BUSINESS STRATEGY ALIGNMENT

Supply Chain Centers of Excellence Drive Better Business Results

Jean V. Murphy, SupplyChainBrain | October 23, 2009

Across industries, centers of excellence pinpoint and develop the technologies and best practices that companies need to do what they do better.

"Center of excellence" is a concept gaining traction across businesses. A quick survey of companies in any industry will turn up centers of excellence in such areas as IT, finance, human resources, manufacturing, business process, procurement, and, yes, supply chain. Though these centers may go by different names, they basically are hubs for focusing skills and resources on a specific functional area. The general purpose is to identify, develop and disseminate technologies and best practices that make the business work better.

At Procter & Gamble, the equivalent of a center of excellence is a horizontal process network or HPN, says Jake Barr, director of supply network operations at the Cincinnati-based consumer goods giant.

When the HPN concept for the supply chain and other areas was launched in the mid-1990s, the core mission was "to provide answers to that perplexing everyday question – how to deliver better business results," says Barr. "That is what drives our effort. We want to raise the competency level of how we execute the work, day in and day out."

At P&G, this translates into developing "machine equivalent" ways of managing work, based on processes that deliver "reliable, predictable, repeatable performance, no matter who is doing the work or where in the world it is being done," says Barr.

"The way we do that is by managing on three fronts," he explains. The first is "ensuring there is sufficient mastery to do the work." This goes beyond training because it includes a means of validating that the necessary knowledge has been acquired and can be applied, he says.

The second front is a governance process. "We can't have a thousand ways to do work; we need one common backbone, not just for systems, but a standardized approach for how we think about steps and the sequence of steps to achieve a desired outcome. That's how you make it repeatable and predictable," he says.

The third component incorporates innovation. "You always have to have an eye toward how you might redesign, retool or renew that work," says Barr. "A certain baseline of skills might be sufficient now to do the work, but in 12 months we might have twice the business pressure and will need to complete in four steps a process that now takes eight – and do it with half as many people. So mastery, governance and innovation – those are the three things that we apply as a standard approach, whatever work component we may be talking about."

To measure whether the processes in each of these steps is working, HSNs rely on process control methods. "On the mastery front, we measure to see who has the competency at the level required and to identify where someone may need additional skills," says Barr. "Second, we measure process variability and, third, we measure outcomes. We make sure that we are delivering what the business needs to operate, because we don't want to create great business processes that end up on a shelf. HPNs keep the process alive."

HPNs are a network of individuals from different P&G businesses who meet virtually every month and physically a couple of times a year. "So we have people accountable for applying this approach as they execute the daily work across each of our businesses and categories and markets," he says. "We think of it as a living network of people that have that capability and responsibility for validating that our 'machine' is operating correctly."

Success is defined as "getting the work down to a handful of approaches that are necessary for the business issues we face," says Barr. "This does not mean one way of doing everything. P&G is a very large organization with $83bn in sales and more than 130,000 people. Roughly 8,000 of these execute the daily tasks that make up supply network operations. So if we get down to three or four ways to produce a desired outcome, we consider that a tremendous accomplishment."

Dow Chemical

The concept of a supply chain center of excellence started at Dow Chemical Co. even before "supply chain" was a well defined term, says Donald Weintritt, global supply chain technology director for Dow. "In the 1980s we created some material handling expertise centers around issues related to specialized materials, such as solid hazardous materials and pressurized liquids," he says. "Because of our unique needs in this area, one of the first things we focused on at Dow was the design and specification of packaging and containers and their relationship to terminal and marine operations and to transportation." This included developing a lot of expertise on designing and "spec'ing" rail cars since Dow is one of the largest rail fleet owners in North America, with about 25,000 cars, he says.

Over time, these material handling centers of expertise eventually consolidated into a technology center, while another group coalesced around work process issues and the concept of an integrated supply chain, Weintritt says. "The planning center initially had a number of people who had worked on our first SAP implementation and who were looking at linkages between our supply chain systems and manufacturing systems. They were trying to coordinate plant schedules and to balance supply and demand."

While many changes have occurred internally at Dow since then, these two basic types of centers have continued to evolve. There now are roughly 35 tech centers within Dow that are aligned with manufacturing and engineering, while the centers of expertise are part of the company's shared business services. "Both types of center are a repository for functional excellence and for bringing together materials technology, work process technology and enabling system technology to serve as a resource for all our businesses and joint ventures around the globe," says Weintritt.

There is a lot of interaction between these centers. "I have a solid organizational line to the supply chain vice president, but I also have a dotted line to Maggi Walker, who is the vice president of technology," Weintritt

explains. "I belong to her technology leadership team, which gets together a couple of times a year to work on how the supply chain can help facilitate manufacturing initiatives and strategies."

One of the shared services that the supply chain center provides is a library of solutions and best practices. Individual businesses within Dow may not have the resources to implement new technology right away, Weintritt says. "As they are able to initiate supply chain improvement projects, they can use our library of technology solutions and best practices to solve their business problems."

The Dow supply chain center of expertise also works on developing new solutions to emerging business problems. "We don't want to just let things happen in the supply chain, so we use a lot of optimization and simulation technology to support our planning," Weintritt says. The center currently is spending a lot of time on Dow's recent acquisition of Rohm and Haas. "When you put two companies together there are always opportunities for synergy, but that means a lot of supply chain areas and assets that have to be integrated, which requires a lot of work from a supply chain design perspective," he says.

The center also tries to anticipate and prepare for the future. It recently completed a project called Macro Flow Supply Chain Design, in which it looked at manufacturing and marketing forecasts for the next 20 years, divided into five year increments. "We brought in a lot of macro economic data on markets and demand and we went through all the market intelligence from our people on where they thought demand would grow," says Weintritt. "Then we looked at our manufacturing plan and at where we expect to build new plants over the same time period to see if these big pictures were synchronized. We were really putting together a 20-year plan that consolidated and integrated the marketing and manufacturing and supply chain plans for the company."

Marine companies were brought in to confer on future shipping needs. "For example, we are building a huge complex in Saudi Arabia that will be the biggest chemical plant in the world and we will be exporting very large volumes from there to other regions," says Weintritt. "So we wanted to look at issues like the size of ships in the future because that will impact how deep we need to dredge our channel and the type and size of our docks. This also was an opportunity to share with these partners some of our future needs and ideas in terms of ship design."

This project produced "some really good work" he says, adding that having a supply chain center of expertise enables Dow to "lead on industry issues instead of merely responding."

IBM

IBM, which also was an early adopter of the COE concept, recently opened a large supply chain center of excellence in China. The decision to locate this center in Beijing was driven by the many IBM customers that have a footprint in China, but also by the fact that IBM has a large team presence and significant capabilities there, says Pat Knight, vice president-global supply. "We have a manufacturing center in China, a research center that specializes in supply chain management and a procurement center that runs much of the procure-to-pay activity for IBM globally. So China, for IBM, is a hot bed of skills, talent and technology," she says.

The new supply chain COE is located right next to the research lab specializing in supply chain management. "That proximity to innovation and talent is a great opportunity, both to drive the next level of supply chain management for IBM and to bring together all of those pieces to solve our clients' supply chain challenges," says Knight.

In addition to addressing clients' specific issues and customization needs, work at the COE accelerates advances in existing IBM methods and tools. "We have a tremendous opportunity with the IBM software team to integrate the industry's leading supply chain frameworks together and to take advantage of IBM's technology to deliver those integrated solutions," she says.

Another piece of the China COE is a training facility "where we can do business process sharing, research, and help the client become more proficient at particular areas of the supply chain," says Knight. "When you bring together researchers, consultants and technology experts, you have a fantastic opportunity to do new, smarter, better things. These experts are continuously looking for more efficient and effective ways to do business and to exploit technology," she says.

One way they do this is through "innovation jams," which are a type of online brainstorming session that brings together people from many geographies and operations. "Our COE in China recently held one of these that in a couple of days generated 170 ideas from the global team," says Knight.

Building capable teams on a global scale is another focus of the supply chain COE, says Knight. "We work in a 24-hour cycle and have teams all over the globe that have to work together and collaborate. So we pay a lot of attention to how we accomplish work and distribute work. When you have diverse teams in many different geographies, having standards to guide your processes is a key element to success."

COEs for Smaller Companies

While the COEs featured above are in very large, multi-national companies, the concept also can be applied in smaller firms, particularly with today's networking technology, says Curt Cote, a senior association at Censeo Consulting Group, Washington, D.C. "Certainly one way to design a COE is as a formal, defined group with full-time employees who act as an internal consultancy," he says. "But another way is to have a much looser organization of people with shared interests. This may be nothing more than an email distribution group, where folks can ask questions and someone who has an answer can post back to the group."

A somewhat more structured group also can take advantage of Web 2.0 and other social networking technology, says Cote. "Basically, this technology enables companies to leverage the intelligence of many employees," he says. "They can establish a center of excellence to draw on the thinking of a whole bunch of people without requiring these employees to dedicate too much of their time. It can be structured and modeled in such a way that it is searchable and useful to the entire organization."

If designed correctly, this type of knowledge base also protects against losing critical knowledge when a person leaves the organization, says Censeo senior associate Anjali Kampschulte. Having such knowledge available in the face of large scale lay-offs or in the case of spin-offs or mergers "has a significant positive impact," she says. "And it provides a way for really talented individuals to share their ideas and thoughts, which contributes to job satisfaction and retention of these people."

Academic COEs

Another way to get the benefits of a COE is to partner with centers of excellence at universities. P&G, for example, is active in several such centers, including those at MIT and McCombs Business School at the University of Texas, Austin.

"We have been a significant player for years in working with the academic community on the supply chain front – not only in North America but around the world," says Barr. "We help them identify breakthrough ideas which causes us to come back and think about how our industry and our company might be impacted."

Chris Caplice, executive director of the Center for Transportation and Logistics at MIT, says CTL has three mandates: to stay on the cutting edge of supply chain research; to provide educational opportunities not only for graduate students but also for professional people at all levels, from executives to front-line managers; and to have a strong corporate outreach program. "We can't just be doing things in theory. We need the practical application and the interactions that you get from working with companies and with governmental agencies," he says.

CTL saw several years ago the impact of globalization on its corporate sponsors and it, too, began looking outside the U.S. Its first cross-border partnership was in 2003 with the University of Zaragoza and the government of Aragón in Zaragoza, Spain. This partnership allows researchers from MIT and the Zaragoza

Logistics Center (ZLC) to experiment with new logistics processes, concepts and technologies and to move research findings quickly into practice. To develop business leaders, MIT-Zaragoza offers graduate and executive education, in English, to students from around the world.

Last year MIT helped launch the Center for Latin American Logistics Innovation (CLI) in Bogota, Colombia, and others centers are expected to following, forming what is now known as the Supply Chain and Logistics Excellence Network or SCALE.

"We find that one center alone can do a lot of great things, but as with any network, its impact increases exponentially as you add more nodes. For example, we are starting a project on global risk that will have teams in all three of these centers as well as a team in China and India. The goal is to understand how risk is perceived differently in these countries, how it is managed differently and how it is mitigated in different areas. So what this whole network of excellence is doing is finding the best practices across different stakeholders, different geographies and different cultures."

Edgar Blanco, executive director of the MIT-CLI Alliance, offers an example from Latin America that involves Colombia's coffee growers. In this project, RFID tags are being attached to bags of bulk specialty coffee from small farms so they can be tracked through the supply chain. "We are engaging roughly 30,000 different small farmers who are tagging every one of their coffee bags – close to one million bags a year," says Blanco. "These bags are then tracked and the information is brought into a central hub where it is shared with global partners around the globe." This project is creating "a tremendous amount of knowledge about how to deploy RFID at a micro level, not across some huge corporation, and in very remote areas," he says.

Another project that MIT and CLI are working on is the use of low-tech cell phones – the type widely available in Latin America – to create a tracking system for fragmented areas of transportation. "Companies in Latin America often do not have the capability to install global positioning systems, so we are looking for ways to leverage the existing mobile network and use local capabilities to connect these companies with traditional supply chain systems used in the U.S. for tracking and tracing," he says.

Learnings from these project would not be shared without an organization like CLI, he says. "Talking to different people with different perspectives on a problem is something that may be taken for granted in the U.S., but it is a key source of innovation."

The Supply Chain Center of Excellence at the McCombs School of Business in Austin is only a couple of years old. It grew out of an earlier effort by a group of business interests to convince McCombs to add a supply chain course of study to its highly regarded graduate and undergraduate business program. These companies were looking for graduates more grounded in business than in engineering.

As that moved forward, these companies continued to work with the business school around developing a center were they could work on common supply chain issues, influence future research and develop best practices – the COE was the result.

"At the end of the day, our mission is to support and promote research in supply chain management and related fields," says Lamar Johnson, senior associate director of the center. "But to fund research, we need a partnership with industry."

McCombs has put together a program that offers a number of benefits to its corporate sponsors. "What these companies want first and foremost are graduates who are educated in business and who are prepared to move into the supply chain field and begin contributing immediately," he says. "They also are interested in short-term or longer term research that can help them solve problems, while exposing them to students and furthering the education of students."

McCombs is open to research projects suggested by faculty and students that grab the interest of a corporate sponsor, or projects that are suggested by a business partner. Often such research ideas are sparked by an event that the COE conducts.

"Last fall we held an event around sales and operations planning, since that is a process that companies seemed to be struggling with," says Johnson. "We spent a full day on the S&OP process and at the end we asked the group what questions remained that might be addressed by academic research. They listed four or five issues and we eventually funded one research project, which is under way today. We have now had three events and each has resulted in funded research," says Johnson.

The center currently is seeking funding for a project, suggested by a faculty member, to investigate what makes for a successful deployment of an analytical tool and how companies can improve their ROI on such deployments. "We have one company that is very interested in this project and other companies in our sponsoring group have indicated they would provide benchmarking information," Johnson says. "If we move forward, the sponsoring company will get first access to the output of the research, then the benchmark participants and finally the faculty member will publish it so it will be available to everyone."

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