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MEDAL OF EXCELLENCE

Lucent's supply chain focus fattens margins



Lucent's use of its supply chain networks organization is improving profit margins and reducing inventory and will be key to the company's future recovery and growth.

BY JIM CARBONE

When Lucent Technologies CEO Pat Russo needs to know what the profit margins will be for a new data networking or cellular base station product, she doesn't go to the company's sales organization for the information. Rather, she calls Jose Mejia, Lucent's president of supply chain networks (SCN).

Mejia's supply chain team has developed a margin forecasting model that accurately forecasts what the profit margins will be for a wide range of Lucent products for four quarters in the future.

The tool factors in future cost of components, infrastructure, overhead, labor, price considerations and terms of every part involved in the product as well as the cost of installation at the customer site.

The forecasting model is one of many innovative strategic initiatives that Mejia's organization has championed at Lucent over the last two years. It is also an example of the potential of strategic supply management when various functions dealing with the supply chain are integrated into one organization.

While the forecasting model is important to Lucent's future success, it is not the only initiative that will impact Lucent's bottom line. Under Mejia's leadership, Lucent has implemented strategic supply management programs including virtual manufacturing, supplier partnership workshops, customer supply chain teams and purchasing and supplier involvement in new product development.

While Lucent has struggled because of weak market demand, the programs have helped Lucent improve profit margins from the low teens to 24%, reduce inventory from $7 billion to $2.4 billion, and cut component costs 35-55%. The effective and in some cases unique programs, are the reasons why Lucent is the 2002 winner of PURCHASING Magazine's annual Medal of Professional Excellence award.

Implementing the programs company-wide would not have been possible without a strong centralized supply chain organization. Mejia's organization encompasses more functions than purchasing.

"A couple of years ago the organization was a classic purchasing organization and it was referred to as global procurement (GP)," says Bob Holder, chief operating officer. "But we took a close look at the supply chain situation and saw how fragmented it was and recognized our shortcomings from a competitive standpoint. We had decentralized manufacturing, inventory and purchasing. We had six different organizations buying the same memory ICs. We said this just doesn't make sense. So we created the supply chain networks," he says.

Beside procurement, manufacturing and new product engineering were brought into the new organization.

"We consolidated those resources in supply chain networks in addition to the more traditional organizations of purchasing which we are now doing on a consolidated Lucent-wide basis," says Holder.

Consolidating purchasing was significant because although GP was in

theory a centralized organization, in practice most purchasing was handled by individual business units.

"Three years ago Lucent was organized into 11 different business units," says Mejia. "Every one of the units was independent. For the most part they did their own manufacturing, purchasing, logistics, transportation and new product introduction. The perception was that we wanted the units to act almost as startups."

GP was a centralized organization and tried to do strategic sourcing, but lacked a lot of power to get it done, says Mejia. Only about 30% of Lucent's buys were leveraged with GP. Today over 90% of Lucent's purchases are leveraged.

"The GP organization lacked a lot of trust internally. People did not trust that the organization could deliver," says Mejia. "They weren't part of the business. Every one of the other organizations did their own thing and did lip service to GP."

He says because GP did not choose suppliers, it served as a contract negotiation organization. "It was an after-the-fact thing," says Mejia, meaning the supplier was selected and the GP organization did the contract.



"In the past Lucent had very little communications with suppliers. They were not apprised of what was going on at Lucent. Now we communicate so much information to suppliers."

–Jose Mejia, President of Supply Chain Networks

Leveraging the buy

However, with the new SCN organization, purchasing gained clout internally as well as with suppliers and began a number of initiatives. One of its first moves was consolidating Lucent's purchases and reducing the number of suppliers that Lucent used.

To do that, Lucent developed and put into place sourcing strategies for about 70 different commodities ranging from metals to memory chips. That job was handled by SCN supplier management group.

"The group selects and develops the supply base and makes sure suppliers are integrated with our product units," says Joe Carson, vice president of supplier management.

Lucent took a commodity team approach to develop its supply strategies. "Each team identifies the top suppliers for their commodity area. They look at what the suppliers' financials are, what their global capacity is, where they are located, what their technology advantage is and how they stack up against their competitors," says Carson.

For most commodities, Lucent had numerous suppliers, but pared the number down to "a precious few that could meet Lucent's global needs," he says.

"For instance with metals, we had something like 80 suppliers ranging from big guys to corner mom and pop guys who made a bracket for something. Now we have five global metals suppliers," says Carson.

He says overall Lucent has reduced its number of suppliers from more than 3,000 in 2000, to fewer than 1,500 in 2002. About 60 suppliers now account for over 80% of Lucent's spend. Three years ago, more than 1,000 suppliers accounted for less than 40% of the spend, says Mejia.

In electronics, Lucent had over 100 suppliers and now uses just 20.

A commodity group owns the worldwide spend for the commodity, says Scott Searls, director of supplier management.

For example with SRAMS, it is the commodity group's job to aggregate the complete global needs of SRAM in Lucent, pick one or two companies that bring Lucent the best cost and technical advantage. "The group works to leverage the spend with a very small set of suppliers," says Searls.

He says over time all new designs are driven to the strategic sources and a lot of suppliers are eliminated through attrition.

"Then you say to the strategic sources, 'Look we are delivering all the new business to you and what we expect in return is all of your attention.' What we are doing is working the front end instead of trying to go in and move the old legacy sourcing," says Searls.

Design involvement

The select strategic suppliers are brought in at the design phase of new products, something that generally was not done in the past.

"They get to influence our architecture which impacts their own cost. By

bringing them in early in design we can prevent a lot of cost from being designed into a product," says Searls.

Another advantage for Lucent of involving suppliers early in design is that the supplier will invest more in technology that Lucent needs if the supplier believes it will get more Lucent business.

"The minute suppliers believe they have a greater chance of winning in the marketplace with Lucent, we are going to get more of their R&D (research and development) dollars," says Searls. "It's a down market now in telecom. Nobody is making a ton of money. So R&D dollars are funded right out of profits. If you have companies who don't believe they can win with us they are not going to invest their R&D in what we are doing," he says.

To manage strategic suppliers, Lucent uses global supplier relationship managers (GSRM) who represent suppliers inside Lucent and represent Lucent to the supplier.

"If we have a supplier with a great new technology that can advance Lucent, it's the GSRM'S job to make sure the supplier is in conversations with product teams," says Carson.

The GSRM is also responsible for quarterly meetings with suppliers that show suppliers their scorecards and let them know how they are doing. There are almost daily communications with suppliers and the GSRM.

"Communications are a differential advantage for us," says Carson. "We believe the company that tells its supplier base everything as we see it and talks about the changes that are occurring will have more credibility, more respect and will have deeper and richer relationships with suppliers."

Mejia agrees and says the amount of communication that occurs with suppliers is much greater than in the past.

"We had very little communications with suppliers," says Mejia. "Suppliers' perception was we told them what to do and never listened to them. There was no collaboration with suppliers. Suppliers were not kept apprised of what was going on. Now we communicate so much information to suppliers."

The GSRM also evaluates and monitors suppliers' financial performance. The GSRM is told to manage the supplier as if he was managing a financial portfolio.

"I want them to act like Solomon Smith Barney," says Carson. "I want them to know what is the financial stability of the supply base and what is going on with it." GSRMS have received training on analyzing financial statements and pour over annual reports and quarterly statements to assess which suppliers are in the best financial shape.

Searls adds that the more Lucent's supplier managers understand the financials of suppliers, the more likely they will be able to see possible mergers and acquisitions taking shape. "As we become more financially astute, we can almost predict what is going to happen to the supply base and influence how we can get a better supply base for Lucent," he says.

Attitude change

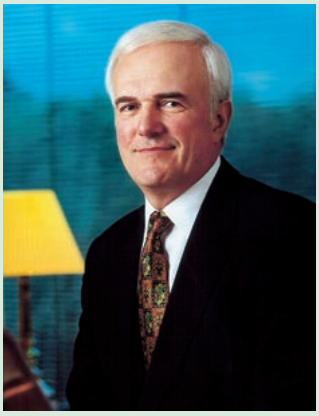
The Lucent supplier base reduction as well as its use of commodity teams and supplier managers is the reflection of a change in attitude.

"We have changed the process that we use for engaging, negotiating and working with suppliers," says Mejia. "It used to be very antagonistic, distant. When we came to the table it was fighting almost."

Now there is a much greater effort to collaborate. "We do a lot of thorough preplanning. We look at the industry of the supply base and the individual supplier," says Mejia. "They look at what we do and where we are going and we partner with them," says Mejia. "They are interested in Lucent succeeding and they know we are interested in them succeeding."

Lucent's deeper involvement with suppliers has resulted in 35-55% savings

An executive view: Supply chain has come a long way



Lucent has improved its profit margins to 24% and it is largely due to the efforts of Lucent's supply chain networks organization, says Bob Holder, COO.

Supply chain management at Lucent Technologies has come a long way in a short period of time, according to Bob Holder, Lucent's chief operating officer.

"Procurement three years ago was a junior officer corporate role. Now Jose Mejia is one of the four key operational leaders of the business," says Holder. Mejia is president of Supply Chain Networks (SCN), which was formed two years ago.

Holder says, despite difficult financial times, Mejia and his SCN organization have risen to the challenge and delivered tangible results.

The supply chain organization has driven inventory management. "We have taken our inventory down by $4 billion over a couple of years. At a peak we were about $7 billion in inventory and now we are below $3 billion," says Holder.

He adds that Lucent has experienced significant improvement on component prices. In some commodities, SCN was able to reduce prices by 50%.

Reducing prices helped Lucent improve margins, which had fallen to the teens in recent years, according to Holder.

"We had a difficult margin situation but there is improvement and we are projecting ourselves to be in an incredible space by the beginning of next year," says Holder. "Last quarter we reported margins in the 24% range. We are on steady path to be in the mid 30s early next year.

"It is largely the result of the focus of the supply chain folks," says Holder. "Margins will continue to be an area of focus. Margin improvement is the mantra."

SCN will be essential to taking cost out and improving margins. "We recognize the biggest leverage point we have as a business are gross margins," says Holder. "In these uncertain times, if we can get our gross margins into a good space, we can ride it out. If we can't, then growing revenue doesn't help you a whole lot. The focal point of driving improvement is the supply chain organization," he says.

in materials purchased from suppliers, according to Mejia. Suppliers have also been key in helping Lucent reduce the cost of its products through a tool called supplier partnership workshops.

"The workshops are a microcosm of how Lucent has revolutionized its interaction with suppliers," says Brad Clifton, technical manager for the supplier partnership workshop program. "Suppliers love the workshops because they are forums for early supplier involvement. Suppliers always want to be involved early when decisions are made about a product. They also like them because we share information about the market, the design and what our requirements are and what our rationale is for those requirements. We are open and it is a free exchange."



The supply chain networks team under the direction of Jose Mejia has deployed a number of strategic initiatives that have helped to improve profit margins, reduce inventory levels and cut component costs. For a full listing of the team go to www.purchasing.com.

Clifton says that the workshops are held for existing products and for products that will soon be introduced. Over 60 workshops have been held since 2002 resulting in savings of $200 million.

The idea of the workshops, which usually run one to two days, is to generate cost savings ideas for products.

About eight to 40 people attend the workshops. "If there are 40 that means we have several subsystems and multiple suppliers involved. Key engineers, manufacturing people and three or four suppliers attend the meetings," says Clifton. "We look at a wide range of technologies, not just cabinets, not just optical products."

Lucent recently held a workshop for its third generation Lambda Extreme backhaul gear. The problem with the equipment was that it was 55% over its cost target.

"We set up workshops and broke down the system into key component areas," says Seyi Owodunni, senior product manager of Lambda Extreme. "Before the workshops began, we told suppliers to come prepared to break down the cost of their components and to discuss the big cost contributors. We asked them to come with ideas of their own to cut costs and to bounce them off us at the workshops," he says.

Lucent held about nine workshops on various components of the system. Each workshop yielded about 20 ideas for cost reduction. About 20% of those ideas were implemented.

Two of the ideas involved greater integration of components with the system.

Lambda Extreme has various circuit packs to amplify signals. One suggestion that was implemented involved taking a laser and a combiner from one pack and moving it to another. That resulted in a $1,000 savings.

A similar suggestion was made concerning the product's control system. "We had a workshop to investigate three circuit packs that comprised our control system," says Tony Colonna, senior manager, product development. "Based on the commonality of the packs we determined we could redesign the system so it uses only one circuit pack rather than three. In the next release of the system, the design change will drive a 40% reduction in that whole subsystem."

The workshops for Lambda Extreme resulted in significant savings and Lucent was able to get within 3% of its target cost.

Lucent also held a workshop recently for its Flexent Modcell, its third generation base station for cellular telephone carriers.

The system consists of a main cabinet and a so-called "birdhouse," where the RF cables enter the base station. The way the birdhouse connected with the cabinet created a complex housing design which had many welds, bends, and cuts which added cost.

Suppliers suggested an idea to integrate the birdhouse into the main cabi-

How Lucent judges suppliers

1. Supply continuity
- Delivery to commitment date
- Delivery to need date
- Leadtime reduction

2. Relationship based on openness & trust

3. Technology Market Leadership
- Number of technology opportunities implemented
- % savings of implemented ideas

4. Total Cost
- Purchase price variance as percent of spend
- Cost reductions from component redesign or substitutions as a percent of spend

5. Continuous improvement in quality
- Parts per million defective
- Number of complaints open, closed and backlog

SOURCE: LUCENT TECHNOLOGIES

net which would cut the cost of the system 7%. The idea will be implemented.

Get involved

There is no question that supplier workshops have helped improve margins of Lucent products. However, early involvement of suppliers and purchasers in new product development also has contributed to margin improvement.

Lucent has life cycle managers who work on products from the concept stage until they are taken off the market.

"We help to bring the products into the world and to take them out when they are no longer needed," says Paul Toomey, director of lifecycle management for data networking products.

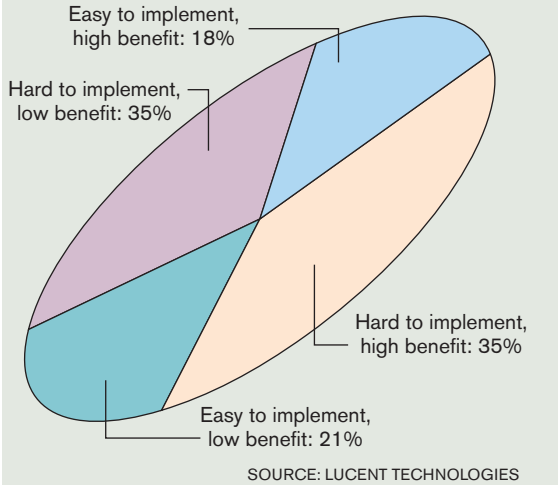
Lucent's seven-step supplier workshop program

1. Define target areas for product
2. Define suppliers
3. Communicate cost problem with suppliers
4. Brainstorm ideas
5. Identify good ideas
6. Follow up actions and information
7. Track Implementation

SOURCE: LUCENT

How supplier workshop ideas break down

(Based on 45 workshops and 1,600 proposals)



SOURCE: LUCENT TECHNOLOGIES

Lucent has saved $200 million by implementing ideas generated by supplier partnership workshops.

"We get involved at the concept phase of a product and begin designing the supply chain. We help the product team discover the implications of their design ideas from a supply chain perspective," he says.

Most of the products that Toomey is involved with are backplanes, circuit cards, power supplies and cooling systems.

"Life cycle managers attend design meetings presenting supply chain status information and letting designers present to us development schedules," says Toomey. "We get involved in the exploration phase of new product development. We manage delivery of early prototypes." His job is to make sure design teams pick the right supplier. "If someone is designing a new ASICS (application-specific integrated circuit) for example, we make sure the design team knows who the strategic suppliers are and whom we have contracts with."

Sometimes a designer may want to use a supplier based on geographic location. "The design team may want to prototype with local suppliers with whom they can interact quickly and easily," says Toomey. "But the supply chain organization wants global suppliers so we can move the product around the globe to the most cost effective locations. We want the prototyping work with the volume supplier from the very beginning. The volume supplier gets the maximum experience and exposure to the products," he says.

Life cycle managers also work with suppliers to develop test equipment when designs are being formulated.

The customer speaks

While Lucent's SCN organization spends a lot of time working with suppliers, it also works with customers making sure customer requirements are well defined and being met through customer general managers who report to SCN.

"I have a Verizon Wireless customer GM, China Unicom customer GM, Bell South customer GM," says Jim Preston, vice president of customer general management-facing teams. "They tell me everything that is going on with the customer, what they are buying, what issues are they dealing with and they try to translate that into what the supply chain could do to influence to help change."

Preston says that the customer GM is the advocate of the customer in the supply chain process. "It is our responsibility to understand what the customer's supply chain needs and requirements are; both the routine needs through demand forecasting and demand planning as well as unique needs such as packaging," he says.

When the position was created about two years ago, the GM spent a lot of time expediting deliveries, but the role is evolving. "We are moving more from the back end of the supply chain towards the front end and are getting involved in bids and demand planning," says Preston.

"Our mission is to provide an end-to-end solution for the customer," he says. By doing so Lucent develops a stronger relationship with the customer. "If Lucent does more for the customer from a supply chain networks point of view, we would get a higher percentage of their business," says Preston.

Lucent has about 15 teams. Some larger customers have a dedicated team. Smaller customers share a team.

"This is intended to be a marriage, a long-term relationship," says Preston. "I think we are just beginning to realize potential that can occur here."

The customer GM provides one-stop shopping for the customer. "They don't have to navigate through the organizational complexity. They have one point of contact for all of their supply chain issues," says Preston.

So if the customer has a technical question about a product or has a quality concern, the GM can answer the question or find the appropriate function in Lucent to address the customer's issue. In some cases the customer may have a question about manufacturing and the customer GM would likely have to talk to one of Lucent EMS partners as most of Lucent's manufacturing is outsourced.

The outsourcing journey

While many OEMs outsource, Lucent has outsourced at an almost breakneck pace over the last two years and it marks a dramatic change in business models. In the past Lucent would use electronics manufacturing service (EMS) providers when it could not keep up with demand for its products.

"When the markets were hot we needed extra capacity. EMS providers offered a way to build our lowest-level technologies," says Steve Sherman, vice president and general manager of EMS and manufacturing strategy. "We would outsource those products but bring them back when demand eased."

Then in the 1990s, Lucent outsourced lower-end items such as mechanical assemblies and it then outsourced some surface mount production because of the wide availability of SM lines.

However, two years ago Lucent decided that manufacturing wasn't a core competency and decided to outsource most of its manufacturing. It sold a number of facilities to contract manufacturers. About 80% of Lucent's products are now manufactured by Solectron, Jabil and Celestica.

It had about 20 factories and has reduced that to five regional integration centers.

Like most OEMs that outsource, Lucent wanted lower manufacturing costs, but did not want to compromise quality and service to customers. It evaluated potential manufacturing partners carefully and considered six major full service EMS providers.

"We did look to do some divestitures, so negotiating the divestiture was a factor on who got a chunk of what business," says Sherman. But it wasn't the only factor. Lucent also wanted partners who had global capabilities.

In addition, Lucent spent a lot of time comparing technology roadmaps with its EMS partners. "There was a question initially in our OEM mindset model: Would the EMS industry continue to invest in process development?" says Sherman.

By sharing technology roadmaps with EMS partners, Lucent allows partners to see which direction it is heading and what process technology will be needed to build Lucent systems in the future. "A lot of our issues on the system side are around cooling," says Sherman. "We say to the EMS provider, 'This is the densification of the product. What can



Lucent has been steadily decreasing its number of suppliers, and concentrating more business with the remaining ones.

Strategy for indirect sourcing: Aggressive

The supply operation at Lucent Technologies takes an aggressive approach to its indirect materials and services purchasing.

The result: Cost savings of up to 25% on such services as travel, leasing, advertising, industrial supplies and equipment and administrative supplies and equipment.

As with much of the company's direct materials purchasing, the supply operation has chosen to outsource buying of these and other indirect materials and services to Alliente, an outsourcing and e-procurement services provider headquartered in Colorado Springs, Colo.

Alliente also manages Lucent's e-procurement system, EZBuy, which is based on the Ariba Buyer solution, as well as the transaction process for all of the company's indirect materials and services spend in North America (some 35,000 transactions annually).

Lucent entered into its agreement with Alliente about two years ago. It has a minority stake in the privately held company and has transferred about 60 employees there. Alliente was created by former Hewlett-Packard employees in February 2000.

Looking initially to Alliente for assistance with implementing its e-procurement system, Lucent's supply operation also was impressed by the company's expertise at commodity and supplier management of indirect materials and services, says Peter Avioli, director, indirect strategic sourcing, Lucent Technologies. Experienced at implementing the Ariba Buyer system, Alliente employees worked in the indirect materials and services sourcing operation at HP, before it was spun off by the company.

Entering into the agreement with Alliente, Lucent had a set of objectives in mind: 1) to focus on its core competencies; 2) to reduce purchasing cycle time and costs and 3) to reduce bypass, or off-contract, spending.

To date, Alliente manages about 25% of Lucent's indirect materials and services purchasing in North America, as well as its travel spend worldwide. The company is able to leverage Lucent's spend with that of its other customers, which include HP. The remaining 75% (some of which is handled by other outsourcing providers) is managed by Avioli's team.

Alliente also implemented Lucent's e-procurement system, EZBuy in 30 countries in 11 months, and now manages it. This effort, which integrated EZBuy with Lucent's internal systems, eliminated manual transaction processes as well as five legacy purchasing systems. As such, transaction processing time was reduced from three weeks to two days. Other benefits of the agreement are:

- *Reduced bypass spend to 8% from 23%.*
- *Reduced the supply base by 30%.*
- *Savings of 7-26%, across six managed services: travel, leasing, advertising, print and marketing, industrial supplies and equipment, administrative supplies and equipment and property services.*

In December 2001, Lucent recognized Alliente for its efforts at "achieving breakthrough milestones and groundbreaking accomplishments" with its E.N. Barton supplier award.

Looking ahead, Lucent has "active projects with Alliente to evaluate expansion of their outsourcing responsibility," says Avioli. In particular, "we are considering expanding their outsourcing responsibilities outside the U.S."

–Susan Avery

you do that addresses any cooling issues and how do you do it? Make sure your process is ready so we can get a six-month advantage with the product.'"

Sherman says Lucent has concerns with EMS partners: supply chain agility and demand planning.

"The challenge is how do we jointly work together to get leadtime reduction. The recovery is going to happen and we have got to be ready and it has to be extended all the way through the supply chain. When the market turns I want to be there."

By outsourcing manufacturing Lucent has moved $1.2 billion of fixed costs to variable costs.

While Mejia's SCN organization has developed and implemented numerous initiatives to reduce cost at Lucent, the most innovative and perhaps most strategic is the margin forecast model which has become an important tool to Lucent's overall business planning. It is an example of strategic value that a supply chain organization can bring to a company.

"The tool is central to our overall financial planning for the business as well as our portfolio planning," says Holder, the COO.

"It brings together the combination of volumes from the sales team, pricing from the sales team, and cost profile across the business in terms of component asset utilization. In the last three quarters we have been able to forecast our margin within a fraction of a point," he says. In the past, margin forecasts from the sales organizations have had multiple point variations because "it was difficult to understand what the flow-through effects would be of new product introduction, component prices coming down and the burning of old inventory," says Holder.

Preston, who helped develop the forecasting model, says the tool has a bill of materials for all of the primary product architectures and all of the parameters and sensitivities that would impact cost performance.

"We take our demand plan by customer and by product and feed it into the front end of the model. The model will tell us if we have this volume of product with this mix with a customer, here is what we can expect in terms of revenue and margins," says Preston.

"If we shift the mix of products and different volume levels, we can come with the scenario which optimizes margins," says Preston.

More to be done

Mejia and his SCN organization have been catalysts for change at Lucent. However, Mejia says there is more work to be done. One area of focus will be the integration of key suppliers into Lucent's bid process with potential customers.

"I want the lowest key partner to know when I am in negotiation with Verizon Wireless or with China Unicom," says Mejia. "I want the supplier to know what needs to get done for us to get that business. The supplier needs to understand what is the margin, the cost and the delivery targets. If the partner helps us win the bid and continues to help us well with our customer the supplier will participate in the winning," he says. In addition, Mejia sees an even greater role for its EMS providers. He says Lucent's contract manufacturers need to be an extension of Lucent's research and development efforts. "When it comes to cost reduction on existing product and even with new product introduction, we'd like to get the benefit of their insight and have them suggest different low cost ways to build product." ■

Ten responsibilities of the global supplier relationship manager

1. Serve as "owner" of supplier/Lucent relationship
2. Develop and manages relationship using performance improvement plan
3. Compile, evaluate, monitor metrics using supplier scorecard
4. Facilitate cross-company teams to drive results
5. Set strategic direction of technology with Lucent and supplier
6. Own business development with supplier
7. Write and manage alliance agreements with supplier
8. Monitor industry practices outside Lucent
9. Drive Lucent Supplier Relationship Program opportunity assessment
10. Responsible for supplier-specific initiatives such as inventory, delivery, shortages, cost, quality

SOURCE: LUCENT TECHNOLOGIES

Lucent axes inventory levels

One of supply chain networks biggest accomplishments was reduction of inventory from $7 billion in 2001 to $2.4 billion in 2002. It was an especially challenging task because Lucent did not have a clear picture of its inventory holdings, according to Jose Mejia, SCN president.

"There was no understanding of what we had and where it was," he says. "We didn't know the age of it, how long it had been there. We didn't know if it was attached to a purchase order for a customer. We had situations where sometimes we had the product, but didn't know it. Or we were in trouble with a customer who wanted a product that was available but we didn't know it, so we built another."

Lucent put in place Web-based visibility tools throughout its supply chain so we literally knew where a component product was at any point in time."

One reason why inventory levels were high was Lucent's mindset that more inventory helped better support the customer. "The reality is the more you have the worse it is," says Mejia. "What it does is hide problems."

In addition Lucent used build-to-stock and build-to-forecast models. When demand for equipment slowed and forecasts proved to be inaccurate, inventory levels climbed. Lucent converted its business to build-to-order so materials being purchased were aligned with hard customer orders.

"We also established visibility tools through the supply chain portal where literally you knew where a component product was at any point in time," says Mejia.

Lucent also sold some goods via auctions to reduce inventories, but many other companies were doing the same, says Jim Preston, vice president of customer general management facing teams. "It wasn't hard to sell, but it was hard to get a decent price."

Logistics rises on Lucent's radar

A few short years ago, the logistics operations were a low priority in the Lucent organization and the performance of the logistics organization showed the effects. Tony Damelio, director of global logistics at Lucent, says the 11 business units in Lucent were trying to manage existing relationships with 1,700 different carriers in the U.S. alone delivering to more than 200 warehouses around the country. Each business unit (wireless, optical, networking, etc.) managed its own supply chain and did not benefit from Lucent's collective size and power.

"Less than 40% of our orders were shipped on time but 87% were completed to the customer requested date," Damelio says. "What we gave up on the shipping side was being made up at the installation site. They could work with the customers and keep them content but it was not a good sign for our logistics operations."

Lucent had an average of 10 different shipments per order under its complicated push strategy with an average logistics cycle time of 67 days. The system provided no direct order or inventory visibility after a shipment went out the door. Damelio says the logistics model was based on the idea that if the product was shipped on time, the logistics job was done and the customer would be happy.

"But if the customer never got the shipment, they are not going to be happy," he says.

Two years ago Lucent decided to turn the logistics operation around when the company moved more to a build-to-order manufacturing strategy. The first step in streamlining logistics was implementing the TradeStream tracking system from Optum to provide visibility across Lucent's entire network. Rather than buying an off-the-shelf program, Lucent is co-developing TradeStream with Optum to provide visibility down to the node of the supply chain that each product is in.

Lucent is also consolidating from the 1,700 carriers it traditionally used down to two primary lead logistics providers: UPS in several global regions and Ryder in North America.

In the U.S., Lucent has outsourced all of its non-core outbound logistics competencies to Ryder leaving only the customer interface and cost/information management aspects to Lucent's internal logistics operations. And its 200-plus warehouses are being consolidated into 15 to 17 strategically located logistics service centers, making the network much easier to manage with fewer internal staffers.

"The less touch points you have in the supply chain, the more streamlined things will be," says Damelio. "We have seen reductions in our logistics cycle time of up to 49% and we now have end-to-end global visibility, which is priceless not only to us but our customers, who can now check the status of the order."

The metrics used to track the performance of the logistics operations have changed since the redesign as well. Metrics today are broken into three classifications: cost, quality and interval with between five and nine metrics each. Where logistics used to be an "afterthought," Damelio says it has come way up on senior managers' radar screens, producing a 10% cost savings by outsourcing.

–David Hannon

Lucent logistics by the numbers

THEN	
Lucent's logistics prior to outsourcing:	
1,700	Number of logistics carriers used in the U.S.
200	Number of U.S. warehouses used in shipping Lucent product
67	Number of days in the average logistics cycle time at Lucent
40%	Percentage of on-time outbound shipments
11	Business units in Lucent operating individual logistics operations
10	Average number of shipments per order

NOW	
Goals and results since outsourcing:	
2	Goal number of carriers
15	Goal number of Lucent warehouses in the U.S.
Percent reduction seen in the average logistics cycle time	
49%	Percent cost savings from outsourcing logistics at Lucent

Outward bound

Lucent outsourced the following logistics services to its lead logistics providers:

- Freight forwarding
- Inland transportation
- Customs brokerage (using Vastera for trade and compliance functions).
- Express package
- Freight payables
- All logistics IT tools
- Warehousing
- Transportation management
- Logistics network management
- Order fulfillment
- Inbound/outbound process management
- Order management

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