

Control and Grow Your Enterprise

The right business measurements and controls benefit the whole company

TO ACHIEVE maximum efficiencies and financial results in turbulent business and financial markets, executives and senior managers must revisit their business models to make certain measurements lead to the right behaviors.

It's critical that a company's business model provides a structured approach for control and predictability. For this to occur, measurements, analytics, innovation and process improvements must be blended at both operational and corporate levels.

This advanced approach to managing an entire enterprise must integrate lean, Six Sigma and all the other quality-oriented methods into a pragmatic process that can result in far greater efficiencies and responsive operational units for achieving corporate financial goals.

Six Sigma's define, measure, analyze, improve and control (DMAIC) roadmap needs to be used not only for project execution, but also for full enterprise business management. In this approach, DMAIC is referenced as

P-DMAIC for the project level. At the corporate or enterprise level it is E-DMAIC.

E-DMAIC will provide organizations with a basic long-lasting governance system that will provide the framework and predictability for operating a business more successfully than conventional methods.

A couple of the components in the E-DMAIC system are:

- An analyze phase that blends analytics and innovation as part of the specific organizational and strategy-building process.
- An improve phase in which P-DMAIC process improvement projects are initiated and executed in alignment with overall business improvement needs determined analytically and innovatively.

Lean and Six Sigma roles

Where lean meets Six Sigma, all projects begin with a problem statement. Because of this, lean Six Sigma deployments are a

Projects are selected with two primary objectives: reporting financial benefits from all improvement projects and providing an employee with a project to use as part of his or her certification.

Lean or Six Sigma typically initiates or uses a push approach for project creation, in which management and others brainstorm projects and prioritize a list, sometimes scrambling to find a certification project for someone attending a lean Six Sigma Black Belt class.

This deployment approach can be successful initially because first-project improvement needs are obvious to everyone without any enterprise analyses. Sooner than later, it becomes difficult to

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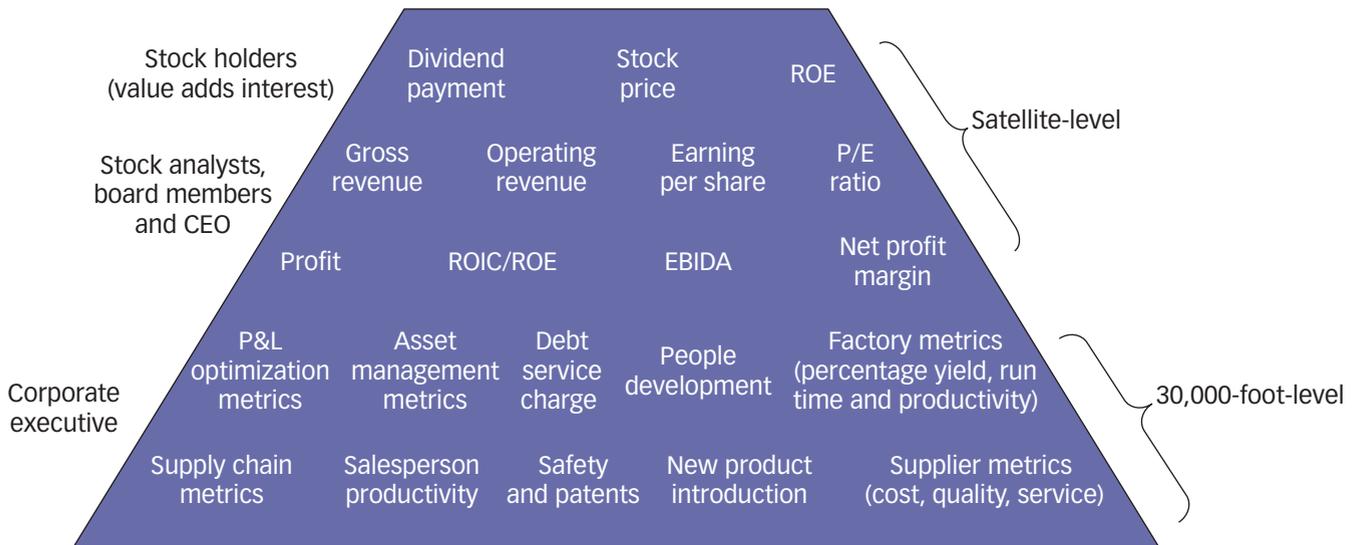
de facto method of problem solving. These deployments are not a business system.

Inclusion of lean with Six Sigma expands traditional Six Sigma defect-reduction problem statements to include waste of time and resources.

Yet, when DMAIC is used in lean Six Sigma deployments, its aims are limited.

find projects. Many completed project savings might sound good, but they have questionable financial benefits for the entire enterprise. There is usually no sense of urgency for completion because projects are not formally tied to management performance metrics improvement needs.

Example of satellite-level and 30,000-foot-level metrics / FIGURE 1



ROE = return on equity; OI = operating income; P/E = price to earnings;
 ROIC = return on invested capital; P&L = profit and loss;
 EBIDA = earnings before interest depreciation and amortization;
 VOC = voice of the customer.

In typical lean Six Sigma deployments, project selection is not the result of analytically and innovatively assessing the organization as a whole. A company might select projects without identifying overall enterprise constraint, which can lead to counterproductive behavior and suboptimization of processes. Such projects could set a company back.

This risk dramatically increases when lean Six Sigma deployments create groups to manage project selections that remain separate from operational scorecards and other business units. These units often get downsized when times get tough.

In contrast, a management system that blends analytics with innovation in the E-DMAIC analyze phase identifies improvement opportunities for the business as a whole. The system's analysis uses theory of constraints, lean, Six Sigma and other tools to develop specific, targeted strategies that will help

improve an entire corporate structure and its bottom line.

In the E-DMAIC define phase, a value chain describes functional activities with their drill downs. In the measure phase, functional activities have a 30,000-foot or operational level metric reporting, shown in Figure 1.¹ The figure shows the process response from such operational or airplane level perspectives, as well as an even higher view from a satellite or corporate level to determine whether a process is predictable or has common-cause variability.

If the process output from common-cause variability is not satisfactory or what is desired, then a process-improvement effort would create a pull for project creation. This is in contrast to traditional control charts, which are created for timely identification when special causes occur so adjustments can be made to bring the process back into control. As a business metric, report-

ing at this operational level can lead to more efficient use of resources and less manipulation of the numbers.

Unlike many traditional management report formats, these operational level metrics have neither calendar-year restrictions nor variance-to-goal tracking (for example, red-yellow-green scorecard). In the E-DMAIC analyze phase, the business as a whole is evaluated to determine strategies and improvement goals that favorably impact the entire business. Success of the projects is determined and quantified by a statistically significant shift in the 30,000-foot-level control chart to an improved predictability level.

These strategies lead to the identification of value-chain metric improvements. This creates a stimulus that draws out or pulls projects that will be in true alignment with business needs instead of imposing or pushing the creation of projects that may be counterproductive for the overall enterprise. The result will

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lead to the creation and execution of a long-lasting business measurement and improvement system for any organization. It will also generate process improvement and R&D design projects that focus on developing innovative solutions that will help an entire enterprise.

Goals for corporate or operational levels include the reporting of corporate-level financial revenue growth and profit margin metrics in a format that is not bounded by calendar year, assesses predictability, and makes a predictive statement when appropriate.

This approach puts the emphasis on creating financial benefits that will be experienced by an entire company, not just individual portions of the business, which often have a silo view of the organization. This measurement pull-for-project creation approach helps ensure that initiatives undertaken are truly aligned with overall business needs.

Lasting effects

The E-DMAIC roadmap provides an organizational governance system with a long-lasting, continuing framework that is independent of leadership changes. In contrast, a project selection process does not demand blind obedience to the creation and completion of a given number of projects in a set time period to benefit the entire system.

Instead of prioritizing projects based on presumed importance to a certain functional area on the organizational chart, managers can determine what should be done to make the enterprise stronger and more competitive as a whole. In addition, this system provides a method for how metrics are viewed and

how the business is managed day to day.

When the roadmap is implemented, the enterprise system becomes more data-driven and sustainable. The capacity for better performance measurement can lead to significant reductions in waste and unproductive firefighting activities. Activity checks and balances ensure continuing improvements and timely project completions in the control phase.

DMAIC goes enterprisewide

Three of the nine steps for aligning projects with business needs (see “Nine Steps To Align Projects With Business Needs” at www.qualityprogress.com) involve establishing metrics. Balance is important. For example, you don’t want to sacrifice quality when improving on-time delivery; however, you don’t want to force an unnatural balance throughout the organization, such as what might be suggested by the balanced scorecard of financial, customer, internal business processes, learning and growth processes.

Operational and corporate metrics must tie into a system for monitoring the voice of the customer. Metrics at this level are created in alignment with organizational value-chain functional operations. They can include defect rates, on-time delivery, inventory, safety, and product development and production lead time.

These metrics are developed to produce a natural balance and dependency on value-chain needs rather than the company’s current organizational chart, which changes over time. With this management system, a company’s core value-chain metrics will not change because of a shift

in leadership, strategy and the organization chart.

Achieving the right balance demands attention to the entire enterprise value chain. System performance is a function of how well constraints—such as internal resources, external markets or policies—are identified and managed.

When viewed as a whole, a system’s output is determined by its weakest link. If you don’t choose metrics and their goals carefully, focus may not be placed on overall performance improvement, but instead on a subsystem that would not impact overall output, even if it is significantly improved.

The E-DMAIC corporate and operational-level metrics are not bounded by calendar year. So if nothing has changed over 10 years (for example, the metric has demonstrated to be stable for this period), this metric reporting system would not only report this predictability, but also provide a predictive statement. For this to get better in time, teams need to determine improvements that will significantly improve this metric.

This view of the way a company functions can change behavior from a focus on doing whatever it takes to meet quarterly financial goals (the Enron approach) to improving performance at all levels so the overall output always reflects the maximum potential for an entire enterprise. **QP**

REFERENCE

1. Forrest W. Breyfogle III, *Integrated Enterprise Excellence: An Enhanced, Unified Approach to Balanced Scorecards, Strategic Planning and Business Improvement*, Bridgeway Books, 2008.



FORREST W. BREYFOGLE III is founder and CEO of Smarter Solutions Inc. in Austin, TX. He earned a master’s degree in mechanical engineering from the University of Texas-Austin. Breyfogle is the author of a series of books on the Integrated Enterprise Excellence System. He is an ASQ fellow and recipient of the 2004 Crosby Medal.

MORE FROM BREYFOGLE

Forrest W. Breyfogle III has written about control charting at the 30,000-foot-level in 3.4 per Million columns that appeared in the month of November every year from 2003-2006. You can access these columns at www.qualityprogress.com.

9 Steps To Align Projects With Business Needs

1. **Define:** Describe a vision and mission. A company's full management team must sign on with employees to build a vision and mission that remains consistent as leaders and strategies come and go.
2. **Define-measure:** Create an enterprise value chain. In this business-view diagram, include corporate and operational processes that describe the enterprise-process workflow as reflected in business financials and experienced by customers. For the entire value chain, report corporate-level financial metrics for the past three to 10 years in a satellite or overall enterprise-level reporting format along with lower operational-level performance metrics. These metrics assess process predictability and produce a format and statement on analytically determined predictive processes.
3. **Analyze:** Evaluate the enterprise. Analyze the enterprise as a whole, looking for constraints, defect reduction opportunities, waste, new product opportunities and other business performance issues. Avoid silo or organizational chart-based assessments, while keeping an overall enterprise view.
4. **Analyze:** Establish financial goals for corporate and operational units. Goals must be specific, measurable, actionable, relevant and time-based. In addition, financial goals have to be realistic and consistent with improvement opportunities. These goals also should be consistent with the performance measures developed in step three.
5. **Analyze:** Create strategies. Develop strategies to improve performance when corporate-level metrics are not achieving goals established in step four. Focus on creating strategies that are specific and benefit the big picture and the enterprise's long-term health.
6. **Analyze:** Identify high-potential improvement areas and establish operational goals. Identify target areas that clearly support strategies identified in step five. Set operational-level metric performance goals to support high-potential areas for strategic-objectives achievement. Other business-area operational metrics are to maintain current performance levels.
7. **Improve:** Identify and execute projects. Performance gaps in high-potential areas must pull, draw out and create well-scoped projects. Project execution is to follow a well-defined roadmap that blends lean and Six Sigma tools.
8. **Improve:** Assess each project's final impact on goals. Each project will be judged against how well it positively impacted operational-level metric performance. If significant business improvement is not achieved, more projects need to be created. Assess the collective impact of projects to corporate-level metrics.
9. **Control:** Maintain the gain. Value-chain metrics are to be a part of companywide management review meetings for the assessment of day-to-day performance and process-step execution.

About the Author
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In a professional career spanning over a quarter century, Forrest Breyfogle has established himself as a leading edge thinker, a prolific author, an innovative consultant, a world-class educator, and a successful business executive. His work is documented in eleven books and over ninety articles on the topic of quality improvement.

A professional engineer, Forrest is also a member of the board of advisors for the University of Texas Center for Performance Excellence. He is the founder and CEO of Smarter Solutions, Inc., an Austin, Texas based consulting firm offering business measurement and improvement consultation and education to a distinguished list of clients worldwide, including BAMA, CIGNA, Dell, HP, IBM, Oracle Packaging, Sherwin Williams, Cameron, TIMET, and TATA. He served his country on active duty in the US Army for 2 years, and has played an active leadership role in professional and educational organizations. Forrest received the prestigious Crosby Medal from the American Society for Quality (ASQ) in 2004 for his book, *Implementing Six Sigma* (second edition). This award is presented annually by the American Society for Quality to the individual who has authored a distinguished book contributing significantly to the extension of the philosophy and application of the principles, methods, or techniques of quality management

He is a widely recognized authority in the field of management improvement and is a frequent speaker before professional associations and businesses. His earlier work in the field of management science has been widely acclaimed. A previous book, *Implementing Six Sigma*, sold over 40,000 copies and still ranks among the top Amazon books in Applied Mathematics/Engineering Statistics and Industrial Engineering /Quality Control.

He founded Smarter Solutions in 1992 after a 24-year career at IBM. The associates of Smarter Solutions specialize in helping companies throughout the world improve their bottom line and customer satisfaction through the implementation of techniques that are beyond traditional Lean Six Sigma and the balanced scorecard methodologies. His latest and most extensive work has been in the documentation of a new system of enterprise management, the Integrated Enterprise Excellence (IEE) system, in a series of four books. IEE provides a detailed roadmap that builds on and integrates the best practices of earlier disciplines like Six Sigma, Lean, TQM, PDCA, DOE, and TPS combined with innovative analytical tools to produce improvements at the highest level of an enterprise.

In addition to assisting hundreds of major clients in the wise implementation of improvement systems worldwide, Forrest has also developed over 300 hours of classroom instruction used to train executives, managers, and Black Belt practitioners to plan for, implement, and manage IEE systems. He also leads formal seminars and workshops worldwide.

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