

On Implementation Trends and Lean Supply Chain Management

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Peter Buckner: Hello and welcome to the SearchManufacturingERP.com web cast: On Implementation Trends and Lean Supply Chain Management. Today we are going to answer any questions you may have about how to make your supply chain as lean and efficient as possible.

My name is Peter Buckner here for SearchManufacturingERP.com and I will be your web cast moderator. If this is your first time listening to one of our web cast, let me give you an idea of what to expect. In a moment, Anil Gupta, Vice President of Marketing for the Global Supply Chain Consulting from Bristlecone will discuss our web cast topic. During his presentations the slides will be pushed to your screen automatically. There is no need for you to do anything on your end to view this presentation. Should you have difficulty viewing any of the slides, just click on the enlarge slide button. If you have any technical problems with either the sound or slide show quality, click on the help link in the additional link section on the lower right hand corner of your presentation screen.

Technology & implementation trends in lean supply chain management

			Anil Gupta VP Marketing, Bristlecone March 26, 2009 www.bcone.com
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I like to thank today's sponsor for making this web cast possible. For more information, you may click the area below the presentation screen. Clicking here will not interrupt the web cast in any way. And now I like to give you a bit of background on our web cast presenter. Anil Gupta is Vice President of Marketing for Bristlecone, a consultancy that helps clients to maximize the value of their supply chains. Anil brings extensive experience in enterprise software. Having served as Vice President of Marketing and Strategy at software companies such as Baan for ERP and Supply Chain, Broadbase for CRM Analytics and ePeople for a collaborative CRM. At these companies, he lead product marketing and product management and corporate marketing functions. Anil has lectured at Santa Clara University Business School and Stanford University school of Engineering. He has a BS in Electroengineering from BITS Pilani, one of the top engineering schools in India as well as an MBA from Santa Clara University.

Anil, its a pleasure to have you here today. You can begin your presentation whenever you are ready.

Anil Gupta: Thanks Peter. Welcome to today's webinar on Technology And Implementation Trends In Lean Supply Chain Management. I will basically open with what is Lean Supply Chain Management and it's benefits then I will list the top ten technology trends and finally discuss each of these trends in details.

Why Lean Supply Chain?

- A lean supply chain delivers products quickly to the end customer, with minimum waste
- Benefits
 - Cost Reduction
 - Inventory
 - Obsolescence write-off
 - Speed
 - Shorter cycle-time
 - Efficiency
 - Better utilization of limited resources
 - Lower capital consumption

So let's talk about Lean Supply chain. A Lean Supply Chain delivers product quickly to the customer with minimum waste. A sign of a good lean supply chain deployment is high velocity, high predictability, high on demand delivery and less inventory. The benefits of lean supply chain are multiple, so your inventory cost are lower, so even write offs from obsolescence are lower, cash to cash cycle time is much faster, resources are utilize in a very efficient manner, so you end up doing more with that.

Technology trends to implement lead supply chain

1. Create a consensus demand plan
2. Ensure supply-demand synchronization
3. Streamline supplier interactions
4. Rationalize the supply base
5. Continuously measure key performance metrics
6. Integrate engineering and sourcing into SCM
7. Get visibility into supply chain events
8. Deploy an integrated solution
9. Integrated global trade management
10. Focus on both – time and cost dimensions

So let's talk about the top ten trends in lean supply chain. The first is creating a consensus demand planning process and implementing it. Second is leveraging technology to insure synchronization of supply and demand. Third is improving collaboration with suppliers. Fourth is reducing the number of suppliers we do business with. First is continuously measuring key performance metrics of supply chain. Next is integrating engineering and sourcing to increase the velocity and reduce cost scenarios in new product introduction. Next is getting visibility into Supply Chain events to proactively address issues. Number eight is deploying an integrated supply chain in ERP solution. Number nine is automating global trade management process that are related to export and import and finally number ten is ensuring focuses on both cost as well as time dimension.

About Bristlecone

- Leader in strategy/business process consulting, systems integration and outsourced business services in Supply Chain Management
- Rated by AMR as among top SAP supply chain services provider
- Over 100 blue chip clients
- HQ in Silicon Valley, CA with 1,000+ employees across the globe



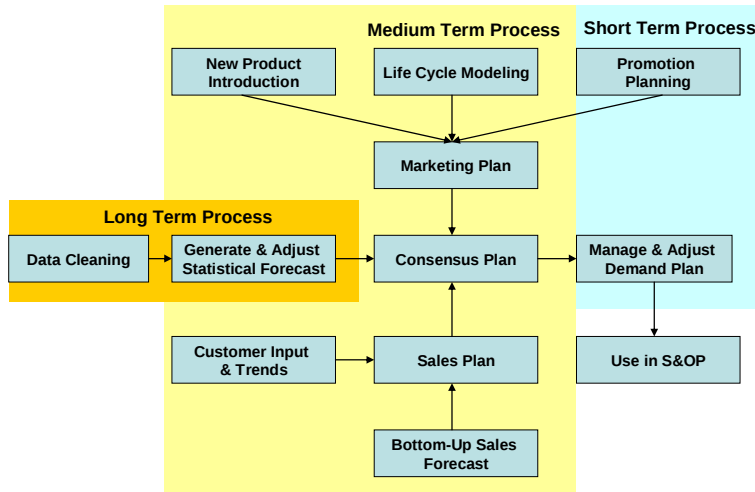
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So before I go into specifics, let me just take a couple of minutes on Bristlecone to give you some context. Bristlecone is a premier supply chain consulting organization with an exclusive focus on extended supply chain management which maps to plan source, make and delivered within the score model. Our services include supply chain opportunity assessment, process improvement as well as implementation of SAP supply chain and sourcing solutions. In fact, Bristlecone was rated by AMR as one of the top SAP supply chain solution providers.

We have consulted with over 100 leading organizations across the globe. We are based in the heart of Silicon Valley with offices and a dozen locations around the world. So today some of these techniques that I'm sharing with you are based on our conversations with many of these companies. So again, let's go and look at the first trend, which is creating consensus demand plan.

1. Create a consensus demand plan



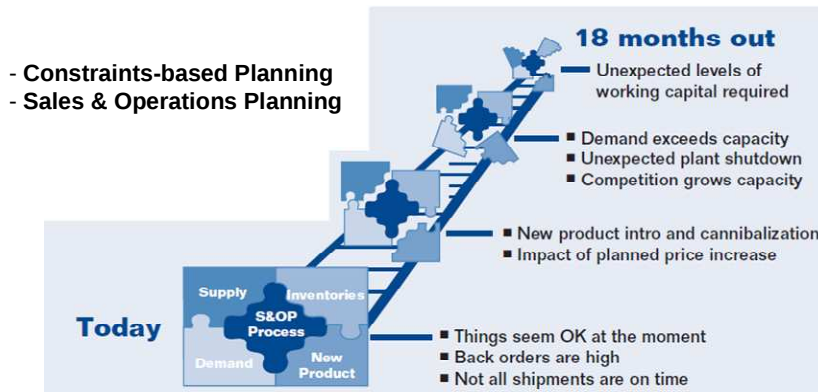
Now an ability to forecast demand correctly leads to each member carrying extra inventory as a buffer, which causes supply chains not to be lean. So as a result if you want to get lean supply chain, you have to address the issue of forecast error. So the key issue is that cause high demand forecast errors are one is lack of availability and accuracy of demand data at various levels of details. So by SKU, by category, by location etcetera. Second is the complexity that is arising from the need to plan large numbers of product location combination and especially if you are using manual processes that become the challenge. Third is frequent new product introduction with no historical data. And that becomes a challenge, especially in high technology industry. An ability to predict the sales impact of product promotion or cannibalization of sales or other products. And then also need to frequently update the forecast if the market environment is very dynamic which we have seen in number of industries especially lately

So if demand is planned on spreadsheets or other less sophisticated systems, these issues cannot be addressed easily. Use of a comprehensive demand planning system addresses these issues head on and that's our number one technology trend, which is creating a consensus demand plan using a demand planning technology. So systems like that provide scientific approach to forecasting using tools such as statistical forecasting, promotion planning and automatic alerts. Our good demand planning system also enables automatic aggregation and disaggregating of data, which allows you to create a rolling short-term demand plan from a medium term plan and we show that in the picture.

Modeling new product introductions using similar product data also simplifies the process specially when there is no history for the new product being introduced. The collaboration technology allows an organization to engage various stakeholders from sales, from marketing, from finance etcetera for a bottom up adjustment process and with

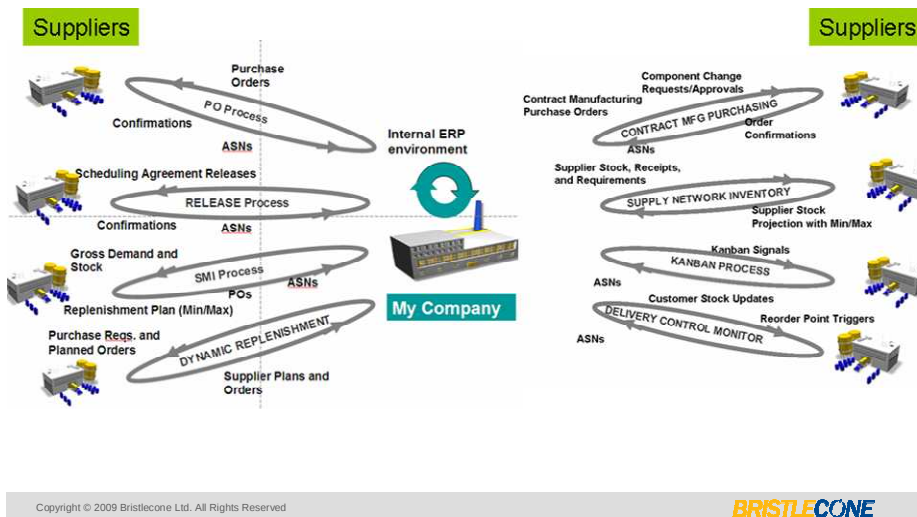
these capabilities, the planning cycle time reduces dramatically. And organizations are able to significantly increase their forecast accuracy and that is a key to a lean supply chain.

2. Ensure Supply-Demand Synchronization



So that was the first trend. Let's look at the next trend, which is a supply demand synchronization. So supply demand balancing is critical to ensuring the company is able to meet it's customer commitment with existing capacity in short as well in the medium timeframe. And if you don't balance supply and demand, the on time delivery matrix suffers, business is affected and the loyalty drops. And it also affects company's ability to charge premium pricing which affect this margin. So there are number of techniques such as sales and operations planning or creating a supply plan that maps to demand but also incorporates key constraints such as inventory constraints, distribution constraints etcetera. So using techniques like S&OP and constraint based planning, a company can ensure that it will be able to meet it's delivery commitment without incurring either expediting cost which is a big issue for lot of companies or high inventory which is a big issue. And if we are able to balance demand and supply, it addresses these issues and as a result leads to a leaner supply chain.

3. Streamline Supplier Interactions



So, next let's talk about supply collaborations. So what is supply collaboration? Supply collaboration provides a framework for supplier and manufacture to collaborate in a structured manner and the key word is structured. So collaboration with a supplier where they have visibility into your demand and where you as a manufacturer have visibility into their commitment, it can result in benefits such as reduced inventory, shorter lead times and lower risk of stock outages.

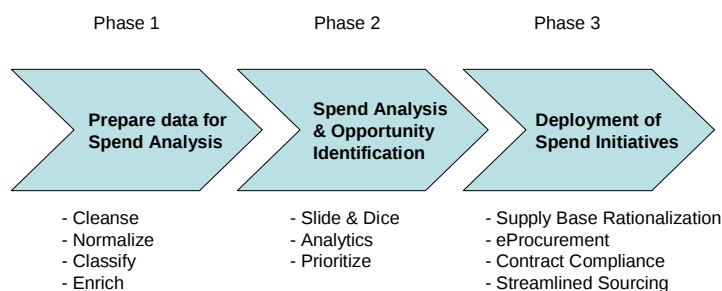
For a wider collaboration also ensures that each stakeholder in the supply chain can meet their service agreement, which results in a more responsive supply chain. So let's look at the scenario. These are the various types of collaboration mechanisms that I am showing on the slide here whether these are purchase order or VMI or a purchase order release or Kanban. So let's look at one and see how it would work in a technology scenario. So let's look at the one on the top left which is the PO process. So in that scenario purchase orders are created in customers backhand system and that information is communicated through a web interface to the supplier. The supplier gets an email with the link to the purchase order. They click on that email and they get connected to a collaboration portal where they have to enter their user name and password. Once they are in, now they have visibility into all the customer purchase orders or all the customer requirements.

Now the supplier can confirm and commit to a delivery and in that situation, the buyers on the manufacturing side know that the order will be shipped on time and in the right quantity with the right product. And then that information automatically goes to the manufactures ERP system so basically the manufacturers ERP system now knows that whatever purchase orders that they have placed will be delivered on time.

Now let's take a scenario where a supplier doesn't think they can meet their requirement. Now while they are on the portal, they can suggest an alternative date or an alternative quantity. And now that information is immediately visible to the buyer on the manufacturing side or the purchasing guy on the manufacturing side. Now with back and forth over the system, they are able to come to an agreement that worked for both parties. Now if you didn't have such a collaboration platform, the streamlining of this process would not be possible. And if you look at the old current methods that are used in many companies like paper or faxes or email, you run the risk of transmission errors, lost orders, lack times in response and other problems which basically prevent you from getting commitments from suppliers and if that happens, you end up carrying extra inventory just to buffer against possible ability of your supplier not to ship. And so by introducing a collaboration framework and using tech collaboration technology, you are able to address those issues and that allows you to move towards a leaner supply chain.

4. Rationalize Supply Base

Using Spend Analysis to Rationalize Suppliers

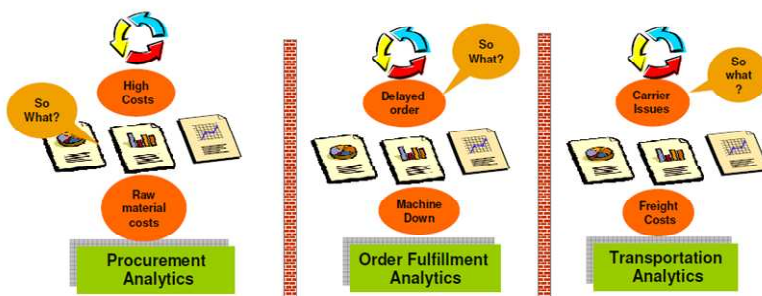


Now let's look at the fourth one, the item number four which is rationalizing the supply base. So spend analysis. Spend analysis is the process of determining what is being spent with whom and for what? It provides insight into what are you spending by vendor, by category, by product, by division, by plant etcetera. And as a procurement person if you have information into that now you can identify opportunities so that if spending is scattered among multiple suppliers you can award that volume of spending to a smaller number of suppliers and gain volume discounts. But without detail visibility and insight into spending such decisions are very, very hard to make. But it's very hard to aggregate spent data that you have coming from various systems, your ERP system, your E-procurement system etcetera. The problem is that the data is typically incomplete or dirty. So for example the supplier name for the same supplier may be quoted differently in different records. It might say HP in one or Hewlett Packard in another one

or this could be misspelled and as a result it makes it very hard for you to aggregate that information.

The item numbers for the same item in two systems may be different. So you cannot aggregate their spend. The item categorization may be nonexistent. So you cannot roll a spend on two items that belong to the same category. You may not also know that you are buying from the subsidiary of another supplier and if you have that information it may have increased your negotiation leverage. So by first leveraging technology to quickly prepare the data for spend analysis, which is phase one here and then performing analysis on the data to identify the right opportunity, which phase two here and then executing on them, which is phase three here is the right sequence of steps. It provides you a well thought out and systematic way to identify supplier rationalization opportunities and once you are dealing with fewer suppliers it automatically leans towards a leaner supply chain.

5. Continuously Measure Performance Metrics



- Avoid the traditional silo approach shown above (local optimization)
- New Approach
 - Process Orientation
 - Hierarchical Framework such as AMR or SCOR
 - Cascading – shows linkage between tactical, operational and key strategic metrics
 - Predictive modeling capabilities

So let's look at the next item, which is continuously measuring performance metrics. Now supply chains are becoming increasingly global and complex. And so organizations need to work very closely with their suppliers, with their logistic providers, with their distributors, with their retailers etcetera. And this task has even become more complex because one, people are outsourcing across the globe and two the new product lines are being introduced with different customer de-coupling point and what I mean by that is your current product line, you may be making your product to stock but then your next generation, you may be building that product to order. So organizations have to understand what is working well and what is not and where the opportunities lie for improvement. And as a result companies need to have a robust way to measure the performance of their supply chain on an ongoing basis. Now here are some issues. The

world of procurement, manufacturing, engineering, finance and all these other departments, they are connected but if you look at the analytic solutions of today, they are designed in silos which means the relationship between these worlds are not very well understood if you look at the performance metric system. And what happens as a result since you have performance management systems in silos, it leads to local optimization at the expense of performance of the overall process. And the other problem with performance management systems of today is that it's very difficult to look at a metric and see how it affects your overall objective, the over all supply chain strategy. So if the metric is trending in the wrong direction, it's very hard to tell which aspect of your supply chain strategy will be affected by that. And so the supply chain performance management systems have to address this issue. They need to be able to allow a user to view all key metrics and it's performance and trends for a process, not just for a department. And they have to be able to define linkages between two metrics that are related to each other. So hierarchical models and ability to cascade these metrics is a very great requirement. And then once you have these capabilities in your supply chain performance management system, organizations can look at the performance of their supply chain more easily and make the right set of improvements and as a result, you can get more efficient and lean supply chains.

6. Integrate Sourcing and Engineering into SCM

- Integrate New Product Introduction into SCM
 - Timing Phase-in & Phase-out
 - Avoid write-offs
 - Reduce shortages
- Integrate Sourcing into SCM
 - Replenishment Model
 - Reliability
 - Responsiveness
 - Reduce supplier proliferation

So let's look at the next important number six step, which is integrating sourcing and engineering into supply chain management. Now a new product introduction and sourcing are key elements of effective supply chain management. Without incorporating new product introduction into the supply chain planning process, a manufacturer runs the risk of either inventory write off because they plan too much or shortages of critical components they didn't plan enough. And so similarly the sourcing process should incorporate requirement such as ability to deliver in the right replenishment model

whether its make to start, bill to order, vendor manage inventory etcetera, responsiveness, reliability so very, very high delivery rates and flexibility to react to certain changes in business needs. And once, both these aspects, the new product introduction as well as sourcing are integrated into the overall supply chain planning process, it allows you to increase your liability which means reduced inventory as well as plan switch over to new components better which means again reduced inventory, which then allows you to have a much leaner supply chain.

7. Get Visibility into Global Supply Chain Events

Visibility into Events

- Order Acknowledgement
- Advanced Shipping Notification
- Shipment Picked up by Carrier
- Carrier Arrival at Loading Port
- Departure from Loading Port
- Broker Receives paper work from I/E or Vendor
- Carrier Arrival at Destination Port
- Customs In
- Clear Customs
- Departure From Destination Port
- Receive Goods
- Receive Invoice
- Payment

Now let's look at number seven which is get visibility into global supply chain events. Now supply chain event management plays a huge role in improving supply chain visibilities because any organization can easily look at and check all the key events for a business process that they need to monitor and share within the supply chain. So a system like that continuously monitors the process for any event, which are based on the business rules we have defined. Once that event is triggered the system figures out who the subscribers are for that event and including not if any of your partners and suppliers and notifies them via e-mail, via phone call, via system alert, via updating your systems etcetera.

So as a result, it serves as a collaboration mechanism between various stakeholders and allows them to identify any exceptions in a very timely manner and react to it. So suddenly everyone within the supply chain is on the same page and if everyone is on the same page then they can reduce inventory because inventory buffers are typically created to address variability because people don't have visibility into some thing, so instead they increase their inventory to buffer against any unseen issues that may crop up. So here on the screen are listed a set of events that can be monitored so you know where your shipment is or you know where the shipment has reached or where it should have been

but hasn't reached there yet and it is late and as a result you can proactively take action and by having this level of visibility again, it allows you to reduce variability and reduce inventory.

8. Deploy Integrated Solution

- ERP vendor's SCM solutions
 - Offer capabilities comparable to stand-alone vendors
 - Lower cost of ownership
 - Less product integration and upgrade issues
 - Less training issues
 - Cross-process integration simplified
 - Ability to cascade and link performance metrics

Now let's look at the next step, which is our number eight which is deploying an integrated solution. If you go back not long ago, maybe eight to 10 years where the supply chain capabilities from various ERP systems were not mature, best of these solutions was the preferred approach. But the problem was that it created a lot of information integration issue now today I recommend to companies that they first evaluate the supply chain systems from the ERP vendor before they start looking at other options because it does a number of things. Number one it reduces integration issue. It allows them to leverage a user interface that everyone is familiar with and as a result not only your training costs are reduced but adoption increases and a combination of lower integration issues lower training costs and increased adoption means that the overall cost of ownership is significantly lower and the other very important thing is it allows them to integrate planning and execution processes more effectively.

Today lot of issues occur because of planning, not have visibility into execution vice versa and people try to work around that problem with inventory buffers but if your planning and execution environments are integrated which means you are able to act very quickly based on when something is not going according to plan, you can get away with carrying load inventory and as result a leaner supply chain. Now a large number of companies have manual export and import compliance processes, since most manufacturers import components and manufactured products and they export finished products, having a manual export and import compliance process is not only inefficient but I think it significantly increases order to cash cycle but also (Inaudible) increases the

risk of penalties from noncompliance's regulation and also it potentially can increase the chance of delays and shipment and recedes which can affect your ability to deliver your product to customer on time and finally it can also add to the cost of components because you end up paying more duty on goods you have imported than you should have paid because you don't have your paper work in order.

So we are talking about export compliance processes here, which are screening against any sanction party list, managing export licenses, performing embargo checks sending electronic communications to custom, maintaining export classification and driving outbound trade finance services such as letters of credit and then we are talking about import compliance processes which include managing classification code producing import document, documenting compliance with free trade agreement and ensuring that you have import controls in place and basically global trade management allows you to automate these processes and through that they speed up and streamline the screening of the export order. They allow you to reduce your inbound delays, they allow you to reduce the chances of penalties that may come from noncompliance because the system is much better at ensuring compliance than a manual process and finally because everything being automated, the right paper work being in place, it allows you to speed up your cash to cash cycle and so it all adds up to a faster moving and efficient supply chain.

9. Integrated global trade management

- Global Trade Management
 - Ensures compliance with trade regulations
 - Expedite customs clearance
 - Mitigate financial risk of global transactions
 - Takes full advantage of Free Trade Agreements

So you

- Accelerate cross-border transactions
- Reduce the risk of non-compliance
- Increase efficiency through automation and integration
- Reduce landed costs

So lets look at number 10, which is the last item, which is focusing on cost and time dimensions together. Now while you can focus on multiple aspects of the supply chain I believe that you need to focus on two fronts simultaneously which is increasing the velocity of the process and the information flow and at the same time focusing on activities and action that can reduce costs or reduce inventory within the system.

10. Focus on cost and time dimensions

- Focus on Time and Cost dimensions simultaneously
 - Velocity-focus
 - Lowers inventory requirements
 - Increases effectiveness of processes
 - Leads to increased use of automation
 - Cost Focus
 - Lowers inventory requirements
 - Increases resource utilization
 - Leads to “More-with-less” culture

Now when you increase the velocity, it allows you to reduce inventory and it allows you to put the focus on better handoff and as a result, you can increase the effectiveness. It also focuses on increasing the degree of automation and our cost focus allows you to do more with less which forces you to reduce inventory and forces you to look at ways to improve resource utilization and by combining your focus on both velocity and cost as a result, you are more likely to end up with a significantly leaner supply chain than otherwise.

Recap: trends to implement lead supply chain

1. Create a consensus demand plan
2. Ensure supply-demand synchronization
3. Streamline supplier interactions
4. Rationalize the supply base
5. Continuously measure key performance metrics
6. Integrate engineering and sourcing into SCM
7. Get visibility into supply chain events
8. Deploy an integrated solution
9. Integrated global trade management
10. Focus on both – time and cost dimensions

So last slide, let me again recap the top 10 trends in terms of technology that allows you to implement a lean supply chain. One is we talked about implementing a consensus based demand planning process using demand management systems that allows you to reduce the forecast error and improve forecast accuracy, second we talked about leveraging technology to improve the synchronization between supply and demand. Third we talked about supply collaboration that allows you and supply to be on the same page with respect to demand and delivery, which increases predictability and as a result reduces inventory. Fourth, we talked about reducing the number of suppliers that you do business with by using spend analysis technology and as a result if you are working with fewer number of suppliers, it increases the reliability in the system and as a result allows you to build a linear supply chain. First we talked about having a mechanism in place for you to be able to measure your supply chain performance management on an ongoing basis. We talked about the need for such a system to allow you to see what's working, what's not and continuously improve. However the key requirement is that the system should not look at departmental silos but be process focused as well as allow you to cascade matrix so you can see the impact of one matrix on your overall strategy as well as on the detailed operational matrix.

The next thing we talked about was integrating engineering and sourcing so that specially in industries such as high technology where you are continuously introducing new products. It allows you to make your supply chain for newer products leaner and reduce the cost of introducing new products. Number seven we talked about getting better visibility into supply chain event so the supply chain as a result, you know, where everything is and that if you can see something it allows you to have better visibility and hence lowers the chances of your having to carry more inventory to offset something you can see easily. Number eight we talked about deployment of an integrated solution

which allows you to have a lower cost of ownership. Number nine, we talked about a global trade management solution specially these days manufacturers are importing more components and manufactured products and because of the global nature of the world exporting their products into more market and having a global trade management system speeds up the process, reduces the risk of noncompliance and as a result reduces the cost and makes the supply chain more streamlined and finally number 10, we talked about focusing on both dimension simultaneously, the time dimension and cost dimension. With that Peter, let me hand it back to you.



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Peter Buckner: That concludes today's web cast about trends in lean supply chain management. If after listening to our web cast you have any further questions on the topic, please feel free to go to the Bristlecone site or contact Anil directly at anil.gupta@bcone.com or you can send your questions to me peterbuckner@searchmanufacturingerp.com. A final thanks to our guest speaker Anil Gupta and to our sponsor for making this web cast possible. For more information remember to click the area below the presentation screen and once again I thank all of you for joining us today.