

Creating Competitive Advantage with Lean Six Sigma

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Introduction

Lean Six Sigma offers the CEO the means of creating and sustaining a significant competitive advantage. The value proposition is compelling: actual experience has shown that companies using both Lean and Six Sigma methods can reduce lead times by up to 80%, reduce manufacturing overhead and quality costs by 20%, and improve delivery times to above 99%. Applying Lean to the product development process can reduce time-to-market by 50% and enable the reduction of material cost by 5%-10%. The creation of the competitive advantage comes from developing a superior and sustained vehicle for transforming the CEO's strategy from vision to project execution and creating new operational capabilities that can expand the range of strategic choices.

Introduction

Implementation of Lean Six Sigma revolves around three major phases:

1. Initiation
 - a. Obtain CEO engagement, develop financial and performance goals for the two- to five-year horizon, and gain P&L manager commitment.
 - b. Create the future vision and organizational infrastructure.
 - c. Train top leadership in Lean Six Sigma first.
2. Selection of Projects and Resources
 - a. Select potential future leaders as champions and black belts.
 - b. Create in champions an NPV mindset toward project selection.
 - c. Train black belts in both team leadership and Lean Six Sigma tools.

Introduction

3. Implementation, Sustainability, Evolution
 - a. Provide expert coaching on initial projects.
 - b. Track projects through the DMAIC process to final results.
 - c. Build Lean Six Sigma into everything the company does and build the capability for Lean Six Sigma to remain an ongoing focus of the company.

The Need for Executive Engagement

Lean Six Sigma has the potential to rapidly increase intrinsic value in less than a year. But this implicitly assumes that the criteria for success, defined by the Six Sigma culture, have been achieved:

- ✓ CEO and senior management engagement.
- ✓ Commitment of 1% to 3% of personnel full time to improvement projects.
- ✓ Infrastructure to prioritize, approve, and track project vs. plan.
- ✓ Focus on return on investment of Lean Six Sigma.

The Need for Executive Engagement

Failure is just the reverse:

- ✓ CEO and top management not engaged.
- ✓ Commitment of part-time resources or significantly less than 1% of personnel full time.
- ✓ Black belts turned loose with no coaching or project prioritization.
- ✓ No infrastructure for project management or tracking vs. plan.
- ✓ Focus on cost of program, not returns or ROIC.

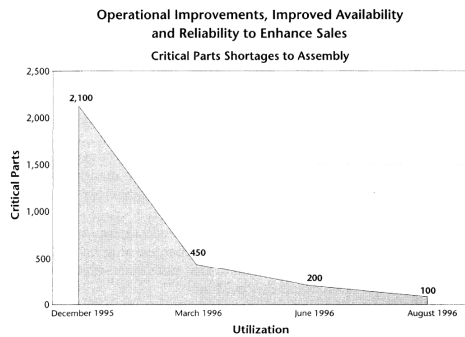
The Need for Executive Engagement

Securing CEO/Executive Commitment:

“When a CEO shows passion and support, I have never seen Lean Six Sigma fail. If, however, the CEO does not show this passion, I have never seen it succeed. If he or she leaves the initiative up to the divisions to decide to use Lean Six Sigma, it will generally fail to produce breakthrough results. If he or she fails to enforce the commitment of full-time champion and black belt resources, it will fail.”

The CEO's engagement is necessary for another reason: to make sure the benefits of Lean Six Sigma impact the whole business. Isolated pockets of excellence cannot improve shareholder value.

The Need for Executive Engagement



- Before**
- Lost 160 machine sales (~\$8M) due to lack of availability from January to June 1995
 - Had 424 machine orders cancelled (~\$21M) from January to August 1995
- After**
- Lost 0 machine sales due to lack of availability from January to August 1996
- Estimated Impact**
- Revenue: 424 units @ \$50,000 = \$21,200,000
 - Operating Income: \$21,200,000 * 29% = \$6,148,000
- Record Divisional Performance in 1996 and 1997!*

Realized Performance on Key Operating Measures

Initiatives	Improvements	
	Labor Productivity	Inventory Reduction
Product A	\$5,468,000	(\$560,000)
Product B	\$2,058,000	\$3,530,000
Total	\$7,526,000	\$2,970,000
Improvement	275%	35%

"Within a 6-month period we had 20% more sales and we were using 30% less inventory and 15% less receivables."
 —Group President

Figure 4-1. Results from division of example company

The Need for Executive Engagement



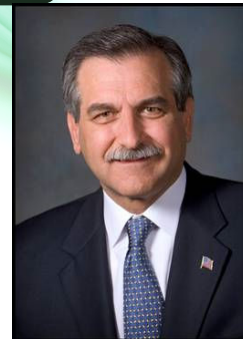
Winston Churchill once wrote that **people who wish to initiate great projects are very ill-advised to do so without the commitment of their chief.** He was referring to his efforts as First Lord of the Admiralty to force the Straits of Gallipoli in World War I. His prime minister was a very hands-off manager and was too weak to order the Army to coordinate his attack with the initial naval barrage. The Army finally did attack six months after the naval bombardment. During the interval, the Turks had been prepared by their German allies and a slaughter ensued. Churchill was blamed, losing his great office in 1916 and apparently ending his career forever.

Value Stream Selection a la Warren Buffett



“Businesses logically are worth far more than net tangible assets when they can be expected to produce earnings on such assets considerably in excess of market rates of return.”
Warren Buffett, Berkshire Hathaway letter to shareholders, 1983

Value Stream Selection a la Warren Buffett



“We think about value-based management as a strategy made up of a series of processes and principles, that creating shareholder value is the number-one, overarching goal for the organization. We want to measure ourselves based upon value creation. We use Economic Value Added (ROIC% less the WACC% [weighted average cost of capital]) as one of our primary measures.”
Lou Giuliano

Value Stream Selection a la Warren Buffett

The majority of champions, black belts, and quality professionals do not have an MBA degree; even those who do often do not connect their learning with project selection. Prioritizing based on shareholder value in particular is an area of their knowledge that cannot be left to chance.

We can drive home all the necessary concepts with just two graphs:

1. Graph 1: The Drivers of Shareholder Value
2. Graph 2: The Destruction of Shareholder Value

Value Stream Selection a la Warren Buffett

Premier Stock Price Multiples Strongly Driven by ROIC
Data 1994 to 1998, Copeland's Valuation
ex 5.2, 2000 Edition

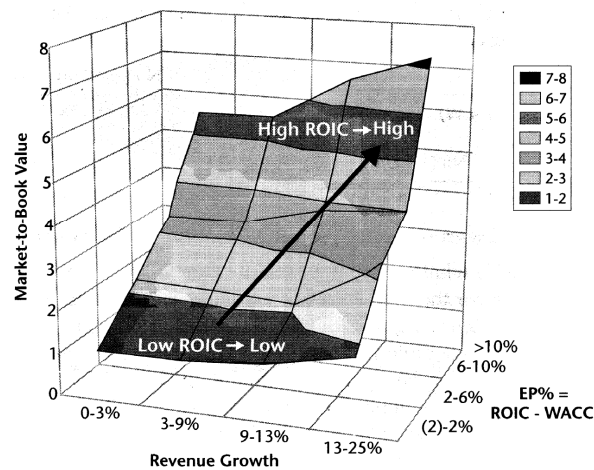


Figure 4-2. Stock price multiples and ROIC

Value Stream Selection a la Warren Buffett

Using Net Present Value

“In The Theory of Investment Value, written over 50 years ago, John Burr Williams set forth the equation for value, which we condense here: The value of any stock, bond or business today is determined by the cash inflows and outflows—discounted at an appropriate interest rate—that can be expected to occur during the remaining life of the asset.”

Warren Buffet, Berkshire Hathaway, Letter to Shareholders, 1992

$$\begin{aligned} \text{Value} &= \frac{No (1 - G/R)}{(1 + W)} + \frac{No (1 - G/R)(1 + G)}{(1 + W)^2} + \frac{No (1 - G/R)(1 + G)^2}{(1 + W)^3} + \dots \\ &= \sum_{n=1}^N \frac{No (1 - G/R)(1 + G)^{n-1}}{(1 + W)^n} \end{aligned}$$

where G = growth rate%, R = ROIC%, W = cost of capital%

Value Stream Selection a la Warren Buffett

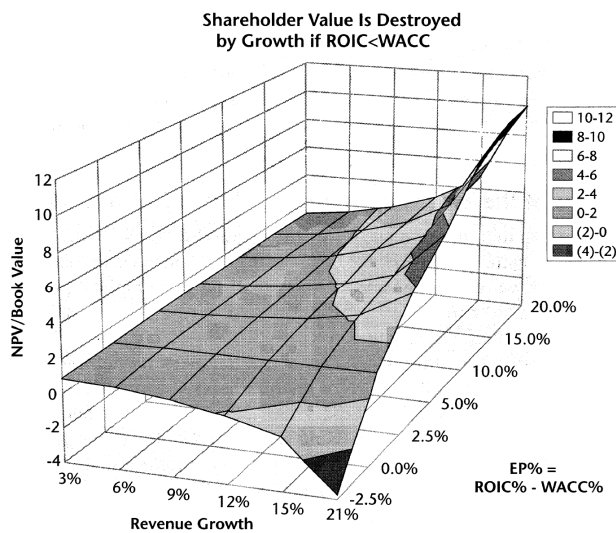


Figure 4-3. Destruction of shareholder value

Value Stream Selection a la Warren Buffett

“Some investors might weight book value heavily in their stock buying decisions. Some economists and academicians believe replacement values are of considerable importance in calculating an appropriate price level for the stock market as a whole. Those of both persuasions would have received an education at the auction we held in early 1986 to dispose of our textile machinery. . . the equipment could have been replaced new for perhaps \$30-\$50 million. Gross proceeds from our sale of this equipment came to \$163,122.”

Warren Buffett, Berkshire Hathaway, Letter to Shareholders, 1985

Value Stream Selection a la Warren Buffett

Lessons of the Two Graphs

Taken together, the graphs lead back to the basic value proposition of Lean Six Sigma. *You need to focus your efforts on value streams and projects that have the highest potential for the greatest increase in NPV. This will create the fastest rate of increase in shareholder value.*

Seeing these charts often has a real impact on champions and causes them to “get it.” We recommend the NPV approach because it allows us to apply analytical tools that are widely known and easy to teach. *When champions start using the language of net present value, we know the company is headed for success.* A clear linkage is established from the CEO’s strategy all the way to the shop floor initiatives, with tracking and reporting on the process.

Competing with Lean Six Sigma



“The most direct way of increasing productivity is doing the same thing in a lesser period of time—turning things faster. And productivity is the key to everything—greater productivity increases economic growth.”

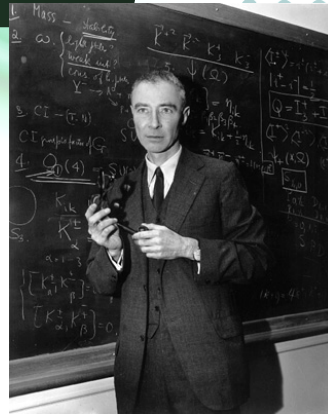
Andy Grove, former CEO and Chairman of Intel

Competing with Lean Six Sigma

The payoffs of Lean Six Sigma have an interesting phasing. Projects that are primarily Lean (concerned with process velocity and efficiency) pay off very quickly in inventory and manufacturing cost reductions. Then Six Sigma projects that are working to improve quality (reduce defects) provide a mid-range addition, aided by the faster process cycle times achieved from the Lean efforts. Design for Lean Six Sigma efforts (which can require a year or more) have much larger payoffs, as they impact the 50% of the product or service cost determined by design.

The present value of all these payoffs is strongly positive. Lean Six Sigma will convey competitive advantage and better shareholder returns at a faster rate than any other currently known process.

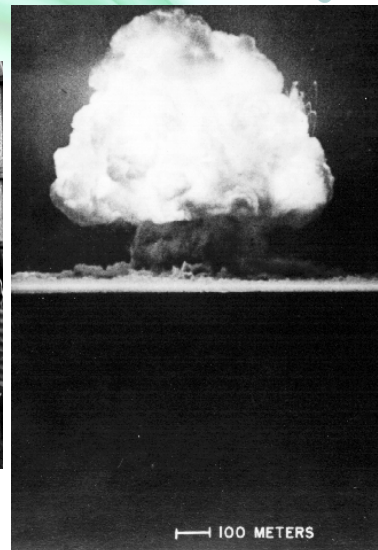
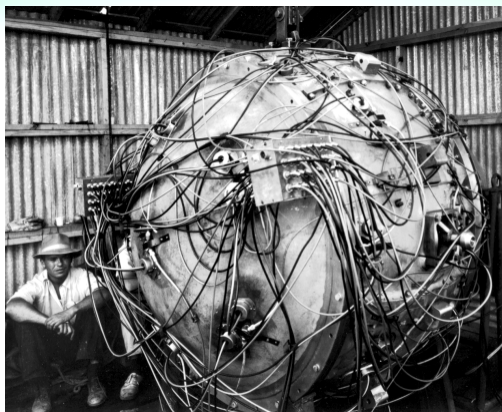
Competing with Lean Six Sigma



Look not proudly down upon us, should you stand higher or see farther than we, but rather recognize how, with courage and strength, we raised and supported your standard. Do the same for those who come after you and rejoice.

J. Robert Oppenheimer (1904-1967)

Competing with Lean Six Sigma



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