In today's highly competitive global market, firms are constantly striving to improve their performance. However, in many instances, the low-hanging fruit has already been picked. That has led some to ask where they can look next to gain a competitive advantage. Many leading firms recognize that they can’t do it alone: The biggest opportunities are the innovations they develop with supply chain partners. In the context of the supply chain, that includes not only new product development but also process improvements, which span across partners in the supply chain.

Indeed, several recent reports tout the need to innovate in a supply chain context. For example, Deloitte Research’s 2005 report on mastering innovation stresses that the pressure to innovate is unrelenting, increasing, and will determine the future success of firms. The 2014 Deloitte MHI Industry Annual Report calls on supply chain executives to capitalize on innovation in order to improve supply chain performance (See Innovations That Drive Supply Chains in the May 2014 issue of SCMR).

While that all sounds well and good, the fact is that today’s supply chains may not be prepared to support innovation by themselves; a firm working alone may not be able to generate the level of performance demanded by the competitive markets it now faces. Therefore, innovation spanning supply chain partners may well be the key to how firms gain a competitive advantage.

Organizations are looking to their supply chain partners to create innovative processes and solutions that span the supply chain and lead to a real competitive advantage. But, what does it take to create meaningful innovation across supply chain partners? Our researchers identify the five components that are common to the most successful supply chain innovation partnerships.

By Jennifer Blackhurst, Pam Manhart, and Emily Kohnke

Jennifer Blackhurst, Ph.D. is the Walker Professor of Logistics & Supply Chain Management at Iowa State University. She can be reached at jvblackh@iastate.edu. For more information, visit www.iastate.edu.

Pam Manhart is a Ph.D. student at Iowa State University. She can be reached at pmanhart@iastate.edu.

Emily Kohnke, Ph.D. is an Assistant Professor of Supply Chain Management at Iowa State University. She can be reached at ekohnke@iastate.edu.

The Five Key Components for...
SUPPLY CHAIN

INNOVATION
Innovative Partnerships

If that is the case, what does innovation spanning supply chain partners mean for the individual firms involved? More importantly, do firms that launch successful innovations have anything in common with one another? Those are questions we sought to answer in the spring of 2013 when we launched our research into supply chain innovation. Our goal was to better understand how the innovation process works in a supply chain partnership, where each partner was housed within the same supply chain but were two distinct, stand-alone firms.

To answer our questions, our study focused on innovation that was created, fostered, and deployed across two interconnected supply chain firms or partners. We identified 18 paired supply chain partners (36 unique firms in total) who discussed the successes and challenges of over 100 innovation projects—some successful and some not—in order to determine how innovations succeed across supply chain partnerships. From those discussions, we identified five keys to innovation spanning supply chain partners as well as some key takeaways. (See side bar “Our Research” for a summary of the research methodology.)

5 Keys To Successful Innovation

The concept of innovation is continually touted as the future of developing a competitive advantage. KPMG’s 2014 Global Manufacturing Outlook Report, for instance, notes that the future of innovation is through partnerships and not the traditional in-house strategies and mechanisms previously utilized to encourage innovation. As the Deloitte MHI Industry Annual Report pointed out, in order to innovate in the supply chain, the partners involved need to include on their teams employees with the knowledge, skills, experience, and mindset to innovate.

Examples of innovation spanning supply chain partners can also be found in the popular press. Staples, for example, has highlighted its collaboration with Packsize International, a packaging producer, to create a smart system that allows them to “right size” the box for each order and eliminate wasted space, packing material, and shipping expenses. Similarly, Motorola has worked with E2open to develop systems to enable fast, accurate global collaboration leading to improved customer service, inventory management, and strategic decision making. Google recently announced that it is developing a model to offer same day delivery without the cost of inventory.

The firms in our study defined and focused their innovation efforts not only on new product development, but also on the development of new processes and new ways of adding value. In fact, firms in our study defined innovation as having three components:

- the innovation is new;
- the innovation focuses on continuous improvement;
- and the innovation adds direct or indirect value to the customer.

Based on our interviews with supply chain managers, we identified five critical drivers for innovation spanning supply chain partners.

Let’s take a look at each of these components.

1. **Don’t Settle for the Status Quo.** Whether the impetus to innovate is driven internally or externally, one of the partners needs to push the innovation process forward and not settle for the status quo assumption that the way things are is the best way. Many of the firms in our study were driven to engage in innovation because a supply chain partner expressed the need to innovate and develop new solutions. The push to innovate can come from the customer side or...
the supplier side. While customer demand is an obvious source of inspiration—or instigation—the customer doesn’t always know what they might want or need in the future. In other words, to be successful, you need to be leading the innovation charge rather than catching up from behind.

An agricultural firm in our study related how one of its representatives watched a commodity being hand sorted during a visit to a customer’s site. (Many agricultural products have high levels of variation that require hand sorting.) Hand sorting is a tedious task and a worker’s attention often fades over time. As a result, the agricultural firm saw an opportunity to proactively create a new process. “If the customer is doing something one way right now, it could be that they’ve never thought of doing it another way,” a firm representative told us. “If we can come up with a better way to do it …it’s typically a very easy sell.” In this instance, the firm had recently developed an automated system to sort a different agricultural commodity with less rigorous requirements. The firm knew that if it could apply that expertise to this application it could open a new market. Working with its robotics and imaging suppliers, the agricultural firm was able to develop equipment priced equivalent to 1.5 years of labor costs, which has been greeted with excitement in the market.

Other firms in the study talked about “staying ahead of the curve” and using proactive innovation to remain not only viable but also competitive. Rather than wait for the big “wow,” they saw great benefit in incremental innovations that might deliver dramatic improvements when distributed to other partners in the supply network. While they recognized that some failure is inevitable, firms successful in supply chain spanning innovation also demonstrated a willingness to fail in order to figure out innovations that would work (or not work) to deliver incremental gains. This point resonates with the way supply chain managers in our study define innovation as an element of continuous improvement.

Our Research

In Spring 2013, we undertook a data collection process to gather information on innovation projects spanning supply chain partners. Our goal was to better understand how the innovation process works in a supply chain partnership where each partner was housed within the same supply chain but remained two distinct, stand alone firms. We identified 18 paired supply chain partners (36 unique firms in total) who discussed the successes and challenges of over 100 innovation projects—some successful and some not.

Each firm was interviewed through a semi-structured interview protocol designed to gather information on innovation success, innovation failures, how the innovation occurred, enablers of the innovation process, and outcomes of the innovation. Firms were interviewed independently, but each knew that their supply chain partner would also be interviewed as part of the study. Both partners agreed to discuss their relationship and the innovation process. Example titles of our respondents include Supply Chain Manager, Director, and Vice President from a variety of industries. Interviews were recorded, transcribed, and then analyzed for themes using qualitative analysis software (Nvivo version 10). The software allowed us to consolidate, track, and code all of the data in our study.

In addition to the interviews, we received documentation and other supplemental materials from the firms that participated in the study, including innovation proposals, reports in completed innovation projects, and documentation describing process improvement procedures. Through the analysis of our data, we were able to develop common themes and metrics for innovation spanning supply chain partners, as well as the frequency and use of the mechanisms and metrics identified.

2. Hit the Road in Order to Hit Your Metrics. While supply chains often span continents and time zones, we were struck by the level of importance firms placed on face-to-face interaction to truly understand the motivation to innovate, and explore how to best engage in the innovation process. In some cases, seeing the issue or benchmarking a process opened ideas and applications that had never been thought of by either supply chain partner. In fact, many of these interactions did not have a primary goal to be the inception point for innovation, they simply became that organically. There was also much emphasis placed on a face-to-face meeting simply to get to know the partner better and more precisely identify that partner’s needs.

For instance, an industrial firm we interviewed recalled how it helped a supplier combine three operations into one more efficient operation after a face-to-face visit. The results included notable cost savings, which were shared across the partners, and reduced lead times. The industrial firm described how it often mocks up a process, and
then looks at how else it can be done. “It’s amazing to me how many times people will watch the original idea, put it through this mock process, and decide they can save time or money by changing things up,” a firm representative told us. “Those are things that weren’t done years ago, and yet those processes have made every product more innovative.”

In addition, a physical visit provides that “fresh eye” experience. Seeing a partner’s operation was found to remove unnecessary steps, consolidate parts, increase visibility, substitute materials, and create new products. This open door process helps to establish trust, which is a key theme running through all five of the keys to innovation spanning partnerships. Trust that the partner is reliable, has “skin in the game” and will protect the relationship. Firms in our study indicate there is no virtual way to engage as compared to physical face-to-face meetings.

An open door process helps to establish trust, which is a key theme running through all five of the keys to innovation spanning partnerships.

increase visibility, substitute materials, and create new products. This open door process helps to establish trust, which is a key theme running through all five of the keys to innovation spanning partnerships. Trust that the partner is reliable, has “skin in the game” and will protect the relationship. Firms in our study indicate there is no virtual way to engage as compared to physical face-to-face meetings.

3. **Send Prospectors, Not Auditors.** Too often firms use supply chain managers as auditors when they are dealing with supply chain partners. Rather, these managers should be scouting for innovation opportunities across the supply chain. That takes a different skill set.

Indeed, firms we interviewed discussed the need to be vigilant in looking for opportunities. When tasking managers with innovation, they should be constantly scanning for new opportunities, such as new ways to leverage existing resources and creative applications for prior innovations. These managers should be seekers of innovation who are adept at finding and exploiting opportunities. We refer to these types of managers as “innovation prospectors.”

A construction firm in our study was struggling to develop a solution to a particular issue: “The [equipment] had a [component] that wore out too quickly,” a representative explained. “We switched to an [alternative] component that also broke too quickly. So, we went back to the [original component].” Interestingly, their supply chain partner had recently developed a cheaper, stronger, and longer wearing alternative that it wanted to test in the field. In fact, the supplier had sent its sales and engineering people to the construction firm looking for test applications. The construction firm had strong concerns about wasting further time pursuing a non-proven solution. However, because the supplier sent its senior people, a firm manager had faith that development and testing time together would be used efficiently. The application was a success and these partners introduced 20 new parts together.

Impactful innovation projects should be led by such prospectors as opposed to those who cannot identify hidden or obscure opportunities. Prospectors are also able to see synergies where partners can work together for the benefit of everyone involved. Firms in our study discussed how successful innovation requires an understanding of the “big picture,” or the ability to see how the innovation can benefit all partners and how the innovation process itself can lead to future innovation. Prospectors also understand and can articulate the resources needed from each party.

4. **Show Me Yours and I’ll Show You Mine.** Trust plays an extremely important role in supply chain spanning innovation. Firms in successful innovations discussed a willingness to share resources and rewards and to develop their partners’ capabilities. Some firms mentioned that trust was actually developed through the innovation process. In doing so, trust may not only be a prerequisite but an outcome of the innovation process which in turn will lead to stronger and more impactful innovations. Through the process of developing trust, firms understand their partner’s strategic goals and priorities.

To illustrate the importance of trust, we recall that an offshore utility built a new generator and partnered with a fuel provider to build a neighboring processing plant. This original partner went bankrupt and the offshore utility had to scramble to find alternatives. It partnered with a logistics firm. Although they combined their expertise, neither partner had the capabilities to support such volume in an extremely narrow time frame or the equipment to dedicate to a route
over 5,000 miles. Although the logistics partner was willing to invest in the capabilities, it had to bid the job at prospected future efficiencies in order to gain contract approval. Furthermore, the utility commission required delivery of 40 loads before it would sign a contract requiring previously unknown partners to begin building trust very quickly. The more details they understood, the more useful each partner was to each other and trust expanded. In the end, they shortened the route from six weeks to 10 days, reduced custom equipment turnover from 45 days to 35 days, and provided a half million dollars of savings annually.

Firms also recognized that when a key partner stumbles, they might also suffer the same fate. As such, both partners need to be invested and committed to the innovation process. Once they are vested in each other, there is an inherent need to protect the relationship and innovate beyond what could be achieved contractually.

5. Who’s Running the Show?
Finally, firms discussed the need for very clear intentions and goals in the innovation process. They not only establish who is doing what, but also what each firm is bringing to the relationship in terms of resources and capabilities. In one project example, a firm in a partnership was very clear regarding its own lack of skill in a certain area—which was exactly the skill that the partner was bringing to the relationship. It is important to note that not all innovation spanning supply chain partners involved pre-existing relationships. Some were fostered specifically for the opportunities identified. For that reason, it’s important to consider complementary skill sets and an innovative culture as a criterion when choosing future suppliers.

While there needs to be support in terms of clear project goals and leadership, there also needs to be an established culture supporting innovation in both partners. While one of the partners might have a stronger culture in this regard, both must be ready to participate in the innovation process. Firms discussed how successful projects have a champion within each partner firm and the champions being the “driving force” of the innovation.

In our study, an apparel firm’s business model was to provide the same materials for a better price and service than their much bigger competitors. Therefore, logistics partners were crucial to its success. One of the apparel firm’s logistics providers realized that something wasn’t working and suggested some alternative service models. The apparel firm told us “…we would have had no idea about these alternatives unless our trusted partner had stepped in and said: ‘Hey, here’s a better way; implement that, and you guys will see an improvement.’” After the apparel firm let its logistics provider take the lead, it was able to remove a bottleneck and dramatically improve its processes. Working together, they improved the firm’s internal logistics processes and reduced customer response times from three days to same day shipments.

Takeaways
As firms discussed how they innovate with supply chain partners, we noticed that leveraging lean and process improvement was mentioned by virtually every firm. This indicates to us that innovation is viewed as a way to drive continuous improvement. This ties into recent industry reports that discuss innovation in the supply chain, such as Gartner’s Top 25 report for 2013 (See Learning From Leaders, in the September 2013 issue of SCM). Much of the literature surrounding innovation focuses on new product development. Certainly, we spoke with firms that identified capabilities in their partners that could be combined to create new products. Notwithstanding, there are massive opportunities in a supply chain context to develop new processes and find new ways to leverage existing capabilities. Although idea generation is foundational to innovation, many good ideas are abandoned when they encounter...
Innovative Partnerships

implementation barriers.

An advantage we saw in firms using supply chain partners to generate process innovation was an opportunity for immediate and coordinated application of the innovation outcome. Likewise, in product development, supply chain partners inherently knew, or could quickly determine, what was feasible. Because the developers were the users, they had much greater success in executing ideas and spent less time pursuing dead ends.

Firms in our study discussed many performance improvements as a result of boundary spanning supply chain innovation. Incidentally, within each project, the outcomes were not always the same for both partners. They frequently had experienced different and even multiple performance gains in a variety of areas. Some of these performance outcomes include:

Growth. Firms were able to identify and track sales growth from innovation spanning supply chain partners. In one example, a firm attributed a four-fold increase in sales growth to an innovation undertaken with a partner. Firms also discussed increased profit margins by being able to offer a superior product with less cost. Finally, firms discussed leveraging the innovation into new markets. As one firm in our study elaborated: “With the transportation model that we have out there right now, we’re innovating at a very high rate, I can tell you that much. We’re growing at a much higher rate than everybody else. There have been dozens of companies that have been closing, but we’ve been doubling our business for years. So we’re innovating right now with everything that we have at our fingertips.”

Responsiveness. The ability to respond more effectively to customer needs was also an outcome of innovation spanning supply chain partners. Lead time reduction was discussed by many firms as the ability to deliver product faster, even as supply chains become more complex. One firm told us it was “able to cut the transit time down by at least by seven days, and we’re also lowering costs.”

Reliability. Quality and reliability were also a benefit of innovation, along with the ability to consistently deliver quality and value to the customer. Supply chain boundary spanning innovation also resulted in waste reduction and a consistency in processes that had not been seen before the innovation.

Utilization. Finally, firms leveraged innovation to become more efficient at inventory utilization as well as other resource utilization. The more efficient and effective use of scarce and expensive resources is certainly a plus for firms. In the words of one innovation project manager: “We’re actually better able to handle the ups and downs of our production. Previously we didn’t have as many customers in each segment, so we had fewer eggs in each basket. But, now we have more eggs across more baskets, so it gives us more flexibility in handling those ups and downs of the market.”

Moving Forward

Interestingly, while a firm would not have to adopt the five key components all at once, firms in our study utilized at least three of the components in the innovations they deemed to be successful (as indicated by the positive performance outcomes discussed above), and many exhibited all five.

These projects had champions who were vigilant in seeking out new opportunities and leveraging partner capabilities to see the innovation through to completion. Leveraging partners allowed many projects to succeed because, while an individual firm might not have all the needed resources and expertise, the right partnership collectively had them all. The right collective mix of partners was a dynamic process, not a stable state.

Many firms in our study have become innovation-believers due to the incredible improvements to key performance metrics through their engagement in boundary-spanning supply chain innovation. This success would in turn lead to more innovation seeking. Firms understand the critical role of trust and culture fit that leads to three interesting outcomes: 1) The trust and culture alignment is strengthened through the partnership innovation process leading to future innovations and improvement; 2) firms see what is needed in terms of characteristics in a partner firm so that they can propagate the success of prior innovations to additional partners; and 3) by engaging supply chain partners as innovation partners, both sides reap rewards in a low cost, low risk, highly achievable manner.

Finally, the successful firms in our study did not just look for the obvious opportunities. Rather, they employed these five key components of supply chain spanning innovation to scan their environments alongside their partnerships and used what they gained to create opportunities to innovate and thrive.