

SCM

November 15, 2005





Supply Chain Management

Supply Chain Excellence

SCOR

2 – Cross Docking



Supply Chain Management

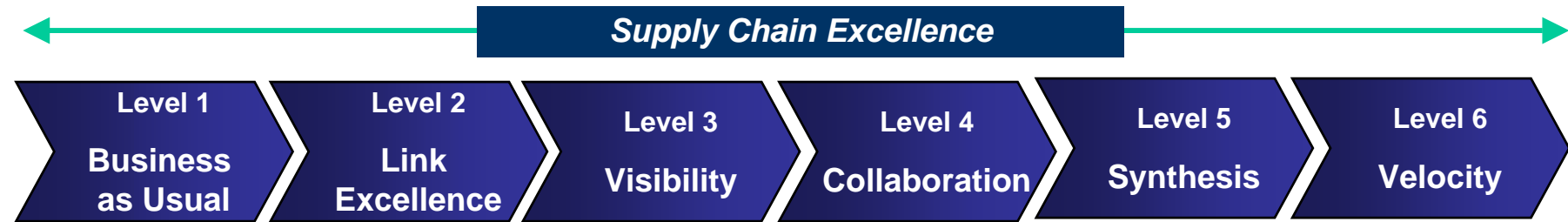
가

- SCM is the continuous process of integrating suppliers and trading partners (the members of an organization's inbound and outbound supply network) into the organization's operations in order to optimize resources and streamline the flow of information, goods, and services from the point of inception to the point of sale. (by IDC)



Supply Chain Excellence ?

Supply Chain Excellence is a process with six steps, or levels.



- A company works hard to maximize its individual functions.
- Organizational effectiveness is not the emphasis.

- A company must tear down the internal boundaries until the entire organization functions as one.

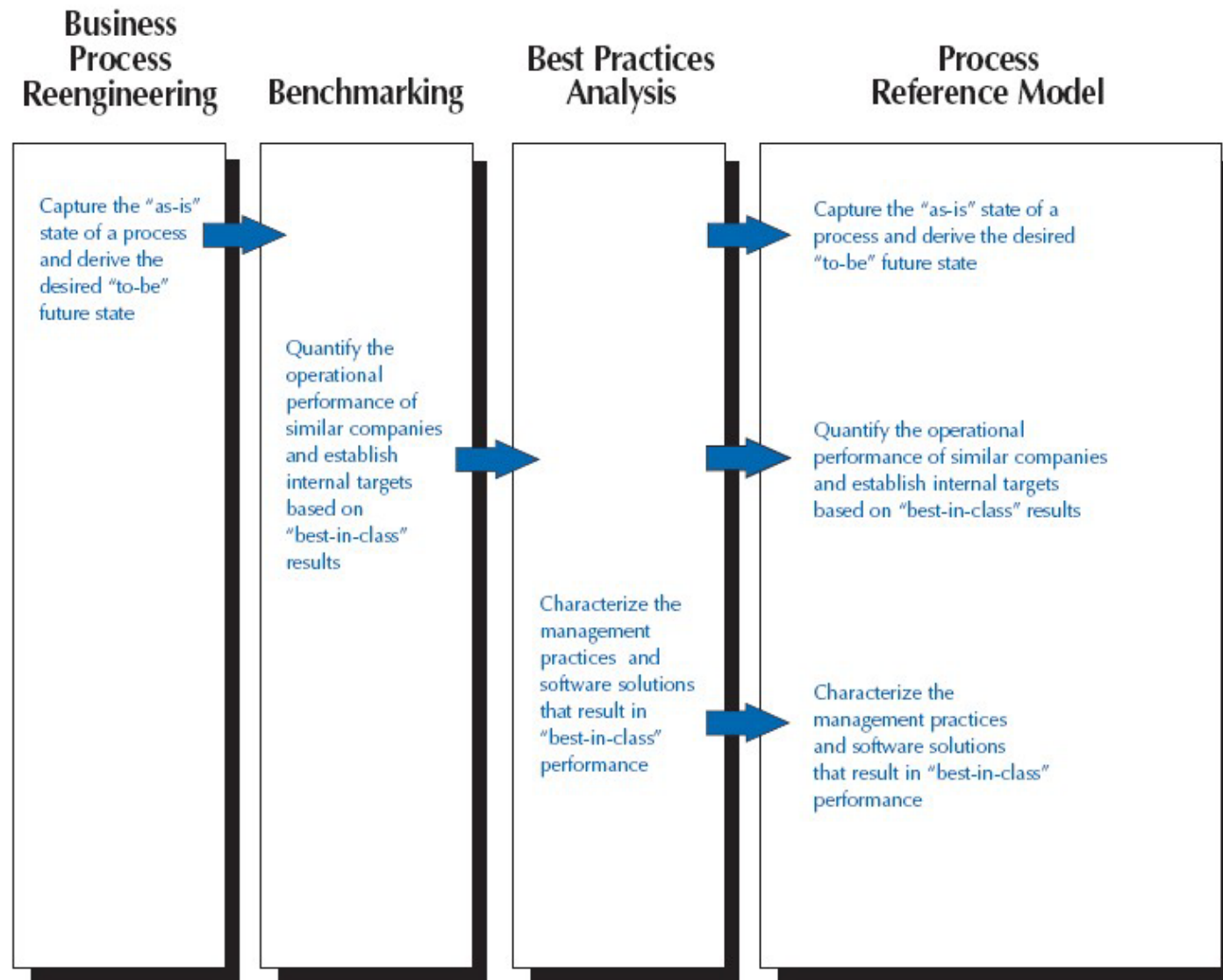
- Visibility brings to light all links in the supply chain.
- It provides the information links need to understand the ongoing order status.

- Through collaboration, the supply chain can determine how best to meet the demands of the marketplace.
- True partnership is required.

- Continuous improvement process.
- Synthesis is the unification of all supply chain links to form a whole.

- Velocity is synthesis at the speed of light.

Process reference models integrate the well-known concepts of business process reengineering, benchmarking, and process measurement into a cross-functional framework.



SCOR (Supply Chain Operations Reference Model) is a process reference model designed for effective communication among supply chain partners.

SCOR is used to describe, measure and evaluate supply chain configuration.

SCOR is Based on Five Distinct Management Processes



SCOR contains three levels of process detail.

- Top Level – Process Types
- Configuration Level – Process Categories
- Process Element Level – Decompose Process

		Level			
		#	Description	Schematic	Comments
Supply-Chain Operations Reference-model Not in Scope 	1	 Top Level (Process Types)		Level 1 defines the scope and content for the Supply Chain Operations Reference-model. Here basis of competition performance targets are set.	
	2	 Configuration Level (Process Categories)		A company's supply chain can be "configured-to-order" at Level 2 from core "process categories." Companies implement their operations strategy through the configuration they choose for their supply chain.	
	3	 Process Element Level (Decompose Processes)		Level 3 defines a company's ability to compete successfully in its chosen markets, and consists of: <ul style="list-style-type: none"> • Process element definitions • Process element information inputs, and outputs • Process performance metrics • Best practices, where applicable • System capabilities required to support best practices • Systems/tools Companies "fine tune" their Operations Strategy at Level 3.	
	4	 Implementation Level (Decompose Process Elements)		Companies implement specific supply-chain management practices at this level. Level 4 defines practices to achieve competitive advantage and to adapt to changing business conditions.	

VMI (Vendor Managed Inventory)

In a VMI (Vendor Managed Inventory), the supplier decides on the appropriate inventory levels of each of the products (within previously agreed-upon bounds) and the appropriate inventory policies to maintain these levels.

Wal-Mart and P&G

- Wal-Mart and Procter & Gamble (P&G), whose partnership, begun 10 1985, has dramatically improved P&G's on-time deliveries to Wal-Mart while increasing inventory turn.

Wal-Mart and Mead-Johnson

- Since VMI was applied, inventory turns at Wal-Mart have gone from under 10 to more than 100 and Mead-Johnson from 12 to 52.

Scott Paper Company

- Scott Paper Company has been managing inventory in 25 of its customer distribution centers.
- In this effort, inventory turns at the customers have increased from about 19 to somewhere between 35 and 55.
- Inventory levels have been reduced, and service levels have improved.

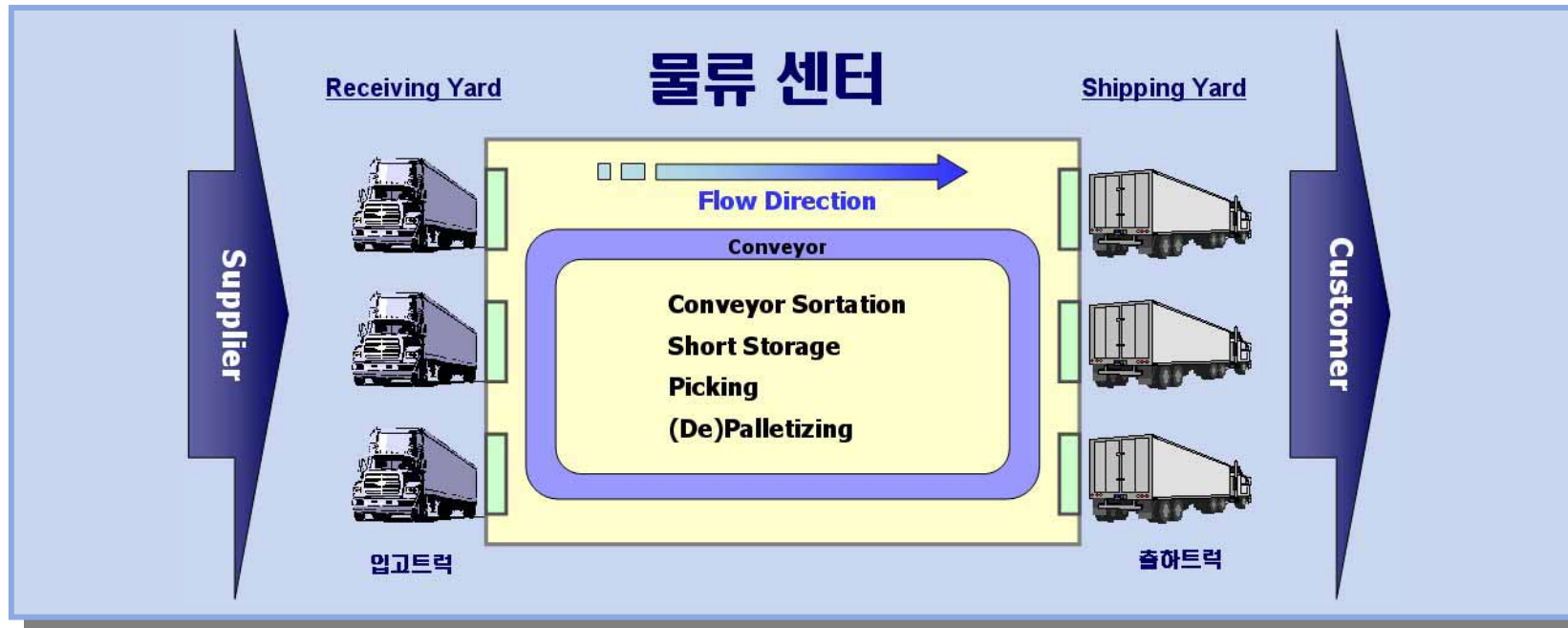
Spartan Stores

Spartan Stores, a grocery chain, shut down its VMI effort about one year after its inception.

- One problem was that buyers were not spending any less time on reorders than they had before because they didn't trust the suppliers enough to stop their careful monitoring of the inventories and deliveries of the VMI items.
- Further, the suppliers didn't do much to allay these fears.
- Spartan executives felt that the inventory levels achieved by the VMI program were no lower than the levels the company could have achieved with a well-managed traditional supplier program.

Cross Docking System

Cross docking is a material handling and distribution concept in which items move directly from receiving dock to shipping dock, without being stored in a warehouse or distribution center.



Past

- In 1979 Kmart was one of the leading companies in the retail industry, with 1,891 stores and average revenues per store of \$7.25 million.
- At this time Wal-Mart was a small niche retailer in the South with only 229 stores and average revenues about half those of Kmart stores.

Today

- Wal-Mart is the largest and highest profit retailer in the worlds.

Operations

- This was done by using a logistics technique known as cross docking.
- Wal-Mart delivers about 85 percent of its goods utilizing cross docking, as opposed to about 50 percent for Kmart.
- This strategy reduced Wal-Mart's cost of sales significantly and made it possible to offer everyday low prices to their customers.
- To facilitate cross docking, Wal-Mart operates a private satellite communications system that sends point-of-sale (POS) data to all of its vendors, allowing them to have a clear picture of sales at all of its stores.
- In addition, Wal-Mart has a dedicated fleet of 2,000 trucks and, on average, stores are replenished twice a week.

Situation

Home Depot operates a cross dock in Philadelphia that serves more than 100 stores in the Northeast.

Past

In the past, each store ordered from vendors separately, and orders were sent in LTL shipments directly to the stores.

Today

- Each of the 100+ stores orders from each vendor on a specific day of the week.
- The vendor consolidates all orders and sends truckloads of product to the cross dock in Philadelphia.
- There, workers transfer products to trailers bound for individual stores, so that outgoing trailers contain products for a single store from many vendors.
- Transportation costs are lower because shipments into and out of the cross dock are in truckload quantities.

Situation

- To deal with expanding production volumes in the U.S., and to expedite parts needed by dealers of cars built in Japan, Toyota created a 760,000 square-foot distribution center in Ontario, CA.
- The distribution center serves 11 U.S. parts distribution centers that in turn supply 1,400 Toyota and Lexus dealers.
- It also serves two distribution centers in Canada and others throughout South America and the Pacific Rim.

Operations

- An estimated 250,000 transactions per day are processed.
- About 3.5 million parts in 243,000 stock keeping units are kept at this center.
- An estimated 30 percent of the transactions made are considered cossdocking.

Effect

- The center has been able to reduce lead times of parts from Japan to customers, formerly as long as 25 days, to as short as one week.
- Each cross docking line (and the distribution center has three lines) saves about 90,000 square feet of storage space.

Distribution Center

- The Chicago Area Consolidation Hub (CACH) of UPS makes it the premiere cross docking operation anywhere, and a prototype for many warehouse of the future.
 - 1.9 million square foot distribution facility.
 - 2.0 million packages pass through every day.
 - Takes 15 minutes for a package to travel an average distance of 1 mile on a series of conveyors from one of 122 receiving doors to any of 1,050 shipping doors.
 - In total, there are 30.7 miles of conveyors and 1,951 diverters in the facility.