

LEAN SIX SIGMA/BUSINESS TRANSFORMATION



The improvement of CPI/LSS in PEO MS will improve operational business success and enable the PEO to manage programs.

The Leaning of Lean Six Sigma: A Systems Approach to Cultural Change

Frank J. De Luca Jr.

Program Executive Office Missiles and Space (PEO MS) at Redstone Arsenal, AL, set out to realign deployment of the Army's Continuous Performance Improvement (CPI)/Lean Six Sigma (LSS) program tool sets to achieve fundamental cultural change and, ultimately, improve operational business success.

These initiatives were inspired by the PEO's willingness to listen to the voice of the customer (VOC), which is fundamental to the success of every business. When employee-customers express a need for fundamental organizational process change in LSS deployment, the deployment process must be adjusted accordingly.

From January 2007 to April 2010, PEO MS employees voiced their need for change in the deployment of LSS throughout the PEO, providing a detailed laundry list of their VOC needs.

Here's what they said:

- The LSS Program of Instruction (POI) is too broadly focused, primarily in the area of manufacturing versus transactional business environments.
- Army and PEO business environments are more "Lean" than "Six Sigma"; PEO MS needs a POI that would more accurately reflect our transactional environment. An example of such an environment is that PEO MS directly produces paper and e-mail products, versus manufacturing products, that support its business processes and Soldiers.
- Transactional environments have very limited process data, so we need to better understand data types and how to mine data in our transactional world. Process data refers to the flow of paper information—such as product contract requirements from the Project Management Offices to the Contracting Center, engineering data between the government and industry partners, and acquisition milestone decision documents among the PEO, the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASAALT), and the

Department of the Army (DA)—and the time that it takes from start to finish, to include flow days, delays, and redos.

- Current Green Belt and Black Belt training is too long (two weeks and four weeks, respectively); it competes with mission needs. Can we reduce training time and focus the POI to better align the content between the two training levels?
- The expectations for the time it will take to complete belt projects are unrealistic, as we are an Army at war. Can we adjust LSS to our business and operational realities?
- The amount and levels of mandatory belt certification practices, policies, and procedures contradict CPI and LSS tenets. Can we adjust LSS to a more user-friendly, intuitive tool set, realizing that doing a first project does not make one an expert, but a novice practitioner whose expertise evolves with each project? Otherwise, LSS project completion and certification represent an LSS finish line, versus a starting line for LSS cultural development.

Understanding Excellence

Americans expect and believe that our military, specifically our Army, is the world's best. But excellence in business and performance do not happen by osmosis; we must make them happen through hard work, performance planning, and proper use of CPI tools and organizational metrics. Dr. Malcolm Ross O'Neill, ASAALT, said at the ASAALT Materiel Acquisition, Logistics, and Technology Review Nov. 1, 2010, that "LSS is a mind-set change." If we wait for the best-intentioned individuals or groups to collectively disrupt their comfort zones and embark on change management, very little, if anything, will happen spontaneously.

The benefits of success and the costs of failure are equally great in every business endeavor. To foster success, there are

organizations that use national criteria and established processes to systematically advance their corporate vision for improved business performance. For example, the annual Malcolm Baldrige National Quality Award, named after the former U.S. Secretary of Commerce from 1981 to 1987, recognizes U.S. organizations in the business, health care, education, and nonprofit sectors for performance excellence. The Baldrige Award is the only formal recognition of performance excellence in both public and private U.S. organizations.

To receive a Baldrige Award, an organization must develop an organizational management system that ensures continuous improvement in the delivery of products and services, and further demonstrates efficient and effective operations in the following categories: leadership; strategic planning; customer and market focus; measurement, analysis, and knowledge management; human resource focus; process management; and results.

In the past year, our PEO had five Project Management Offices and one Assistant PEO Office submit Malcolm Baldrige-type Level 1 and Level 2 applications. Our applications were part of our five-year quality plan. As a first step in building our culture, we submitted applications to the State of Alabama Quality Award Program.

Although all the PEO applicants believed they were fully engaged in the seven Malcolm Baldrige Award categories, they quickly realized that they could not demonstrate or prove their level of involvement in most, if not all, of the categories to the extent required. From the perspective of business and operational efficiency and effectiveness, they were getting the job done. However, there was still work to be done to further refine their business operations and practices to the level of excellence required for recognition. By doing the hard work of building their

applications, they realized that "good enough" was just not good enough for their business operations.

Not Just a Certification

The issue here is to understand that there must be an organizational commitment to cultural change, versus simply counting completed projects, as an indication of involvement in CPI/LSS. In the article "Mad Belt Disease: Over-Emphasis on Certification," Gary A. Gack wrote: "An emerging trend—which can justifiably be labeled as a case of 'Mad Belt Disease'—may be threatening the long-term credibility and success of Six Sigma. It is time for practitioners of Six Sigma to help stem the spread of what is beginning to look like an epidemic. This disturbing trend is the increasingly frantic emphasis on Green Belt or Black Belt certification."

Gack further stated, "Six Sigma certification must be based on results, not knowledge alone. The success of Six Sigma realized by leaders such as GE, Motorola, Raytheon and others always has been based on a carefully orchestrated deployment process that begins at the top and is fully supported by appropriate infrastructure. This infrastructure includes coaching, mentoring and fact-based monitoring of results. Training and testing are among the less important elements of a successful deployment—necessary, but far from sufficient alone. Certification based only on knowledge is form without substance."

That said, an organization that enables its practitioners to voice their issues, is willing to listen, and demonstrates its willingness to advance those issues to the ASAALT and the DA may be on the right path to creating an environment for cultural change.

Our PEO and employees had earned their CPI/LSS stripes and saw a need to "lean" LSS. They wanted to become more efficient and effective in the workplace, hopefully using an

improved LSS tool set. Intuitively they knew that if we collectively remained on our current path, we would make LSS certification a destination versus the start of a cultural journey.

In that regard, it was their intent that employees achieve learning on their first few projects and work to achieve practitioner status with each project undertaking.

Taking It to the Top

In early April 2010, we elevated our customer VOC needs to the DA, Office of Business Transformation (OBT), via the ASAALT. LTG Robert E. Durbin, OBT Director, understood the message, reacted positively, and immediately directed that we conduct a pilot program to address the CPI/LSS process concerns. He agreed to co-sponsor, with his office and ASAALT, a two-site program to increase the overall efficiency and effectiveness of the Army's CPI/LSS deployment.

Durbin included PEO Ammunition at Picatinny Arsenal, NJ, the Army's 2009 Public Sector Malcolm Baldrige Award winner and CPI/LSS leader. He acknowledged the need for positive cultural change, created a pathway, established a timeline, and enabled an environment for CPI/LSS process improvement throughout the Army. Immediately, the Deputy Assistant Secretary of the Army for Strategic

One of the PEO MS VOC needs was to reduce Green Belt and Black Belt training time and focus the POI to better align the content between the two training levels. (U.S. Army photo.)



Communications and Business Transformation within ASAALT, using its already established Training Integrated Process Team (IPT), began to address all aspects of the VOC process concerns.

By mid-September 2010, the IPT team, with input from DA and ASAALT co-sponsors, had developed VOC solutions with approved process changes that would make CPI/LSS significantly easier to deploy and use in the Army's organizational and business environments. We collectively assessed, developed, and improved the deployment techniques, methodologies, and POIs, ultimately developing the process into LEAN Lean Six Sigma.

A key challenge was to address VOC issues and maintain standards without compromising the POI's body of knowledge, which is based on the American Society for Quality (ASQ) education base line. The team measured and developed a Lego-style or stackable, aligned, and consistent ASQ standard of knowledge for Green and Black Belt training. ASAALT, working with the training IPT, approved the team's recommendations, which institutionalized solutions that provide practical guidance on 16 major CPI/LSS process issues.

Seven Solutions

The seven approved VOC solutions represent changes in the way the Army will deploy its CPI/LSS practitioners to become more efficient and effective:

- Approved pilot site POIs that reduce all LSS belt training times by 50 percent.
 - Yellow Belt: 6 hours of training
 - Green Belt: 1 week of training
 - Black Belt: 2 weeks of training
- Authorize local Master Black Belts to teach Yellow Belt, Green Belt, and Black Belt POIs.
- Authorize local Black Belts to teach Yellow Belt and Green Belt POIs.
- Authorize local Master Black Belts and local panels to DA-certify Green Belts and Black Belts.

- Authorize DA certification for methodologies other than Define, Measure, Analyze, Improve, Control for DA Green Belt and Black Belt certifications.
- Authorize scheduling and administration of local DA-approved training and certification to meet the needs of the deployment, customer, and culture.
- Develop reasonable and acceptable project certification-level documentation.

Each VOC solution addresses a particular need for change that was apparent to everyone we talked to or briefed and was not specific to PEOs Ammunition and MS. The VOC solutions go a long way in addressing systemic change management and clearly demonstrate DA's and ASAALT leaders' commitment to LSS—that they, too, recognize that change, regardless of how useful or beneficial, is difficult for people to accept.

Many original CPI/LSS change agents and practitioners no doubt will see the revised LSS pilot deployment strategy as unnecessary, possibly as a threat to what they have fought to build or achieve. Ultimately, they will realize that the only constant is change. They will realize that the leaning of Lean Six Sigma is an organizational and systems approach to business process and organization cultural change, which is what we should be doing daily to support the Soldier.

FRANK J. DE LUCA JR. is the Assistant Program Executive Officer for Strategic Planning and Operations, PEO MS, Redstone Arsenal, AL, and a retired U.S. Air Force colonel with 31 years of service. In November 2006, he was recruited from industry to be an Army civilian. He holds a B.S. in aviation business management from Embry-Riddle Aeronautical University and an M.A. in contracting from Webster University. De Luca is certified Level III in program management and life-cycle logistics and holds an LSS Black Belt certification.