

Achieving Deming's System of Profound Knowledge through the Integrated Enterprise Excellence System

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Total Quality Management (TQM), Lean, and Lean Six Sigma are problem-solving methodology examples. Each of these problem solving approaches has strengths and weaknesses; however, these techniques are not an organizational governance system.

Some regard governance as a collection of separate processes, or as a component of broader management or leadership processes. A more inclusive governance definition is the need for consistent cohesive management policies, processes and decision-rights throughout the enterprise. Ideally this governance system should incorporate what W. Edwards Deming referred to as System of Profound knowledge.

Deming stated that System of Profound Knowledge (SoPK) consisted of the following four main subheadings:

1. Knowledge of Variation; i.e., knowledge of common cause and special variation.
2. Knowledge of Systems; i.e., understanding that all the parts of a business are related in such a way that if you focus on optimizing one part, other parts may suffer.
3. Knowledge of Psychology; i.e., what motivates people.
4. Theory of Knowledge; i.e., how we learn things.

What is needed is an orchestration governance system for addressing these issues and moving toward SoPK achievement. [Integrated Enterprise Excellence](#) (IEE) provides such a system. The IEE roadmap system for this accomplishment is described in a [4 book-volume series](#)^{1,2,3,4} and is summarized below.

IEE highlights for addressing each of the SoPk points is:

1. Knowledge of Variation; i.e., knowledge of common cause and special variation.

An IEE the organizational functional flow and the performance measures for these functions is described in a value chain. This long-lasting value-chain framework describes what the business does through an interconnection of processes and how these functions are measured. Value-chain metrics track business-function performance separating, through a satellite-level and 30,000-foot-level metric reporting system, common-cause variation from special-cause variation.

For processes that have regions of satellite-level and 30,000-foot-level stability, process capability/performance statements for these regions are made in terms that everyone understands; i.e., estimated percent non-conformance or median response with 80% frequency of occurrence. For processes that have a recent region of stability, data from the current region of stability can be considered a random sample of the future for making process predictive statements.

2. Knowledge of Systems; i.e., understanding that all the parts of a business are related in such a way that if you focus on optimizing one part, other parts may suffer.

Dr. Lloyd S. Nelson stated in Deming's *Out of the Crisis*:⁵ "If you can improve productivity, or sales, or quality, or anything else, by (e.g.) five percent next year without a rational plan for improvement, then why were you not doing it last year?" That is, the simple setting of organizational goals using red-yellow-green or other scorecards throughout the organization – with no rational plan for improvement – can lead to much firefighting and sub-optimizations that can negatively impact other business-system parts and the enterprise as a whole.

When the enterprise is viewed as a whole using the system described in point 1, predictive statements can be collectively assessed to determine where whole-business process improvement efforts should focus so that the overall business benefits.

Volume III⁴ of the described 4 book-volumes series shows how to achieve this knowledge of systems at the project-execution level, while Volume II³ in this 4 book-volumes series describes this knowledge-of-systems integration at the enterprise level.

3. Knowledge of Psychology; i.e., what motivates people.

Bad stress is when people feel they are not in control. Traditional dashboards show problems without a clear read on why or how to fix it. Good stress is when people feel they have control over the situation.

IEE addresses the knowledge of psychology by providing a roadmap for system where people have control for not only for making improvements through the execution of projects (Volume III) but also the management of the enterprise as a whole (Volume II).

4. Theory of Knowledge; i.e., how we learn things.

Organizational knowledge systematically increases when there is a governance system that first blends what is functionally done in an organization with measurements for these functions. This value-chain framework has metrics so that there is a high-level and then cascading measurement performance tracking system for describing processes in terms of common-cause and special-cause variability. This creates a long-lasting system that is independent of organizational changes; i.e., the organizational chart is subordinate to the value chain. Value chain metrics do not change with organizational changes; however, the ownership for value-chain metrics can.

It is important to gain process knowledge relative to whether data variation is common-cause or special-cause. This understanding can dramatically affect behaviors. For example, a special-cause signal can warrant investigation as to what occurred for a specific data point. However, when variation is common cause and desired results are not being obtained, something needs to be done different within the process to improve it. Simple setting of a goal in a red-yellow-green scorecard often leads to firefighting. Long-lasting improvement occurs when there is an improvement project execution roadmap that practitioners can follow to gain knowledge about the process and what improvements should be made for improved performance; i.e., a system for organizational learning about the process. Process data analytics blended with team innovation needs to be a part of the roadmap for efficiently and effectively determining what should be done different to improve. The knowledge gained from this process can help with the formulation targeted strategies that benefit the enterprise as a whole, avoiding sub-optimizations. Deming's plan-do-check-act cycle can be a very important component of this learning process.

IEE has a 9-step enterprise governance process framework for gaining long-lasting enterprise knowledge, which can lead to improvements that benefit the organization as a whole:

- Step 1: Define vision and mission.
- Step 2: Describe value chain, including 30,000-foot-level metrics.
- Step 3: Analyze satellite-level and 30,000-foot-level metrics looking for improvement opportunities. Analyze the enterprise as a whole looking for constraints, improvement opportunities, and new product opportunities, which could include acquisitions or selling portions of the business.
- Step 4: Establish SMART (Specific, Measurable, Actionable, Relevant, and Time-based) goals that are consistent with the work from step 3.
- Step 5: Create strategies from step analyses described in step three blending analytics with innovation.
- Step 6: Identify high potential areas and related 30,000-foot-level scorecard/dashboard metrics for focusing improvement efforts using goals and the value-chain process map to help guide the selection process. Identify potential projects that are in alignment with determined business needs.
- Step 7: Select, assign, and complete well-scoped projects that are not too large or too small.
- Step 8: Assess project completion impact on enterprise goals.
- Step 9: Maintain the gains.
- Repeat.

Reference

1. Breyfogle, Forrest. W. *[The Integrated Enterprise Excellence System: An Enhanced Approach to Balanced Scorecards, Strategic Planning and Business Improvement](#)*, Bridgeway Books, Austin, TX, 2008.
2. Breyfogle, Forrest. W., *[Integrated Enterprise Excellence Volume I - The Basics: Four Golfing Buddies Going Beyond Lean Six Sigma and the Balanced Scorecard](#)*, Bridgeway Books, Austin, TX, 2008.
3. Breyfogle, Forrest. W., *[Integrated Enterprise Excellence Volume II - Business Deployment: A Leaders' Guide for Going Beyond Lean Six Sigma and the Balanced Scorecard](#)*, Bridgeway Books, Austin, TX, 2008.
4. Breyfogle, Forrest. W., *[Integrated Enterprise Excellence Volume III - Improvement Project Execution: A Management and Black Belt Guide for Going Beyond Lean Six Sigma and the Balanced Scorecard](#)*, Bridgeway Books, Austin, TX, 2008.
5. Deming, W. Edward, *Out of the Crisis*, Massachusetts Institute of Technology, Cambridge, MA, 1996

About the Author

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