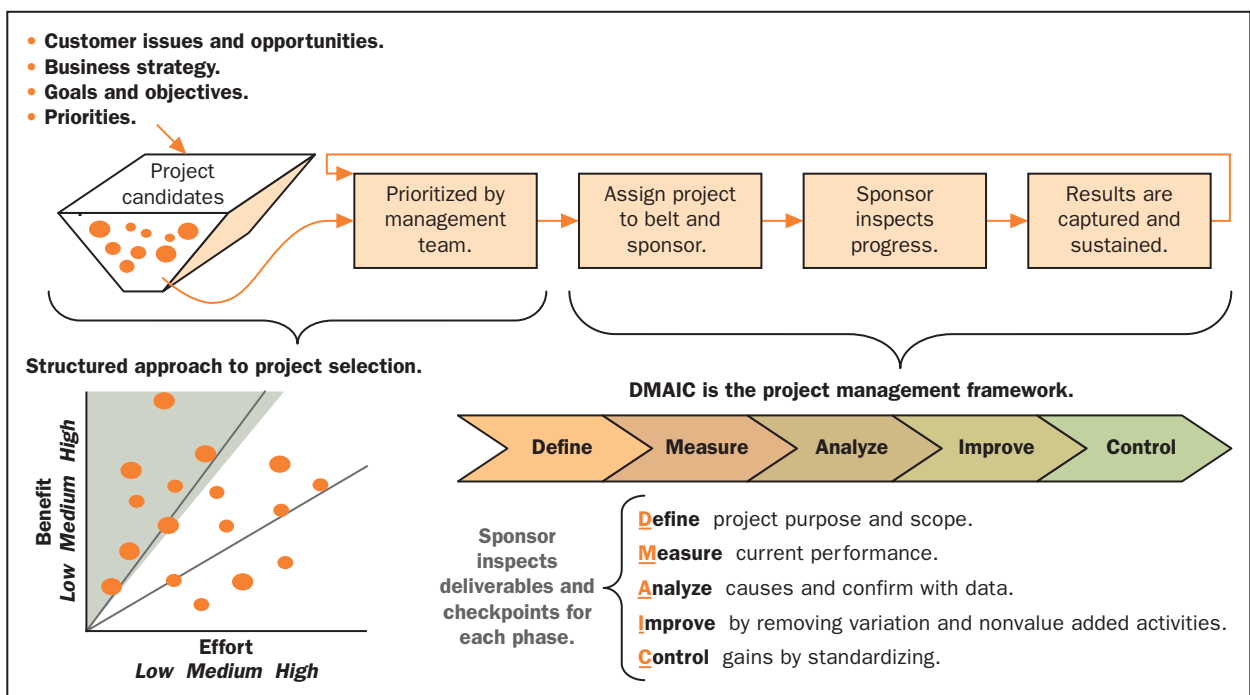
Lean Six Sigma projects at Xerox address every leg of the value lever tree (see Figure 2), and the results of these projects directly support the Xerox business goals.

Management Stirs Up Lean Six Sigma Success

Dedicated and committed leaders have been critical to the success of lean Six Sigma at Xerox. The worldwide deployment was the direct result of Xerox chairman and CEO Anne Mulcahy, who believed in the approach and asked her leadership team, “Is it time Xerox got serious about deploying Six Sigma worldwide?”

After conducting preliminary presentations addressing that question, the team participated in a leadership workshop to better understand the concepts, experience the approach and agree on a recommend-

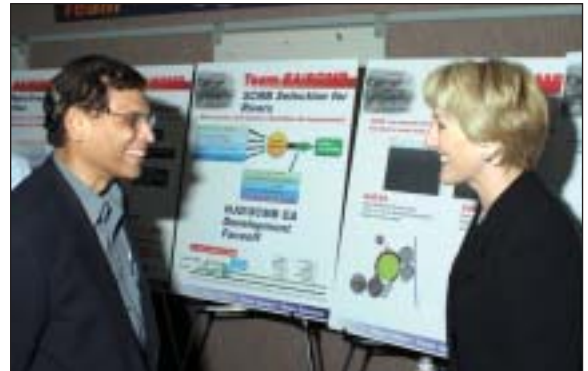
Figure 1. **Lean Six Sigma Processes at Xerox**



ed deployment recipe. The workshop enabled the decisions required to aggressively launch Xerox Lean Six Sigma across all organizations worldwide in 2003.

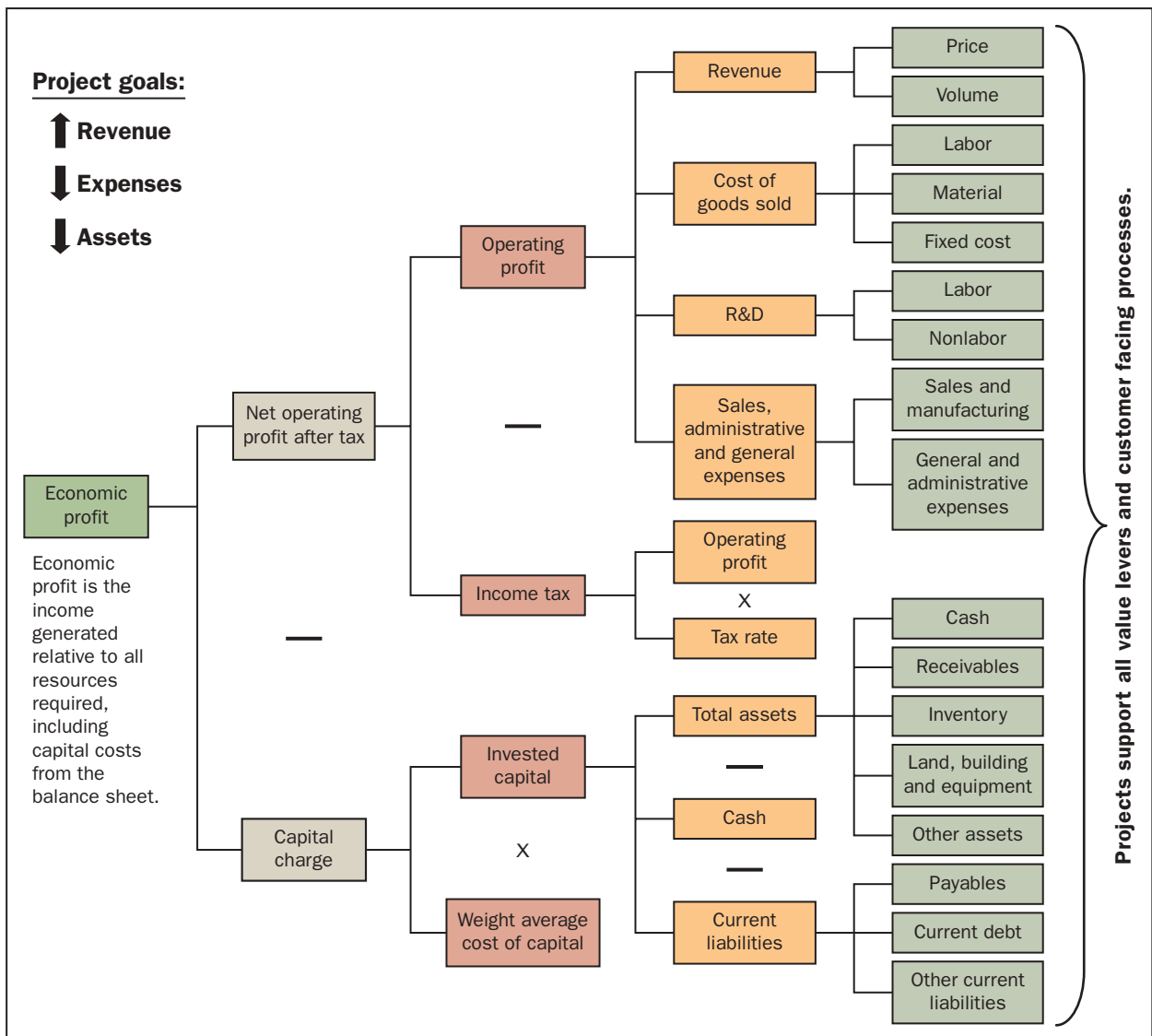
Lean Six Sigma Communication Channels

Starting with Mulcahy, Xerox Lean Six Sigma is a key part of nearly every employee communication. It is communicated as a key enabler in the quest to improve Xerox. During the first leadership workshop, Mulcahy stated, “What I worry most about is how to



Several of the showcased projects at Teamwork Day in June 2003 involved lean Six Sigma.

Figure 2. **Xerox’s Value Lever Tree**



return Xerox to greatness. Lean Six Sigma is not the only answer, but it's a significant part of the equation. Lean Six Sigma is incredibly different.”

In addition to having leaders communicate via speeches, meetings and newsletters, Xerox established an extensive intranet site that provides reference information, deployment details, project successes and answers to frequently asked questions. Formal curriculum also plays a key role in communicating Xerox Lean Six Sigma to all employees.

To supplement the standard BB and GB courses, an online YB awareness program was launched in 2003. It is accessible to all employees and provides a basic understanding of core processes, tools and expectations.

Customer focus is at the heart of Xerox Lean Six Sigma (see Figure 3). The outer ring represents Xerox

people providing value to the customer, as defined by the voice of the customer, leading to improved business results. The cycle is never-ending because continuous improvement is never-ending. The tools and processes for sustaining this perpetual, customer-centric cycle are contained within each of the four components that surround the customer focus circle. They include the performance excellence process, the DMAIC improvement process, market trends and benchmarking, and behaviors and leadership.

The performance excellence process supports the alignment of strategies and performance objectives, while the DMAIC improvement process provides the basic principles and tools for process improvement. Benchmarking and market trends provide the reference points and best practices for setting aggressive performance targets and finding better ways to

From the Top: Xerox's Leadership Commitment

By A. Blanton Godfrey, editor

Recently I interviewed the authors of this article, both key members of the Xerox executive team, about their involvement in Six Sigma. Art Fornari and George Maszle expanded on their company's implementation of the methodology and its integration with lean principles.

Six Sigma Forum Magazine (SSFM): What are the key differences in today's Six Sigma at Xerox and the well-known approach to business management you had before, Xerox's leadership through quality?

Xerox: The primary differences in our approach now are dedicated resources, pinpointed projects aligned with strategic goals, an economic profit, bottom-line focus and a standard set of methods and processes.

SSFM: What training do the senior leaders receive? What do you

actually cover in the two-day training you mention?

Xerox: In the first four hours, senior leaders receive an introduction to Xerox Lean Six Sigma and the benefits of lean and Six Sigma. Then we do an eight-hour simulation working with customers called “Sigma Station” in which the trainees process advertising requests. When they start it takes more than 20 minutes to book a request. After two or three iterations they can do it in 30 to 45 seconds. This simulation gives them a way to experience the real world and use the tools of lean and Six Sigma. This really hits home since it is a nonmanufacturing example.

We are finding the leadership by senior management is making all the difference. Before, we never made a business out of business improvement. People are now accountable for the economic benefits of their projects. We are also focusing more than before on the

customer experience with Xerox.

SSFM: You mentioned 10,000 Yellow Belts (YBs) have been through awareness training. What does that consist of?

Xerox: The YB training is a 16-hour online training experience. It comprises the first three modules of our Green Belt (GB) training. We have partnered with MoreSteam for this training.¹ We have been using this approach for four years and offer the training in five languages.

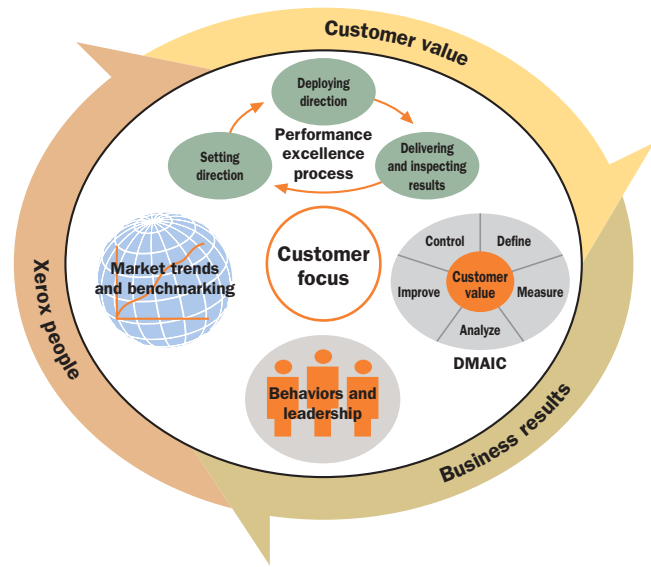
SSFM: Are all Black Belts (BBs) trained in design for Six Sigma (DFSS) as well as in design, measure, analyze, improve and control (DMAIC)?

Xerox: No, all BBs are trained in DMAIC, and 10% are also trained in design for lean Six Sigma (the define, measure, explore, develop and implement process). We have

improve processes. The behaviors and leadership component is critical in supporting all components of the framework.

Management processes, at all levels, are being modified to inspect project progress and ensure projects focus on the key business gaps and strategies critical to the business success of each operation. From a services and solutions perspective, many customer offerings are now based on sound lean Six Sigma principles. Additionally, many of the projects completed or in process address key customer issues or pain points. Many other projects provide opportunities to partner with customers and help them achieve higher levels of performance. Helping customers find better ways to do

Figure 3. **Xerox Lean Six Sigma Framework**



separate courses for design (R&D) and transactional DFSS. These courses are two-week add-ons to the basic five-week BB course.

SSFM: General Electric (GE), Motorola, Honeywell, 3M, Samsung and others have been frequently cited as the creators of today's Six Sigma. Is your approach more similar to one of these companies than the others?

Xerox: No, we are not similar to GE, and we believe Honeywell keeps lean and Six Sigma separate. We believe we are more like Caterpillar and ITT. We see four evolutions of Six Sigma:

1. Motorola was the creator.
2. GE brought the philosophy of dedicated resources and a strong business focus.
3. ITT added a value based approach.
4. Caterpillar has done a good integration of lean and Six Sigma.

SSFM: What do you think is unique about Xerox's approach? If someone came to study you now, what would they learn?

Xerox: We believe we have made an excellent integration of Six Sigma and lean. We have used economic profit for project selection and built a value based solid infrastructure. We are using Six Sigma and lean to develop our people and train them for future leadership positions. We expect to pick our future leaders in all aspects of the business from people trained as BBs or at least as GBs. Most of our people stay two years as a BB. To be certified they must complete two or three projects, create an additional \$500,000 in economic profit and have leadership endorsement.

SSFM: What has been most difficult in the past 18 months of implementation?

Xerox: Getting managers to give up their best people, getting projects aligned with business needs, understanding our gaps and opportunities for project selection and trying to break these projects down into smaller bites than world hunger.

SSFM: What advice do you have for other companies that have been leaders in their fields, true quality leaders, and are now considering Six Sigma?

Xerox: You have to have a reason—a convincing argument from the top. A burning platform like Caterpillar had helps. We had made a significant turnaround at Xerox; we knew we could be a very good company. But with Six Sigma we thought we could be outstanding—we could truly go from good to great.

Reference

1. See www.moresteam.com.

great work and improving their overall experience with Xerox are two important considerations in identifying Xerox Lean Six Sigma projects.

Continued Progress

The Xerox Lean Six Sigma deployment has three dimensions:

1. Projects and results.
2. Cultural change.
3. Leadership development.

To continue its progress, Xerox must balance all three dimensions. While the economic benefits from the hundreds of BB and GB projects are positively impacting financial results, if Xerox fails to change the culture or develop the BBs into future leaders, the business results will be short lived.

Xerox also realizes many Six Sigma deployment efforts do not achieve their full potential. Leadership believes the key differentiators of success and their ability to continue to make progress in Xerox include:

- The ability to achieve full integration into the business and how Xerox employees work.
- Project selection linked to business strategies and customer value.
- The ability to change culture and leadership behavior.
- Engaging the full value chain in all geographies and operations.
- Ability to track results using a robust project tracking system.

Xerox leadership also believes the basic elements of the deployment recipe are sound and are active across the organization (see sidebar “The Path to Transformation”). Even so, it still has a way to go to fully integrate the concepts and establish Xerox Lean Six Sigma as “how we run the business.” As project successes continue to stack up and gain increased visibility, the momentum will continue to build. Xerox Lean Six Sigma will be a significant part of the equation for moving Xerox from a good company to a great company.

The Path to Transformation

To enable a successful implementation, Xerox deployed a proven recipe recommended by the George Group. Even though minor variations have occurred, this recipe has clearly guided Xerox’s deployment over the past 18 months:

1. Select projects based on value creation opportunity such as return on invested capital and economic profit, with the number of projects in process controlled.
2. Use a consistent financial results tracking approach established by the deployment team and financial organization.
3. Consistently deploy and train full-time BBs, full-time deployment managers, sponsors and GBs.
4. Assign demonstrated top performers to the full-time roles.
5. Adopt the defined organizational structure to enable success.
6. Engage operations leadership in the process and integrate lean Six Sigma into daily business operations.
7. Achieve critical mass toward the Xerox transformation of at least 0.5% of the employee population as BBs in 2003 and another 0.5% in 2004.

WHAT DO YOU THINK OF THIS ARTICLE? Please share your comments and thoughts with the editor by e-mailing godfrey@asq.org.

line system. Six Sigma when coupled with Lean Principles is called Lean Six Sigma which professes eliminating waste in process steps by using Lean Tools which is based on Toyota Production System (TPS) which enhances value in Six Sigma implementation one step further by increasing speed by identifying and removing non-value adding steps in a process. on Lean Six Sigma implementations. Six Sigma Tools are available as free open source templates which can be downloaded from the URLs which are given in the references at end of the chapter. We present two case studies on Six Sigma implementation by two leading companies in this section. These studies reinforce Lean and Six Sigma Concepts as well as demonstrate the tools used by them. Lean Six Sigma Start Up. Project Champions. Chapter 14: Selecting the Right Projects. Generating a List of Candidate Improvement Projects. Working Out if Lean Six Sigma is the Right Approach. Setting up a DMAIC Project. Seeing Rapid Improvement with a Kai Sigma Event. Lean isn't a recipe for your organisation to slash its costs, although it will likely lead to reduced costs and better value for the customer. We trace the concept of the word Lean back to 1987, when John Krafcik (now with Hyundai) was working as a researcher for MIT as part of the International Motor Vehicle Program. Xerox implemented Lean Six Sigma back in 2003, and needless to say (but we will say it anyway) with great success. The ripple effect that using Six Sigma as well as Lean strategies has had on all who do business with Xerox is startling. We want to first bring up the fact that all of the successes we speak about on all the companies we have reported on are measurable improvements that are documented. In other words, all improvements are noted and tracked. Xerox made improvements by training thousands of their employees, leading thousands of projects and significantly contributing the total customer service aspect of the company. Over a period of time, the company showed massive, measurable improvements for Xerox, and the benefits reached all of their customers.