

A Leadership Roadmap for Managing with Metrics

By [Thomas Bertels](#)

Nine practical steps that focus on facts and data can provide a roadmap for business leaders at all levels on how to use the Six Sigma method to drive strategy implementation.

1. Start at the Finish Line: Define Strategic Objectives

By far the worst use of Six Sigma is on non-strategic issues. Chartering projects with little or no significance to the strategy of the organization sends a signal to everyone in the business: "We will push this initiative through, no matter how little sense it makes." Leadership at all levels needs to invest in making sure Six Sigma projects are aimed at the right targets. This process starts with defining the strategic objectives in a clear, concise manner. The objectives should closely align with the personal goals and objectives of the individual leader. Typically, the outcome of this step is such statements as:

- Reduce plant operating cost by 10 percent in the next two years.
- Increase revenue per sales representative by 25 percent in two years.
- Grow consulting services to pharmaceutical clients by 40 percent in the next three years.
- Grow market share in OEM business by 10 percent by 2007.
- Reduce product development cycle time by 500 days in the next three years.
- Develop a profitable after-market business with return on revenue of 10 percent in the next two years.

Obviously, objectives like these can be developed at every organizational level. While their scope tends to be more global in nature at the top of the organization, the key is to define the goal as precisely as possible, with a clearly defined metric and a time frame (less than five years). The outcome should be a short list of statements that all meet the test of being clearly aligned with the objectives of the executive or the leadership team in charge.

2. See the Business as Customers Do: Integrate Customer Perspective

Few businesses can succeed without the customer being satisfied. This step aims at defining performance against customer expectations that will allow the business to reach the strategic objectives. Outside of the sales and marketing functions, this step is often overlooked. To the extent possible, one should aim at verifying the assumptions made at this stage with actual customers or market research. Assumptions such as, "Customers will be glad to buy more financial products from us without a negative impact on our profitability" can be costly. The outcome of this step is a list of statements such as:

- Deliver within 10 days of the order exactly as specified.
- Provide value-added advice to physicians based on personal preferences.
- Reduce cost per vehicle by \$50.
- Provide measurable return on consulting engagements with an ROI of 20 percent.
- Develop medicines with significant economic benefit relative to cost of care.
- Provide financial products based on the customer's personal objectives at a fair value.

While some of these statements, again, can be quite global in nature, the leader or the team should spend some time in making sure they really understand the customer and verifying the outcome with the customer. Again, those in the organization who do not directly deal with customers need to work hard on understanding their role in satisfying external customers as well as analyzing how their performance impacts internal customers (who deal with external customers). An example for the human resources department of an auditing firm would be: "Develop the next generation of account managers capable of managing cross-functional, virtual teams with customer integration."

3. $Y = f(X)$: Identify Drivers and Processes

The third step is to identify the critical drivers that will make the strategic objective actionable. At this stage, it is useful to involve a cross-functional leadership team or utilize an existing leadership forum to have a dialogue about such questions as:

- How will the business accomplish this objective?
- What are the critical drivers?
- To what degree does the team agree on these drivers?
- What assumptions does the team make about other factors?
- What are team members' joint and individual assumptions about cause-and-effect relationships?
- What contribution does the team expect a particular driver to have on the overall objective?
- What performance does the business need to accomplish the goal?
- To what degree are the different drivers in conflict with each other?
- How do these drivers link to business processes?
- Who is responsible for the performance of critical drivers?

The outcome is a list of process drivers, oftentimes with two levels, that everybody on the team agrees to. In the process, the team will have had a frank discussion and converged on a joint picture of what it will take to succeed. Table 1 is an example of a driver tree.

Table 1: An Example of a Driver Tree				
Reduce Plant Operating Costs by 10 Percent While Reducing Delivery Time by 60 Percent in Two Years				
Labor Costs	Capital Budget	Production	Engineering	Workforce
Reduce indirect labor costs by 20%	Increase capacity of existing equipment by 12%	Reduce production cycle by 50% through Lean manufacturing	Reduce engineering throughput time by 10 days for custom-engineered products	Take out two supervisory levels through self-directed teams
Increase employee productivity by 10%	Leverage suppliers for non-core processes to reduce overall capital budget by 50%	Reduce work in progress and raw materials inventory by 40% through visual mechanical inspection and just-in-time delivery	Improve reuse of existing components by 40%	

Once the drivers have been established, the team should identify the business processes that impact the process drivers and the metrics that will help the team keep track of progress.

4. Agree How to Keep Score: Develop an Operational Definition

To the extent that this process reveals more than was known and agreed upon before – which is to be expected if the team really had a dialogue – the existing metrics will most likely not be sufficient to keep track of progress. In most instances, the leadership team will have to agree on how to keep score and ensure that the definition of the metric reflects the intent. While this seems like a trivial exercise, it is important that the leadership team thinks through to what extent the metric is properly defined. Table 2 provides an example of metric definition.

Table 2: An Example of Metric Definition

Metric	Operational Definition	Current Performance Level	Goal Performance Level	How Displayed
Definition				
Which indicators do you want to measure?	How will you go about collecting and recording the data? (What metric? When? Including what? Excluding what?)	What is the current value?	Where do you want to be when?	What type of diagram do you want to use to plot the data?
Example				
New product revenue	Actual, aggregate weekly orders, in dollars, for any product introduced within the previous 12 months. Does not include acquired products or level 2/3 new service releases.	\$1.45 million in 2005, week 7	\$1.2 per week throughout 2006	Rolling 52-week period individual/moving range control chart. Backup data to include individual new product monthly order control charts for same period.

5. Know Status Quo: Determine Baseline Capability and Performance Gaps

Once the measurement has been defined, the next step is to develop a picture of the current performance. The emphasis should be on establishing performance over time – typically two years, or a similar period that is representative. Black Belts can be very useful in this process.

After the data collection, the team should reconvene and review the past performance. Typically, displaying the data in a control chart format or a similar way helps all team members to understand the current performance relative to a number of key dimensions:

- Gaps in meeting the strategic goal and customer needs
- Variability and predictability of performance
- Trends and other patterns

As a result, the team should have a clear picture of what improvement will be required.

6. Use Pareto Power: Identify Opportunities to Improve Performance

The data will provide a start for the team to identify the root causes of performance gaps. Following the same logic as with the driver trees, the team will probe for causes, and identify a wide range of possible avenues to close any gaps. Some of these ideas will not necessarily lend themselves to using Six Sigma or Lean, but others will. At this stage, training the executives on the Six Sigma process and providing them with a process for identifying where Six Sigma can help will be critical. The outcome should be a prioritized list of projects that will be sufficient to close the gap, with a clear definition of deliverables and timelines. This stage could take a significant amount of time, especially when delegated to the next level in the organization (which is important to ensure buy-in of those expected to deliver the results).

7. Pull the Trigger: Launch Improvement Projects

This phase is all about mobilizing: Mobilizing Six Sigma teams to tackle the issues, mobilizing the organization to implement the changes, and mobilizing the leadership (from the CEO to every lower executive) to relentlessly drive the projects. The leaders of the business must hold the teams accountable while being patient in terms of the process. They must insist that project teams use data

and logic instead of gut response and conventional wisdom. It is all about executive presence and engagement. Many employees and team members will judge project importance primarily on their perception of how important the leader in charge thinks the project is. Project team leaders should expect scrutiny and critical thought from the executive team, as well as visible engagement and support, adequate resources, and a willingness to make responsible, tough decisions in a timely manner.

8. Drive Results: Monitor Achievement of Objectives

Once a project is done or close to being done, the executive needs to ensure that the project delivered on the result. Too many DMAIC projects derail in the Improve phase and do not deliver a sustainable improvement in performance. Reviewing performance against the stated objective is critical. It holds the team accountable – formally acknowledging that the team has delivered the expected result, or that it needs to go back to the drawing board and return with a recommendation for closing the gap. The review process also signals that the project is truly critical to the business, and thus deserves a leader's active involvement.

Project reviews provide an opportunity to demonstrate progress, commitment and consistency, as well as reinforce the message of focusing on the key drivers to accomplish the goal.

9. Learn the Lessons: Refine the Approach

The final step in this iterative process is to review periodically whether the assumptions made along the way are correct. In some cases, the executive or leadership team will realize that they made some incorrect assumptions and refine their tactics and the underlying strategy. Keeping an ear to the ground and being open to learning is crucial to avoid the problem of winning the battle (completing the projects) but losing the war (missing the strategic objective). The leadership team should meet periodically and review whether the assumed link between drivers and outcome is valid or requires adjustment.

Conclusion: Staying Focused

Making sure that Six Sigma is focused on what matters cannot be delegated. It is in the self-interest of every executive to understand how to use this nine-step approach to help them in accomplishing their strategy. At the same time, executives need to be focused and concentrate their energy on the vital few opportunities that will deliver a significant impact.

About the Author: *Thomas Bertels* is a partner of [Valeocon Management Consulting](#), and serves as the global firm's regional director for the Americas. He has worked with clients such as TRW, Siemens, Vanguard and Johnson & Johnson, and also served as the editor of and main contributor to a Six Sigma leadership handbook. Mr. Bertels started his career at ABB (Asea Brown Boveri), one of the early adopters of Six Sigma. Fluent in German and English, he is based in New York, N.Y., USA, and can be reached at thomas.bertels@valeocon.com.