Six Sigma and HPT: Mutual Benefits

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As more attention is placed on interventions, we need to learn more about options so that we can effectively select, promote, and support Six Sigma implementation. Six Sigma has saved companies millions of dollars, is supported by upper management, and has been credited with saving organizations.

Organizations arrive at the situation where products and services are not meeting customer needs, they are losing prestige and respect in the marketplace, they cannot create and maintain quality, and the culture doesn't energize employees to improve. Both Six Sigma and Human Performance Technology (HPT) are comprehensive approaches based on systematic and systemic processes, focused on outcomes and results, and require collaboration. Many of their practices are similar, but each approach has a different origin. As a result, there are nuances that make huge differences. Six Sigma, driven more by hard data, reduced variation, and quality of the customer experience, enjoys more consensus around terminology and process. HPT is more inclusive, encourages broader data gathering and evaluation, and more unique, holistic interventions (solutions).

Six Sigma Defined

Six Sigma, a quality-centric approach to continuous improvement, is a disciplined change management process that uses data to analyze and measure deviation and to systematically eliminate the variance. "Six Sigma is both a technique and a philosophy based on the desire to eliminate waste and improve performance as far as is technically possible" (*Business*, 2002, p. 572). It focuses on quality of product and service, based on customer needs and expectations, and aims for "zero defects" (commonly targeted at 3.4 defects per million opportunities or 99.9997% defect free). Sigma is the symbol for standard deviation. "It is estimated that most companies are at the two to three sigma performance level, which means that for every million customer contacts there are 308,000 to 66,800 defects per million (Eckes, 2001, p. 1).

Six Sigma takes discipline, senior executive long-term commitment and willingness to drive the initiative, extensive training, new martial arts terminology, and shared vision. Six Sigma originated at Motorola, based on statistical tools and techniques developed by Joseph Juran; teams and culture are critical aspects for success. Improvements are based on team projects and needs to be infused into the culture. Quality, performance, productivity, and competitive advantage are improved while costs and waste are reduced. Six Sigma is now part of mid- and small-sized suppliers, healthcare, government, and other organizations.

Six Sigma Roles

The most fascinating and significant aspects of Six Sigma are its organizational roles. A member of the senior executive C-team is the quality leader and champion, while the senior executive team drives the initiative and serves as role models on a long-term basis. Six Sigma is not an initiative for everyone but top management, executives must "walk the talk" and drive the vision and the execution. Thorough knowledge and understanding of the Six Sigma details are critical for employees in all job categories. Using the terminology of karate, master black belt—who achieve the highest mastery of tools, techniques, and concept—serve as internal coaches, providing tutorials, facilitating meetings, and advising the champion. Black belts are full-time and green belts are part-time, having more tactical responsibilities. They lead several yellow-belt action teams (Davis, 2003, p.20) using outstanding project management skills applied to projects usually lasting six months or less. Teams consist of well-trained members competent in the DMAIC (Define, Measure, Analyze, Improve, Control) process for problem solving or DFSS

(Design for Six Sigma), which is comparable to Harless' New Performance mindset. Commitment and belief in Six Sigma are critical for success of any project or organizational effort.

Six Sigma is a well-defined strategy with an impressive history of substantial results in costs saved, deficits reduced, variation decreased, and customer satisfaction and loyalty improvements. It can be an effective intervention for HPT.

In order to better understand the opportunities for human performance technology (HPT) professionals to support Six Sigma, it is essential to consider the differences and similarities of the two concepts. Clearly there are more similarities than differences. Perhaps the primary difference is in execution. Below is a comparison between HPT and Six Sigma.

Strategy and Analysis: HPT analysis consists of assessment of society, organization, process, and individuals. Six Sigma begins with senior executive priorities and definition of projects. HPT is more comprehensive and broader, especially when the executive level is involved in the performance or opportunity analysis, while Six Sigma is more closely aligned with senior executives' strategy and is driven by hard data. Information gathering differs. HPT often uses surveys, interviews, and organizational data in a general sense. Six Sigma gathers very specific numerical data, supported by organizational data and limited interviews or surveys.

Cause Analysis: Both HPT and Six Sigma use cause analysis. Six Sigma draws on the quality heritage of the Shewhart and Deming's Plan-Do-Check-Act. HPT uses quality processes without the discipline of exactness. Six Sigma tends to define expected outcomes more precisely leading to clearer selection of interventions by the end of cause analysis. Van Tiem, Moseley, and Dessinger created a systematic Intervention Selection Tool for *Performance Improvement Interventions* (2001), which takes the performance improvement project team through a structured process of confirming causes and identifying the optimum interventions to alleviate an opportunity or challenge.

Interventions: Intervention implementation and change management are key components of HPT and Six Sigma. Again, HPT has more latitude to accomplish performance improvement based on blending interventions and working closely with stakeholders and the champion. Qualitative evidence of individual, process, organizational, or societal change is more central to HPT. Six Sigma also blends interventions and works closely with champions and stakeholders but precise measurement, data analysis, brainstorming, benchmarking, and evidence of variance reduction drive decisions and next steps. In both Six Sigma and HPT, intervention options are extensive.

Evaluation: Evaluation is used in both HPT and Six Sigma. In HPT, qualitative and quantitative evaluation guides decisions and proves value. In Six Sigma, primarily quantitative evaluation drives decisions to reduce variation and improve customer loyalty.

Organizational Commitment: HPT has yet to develop the senior-level commitment enjoyed by Six Sigma. "HPT may lend itself to executive level sponsors but Six Sigma demands this level of commitment. Research shows that C-level positions lead the charge and speak the Six Sigma language" (Minuth, 2003, p.7).

AutoAlliance's implementation of Six Sigma can serve as an example of the integration of HPT and Six Sigma. David Pruitt, a University of Michigan-Dearborn (UM-D) graduate student in Performance Improvement and Instructional Design, was the Director of Deployment for AutoAlliance, the Ford-Mazda joint venture in Flat Rock, Michigan beginning in 2000. Dave combined his extensive manufacturing and quality experience with the HPT he learned at UM-D. His understanding of organizational dynamics, consulting, culture, and problem solving were enhanced through HPT. Six Sigma required extensive training, consulting, coaching, and change management, which were part of his key responsibilities and definitely related to HPT.

Clearly, there is mutual benefit and potential synergies from sharing approaches. Six Sigma can benefit from HPT's broader approaches incorporating theory and practice from a wider variety of fields. HPT, on the other hand, can benefit from Six Sigma's commitment to decisions based on evidence and its involvement with senior management.

References

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