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The Evolution of Six Sigma

Six Sigma originated at Motorola in the late Eighties. In essence, Six Sigma is the synthesis of a set of quality control tools and a methodology for applying those tools to improve business processes. Initially, the approach spread slowly, but as the interest in Business Process Reengineering (BPR) kicked into high gear in the early Nineties, Six Sigma began to spread more rapidly. In 1995, Jack Welch, then CEO of GE and a hero of the business press, announced that, "Six Sigma is the most important initiative GE has ever undertaken...it is part of the genetic code of our future leadership." Since Welch's endorsement, Six Sigma has gone on to become one of the most popular business process initiatives at large companies.

Quality Digest is a popular magazine read by many Six Sigma practitioners. For the past two years, Dirk Dusharme, the Technology Editor of *Quality Digest*, has undertaken a survey of Six Sigma activity and published the results. In describing a survey conducted in October of 2003, he reports on Six Sigma initiatives at some 935 companies. Among other things, he reports that 61% of the companies surveyed have had Six Sigma programs for less than 3 years while 87% have had programs for less than 5 years. The results of Six Sigma efforts vary, but many programs report saving millions of dollars. Unfortunately, the cost of most Six Sigma programs is also high. The survey shows that Six Sigma training is mandatory for all employees at some 24% of the companies surveyed and 43% of the companies report that they provide 5 or more days of training per employee. Dusharme cites the cost of Six Sigma as one reason why Six Sigma is more likely to be implemented at large companies that can afford the overhead. Six Sigma has had its troubles during the past couple of years, as budgets have tightened, but it has successfully expanded beyond its manufacturing origins and is now very active in areas like health care and finance and is even beginning to make some inroads in smaller companies.

If one steps back from the specifics and focuses on the broad picture, four things stand out about Six Sigma.

First, Six Sigma has always placed a major emphasis on measurable results. Most Six Sigma programs publish monthly and quarterly reports showing the money they have saved the company. Business managers have always appreciated this emphasis on the bottom line.

Second, Six Sigma programs tend to be well organized. In many cases Six Sigma has been established in a new company as a result of one CEO suggesting it to another. Sun Microsystems, for example, claims that its program was initiated by its CEO, Scott McNealy, as a result of a golf game he played with Jack Welch. As a rule companies that establish Six Sigma commit to training a significant number of people in Six Sigma techniques. The individuals who are trained and certified end up becoming "black belts," "green belts," and so forth. Thus, within a short time, there are individuals throughout the company committed to making Six Sigma work. The fact that Six Sigma is able to gain the support and the necessary funding from senior management, is impressive. Too many other business process initiatives fail because they don't get senior management support or because the initiative relies primarily on outside consultants and withers when those consultants are withdrawn. A significant strength of Six Sigma is that the practitioners are good at embedding process change into a business culture.

Third, Six Sigma is still dominated by Quality Control gurus and places a heavy emphasis on statistical techniques and well-defined problems. Although there are important exceptions, most Six Sigma efforts focus on small, narrowly defined processes. A quick glance at 3-4 Six Sigma books reveals that they do not dwell on the kinds of process mapping techniques needed to analyze large-scale processes, and, instead, focus on describing the statistical techniques needed to analyze very specific activities. The combination of jargon, statistics, and the narrow focus of many Six Sigma efforts have convinced many managers that Six Sigma is fine for very specific problems, but not applicable for larger, more complex problems.

Fourth, Six Sigma tends to focus on people problems. Again, there are exceptions, but as a strong generalization, Six Sigma teams work to improve the way in which employees do their jobs. This is in contrast to IT groups that tend to focus primarily on figuring out how to automate processes.

Six Sigma efforts have been underway in most companies for somewhere between two and five years. If you talk with practitioners at conferences, many will admit that they have undertaken the obvious projects and reaped significant rewards, but are now finding it hard to identify new, tractable projects.

This has led to several different efforts to evolve the Six Sigma tool set. One result is a number of books that talk about how one combines Lean and Six Sigma. In this context, Lean refers to a set of techniques designed to improve the flow of activities and events within a process. In a related way, some companies are exploring combining Six Sigma with Human

Performance Improvement techniques, as advocated by the International Society for Performance Improvement (www.ispi.org). ISPI advocates a set of techniques that are based on an analysis of how employees perform their jobs.

Another move to expand the scope of Six Sigma is to emphasize Design for Six Sigma (DFSS). DFSS seeks to apply Six Sigma concepts and other quality control techniques to a large-scale process - the design of new products. The idea is to design products so that they can be consistently and efficiently manufactured.

Equally interesting is the recent series of meetings between Six Sigma practitioners and Supply Chain Council managers who are exploring how Six Sigma can be combined with a high-level business process framework like SCOR. In essence, SCOR can be used to quickly characterize a complete supply chain and then SCOR measures can be used to identify just which sub-processes are most in need of improvement. By combining a set of techniques that looks at supply chain problems very broadly with Six Sigma techniques, a company gets a more comprehensive approach to analyzing and correcting supply chain problems. (A session on SCOR and Six Sigma is scheduled for the IQPC Business Process Management Summit in May in Las Vegas. www.iqpc.com.)

Six Sigma is alive and well. We will undoubtedly see new companies embrace it as the economy begins to accelerate. For many companies, Six Sigma is the major initiative focused on improving employee performance. At the same time, Six Sigma has, in the past, limited itself by being too narrowly focused and by not adopting tools that would provide practitioners with the ability to tackle larger, fuzzier problems. This is beginning to change and Six Sigma seems likely to evolve into an even more interesting business process change movement in the years ahead as it branches out and establishes relationships with other business process initiatives.

Till next time,

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