Sloan Consulting
PRODUCTIVITY, QUALITY, INFORMATION AND BUSINESS SYSTEM SOLUTIONS

Breakthrough Case Study in Success

Business Excellence, Lean, Operational Excellence, and Six Sigma use science to solve business problems. Solutions improve profits. Six Sigma's classic **D**efine, **M**easure, **A**nalyze, **I**mprove, and **C**ontrol (DMAIC) cycle is handy way to summarize success.

PROJECT: Software Vendor Partnership Cost Reduction

Issue: A multibillion-dollar software manufacturer needed to drive down the total $191 million annual cost of supplying its workers with updated workstations. Both the software manufacturer and its primary supplier were in the midst of an aggressive cost cutting initiative. The initial, first year targeted savings goal was set at $12 million.

This "skunk works" demonstration did not have approval of any quality council. A department manager decided to demonstrate the power of Lean Six Sigma tools in order to persuade senior management they would be worth using in a corporate-wide initiative.

Breakthrough DMAIC Strategy, Tactics, and Results

***Define**:* The manufacturer and vendor disagreed over causes for variations in workstation price and delivery times. A large number of vendor employees ("80 heads") dedicated to the supply task and machine performance differences were only two of the key issues. Suspected causes (hypotheses) for the significant differences included:

- Hypothesis 1 (H_1): Relaxed metrics – no quantitative methods were used - led to story telling about the reasons for varying costs.
- Hypothesis 2 (H_2): Standardized workstations were an unacceptable solution for knowledge workers with idiosyncratic production needs. It was OK to spend as much money as one wanted.
- Hypothesis 3 (H_3): The current compensation scheme created perverse incentives that led to wasted resources.
- Hypothesis 4 (H_4) Vendor costs, which were best in class, were already bare bones. There was little room for improvement due to prior breakthroughs.

Measure: A one-day training session for managers on both sides of the negotiation table was delivered. A series of just-in-time, 1:1, half-day training sessions on data collection and data mining were provided to technical support staff people.

Working under the direction of the hands-on Master Black Belt and a management charter for breakthrough improvement, these "green belts" flow-charted the procurement process. A relational database contained historical data as well as real time, daily transaction data.

Existing variable metric fields included but were not limited to the following: delivery times, cost per component, cost per workstation system, performance, reliability, and warranty costs. These statistical metrics were stratified into homogeneous fields and graphed using quality control charts. In addition scatter diagrams with their regression analyses were completed to quantify correlations. For the first time, quantitative analysis served as the measurement gold standard.

Analyze: Statistically and economically significant differences emerged across the board. Numerous patterns yielded insights for breakthrough.

Improve: The significance of the results cried out for an automated, real time system that could be used by managers on a daily basis. A highly skilled, relational data base programmer received a three hour,1:1 training.

Control: The programmer linked together the relational databases, key metrics between the vendor and the software manufacturer, and analytic software applications. Using macros and Visual Basic programming a one-click system was implemented that produced real time quality control charts, scatter diagrams, Pareto charts, and regression analyses. This programming task was completed in three hours time.

Financial Results: Proprietary restrictions prevented an open sharing of the exact annual cost savings achieved. However, it seemed apparent to casual observers that the initial goal of reducing costs by $12 million would easily be exceeded. Total time for this consulting project was 5 days.

It is interesting to note that in 2002, more than three years after this demonstration project, this software company launched its Six Sigma initiative. Change takes time.