

Integrated Enterprise Excellence (IEE): The Six Sigma Measurement Strategy of Smarter Solutions®, Inc.

Six Sigma is more than a quality improvement program. The methodologies of Six Sigma should be an integral part of the operations and measurements of a company. A Six Sigma Business Strategy should lead to process improvements and re-engineering projects that are aligned to business needs.

Smarter Solutions® discourages the use of the commonly used metric "sigma quality level" (e.g., a 3.4 parts per million defect rate equals a six sigma quality level). We have several reasons for taking this position. One issue is that this metric is a quality metric. To apply this metric to the other measures of a business, such as a reduction of cycle time and waste, one has to define a specification. This often leads to "playing games" with a value in order to make the sigma quality level number look good. Many organizations have trouble integrating Six Sigma with Lean Enterprise or Lean Manufacturing methodologies because cycle time and waste do not have specification limits like manufactured products.

We will next describe the approach we use for measurements within our **Integrated Enterprise Excellence (IEE)** strategy. With the **IEE** methodology, key business metrics such as ROI and Inventory are tracked using a high-level tracking chart such as an *XmR* statistical control chart. The sampling rate for this control chart should be infrequent, e.g., monthly. Our **Satellite-level®** measurement strategy for these high-level business metrics separates common cause variability from special cause variability. Differentiating variability types offers organizations a means to get out of the fire-fighting mode, in which common cause variability issues are often acted upon as though they were special cause.

When common cause variability with a **Satellite-level** metric is unsatisfactory, the organization should then define a Six Sigma project(s) leading to improvement of this business measurement. With our **IEE** strategy, the outputs from the selected processes would be tracked using our **30,000 Foot-LevelSM** measurement strategy. With this strategy, at least one Key Process Output Variable (KPOV) metric for each project is tracked, using a *XmR* statistical control chart that has an infrequency sampling period, i.e., one unit per day or week.

The purpose of a Six Sigma project is to find a Key Process Input Variable(s) (KPIVs) driving the KPOV (e.g., the temperature used within a plastic injection molding machine affects the overall dimension of a part). With our **IEE** strategy we would focus on what should be done to control this KPIV (temperature) through our **50 Foot-LevelSM** measurement and improvement strategy. The tracking of this metric would utilize an *XmR* statistical control chart that has a frequent sampling period, e.g., one unit sampled, measured, and tracked every minute or hour. When an improvement is made to our process, the **30,000 Foot-Level** strategy measurement should go out-of-control, leading to a improved level of common cause variability for the KPOV (overall dimension of a part) of the project. In addition, the **Satellite-level** metric should in time improve.

Within a Six Sigma business strategy, we are trying to determine the pulse of the business, which requires more than just a "snapshot" of the latest results from a process or business metric. There is a real need to create a continuous picture that describes key outputs over time, along with other metrics that give insight on focus areas for improvement opportunities. Unfortunately, the policy of organizations often encourages practitioners to compile data in a format that does not lead to useful information. This problem is overcome when an organization follows our **IEE** strategy and uses the described measurement strategy.

References

- *Implementing Six Sigma*, Forrest W. Breyfogle III, Wiley 1999
- *Managing Six Sigma*, Forrest W. Breyfogle III, James M. Cupello, and Becki Meadows, Wiley 2001
- *Wisdom on the Green*, Forrest W. Breyfogle III, David Enck, Phil Flories, Tom Pearson, Smarter Solutions, Inc., 2001