

# MIT Sloan School of Management UPS - MIT

Advisor: Professor Gabriel Bitran

August, 2004

## Overview

- 2 Research Groups
  - What role could an LP play in redefining the relationship between suppliers and buyers?
  - Buyer-centric value networks
- Methodology
  - Conduct interviews with business managers, academics, research analysts, software providers, logistics competitors
  - Identify gaps between actual services and the perception of those services

**What role could an LP play in  
redefining the relationship  
between suppliers and buyers?**

## Interviews

### Companies:

The Gillette Company  
Bose  
GM  
Color Kinetics  
Pratt & Whitney  
General Electric Company  
PCI  
Nortel Networks  
Qualcomm  
Sun Country Sunscreen  
Agilent Technologies  
Nokia  
Hardy Machine & Design Inc.  
Boston Fuel Cells

### Others:

Gartner  
UCC net  
UPS  
SAP  
Cap Gemini Ernst & Young  
Exiros  
UPS Supply Chain Solutions  
DHL  
MIT Sloan  
Supply Chain  
MIT Center For Transportation & Logistics

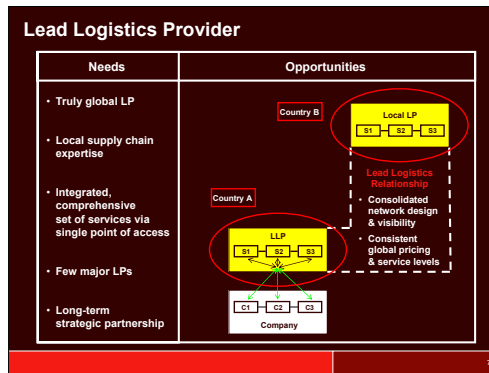
## Findings

We believe that the key players in the industry will be those who position themselves as:

- Strategic long-term business partners
- With truly global presence
- Offering a seamlessly integrated set of comprehensive services, including regional SCM expertise
- Via a single point of access
- Resulting in consistent, true value-added services

## Recommendations

- Lead Logistics Provider
- IT Solution Provider
- Balance of Power
- SMEs' Needs



**1.1 Global supply chain service** Many companies are going global and are rapidly expanding their businesses into different corners of the world. As such, their supply chains are also correspondingly extended beyond the originating regions into countries like China, Mexico and Scandinavian countries etc. Companies are increasingly locating their manufacturing, distribution, warehousing and sourcing in different parts of the world. In view of this development, LPs must correspondingly provide a truly global presence defined as having “presence” in all parts of the world that their customers have businesses in. This is more than a multinational presence and can be achieved either organically or by acting as Lead Logistics Provider (LLP) managing the smaller local LPs in remote regions.

**1.2 Local supply chain experts** Given the above geographic expansion of the supply chains, LP should aim to be the supply chain country expert for business partners in order to save the expensive lessons learnt by others, and be able to design a supply chain that fit the socio-economic, cultural and even political specificities of the country which its customers are doing business in.

**1.3 Integrated service** Provide a comprehensive set of seamlessly integrated solutions through alliance, joint ventures or partnerships. For LLP services, it is critical that the LLPs ensure high quality of LP standards under its charge. Combining this need with the first point on providing global services, LPs must recognize that there is a real need for them to match their customers’ growth both in terms of service scope and geographic presence.

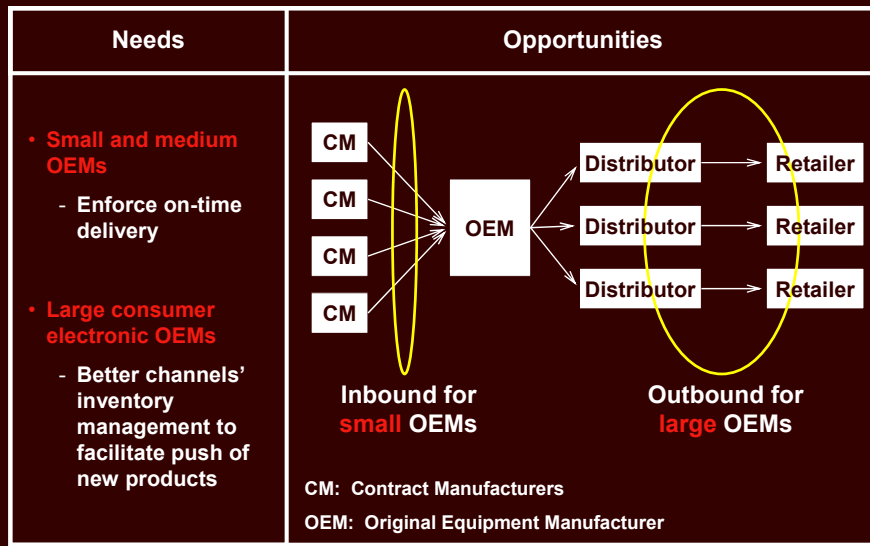
**1.4 Single point of contact** 2 levels : (i) for all services within a LP, and (ii) for services of all the local LPs managed by the LLP. Both small and large companies have indicated the need to streamline their logistics operations and reduce transactional cost by communicating with their LPs through a single point of contact of the LPs. Main advantages: central problem resolution and event/crisis management in order to uphold the customer service levels, and also enabler of true customization.

**1.5 Fewer major LPs** Companies are moving towards logistics simplification and are receptive to using fewer or even a common LP for most of their logistics requirements. However, this would only work if the LPs are prepared to gradually build trust by first establishing humble and sincere relationships that provide consistently high service quality for these companies. Over time, when sufficient trust and good working relationship have been forged, companies may outsource most if not all of their sub-divisions’ supply chain requirements to the one/few trusted LP. This is the start of a strategic long-term business partnership.

**1.6 Long-term strategic partnership** All the above needs (i.e. global logistics service, integrated service provider, having local supply chain expert partners, single point of contact and using fewer LPs) have instigated many companies to rethink their LP relationships. Specifically, the relationship is beginning to move from short-term outsourcing contracts with many LPs, to longer term strategic business partnerships with a few good trusted LPs.

LPs may also need to seriously re-examine itself internally both in terms of reward structure and mental models. In order to gain trust and forge good business partnership with their customers, LPs must have the willingness and internal reward structure that go beyond establishing outsourcing contracts based on short-term regional profit considerations.

## Balance of Power



8

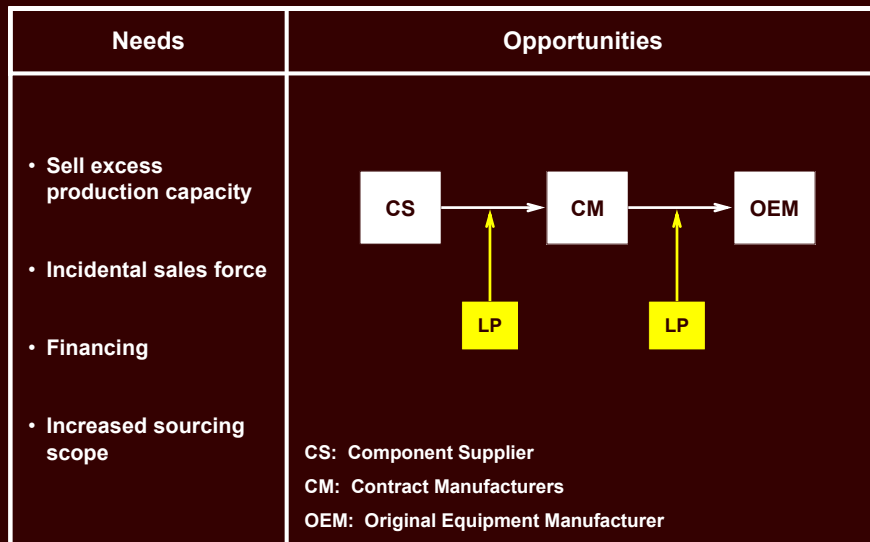
The other role we have identified for LPs is that of a Balancer of Power in the supply chain. Depending on the size of the companies, different companies would possess different influence / power over the different players in the supply chain and value network.

For small- and medium-sized OEMs whose orders do not constitute a significant amount of their contract manufacturers' (CM) revenues, there is a need to have a neutral 3rd party to enforce discipline among the CMs to meet the OEMs' delivery schedules. For this to be effective, the neutral LP needs to be large and respectable so that the contract manufacturers could not afford to "misbehave" and would obey the delivery schedules set by the LP. In addition, the LPs would also serve as a consolidator of supplies on behalf of the OEMs to gather the supplies from different suppliers located at different parts of the world.

Similarly, for larger OEMs in the consumer electronics industry, there is a need for a neutral LP to play the role of a manager of the distributors' inventory. Generally, the large OEMs typically have much power and influence over their suppliers and as such, are able to enforce strict inventory visibility requirements onto these suppliers. However, these large OEMs often do not have similar influence or power over their distributors and would not be able to extract much visibility information about the distributors' inventory nor control how their final products are being pushed to the end customers. As a result, many OEMs tend to be subjected to the "tricks" that their channel distributors play by delaying the purchase of the products from the OEMs in the hope of getting them at a lower price later. These "tricks" had resulted in the unhealthy overstocking of the outdated product models and caused the OEMs to lose market share over their competitors as they are unable to push their latest products out to the end consumers through the distribution channels in a timely manner. The situation is made worst by the size of the large OEM as any attempt by large OEMs to try to poke into the distributors' inventory would be seen by the distributors as a threatening move by the OEM. In this case, the role of the LPs would be to come in as a neutral 3rd party to manage the inventory and distribution of the distributors. This approach is non-threatening to the distributors and would also provide the much needed inventory visibility information needed by the OEMs, thereby restoring the balance of power between the OEMs and their distributors.



## SMEs' Needs



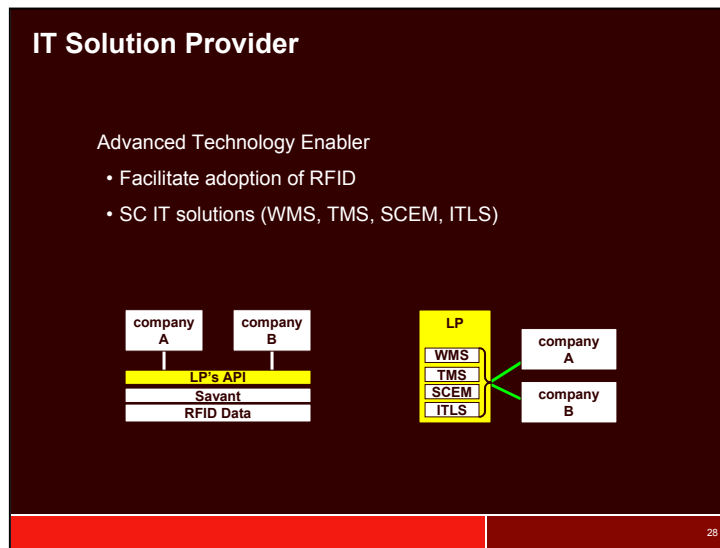
9

Through our interviews with SMEs, we have also identified some unique requirements pertaining to their businesses. These companies are typically driven by cost considerations while making their supply chain decisions. They are generally unwilling to use 3PLs unless the overall gain in profitability and competitive advantage with the use of LP outweighs the financial outlays.

One of the needs is the ability to reach out to a greater pool of suppliers from regions around the world with cheaper materials or labor.

Another need is the ability to sell the excess production capacity to customers which are typically beyond their reach due to their smallness. Large LPs with international reach and greater economy of scale would be able to aggregate the excess production capacity and provide this reach for them.

The other major need would be financial support. However, from our interviews, we sensed that these would be restricted in scope to the likes of the Scovill-type of arrangements and being less common than other forms of funding that many start-ups require when growing their businesses.



**1.1 Adaptive Supply Chain** For many companies, staying competitive require them to match assets to market needs rapidly, track customer demand closely, and manage variability in a complex environment. As such, supply chains need to move from being slow and static to being real-time and adaptive. It is with these transformations that supply chain visibility has become one of the most critical competitive advantage for business success. The ability to integrate real-time demand, inventory and transportation visibility will enable the move towards a more adaptive supply chain network while providing significant enhanced capabilities in terms of event management (to maintain high service levels) and demand management (to reduce inventory and working capital). A good example is how Bose Corp was able to integrate all the real-time supply chain visibility information from the customers' demand, suppliers inventory and shipment in the transportation phase in order to avoid having its manufacturing plants shut down by the paralyzing port strike up on the west coast of US last year. SAP defines Adaptive supply chain network as a community of customer-focused companies that share knowledge and resources to intelligently adjust to changing market conditions.

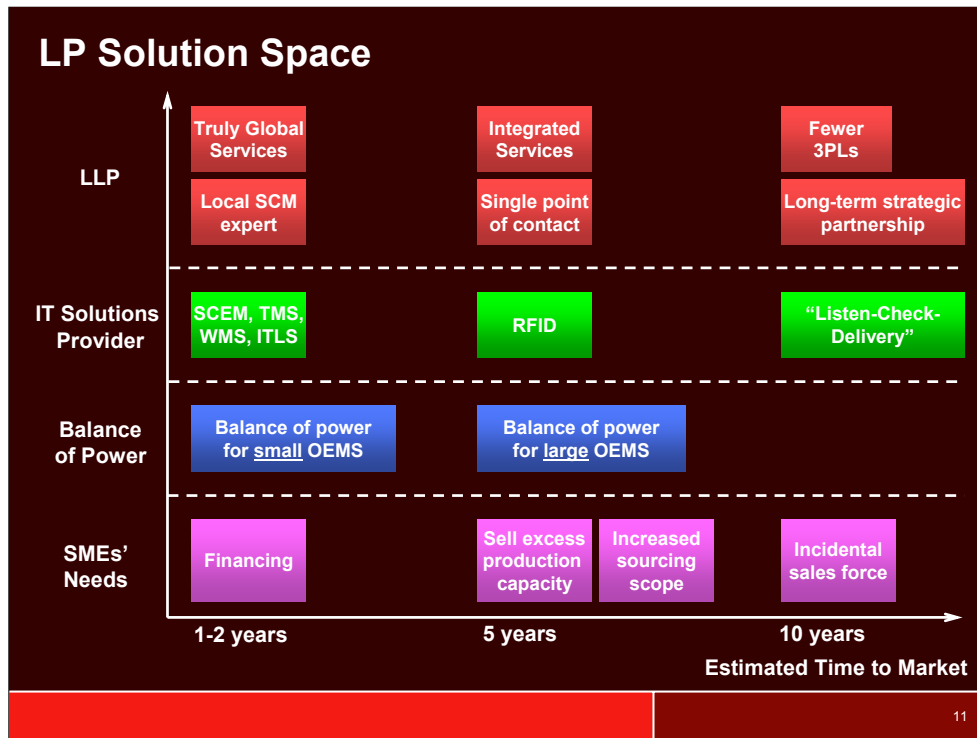
By exploiting the real-time visibility information enabled by RFID technology and the latest developments in supply chain solutions like TMS, WMS, SCEM and ITLS), LPs can offer comprehensive IT solutions that would integrate the full set of real-time item-level demand, inventory and transportation visibility information and bundle it with their existing service offerings to transform themselves from the traditional 'delivery' role to become a true provider of supply chain solutions via the "Listen-Check-Delivery" role.

Specifically, the "Listen" phase requires the LPs to 'reach into' the purchase part of the transaction to extract demand data. In the "check" phase, LPs would keep track of the inventory information while the "delivery" phase would be the transportation information provided by the LPs. The data available in all these 3 phases would be real-time item-level information enabled by the adoption of RFID technology.

This set of IT solutions would be the building blocks to facilitate "demand-shaping" and "event-tracking" that are currently being employed by companies like Dell. Specifically, the prices of goods could be dynamically adjusted to influence demands so that delivery variations can be better managed and inventories of overstock "slow-moving" goods could also be reduced appropriately.

As such, by offering these solutions to manage and integrate the information from these 3 phases, LPs are empowering companies with a set of critical tools that would allow them to move towards a more adaptive supply chain by enabling better management of the 3 flows (funds, information, and goods). Specifically, LPs would help to provide the ability to make real-time supply chain decisions, move closer towards a build-to-order model with significantly lesser inventory (which means enhanced working capital), and achieve a more robust strategy for management of event/crisis and demand fluctuations (dampening the "bullwhip effect") thereby enhancing customer service levels.

...continued on next page....



## 1 Suggested roadmap

Based on the various needs and the corresponding opportunities identified in the preceding sections, a suggested roadmap for LPs to market the identified opportunities is developed.

# Buyer-Centric Value Network

## Conclusions

The market wants LLPs to provide the following customer focus and services:

- Be neutral players
- Be able to serve the global marketplace
- Have a multilateral approach
- Know their business at the production-processes level
- Provide global services consistent with customer expectations
- Be able to track item-level SKUs
- Be able to deal effectively with the issues of customs and expediting materials

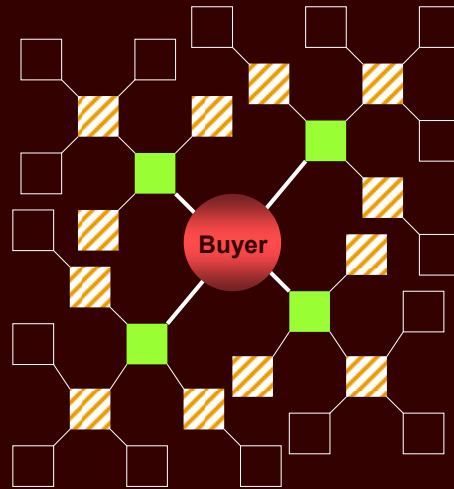
## Conclusions

Logistics Providers must:

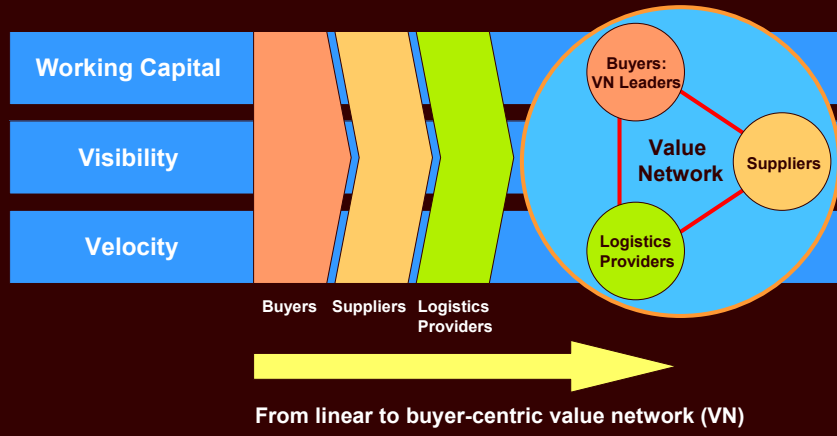
- Invest themselves in understanding the requirements of the actors belonging to the extended enterprise
- Actively pursue a feasible architecture to enable the functionality of the extended enterprise
- Develop strategies around industry, market, and customer segments

# Buyer-Centric Value Network

-  First-tier Strategic Suppliers
-  Second-tier Non-strategic suppliers
-  Third-tier Non-strategic suppliers

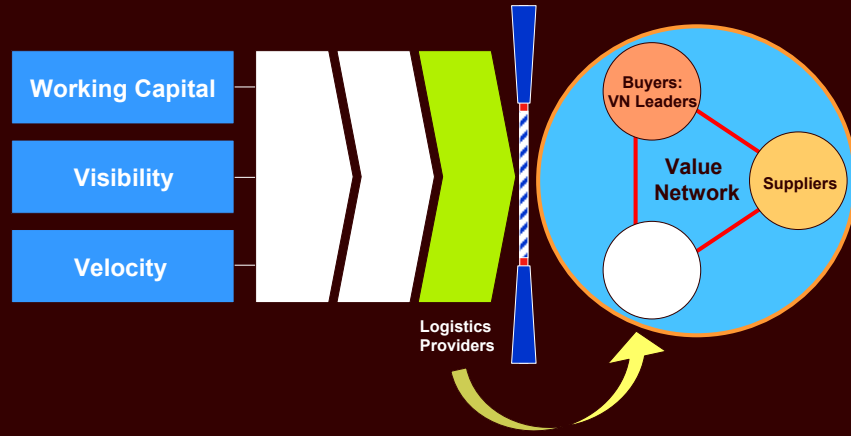


# Value Drivers

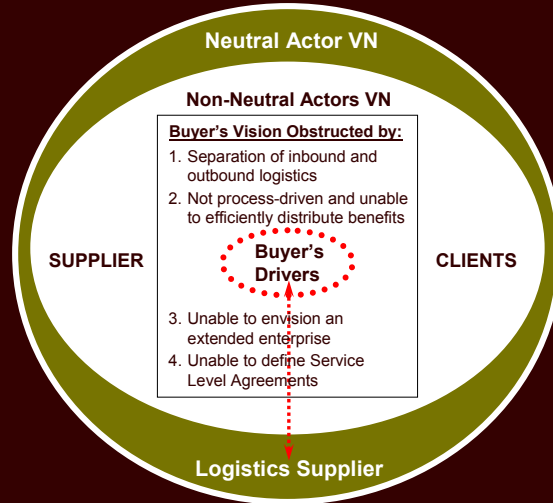




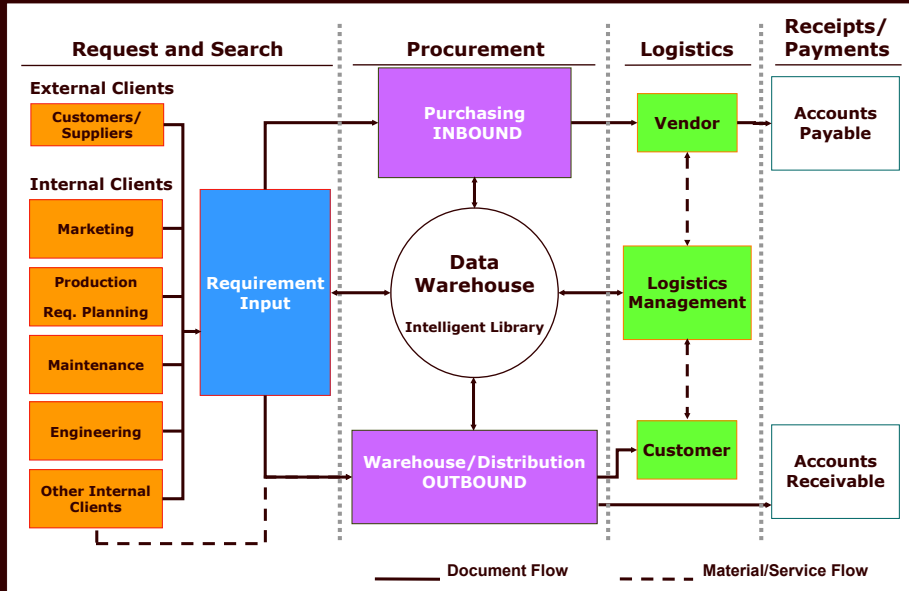
# Obstructed Vision of Logistics Providers



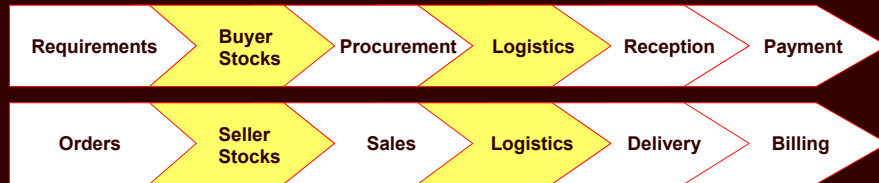
# Drivers, Vision, and Relationships Within the Value Network



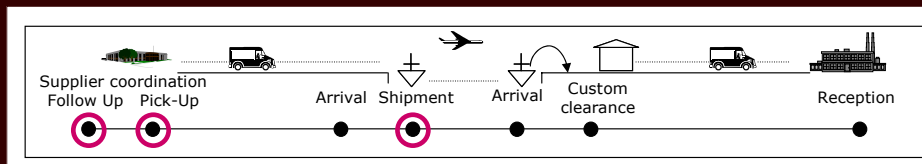
# Conceptual Architecture



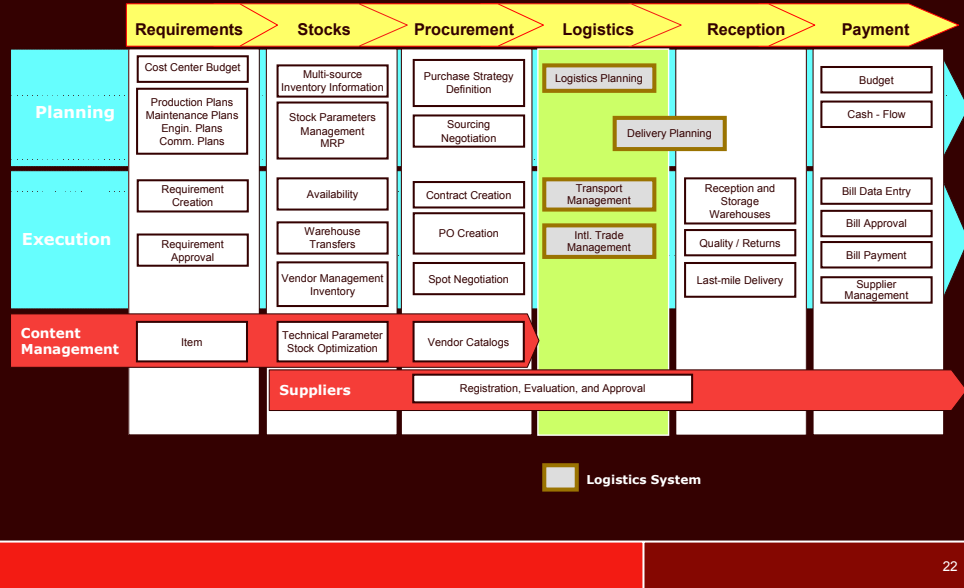
## Procurement and Sales Flows Symmetry



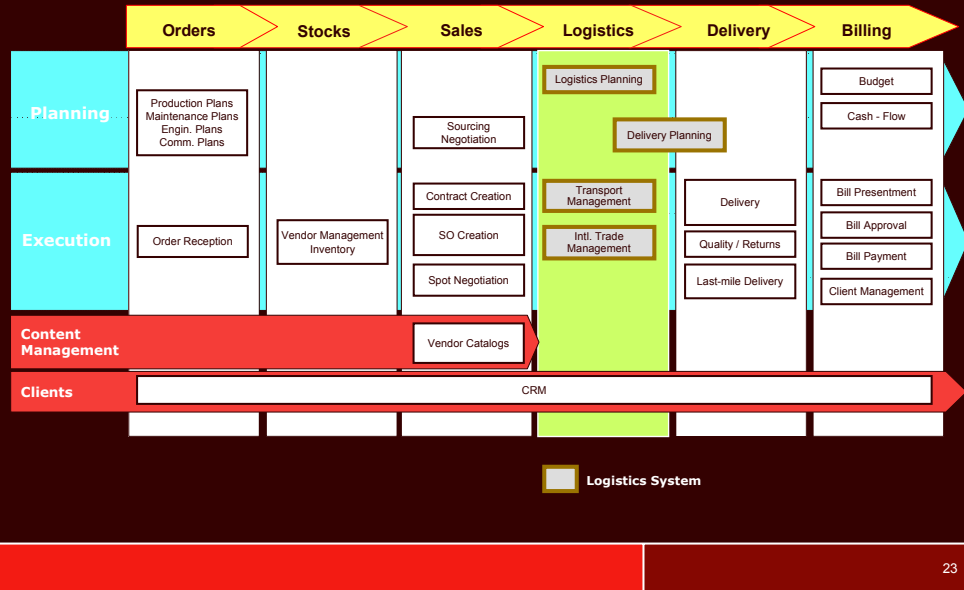
# Transportation Flows



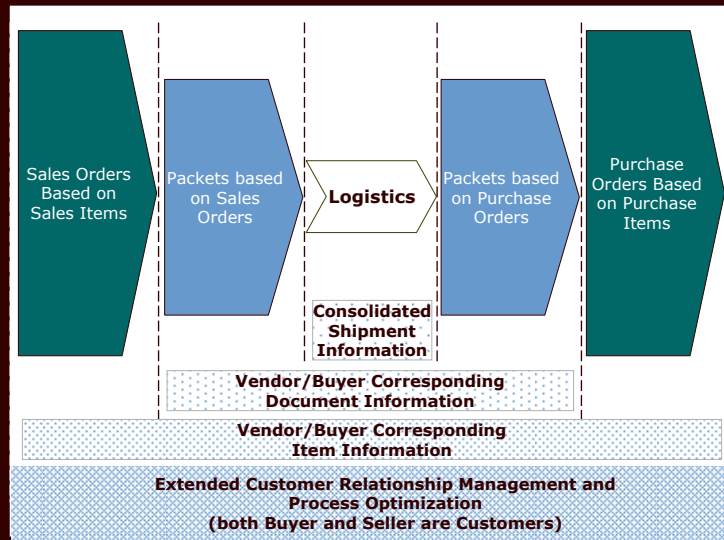
# Procurement Flows



# Sales Flows



# Buyer and Seller Integrated Supply Chain Vision

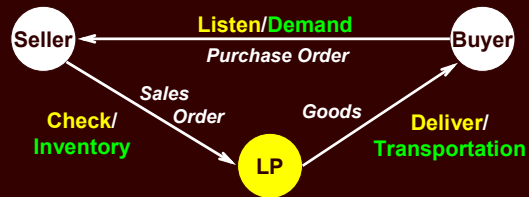




## IT Solution Provider

### SC Visibility Enabler

- Customer demand fluctuations + SC variations = Adaptive Supply Chain = Full SC visibility = integrating Demand, Inventory, and Transportation (DIT) Visibility
- From “Delivery” to “Listen-Check-Delivery” role



## IT Solution Provider

eBusiness Standards Enabler

- Facilitates adoption of UCCNet by SMEs

