

Logistics and Supply Chain Management: An Overview

A Presentation to

NAPM-Wichita

by

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Definition of Logistics

Logistics is:

the process of planning, implementing, and controlling the efficient, effective flow and storage of raw materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal, and external movements) for the purpose of conforming to customer requirements.

Global Manufacturing

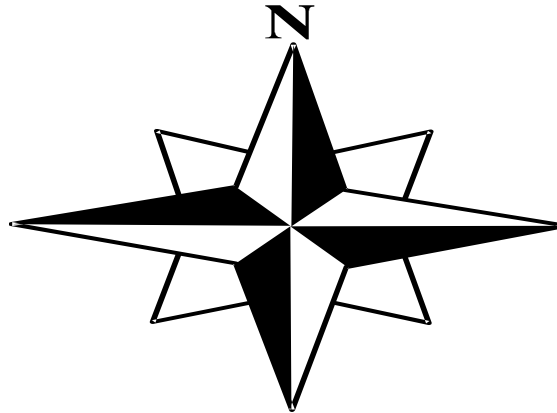


- Supplier selection
- Location selection
 - Product availability
 - Logistics
 - Cost
 - Timing
- Demand requirements
 - Physical
 - Labeling
 - Quality
 - Formula
 - Electrical
 - Origin



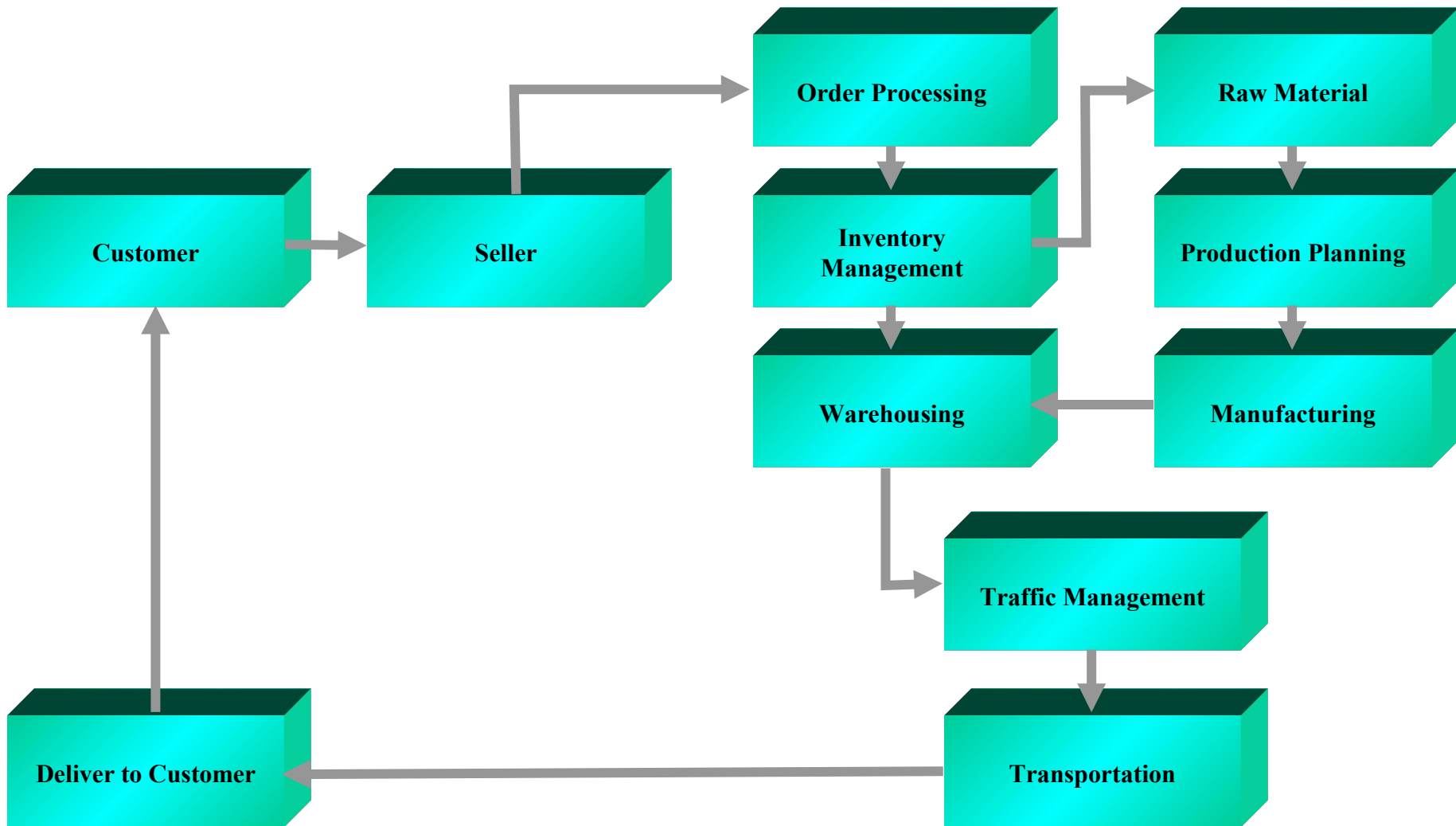
Global Distribution

- **Intermodal**
- **INCOTERMS**
- **Banking**
- **Customs**
- **Export Packing**
- **Licensing**
- **IFF/CHB Links**
- **Sales Terms**
- **Other**



**Send anywhere . . .
to anywhere—
"Whatever it takes!"**

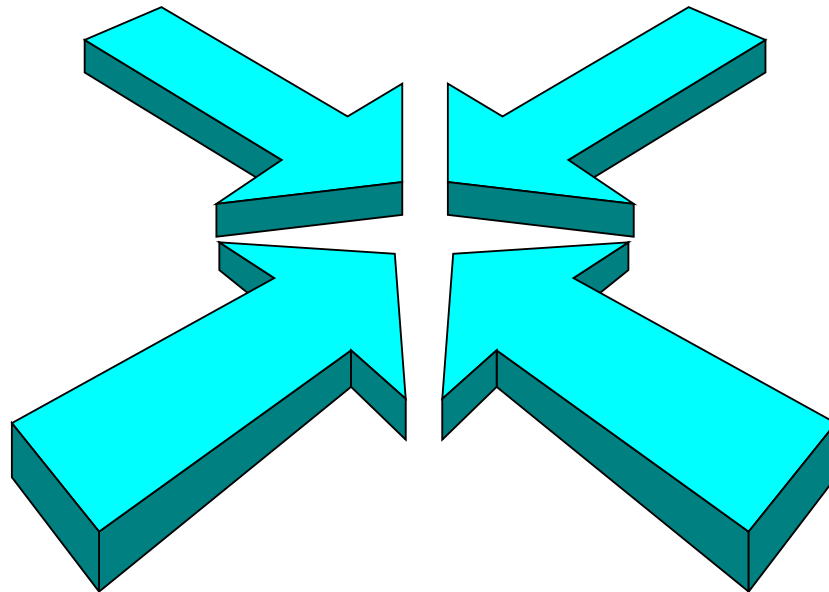
The Logistics Process



Third Party Logistics

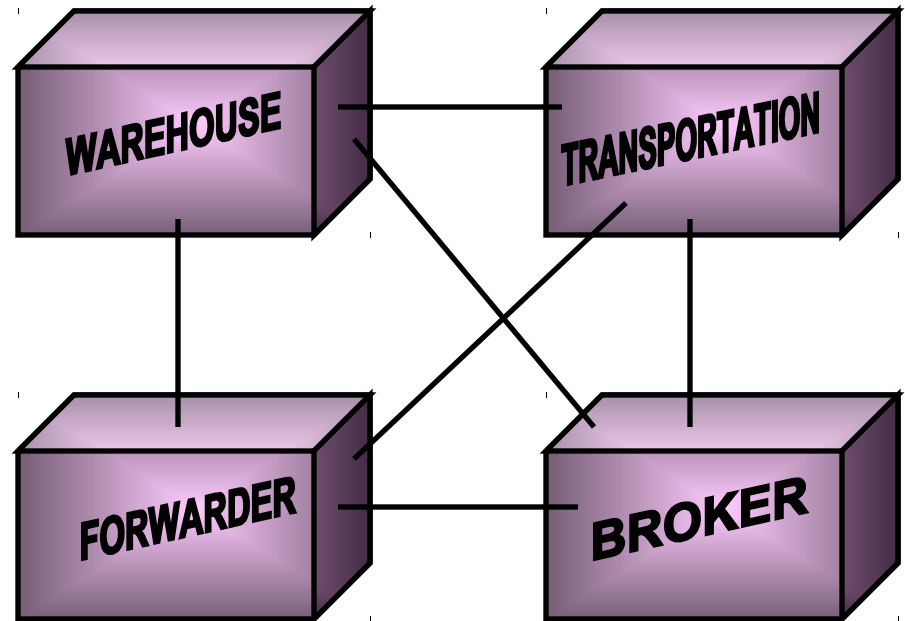
WHAT IS IT?

- *The use of an outside logistics company to perform all or part of a company's material management or product distribution function.*
- *It is the integration of information, inventory, warehousing, and transportation services.*



Third Party Logistics Providers

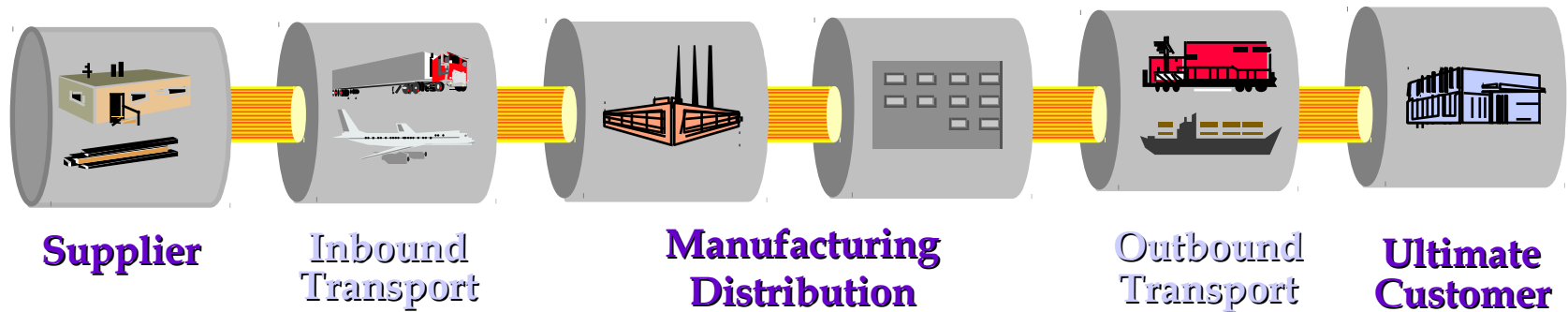
- **What**
- **Why**
- **Who**
- **When**
- **How**



Global Pipeline Visibility

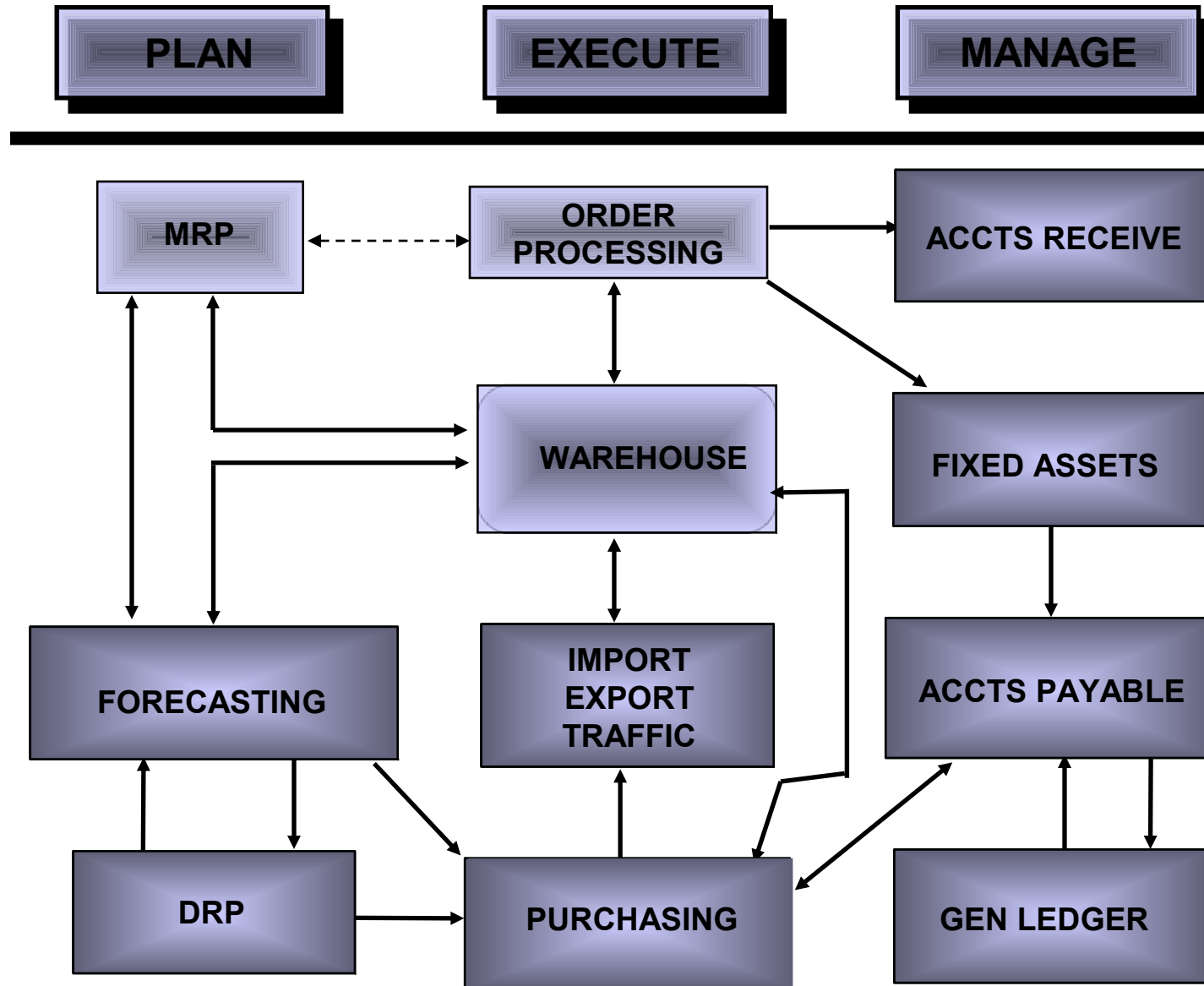
Where is my stuff?

- Via the IFF/CHB
- Via the IMC
- Via the carrier
- Via the internet
- Via proprietary software



Supply Chain Information Systems Requirements

Supply Chain Information Systems



Milestone Measurements



Delivery
Receipt

Purchase
Order



Bill of
Lading

Received

P.O. Ready
to Ship

Item
Number

- Milestone tracking
- Alert Notification
- Plan versus actual

Customs
Invoice

Cleared
Customs

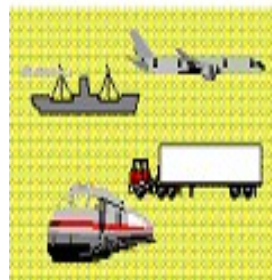
Other
References

Bill of
Lading

Arrived
Dest. Port

Product
Shipped

Work
Order



Asset
Number

Depart
Origin Port

Packing
List



Export
Documents

Arrived
Origin Port

Consol
Receipt

Tracking and Tracing

Primary Numbers

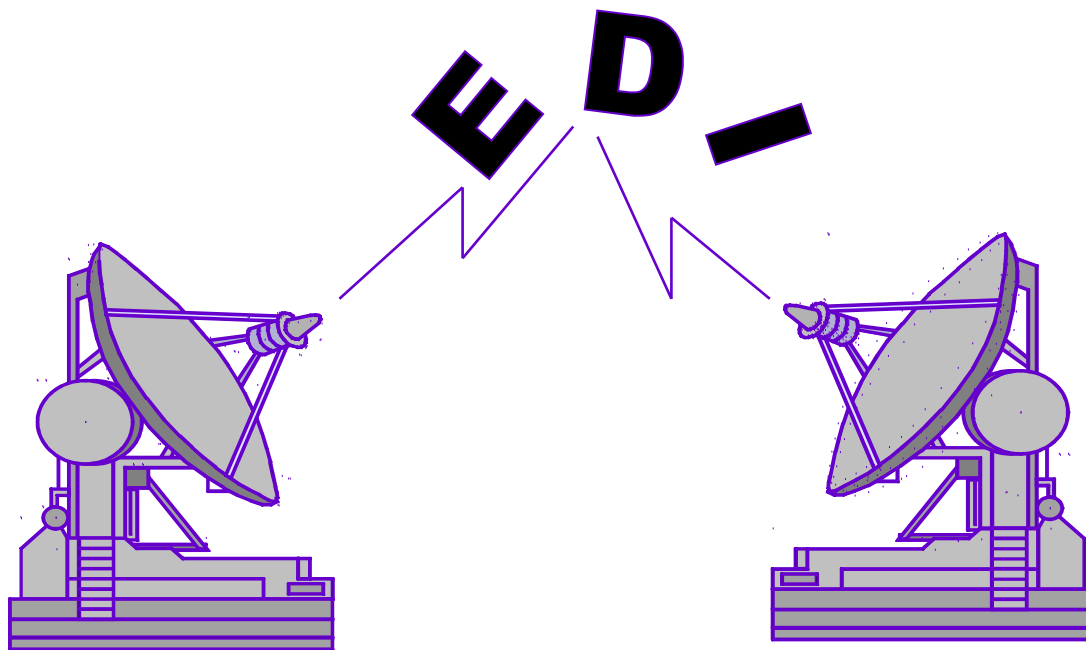
MODE	TYPE OF REFERENCE
Motor	Pro Number
Rail	Waybill Number
Air	Air Waybill
Ocean	Bill of Lading Number

Secondary Numbers

- Shipper's invoice number
- Shipper's bill of lading number
- Consignee's order number
- Marks and numbers (on the packages)
- Date of pickup
- Car initial and number
- Container number
- Flight or voyage number

ASNs and Shipping Information

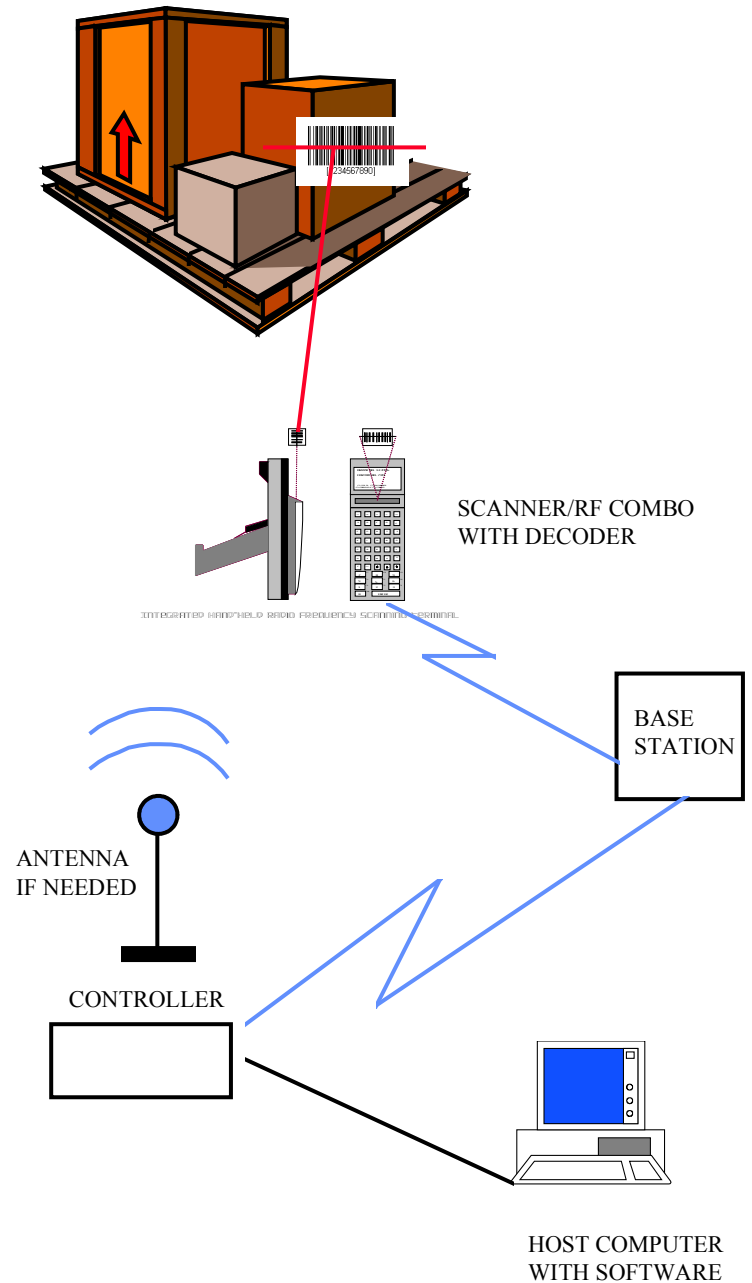
- What is it ?
- What does it show ?
- Types of Information ?



Data Collection

In the future, you **MUST** become literate about the following:

- Scanners
- Decoder/terminals
- Symbology
- Labels/Tags
- Radio Frequency
- Voice Recognition



Computer System Integration Issues

BATCH PROCESSING

SCAN

ACCUMULATE

SCAN

ACCUMULATE

SCAN

ACCUMULATE

SEND TO HOST

“REAL-TIME” PROCESSING

SCAN

SEND TO HOST

SCAN

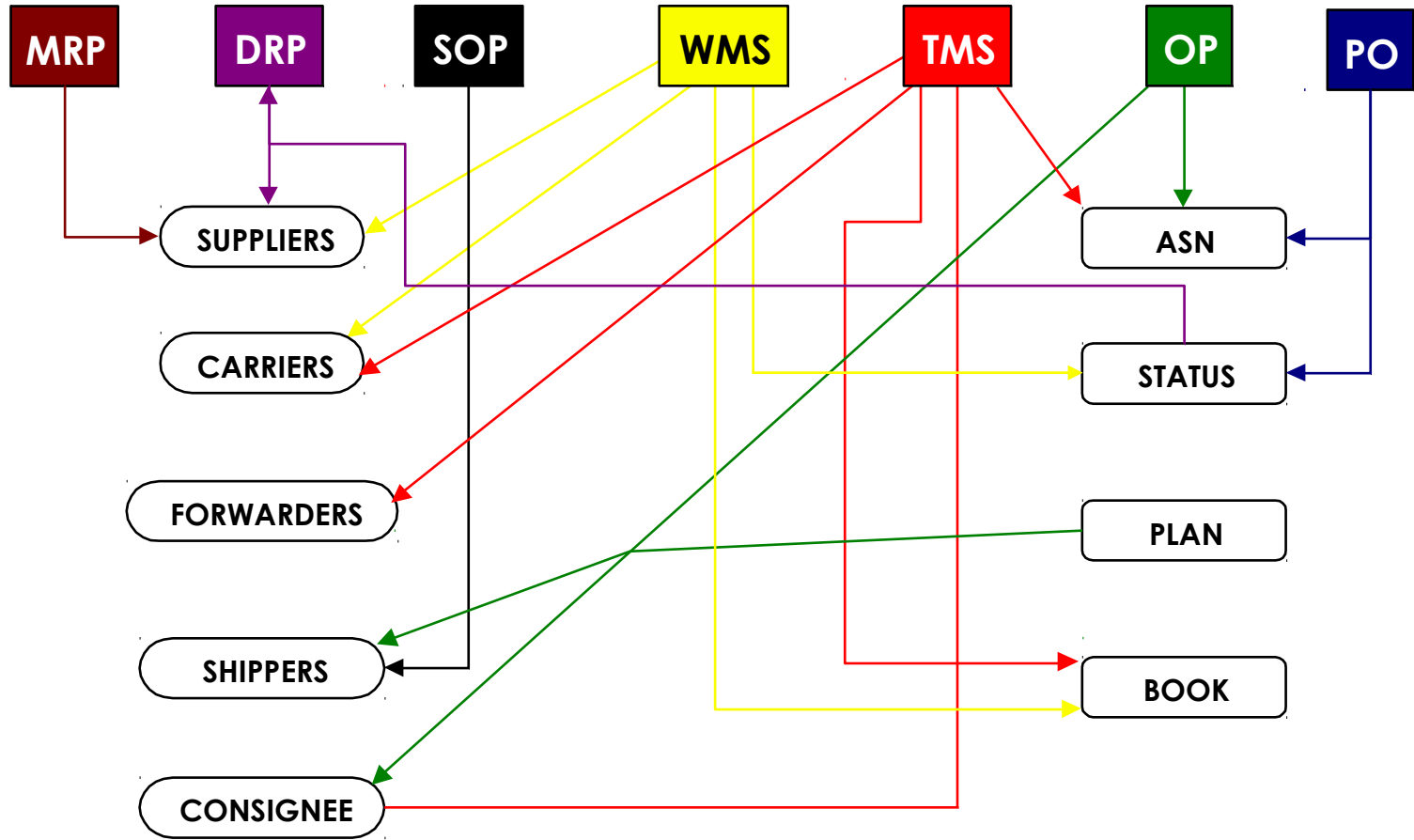
SEND TO HOST

SCAN

SEND TO HOST

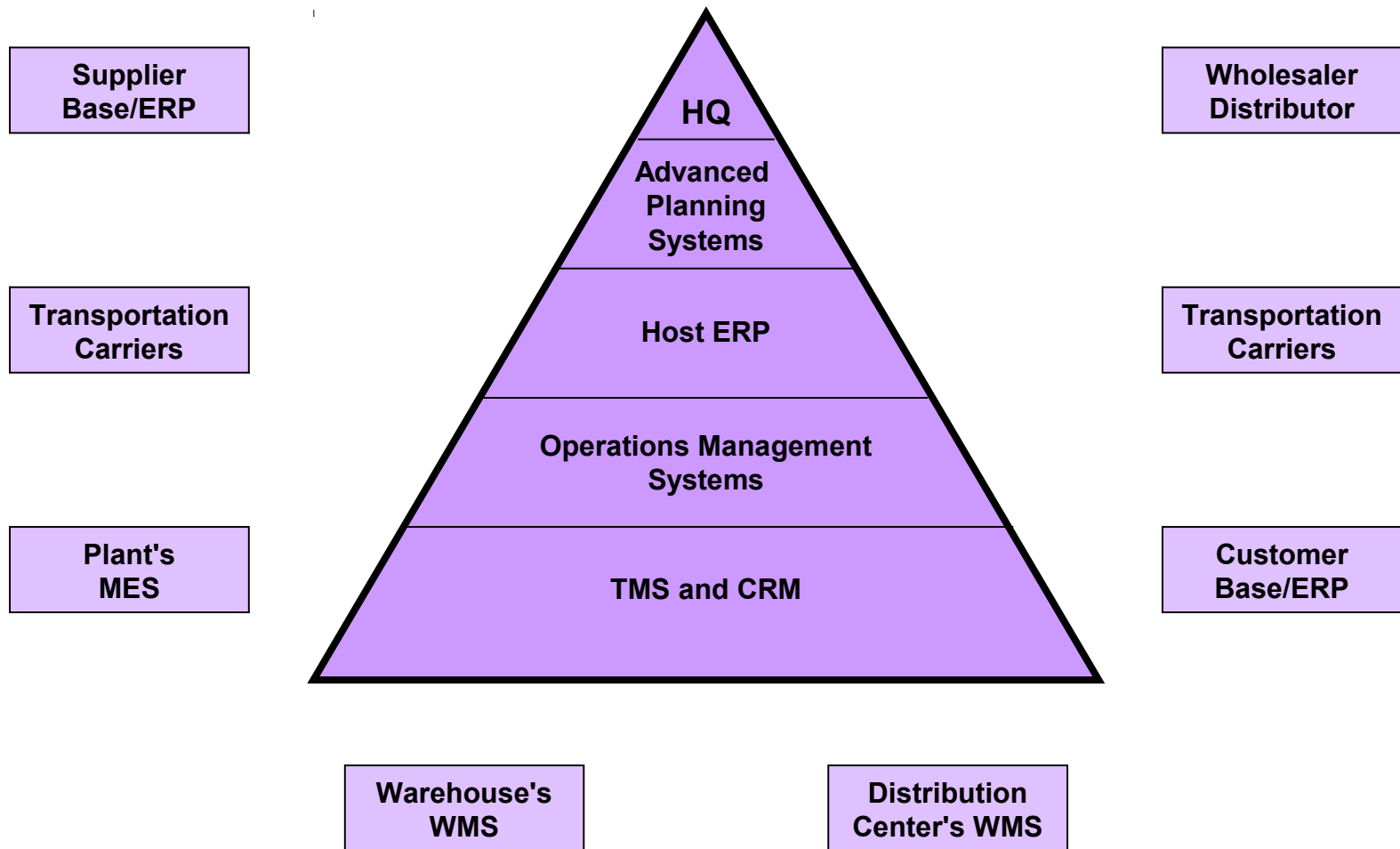


Legacy Systems & SCM Interface

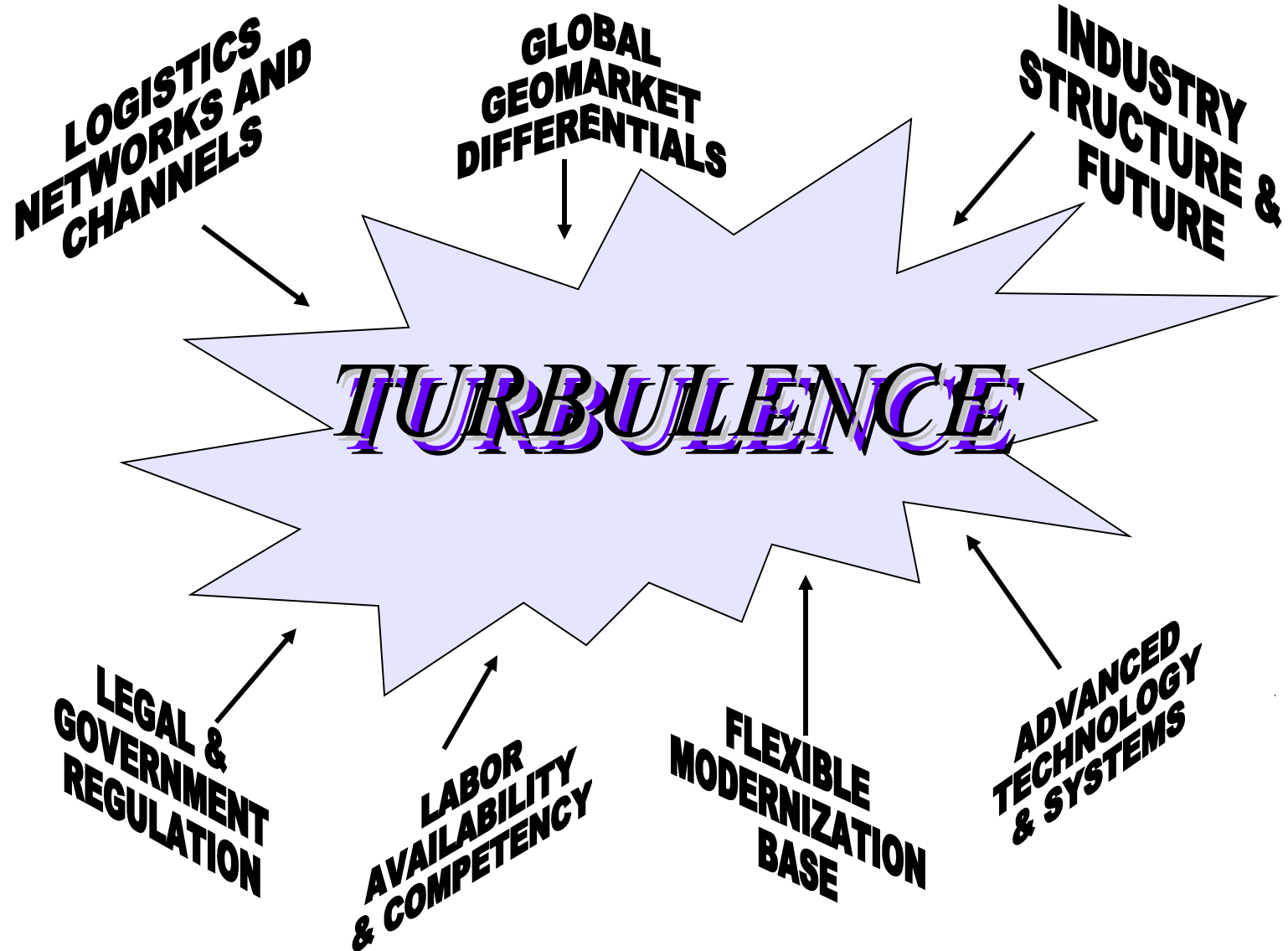


All manner of DATA is shared !

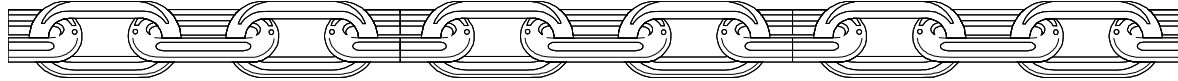
Integrated Supply Chain Links



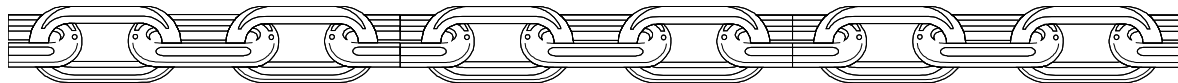
EXTERNAL ENVIRONMENT



Supply Chain Optimization

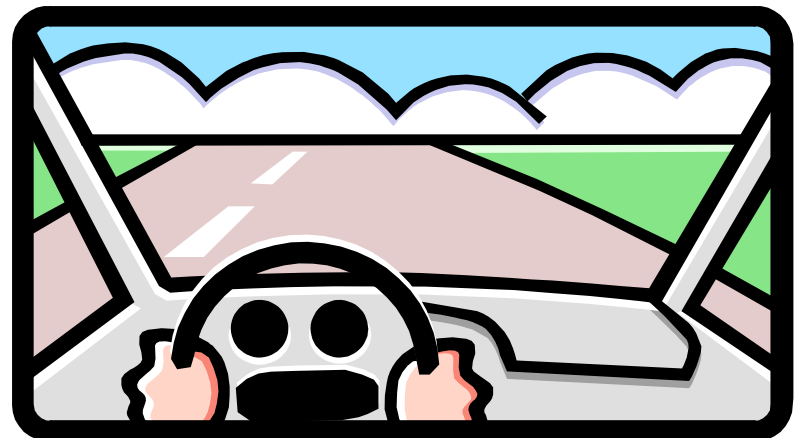


The goal of the supply chain should not be to shorten the cycle time from production to consumption but to **OPTIMIZE the supply chain.**



Supply Chain Drivers

- Pull system focus
- Preferred Supplier
- Electronic commerce
- Customer Driven
- Synchronized supply chain planning and systems.
- Aligned for change
- Logistics excellence
- Product sold is “service”
- Market value creation



Logistics—Big Picture Benefits

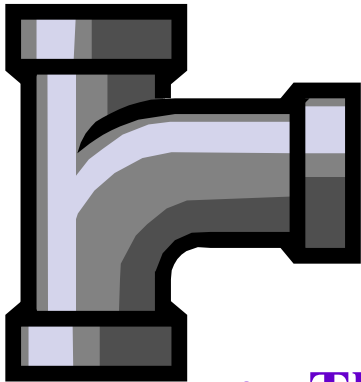
- Integrated logistics functions translate into various profit contributions:
 - Total logistics costs shaved by **20%**
 - Pretax contribution is **2.4%** higher
- A typical \$100 million business that switches over can realize a savings of 2.4 million.

More Profit Potential--\$\$\$

Any “cost saving” that can be made in total logistics reflects savings at the rate of the company’s cost of capital and frees up that capital for other business purposes.

- 1. Logistics can have a dramatic impact on whether a company’s profit picture will be colored red or black.**
- 2. Logistics (other than Purchases) may account for more than 15% of a company’s sales dollars, and improvements of 5-25% in the various logistics functions are within reason.**

Supply Base Costs and the Logistics Pipeline



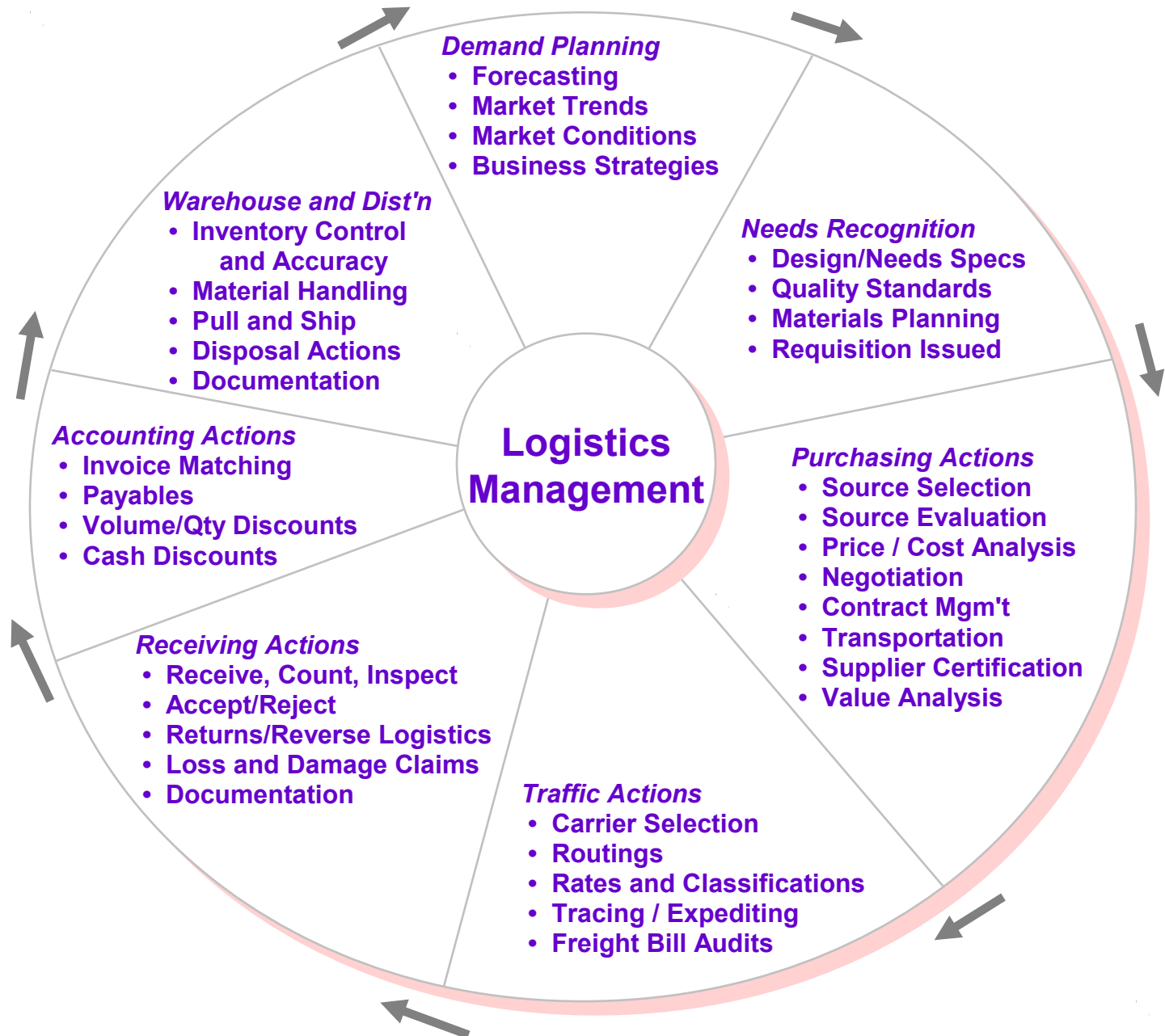
Why consider the supplier's supplier and the logistics pipeline?

- **The majority of supplier costs are controlled or influenced by the pipeline.**
- **If we are to understand the market, we must understand the factors which influence the market.**
- **The pipeline influences the market.**

General Pagonis and Logistics

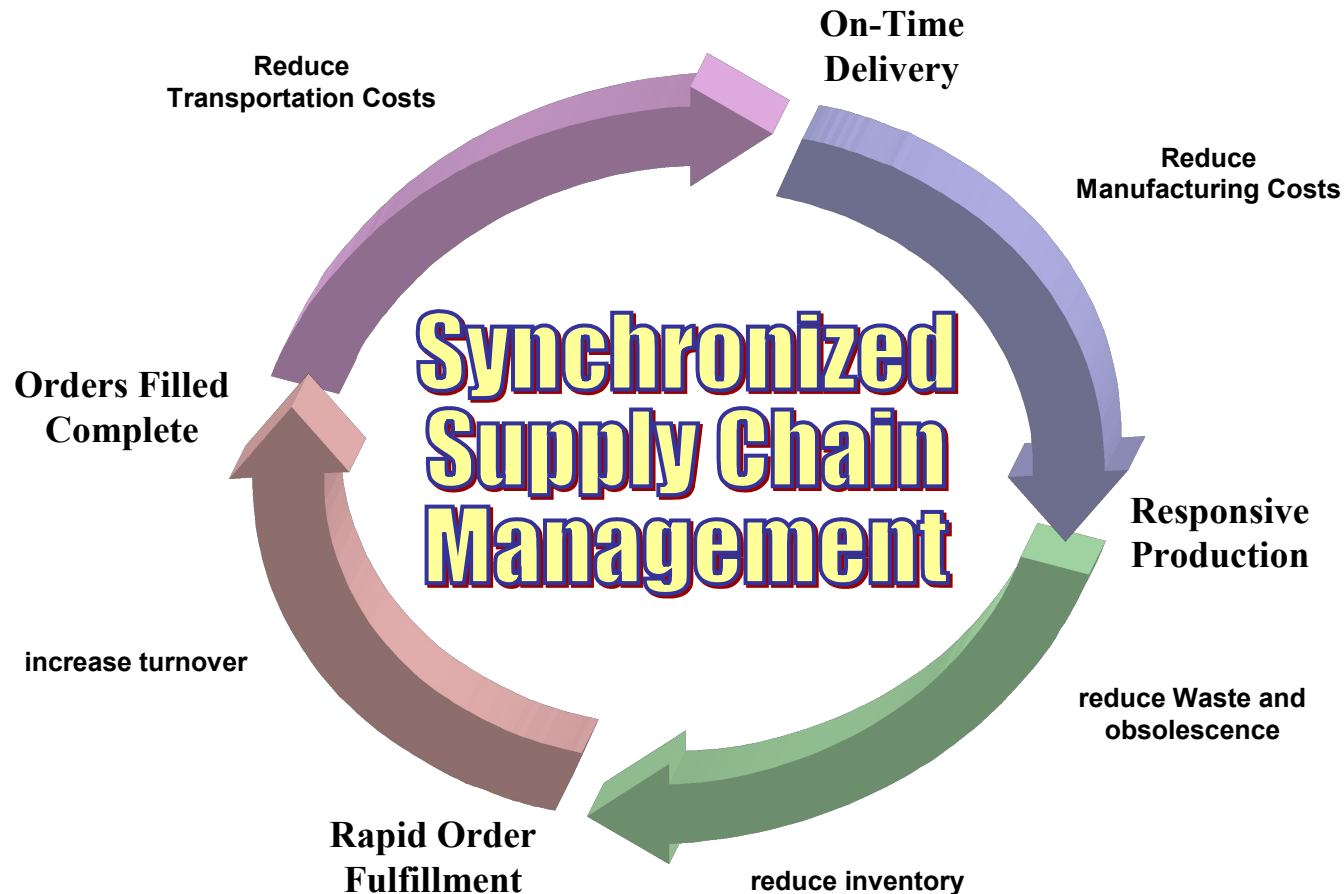
A decade after taking the job of VP of Logistics at Sears, Pagonis said, “people just don’t pay attention to logistics, and I try to use whatever technique I can get visibility for it to show that good logistics equals sales and profits.”

The Supply Chain--Logistics Cycle

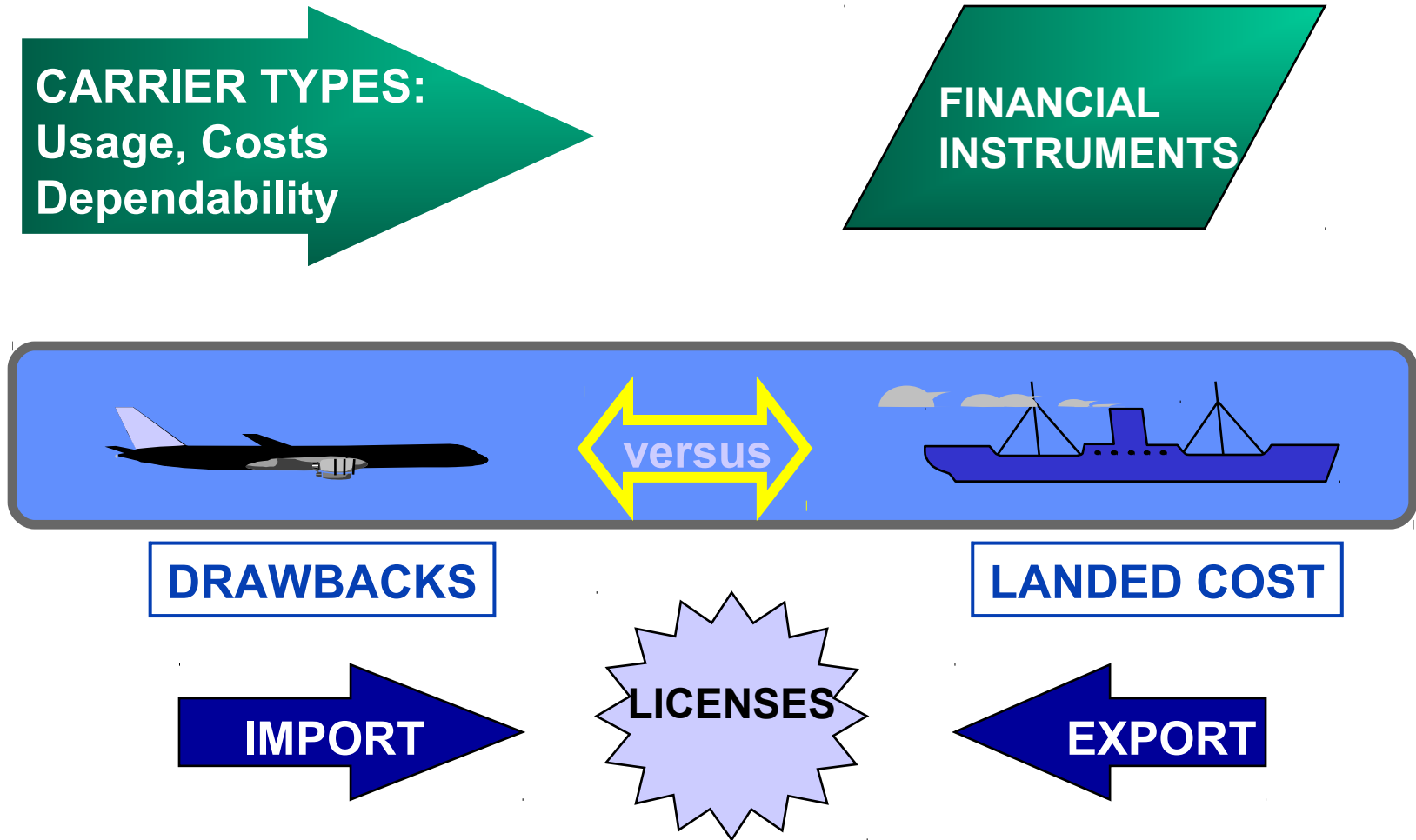


Synchronized Supply Chain Management

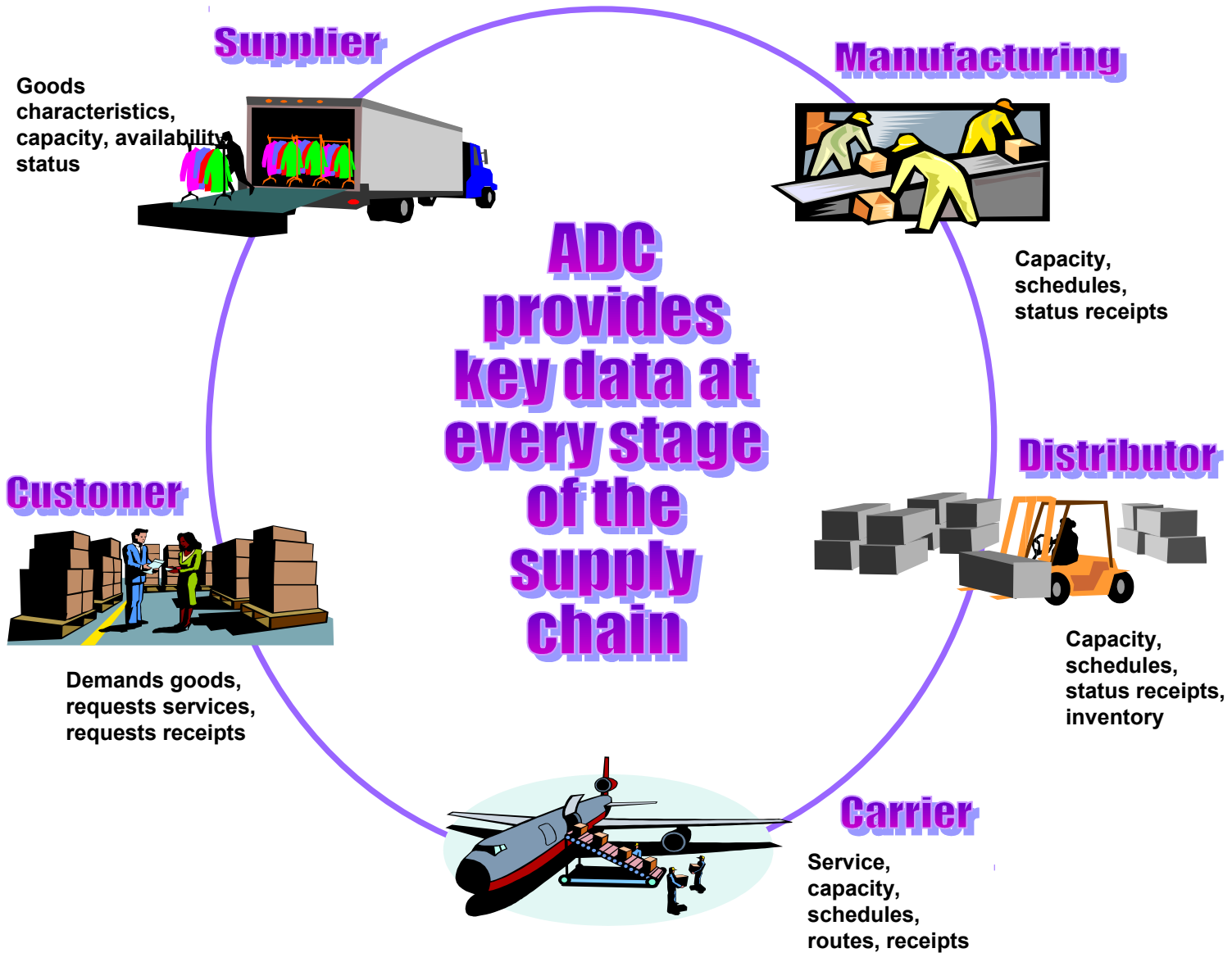
Network optimization software contains advance planning engines to synchronize and optimize the supply chain channel for supplier/carrier selection, production sourcing, and inventory pre-build decisions.



International Transportation and Distribution



ADC in the Supply Chain



Where Have We Been?—Survival of the Fittest



Supply Chain Compass-Five Stages

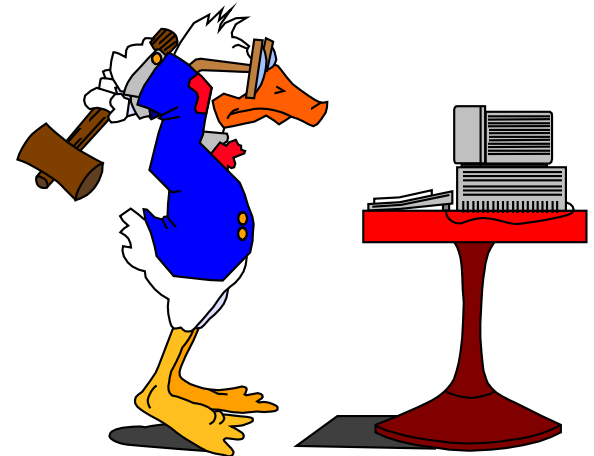
Source: Manugistics

	The Fundamentals	Cross-Functional Teams	Integrated Enterprise	Extended Supply Chain	Supply Chain Communities
Business Pain	Cost of quality	Unreliable order fulfillment	Cost of customer service	Slow growth, margin erosion	Non-preferred supplier
Driving Goal	Quality and cost	Customer service	Profitable customer responsiveness	Profitable growth	Market leadership
Organizational Focus	Independent departments	Consolidated operations	Integrated supply chains (internal)	Integrated supply chains (external)	Rapidly reconfigurable
Process Change	Standard operating procedures	Cross-functional communication	Cross-functional processes	Customer-specific processes	Reinvented processes
Metric	Predictable costs and rates	On-time, complete delivery	Total delivered cost	Share of customer	Net worth
IT Focus	Automated	Packaged	Integrated	Interoperable	Networked
Key Tools/ Planning	Spreadsheets	Point tools	Enterprise supply chain planning	Point-of-sale supply chain planning	Synchronized supply chain planning
Execution	MRP and other homegrown applications	MRP II	ERP	Customer management systems	Network-centric commerce

Benefits of Tracking ROI for SCM

Source: Anderson Consulting

- **Improving return on assets benefits**
- **Revenue growth benefits**
- **Improved operating efficiencies benefits**



Measuring Up – A Best Practice Model for Evaluating Supply Chain Performance

Source: Arthur D. Little

Goal	Measure	Definition
Improved customer-order fulfillment	Fill rate	Portion of custom orders (either external or internal) that are on time and accurate as the customer would determine
Improved customer satisfaction	Survey	Systematic feedback obtained directly from customer(external or internal); likely using a sampling survey
Better procurement/supplier management	Supplier order fulfillment	Portion of supplier orders that are on time and accurate
	Supplier quantity	Non-conforming or defective items or services divided by total at supplier interface
	Procurement effectiveness	Year-over-year cost reduction on like items (i.e., by commodity family)
Inventory	Days of supply on hand	Inventory investment on hand (in dollars) divided by daily ship rate (in dollars)
	Inventory turns	Cost of Goods Sold (COGS) divided by average annual inventory investment
Timing	Cash-to-cash	Elapsed time from payment of suppliers to collection of payment from customers
Quality	Quality	Non-conforming or defective items or services divided by total at customer interface
Operational integrity	Productivity loss	Operational productivity lost due to supply chain non-performance

Lord Kelvin on Measures

When you can measure what you're speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind.---Lord Kelvin

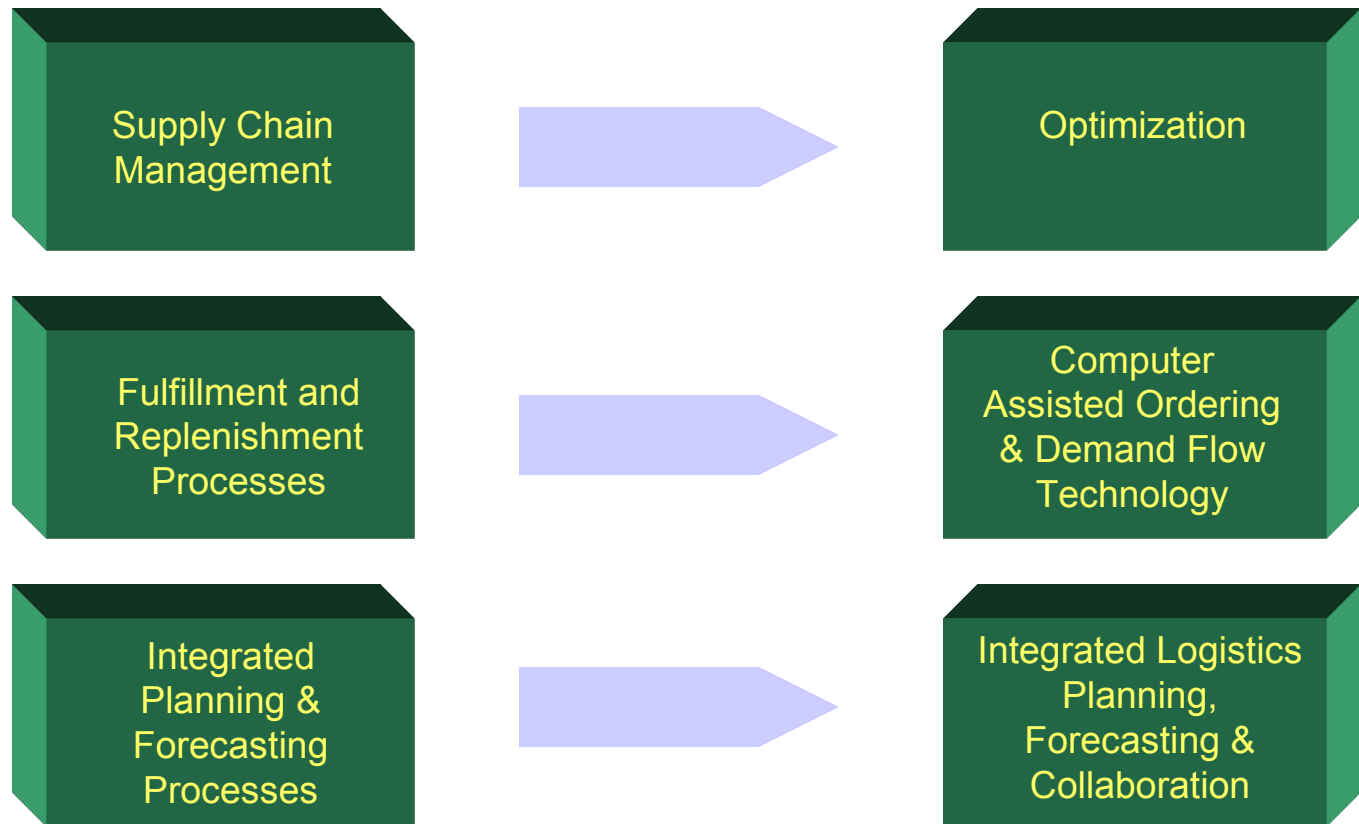
Prospects for the 21st Century

- **A competitive advantage today may not be a competitive advantage in the future.**
- **Market mobility is the key to sustainable competitive advantage. That requires a well-oiled supply chain.**
- **Darwin is often misquoted by people who say, “Only the strong survive.” What Darwin actually said is that it is not the strongest of the species or the most intelligent that will survive—it is the ones who are most responsive to change.**



Optimizing the Supply Chain

What it Means to Your Company



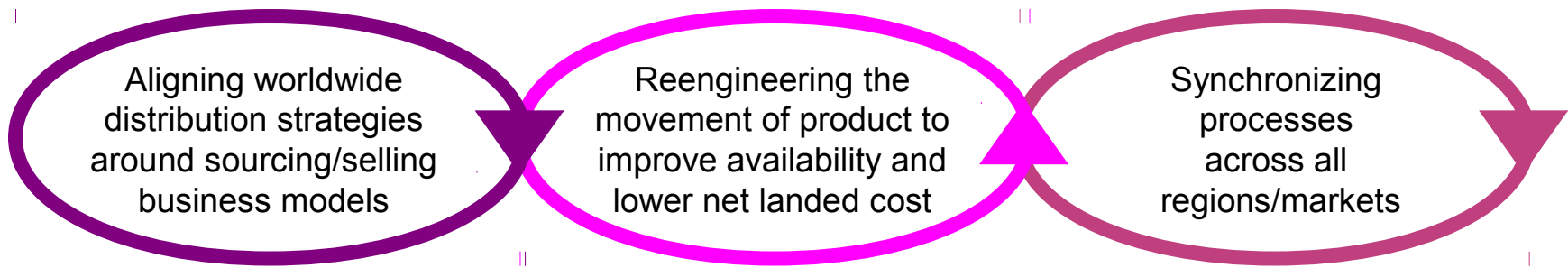
Logistics—Putting It All Together

- **The Logistics Celerity Challenge**
- **What it Means to Your Company**
 - **Sensitivity**
 - **Satisfaction**
 - **Circadian Rhythm**
 - **Synergism**



Global Logistics Strategy

Source: Coopers & Lybrand Consulting



Key Requirements	Key Performance Measures	Key Organizational Processes
<ul style="list-style-type: none"> • Centralized management/worldwide integration • Customer service options • Sourcing initiatives and alliances • Procurement/supplier integration • Global network optimization • Process-driven information systems 	<p>Shareholder Measurements</p> <ul style="list-style-type: none"> • Inventory turns • Asset utilization • Operating costs • Customer satisfaction • Loss management (asset protection) <p>Customer Measurements</p> <ul style="list-style-type: none"> • Product availability • Flexibility • On-time performance • Speed • Responsiveness • Consistency • Quality 	<p>Planning and Control</p> <ul style="list-style-type: none"> • Configuration and scheduling • Demand management and communication • Sourcing strategy • Manufacturing strategy • Supply chain integration • Product life cycle <p>Support</p> <ul style="list-style-type: none"> • Infrastructure • Information and technology • Key performance indicators

World-Class Logistics

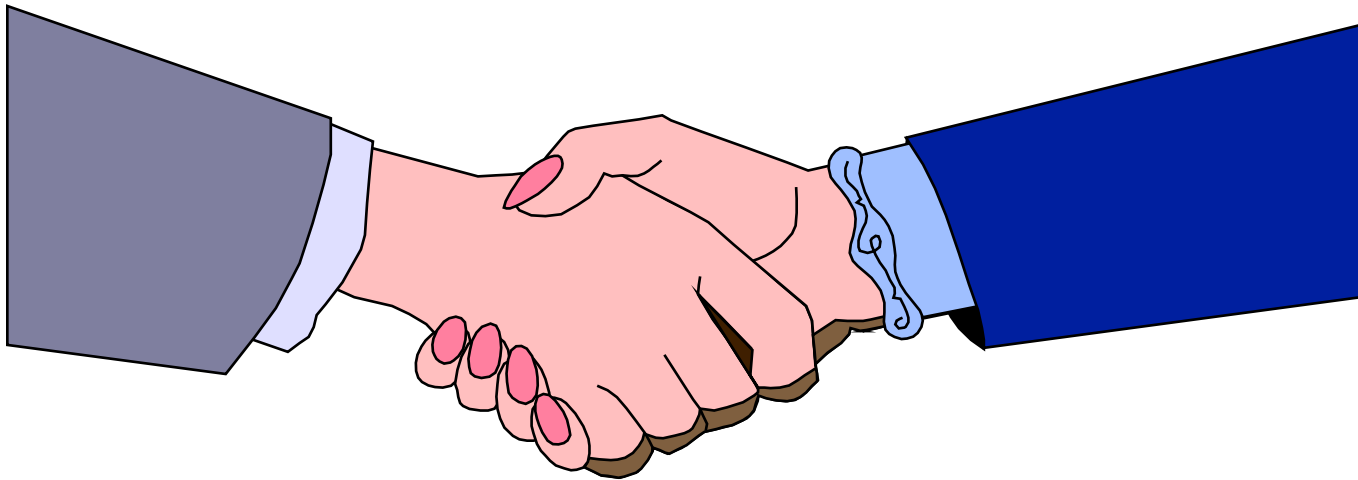
<p>Customer Focus</p>	<p>Delight the Customer</p> <ul style="list-style-type: none"> • Perfect orders • Responsive • Very short OTD cycle time • On-time delivery • Tailored logistics systems • Easy to do business with 	<p>Focus on Growth</p> <ul style="list-style-type: none"> • Partnerships • Tailored programs • Product availability • “Mutual” success
<p>Provide Shareholder Value</p>	<p>Minimize Asset Base</p> <ul style="list-style-type: none"> • Asset consolidation • Cross-docking, flow-through • In-transit merge • Greater use of third parties • Worldwide contracting • Network optimization • Replace inventory with information 	<p>Understand True Logistics Cost</p> <ul style="list-style-type: none"> • Activity-based costing • Net landed cost vs. functional lowest costs • External partner linkage • Competitive cost index
<p>Enable and Exploit Information Technology</p>	<p>Integrate Systems</p> <ul style="list-style-type: none"> • Common applications • Decision support tools • Leverage capabilities of suppliers • Real-time tracking • Reverse logistics 	<p>World-Class Infrastructure</p> <ul style="list-style-type: none"> • Internal and external resources • Training • World-class people • Constant upgrade of capabilities • “Interest in change”

What It Means to You Personally

- 
- Ability to view the big picture
 - Grasp of supply chain concepts
 - Understand the key performance indicators of logistics
 - Use of information, enablers, and technology

Control of the Supply Chain

THANK YOU FOR COMING



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