

# Using an Integrated, Continuous Improvement Model to Transform Organizational Culture and Maintain a Focus on the Customer

By Rashi Mehra

*\*Editor's Note: This article is excerpted from a presentation given by Mark Palla and Joe Sladeczek of Raytheon Co. at APQC's 2005 Member Meeting.*

Although a company merger makes for great press, it can also cause quite a rift for the parties involved. When the Raytheon Co. completed a series of mergers in the 1990s—bringing 80,000 employees and 64 different supply chain systems under one roof—the security of the enterprise was at risk. Cultural problems and duplicate processes were rampant and demanded immediate attention. To mitigate the after-effects of the mergers, Raytheon leadership placed streamlining at the top of their priorities and focused on corporate culture and administrative processes. The Raytheon Six Sigma™ approach that resulted from their efforts proved to be an overwhelming success for the internal business and continues to receive widespread recognition among the business world.

## Customizing a Solution

Raytheon CEO Bill Swanson envisioned a company that was united under a common approach to continuous improvement: Six Sigma. Since the pressing needs of the company revolved around cultural improvement, he also recognized that the traditional Six Sigma solution, which focused primarily on growth, would not be a complete solution for Raytheon. Through benchmarking with leading companies such as General Electric Co. and Allied Signal, Raytheon was able to incorporate best practices in the areas of change management, cultural management, and leadership development, which resulted in a customized solution broader in scope than the traditional Six Sigma approaches (Figure 1).

According to Mark Palla of Raytheon, Raytheon's Six Sigma approach is a knowledge-based process used to transform the company's culture to maximize customer value and grow their business. "Raytheon Six Sigma includes all processes and functions within the company. It is a standard process whether you are in England, Boston, or California—no matter what business you are in," Palla said.

Palla said this integration of knowledge management, cultural development, and the inclusion of customers and suppliers within a framework of Six Sigma is what sets Raytheon Six Sigma apart from the traditional approach. He identified six stages of Raytheon Six Sigma: visualize, commit, prioritize, characterize, improve, and achieve. A traditional Six Sigma approach encompasses these stages as well, but Palla highlighted unique components of Raytheon Six Sigma that have proven to be extremely successful.



Figure 1

## Customers and Suppliers are Key

The visualization stage is distinctly different from traditional Six Sigma approaches. Palla said the Raytheon Six Sigma stage of visualizing involves starting with a clean slate, rather than focusing on understanding what is already there. Palla said the difference between Raytheon and the companies they've benchmarked is this visualization. "What does our customer want us to be? How can we add value to our customers?" Palla asked.

Also, Raytheon Six Sigma focuses on customers and suppliers. "We recognized that no matter how much we improved internally, we weren't going to get the lift that we should unless we focus the Six Sigma process on our suppliers," said Palla.

A Customer and Supplier Institute was formed as a result of this commitment. Palla described the institute as a group of full-time, dedicated employees who ensure that Raytheon strategies and practices are applied appropriately with customers and suppliers.

Prior to Raytheon's efforts to streamline continuous improvement efforts, Six Sigma was applied differently at each of Raytheon's suppliers. By standardizing the process with Raytheon Six Sigma, any business unit is now able to take the same approach with all suppliers.

Raytheon's Candidate Evaluator System™ is a pivotal tool in enforcing this standardization. The elaborate supplier information database, Palla said, "tells our programs what type of engagements we should have with the suppliers, what they expect in return on investment for that supplier, and helps us select which suppliers we're going to focus our Six Sigma activity on."

Raytheon's commitment to customers and process improvement is evident in its Integrated Product Design System™ and its Integrated Supply Chain™ (Figure 2). The Integrated Product Design System™ is an eleven-step gated process that ensures Raytheon's programs are running effectively. It provides an environment of continuous improvement, with one process to define, plan, capture, and execute all of Raytheon's programs, said Palla. The Integrated Supply Chain™, on the other hand, aligns Raytheon's resources and processes with supplier capabilities to meet customer's needs. It is a multifunctional engagement that coordinates all the activities that are necessary to satisfy customers. "We recognize that to be an effective supply chain, it takes more than what people traditionally think of the purchasing organization, so we focus on our customer and supplier and align all those functions in an effective way," said Palla. "Both systems are used to manage the white spaces between processes and people." Under Raytheon Six Sigma, the two systems provide a streamlined process for managing the company's two most important priorities: customer satisfaction and efficient processes.

### IPDS and Integrated Supply Chain: Manage the White Spaces between Processes and People

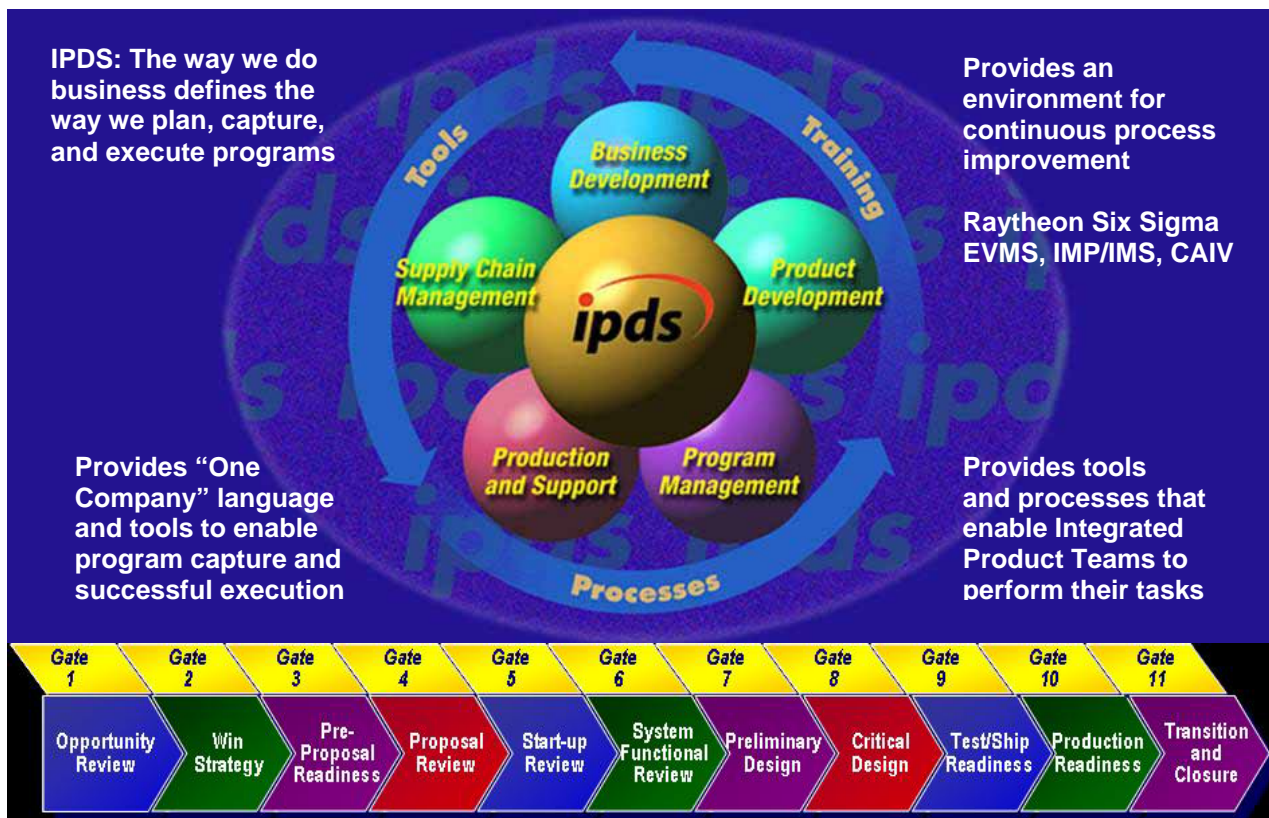


Figure 2

Because 60 percent of program dollars is invested in suppliers, Raytheon created a supplier rating system to manage information on their suppliers. “We had so many different systems that it was a challenge [because] we are providing suppliers different ratings from the same company,” said Palla. Raytheon drew upon benchmarking, Six Sigma, and knowledge management to develop a customer-focused system that would drive collaboration between the business and the supply chain. According to Palla, the rating system is a two-way measurement tool that helps manage different suppliers. The system is now employed across the company under the umbrella of Raytheon Six Sigma.

### **Knowledge Management is Crucial**

Incorporating knowledge management activities is another distinguishing feature of Raytheon Six Sigma. Palla stated that knowledge management was brought into the process to reduce the duplication of Six Sigma projects taking place across business units and across different cities.

Among the most valuable knowledge management activities employed at Raytheon are cross-functional and cross-enterprise communities of practice (CoPs). CoPs were launched at Raytheon in order to eliminate process duplication and increase access to knowledge on an enterprise-wide scale. “We really wanted to make sure our CoPs were embedded into our Six Sigma practices, so we intersected knowledge management communities into Raytheon’s Six Sigma,” said Palla.

Knowledge management champions team up with Six Sigma experts to create a technology system that supports the CoPs. “We have a collaborative space for our communities that we can extend to our suppliers and customers,” Palla said. With the ability to share and work on documents together within that space, CoPs meet virtually on a regular basis.

Raytheon’s peer assist program is a key knowledge management best practice used within Raytheon Six Sigma. As part of the program, a subject matter expert with experience in one business process will travel to another business in Raytheon and deploy a best practice. According to Palla, peer assists uncover a subject matter expert’s tacit knowledge, which is crucial to ensuring that best practices are replicated consistently throughout the enterprise.

A benchmarking database is another knowledge management tool used to facilitate internal information sharing and establish partnerships in support of the Raytheon Six Sigma initiative. The database holds Raytheon’s benchmarking history, including past projects, best practices, and contact information for participants. “It helps us really get into the door with some leading-edge companies that may not want to benchmark with an aerospace and defense company. But because we have done some benchmarking in the past, we can leverage [that when approaching them],” said Palla.

Palla described Raytheon’s benchmarking approach as a best practice that gives Raytheon confidence in executing Six Sigma projects. According to Palla, Raytheon engages in heavy benchmarking activities with competitors and noncompetitors. With competitors, Raytheon conducts one-on-one benchmarking studies and also hosts forums where multiple competitors visit the Raytheon site to tackle a shared problem together. Palla said Raytheon’s benchmarking forums are the object of desire for many companies, who call upon Raytheon to help materialize benchmarking forums in their businesses.

Raytheon also pursues benchmarking initiatives with leading companies outside their industry. “In order to stay agile and current, we want to look at commercial innovation. There are elements of what they do that we think would fit in our environment and help us lead in competition.”

### **Results of Raytheon Six Sigma**

Joe Sladeczek, who played an integral role in implementing Raytheon Six Sigma, discussed three Six Sigma projects that have added value to the business: PowerTrack, MTrack, and a performance measurement process.

Tasked with the challenge of consolidating 38 separate billing systems into one centralized database, Raytheon’s integrated logistics CoP conducted a Six Sigma process improvement overhaul to dismantle the 38 freight payment systems and consolidate the best methods into one standard system. “With different systems to pay freight bills, from a corporate standpoint, you couldn’t get a spin on all your freight,” Sladeczek said. The result, PowerTrack, is a Web-enabled system that ensures all payments are made on time and delinquent accounts are identified and addressed immediately.

MTrack, another result of a Raytheon Six Sigma project, is a Web-based program to consolidate material and property tracking. With products traveling across the United States, Raytheon needs a way track its manuals. With MTrack, the tracking process is simplified and automated, saving time and freeing up logistics resources, said Sladeczek.

The final project undertaken by Raytheon’s integrated logistics CoP under the scope of Raytheon Six Sigma was creating a system of performance measures to prove to corporate leaders that logistics was a valuable function for the enterprise. The CoP has developed three phases for deploying a metrics systems: establish performance metrics, establish cost metrics, and anticipate supplier performance and cost metrics (Figure 3). “One of the most important things is to come up to your corporate office and be able to show them that you are worth something. We report to a Web-based system, and we are held accountable for it. It’s out there, there is no hiding. No one is measuring apples to oranges,” said Sladeczek.



Figure 3

### A Formula for Success

This customized solution, Raytheon Six Sigma, is the personification of corporate culture meeting customer values, within a six-step process that focuses on continuous improvement and growth. Raytheon’s recognition of unifying processes, corporate culture, customers, and partners makes it a model organization for benchmarking and best practices.