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Directors' Column: Adjusting your Supply Chain to Survive the Economic Tsunami

The current economic crisis has taken global supply chains by storm. This crisis could be compared to an economic tsunami but with no signs of retreating—at least in the near-term. Survival is critical not only for your business but for your entire value chain.

Over the past few decades, globalization and the push for just-in-time supply chains, among other things, have led to an increase in the risks associated with managing global supply chains. In the current economic crisis, even greater pressure is being exerted on companies' supply chains as they seek to minimize costs and cope with volatile fuel and energy prices and an ever-tightening credit market. Those responsible for managing supply chains will play a crucial role in helping their companies survive this crisis. Following are a few suggestions to get you through these dangerous waters:

1. Optimize inventory: Availability of cash is a critical need to sustain businesses in these tough times. Eliminate unnecessary inventories and reduce slow moving inventories where possible.
2. Make your supply chains flexible and agile: Build visibility into your supply chain and align your supply/production with demand. Do not pre-commit resources & materials in advance. Adjust your plans more frequently than you have in the past.
3. Improve network efficiently: Redesign your network to provide smaller shipment sizes and more frequent deliveries to your customers. Rationalize the number of service providers & shipments and evaluate alternate modes of transport.
4. Collaborate with customers and suppliers: Explore collaborative ways to reduce supply chain costs. Consolidate suppliers and shipments for economy of scale. Work with your customers and suppliers to improve planning, forecasting and replenishment.
5. Apply lean processes: Eliminate wasteful activities and minimize inefficiencies in the supply chain. Less than optimal shipment sizes, poor warehousing practices, and errors causing rework/returns are some of the likely areas to investigate.
6. Pay your suppliers on time: Don't push your liquidity problems on to your suppliers by delaying payments to them. The sustainability of your suppliers is critical to your own business continuity.
7. Motivate people & upgrade their skills: Help people overcome difficult situations, upgrade their functional & leadership skills. Motivate them to make decisions that benefit overall business.

These suggestions are not intended to represent a comprehensive list of actions. Instead, they are intended as a way to help stimulate thinking about these and other solutions in a holistic fashion to help improve your firm's entire value chain.

Joel, Larry, and Mike

Using Technology to Improve Supplier Collaboration

By: Bill Keough, Principal, and Kate Vitasek, Managing Partner, Supply Chain Visions

Introduction

As we settle into what could be a lengthy economic slowdown, it is more appropriate than ever to analyze our value chain to see how we can deliver better results with fewer resources. An area of continuing interest to many companies is how to better collaborate with their suppliers to reduce costs and improve the ultimate experience of the end customer. While supplier collaboration has been a buzzword for the last couple of years – our observation is that only the best companies have made progress in implementing it; many have fallen in the trap of “talking” collaboration without getting much traction. The time is ripe for mainstream companies to move from “talking” collaboration into actually doing it.

There are five key elements a company needs to consider to improve collaboration with its suppliers. To succeed in such a multi-faceted undertaking you must address **corporate culture, relationship management, performance management and metrics**, while devising an equitable approach to **gain sharing** with suppliers. However, this article will focus on the fifth critical element in any supplier collaboration effort: **technology**.

The right technology, properly implemented, can enhance collaboration in any part of the supply chain. However, this discussion will focus on the point at which the Lean Supply Chain begins – with the demand signal. If you haven't yet begun collaborating with your suppliers in a systematic manner, this is the place to start.

What's your technical environment?

Your starting point should be to examine your own technical environment. Your company needs to possess a minimum level of technical competency before you can engage your suppliers in any data-sharing initiative. In an ideal world you would have one Enterprise Resource Planning (ERP) system deployed across the entire company. And all your other systems, for transportation, warehousing, or manufacturing, would all be seamlessly integrated with that ERP system. If this is your company, congratulations; you are miles ahead of your peers. Many companies today still struggle with a vast alphabet soup of applications, systems and hardware platforms, many of which will never be properly integrated.

Let's say your firm has made a few acquisitions over the past few years and you now have three different ERP systems, one for each historical business unit. Let's say Supplier A sells to each of your three business units; to Supplier A its interactions with your firm may seem more like dealing with three different companies. For Business Unit 1, Supplier A collects the purchase order (PO) as a flat file from an FTP server; Business Unit 2 delivers the PO via EDI. Business Unit 3 send the PO as an Excel file in an encrypted e-mail. You don't need to be an efficiency expert to realize that all the different processes, software, and personnel Supplier A needs to respond to your three types of POs are ultimately costing your firm a lot of money.

What's your supplier's technical environment?

Once you have examined your own company's technical abilities and obstacles for collaborating with suppliers, you must then put yourself in your supplier's shoes and examine how they approach collaborating with you. You probably have some suppliers who are technically sophisticated, some

who are technically competent, and some who appear to struggle with e-mail. You can collaborate with all of them, but first you must distinguish suppliers by technical sophistication and then offer them options that make business and technical sense for them.

Let's look at one case study in the aerospace industry for some lessons learned. In 2000, a consortium of the world's largest aerospace companies founded an entity called Exostar with the aim of enabling secure inter-enterprise supply chain collaboration. Exostar decided to focus initially on electronically enabling the demand signal (the PO). Like most B2B hubs, Exostar quickly discovered that simply connecting all these companies electronically was a monumental challenge. Large buyers had no trouble generating electronic POs from their ERP system. However, the PO coming out of an ERP system invariably required some manipulation before it could be consumed by Exostar's infrastructure. And most of the founding A&D companies had many ERP systems, not just one. The integration problem was more pronounced on the supplier end. Some suppliers could receive a PO message via EDI or as an XML document delivered over the Internet and bring the data directly into their own ERP systems. Other suppliers scratched their heads when asked if they could do this.

What Exostar and other firms who need to share demand data with a large and diverse supplier community have discovered is that the key to adoption is to offer a series of connectivity options that make technical sense for the supplier community. Typically these options begin with a web-form, where smaller suppliers simply print out the PO they receive from the buyer as a web page and then manually type information on acknowledgements or changes. The middle-tier solution is often a "secure forms" solution where a miniature "application" (it could even be Excel) sits on the supplier's desktop and information that is entered into this application is securely delivered to the buyer or a collaborative hub like Exostar. The final option is usually the most costly and complex but it is also far and away the most valuable. This option – often described as "machine-to-machine integration" – takes the electronic PO message from a buyer's ERP system, and manipulates that message so that it can be read natively by the seller's ERP system. There is no "processing time" for the PO. It is processed in the seller's system only minutes after it is generated in the buyer's system. And there are no errors; no one ever accidentally keys in a 3 when the number should be a 9. As the buyer and seller begin to contemplate further supply chain collaboration, say around transportation or forecasting, having this information available electronically proves invaluable.

How does it relate to you?

Enabling the exchange of accurate and near-real-time demand data in the form of an electronic PO is the first step if you'd like to inaugurate more financially-meaningful collaboration with your suppliers. However, to do so requires a measured approach in which your firm conducts a realistic analysis of your own technical capabilities, and those of your suppliers, and then designs a series of connectivity solutions that meet the financial and technical constraints of your supply base. So, if you haven't already done so, take a good look at your supplier base - identify a couple of suppliers with good technical ability and the right attitude, talk to your IT folks, and see what a difference demand visibility makes for your suppliers, and for you.

Reviewing the CVCR Fall 2008 Symposium

[Participants Discuss Sustainable Supply Chains: Making the Case for Going Green](#)

On November 5 and 6, 2008, Lehigh University's Center for Value Chain Research held its annual Fall Symposium. The meeting featured formal presentations illustrating how various industries are making a solid business case for making their supply chains "green". The symposium featured a wide variety of industries including confectionery, high-tech, truck production, pharmaceutical, construction and third-party logistics (3PL). Each session included intense audience participation delving deeper into each issue.

PowerPoint presentations and executive summaries for all of these presentations can be found on the CVCR website (<http://cf.cc.lehigh.edu/cvcr/sympFa08.cfm>). The following is a brief overview of each presentation.

Mars Snackfood: *Sustainability—Intersecting Economics, Ecology, and Social Equity*

Mars, Incorporated is a privately held company and the world's largest confectionery company. We have top level corporate commitment within our global organization reaffirming that sustainability is a core value in every way we do business. Sustainability is the intersection of three value systems: economics, ecology and equity. Within our business we refer to this as people, planet and profit.

The key areas we have decided to focus on within are business are: energy/greenhouse gases, water, packaging, waste and raw materials. We are a manufacturer and we recognize that we can directly influence how our factories use these resources. We also realize that we are an agricultural company because our environmental footprint is primarily influenced by our use of agricultural raw materials. Our ability to influence in this area requires multiple approaches. The guiding principle we follow in all these key areas is that sustainability is part of everyone's job. We take a science-based approach, a long-term view, consider multiple viewpoints, and partner with others.

For key supply chain inputs, we have also created Sustainability Advisory Groups (SAGs). The objective of these focused teams is to create a compelling long term vision, identify opportunities and develop action plans. They also serve as knowledge centers to coordinate global information. Each cross functional group has a global sponsor, project management support and access to external subject matter experts.

In summary, Mars' approach to sustainability is to focus on the triple bottom line: people, planet and profit. Collaborating with others is the key to our success, especially in areas with complex supply chains and broad global reach.

Merck: *Going Green at Merck--Advantages Beyond the Bottom Line*

With energy prices hitting record highs this year, going green has suddenly become fashionable at even the most bottom-line focused companies. Merck, a global research-driven pharmaceutical company dedicated to putting patients first, is no exception to the need to restrain costs. While Merck's energy program does help save money, they have found that going green has significant advantages beyond the bottom line. So much so that Merck has decided to make sustainability a core piece of their business strategy, at every step of the supply chain, including research, manufacturing, and marketing.

Factors such as climate change, government policy and voluntary initiatives, and tax incentives all play a part in a strategy executed globally across over 40 major facilities in the supply chain network. Aggressive goal setting and vigorous executive sponsorship are critical success factors. Tactical elements make the go green strategy a reality: keys to installing solar panels, wind turbines, fuel cells, and LEED-certified green buildings in a corporate setting.

As a result of Merck's long term commitment to going green, they have been recognized by EPA's Energy Star program as a Partner of the Year 2006-2008, the first pharmaceutical company so recognized. As Merck has recognized many advantages beyond the bottom line, they are sustaining their commitment to the program for the foreseeable future.

Hewlett Packard: *Turning Green into Gold--The Business Case for Sustainability*

HP has one of the largest global supply chains in the IT industry, with annual procurement expenditures for product materials, components, and manufacturing and logistics services of roughly \$50B. We work with our supply base to assess our performance and drive sustainability improvements during design, manufacturing and distribution and reuse and recycling.

At HP, sustainability is rooted in our values, integrated in our goals and evident in all facets of our business. Our three global citizenship priorities--supply chain responsibility, climate and energy, and product reuse and recycling--are more critical than ever to our business success. These are the areas that reflect growing customer demands and where we can make the greatest contribution. Through our efforts, HP strives to reduce our impact throughout the entire life cycle of our products: internal operations, manufacturing and distribution, customer use, and at end of life. We accelerate our efforts and our impact on the broader industry by setting goals, measuring progress, and communicating transparently about our challenges and successes through our annual Global Citizenship Report.

HP has extended our efforts to measure and reduce our own carbon footprint to our supply chain, determining both our logistics carbon footprint and the footprint associated with our first-tier suppliers. In the logistics domain, we are driving improvement by focusing on reduced packaging volume and weight, shifting product transport to more efficient modes, optimizing our distribution network, and improving the utilization of individual pallets, containers and trucks. HP has embraced new standards for surface transportation laid out by the U.S. Environmental Protection Agency (EPA) SmartWay program and earlier this year became the first company to qualify for the SmartWay logo labeling program. By eliminating waste, these changes in our operations and supply chain improve sustainability while also reducing cost. In October 2008, HP was the first in our industry to release an estimated carbon footprint for our suppliers' emissions in the course of manufacturing our products and we expect to drive reductions in this important area as well.

Volvo: Moving Volvo Freight the SmartWay

Volvo Logistics purchases the transportation needs for AB Volvo. Volvo Logistics North America (VLNA) supports Volvo's mission by requiring that freight carriers of their goods be aware of their contribution to environmental emissions and how they can minimize. The carrier score card (launched in 2008) requires all carriers to be members of the *SmartWay Partnership*, to be ISO 14001 registered or have an Environmental Management System. In 2007, 75% of VLNA's annual freight spend (about \$295 million in North America) was with *SmartWay* carriers.

Since joining the *SmartWay* program in 2004, VLNA has increased its number of SmartWay Partner carriers by 73% from 14 to 64. The program from the Environmental Protection Agency has supported the environmental mission of the Volvo Group and as a result numerous initiatives have been launched to make Volvo Logistics North America "Green". Investments have been made to review the current processes within the company and investigate what can be done to increase customer satisfaction and reduce emissions. The promotion of "Going Green" to employees within the organization has brought the environmental focus to the forefront of the groups thought process when reviewing current processes or implementing new opportunities.

The EPA's SmartWay Program is a business friendly mechanism to reduce GHG emissions from supply chains. It voluntarily achieves improved fuel efficiency and reduces environmental impacts from freight transport. Partners use models to benchmark freight operations, measure transportation footprint, identify technologies and strategies to reduce emissions and track emissions reduction and project improvement. With over 1050 partners in 2008 representing 7% of industry, travelling over 51 billion miles per year and consuming over 12 billion gallons of fuel – this program is really making a difference in the reduction of emissions within North America's supply chains. Within the program, the partners are on track to save over 540 million gallons of diesel fuel this year alone.

ProLogis: ProLogis' Approach to Profitable, Sustainable Development

ProLogis is the world's largest owner, developer and manager of distribution facilities, with more than 525 million square feet of industrial space in 121 markets across North America, Asia and Europe. Our sustainability mission statement is to be the leading global provider of sustainable distribution facilities

and to create an optimal balance between shareholder value, environmental stewardship and corporate social responsibility.

It's a three part business approach, balancing the needs of the environment with economic demands and corporate social responsibility. By unifying these interests, we are creating a model where business, communities and the environment can thrive. This commitment has led to several new initiatives:

- All new development in the United States will be designed to LEED (Leadership in Energy and Environmental Design) criteria, the national standard for environmentally responsible construction that was developed by the U.S. Green Building Council (USGBC).
- All new development in the United Kingdom will need to achieve a minimum rating of Very Good under BREEAM (Building Research Establishment Environmental Assessment method), the UK's national standard for best practice in sustainable development and environmental performance.
- ProLogis is the first real estate company to join the Chicago Climate Exchange (CCX), the world's first, and North America's only, voluntary, legally binding greenhouse gas emission reduction registry and trading program. Membership in the Exchanges requires the company to completely offset the "carbon footprint" associated with all business operations in the U.S.
- Create a financially viable structure to install photovoltaic (PV) solar panels on ProLogis roofs in the US and Europe. We have set a goal to install renewable energy sources that generate over 25 million kWh per year by 2010.

We believe that high performance and energy efficient buildings will become increasingly sought after by our customers. Research already shows that green buildings generate significant economic benefits. According to a McGraw-Hill 2006 SmartMarket Report, green buildings are expected to realize an average increase of 7.5% in building value, deliver 3.5% higher occupancy rates and improve return on investment by an average 6.6%.

Genco: Turning Green into a Competitive Market Advantage

Globally there are new laws being introduced impacting business in the environment. In the UK there have been over 300 new laws introduced in the past 10 years. A new focus was implemented which is designed to make recovery and recycling of electronic and electrical goods compulsory called the WEEE Directive (Waste Electronic and Electrical Equipment). This directive has been enacted throughout the European Union.

Closer to home, a development making its way onto this environmentally conscious scene could help bring them to the forefront in the United States. The Restriction of Hazardous Substances (RoHS) directive was established by the 25-member European Union (EU) and went into effect in July 2006. This is not a law but a rather very popular guideline.

Although for the most part it is still under the radar of many "green" enthusiasts in North America, RoHS could soon have substantial impact on the way products are selected for sustainable projects. The United States has not yet enacted any national RoHS or WEEE-type regulations, but individual states have begun introducing similar rules for their own jurisdictions.

As this illustrates, here in the United States there are Federal, State, Regional, and Local regulations to consider. Many Retailers and Manufacturers have established centralized operations for the disposition of returned, recalled and distressed merchandise. The value derived from this coordination of recycling, repackaging, and redistribution of products mitigates cost and maximizes value.

Positive bottom line results are achievable through the effective management of the protocols and legislation without losing focus on core business. A comprehensive review of any supply chain must consider end-of-life product handling.

The end result is a cleaner process reducing the impact on the environment through significant reductions in product sent to landfill. The winning companies in the future will have a strategic corporate commitment to sustainability and to supply chain excellence.

News and Upcoming Events

OHL (www.ohl.com), formerly known as Osburn-Hessey Logistics, one of the largest third-party logistics companies in the world, is the newest member of the CVCR. Brentwood, Tennessee-based OHL provides global supply chain management solutions for companies around the world. OHL's service offering include transportation, warehousing, customs brokerage, freight forwarding and import and export consulting services. With three divisions--International Services, Contract Logistics and Transportation Services--OHL offers comprehensive logistics management solutions that span the globe.

On December 3, 2008, Joel Sutherland will be presenting at the SpeedChain International Logistic Conference in Prague, Czech Republic. For more information check out: www.reliant.eu

On January 13, 2008, Joel Sutherland will be presenting at the CSCMP Roundtable in Jacksonville, FL. For more information check out: www.cscmp.org

The CVCR continues to improve its website to provide more content and value. Check it out at www.lehigh.edu/cvcr, and stay tuned for additional improvements throughout the year.

Questions? Comments? Feedback?

If you have questions about the CVCR or would like to discuss the content of this newsletter, please contact Joel Sutherland at 610-758-6428 or at joel.sutherland@lehigh.edu. We look forward to hearing from you!