



PESA - Oil 101 Supply Chain Overview September 23, 2014



Presentation by:

Brad Wise - Vice President Marketing & Business Development

www.distributionnow.com

Agenda – Supply Chain Overview

1. Overview of Supply Chain
2. Supply Chain Drillship Scenario
3. Role Play Activity
4. Discussion - Financial impact

Traditional View: Supply Chains in the Economy (1990, 1996)

1. Freight Transportation

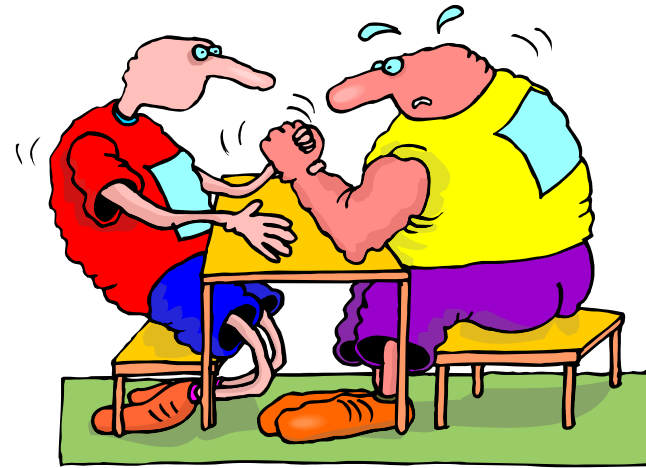
- Transportation manager in charge
- Transportation software

2. Inventory Expense

- Inventory manager in charge
- Inventory software

3. Administrative Expense

4. Logistics related activity



Transportation and inventory managers

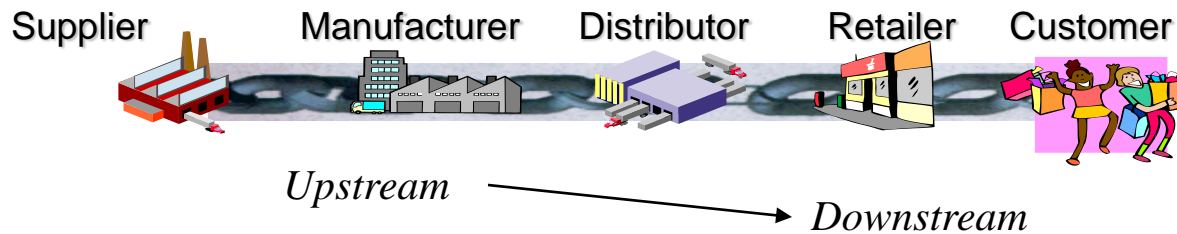
Traditional View: Cost breakdown of a manufactured good

| | | |
|---------------------------|------------|---------------------------|
| Profit | 10% | Profit |
| Supply Chain Cost | 20% | Supply Chain Cost |
| Marketing Cost | 25% | Marketing Cost |
| Manufacturing Cost | 45% | Manufacturing Cost |

Effort spent for supply chain activities are invisible to the customers.

Supply Chain - A Graphical Representation

- A supply chain consists of



- aims to Match Supply and Demand, profitably for products and services



SUPPLY SIDE



DEMAND SIDE



- achieves



The right Product



The right Price



The right Store



The right Quantity



The right Customer



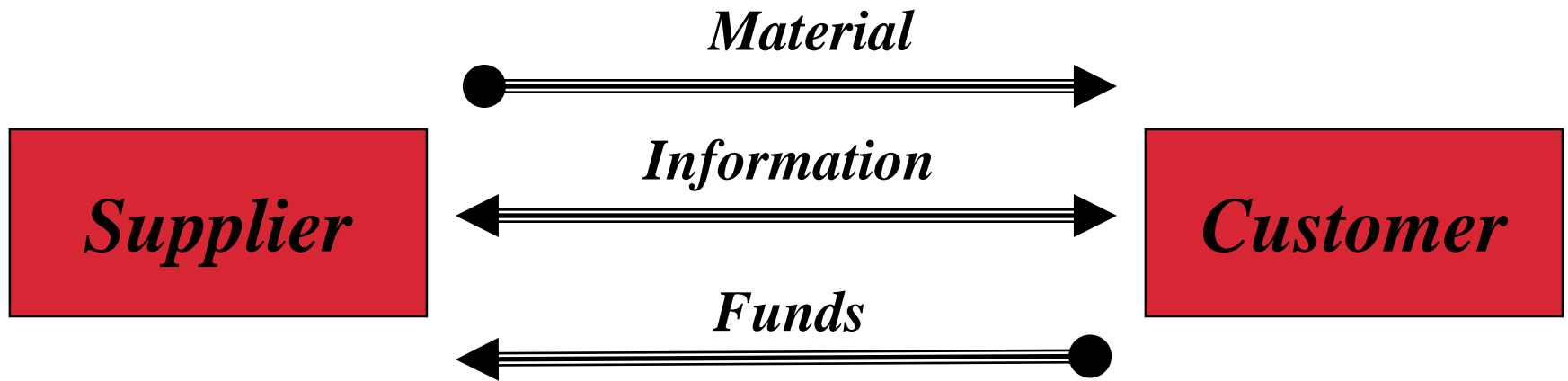
The right Time



Higher Profits

DISTRIBUTION
NOW

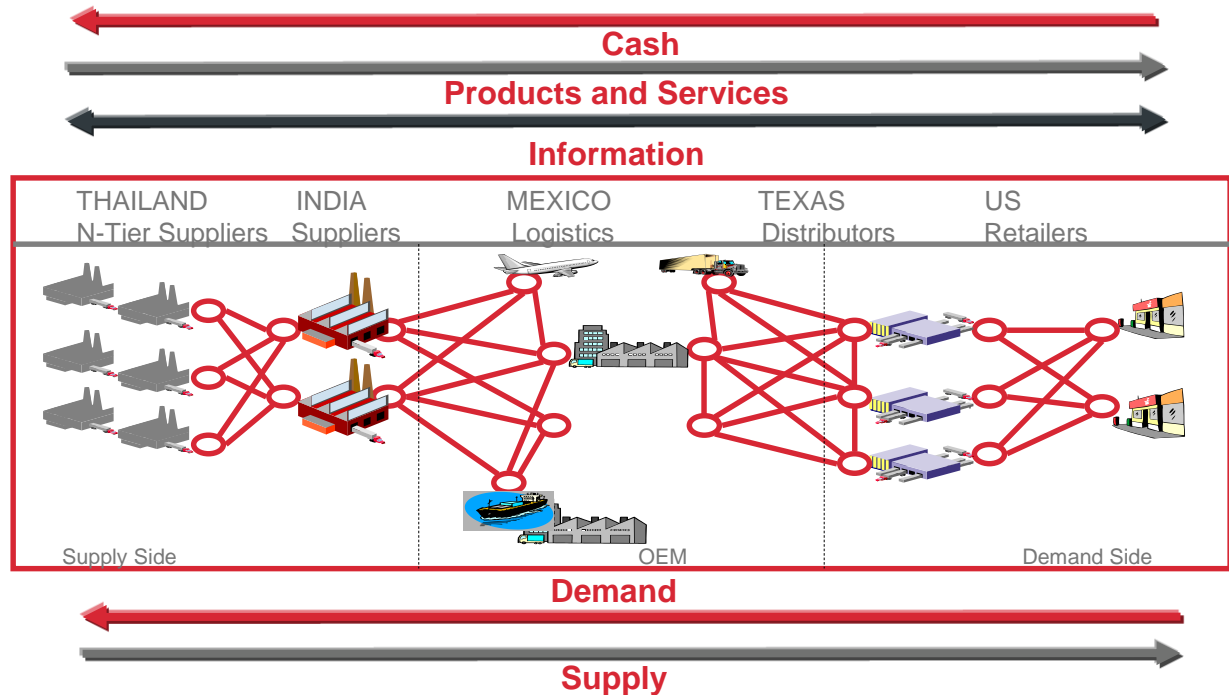
Flows in a Supply Chain



The flows resemble a chain reaction.

SCM in a Supply Network

- **Supply Chain Management (SCM)** is concerned with the management and control of the flows of material, information, and finances in supply chains.

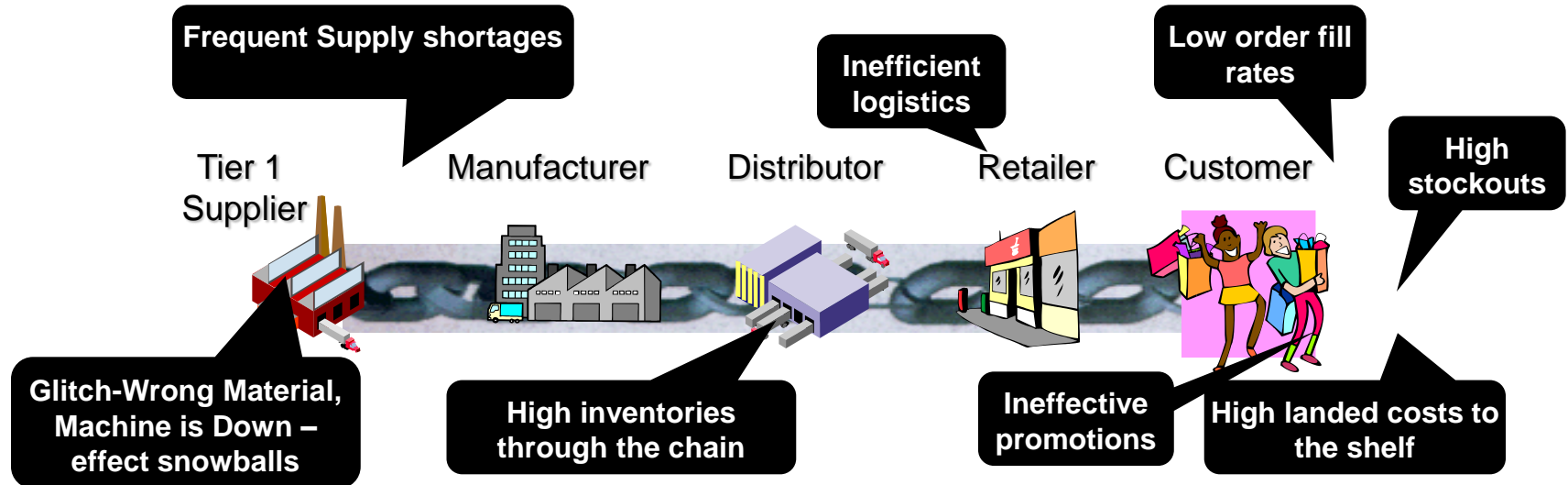


- The task of **SCM** is to design, plan, and execute the activities at the different stages so as to provide the desired levels of service to supply chain customers profitably

Importance of Supply Chain Management

- In 2012, the US companies spent \$1 trillion (10% of GNP) on supply-related activities (movement, storage, and control of products across supply chains).

Source: State of Logistics Report



- **Eliminating inefficiencies in supply chains can save millions of \$.**

Push vs Pull System

What instigates the movement of the work in the system?

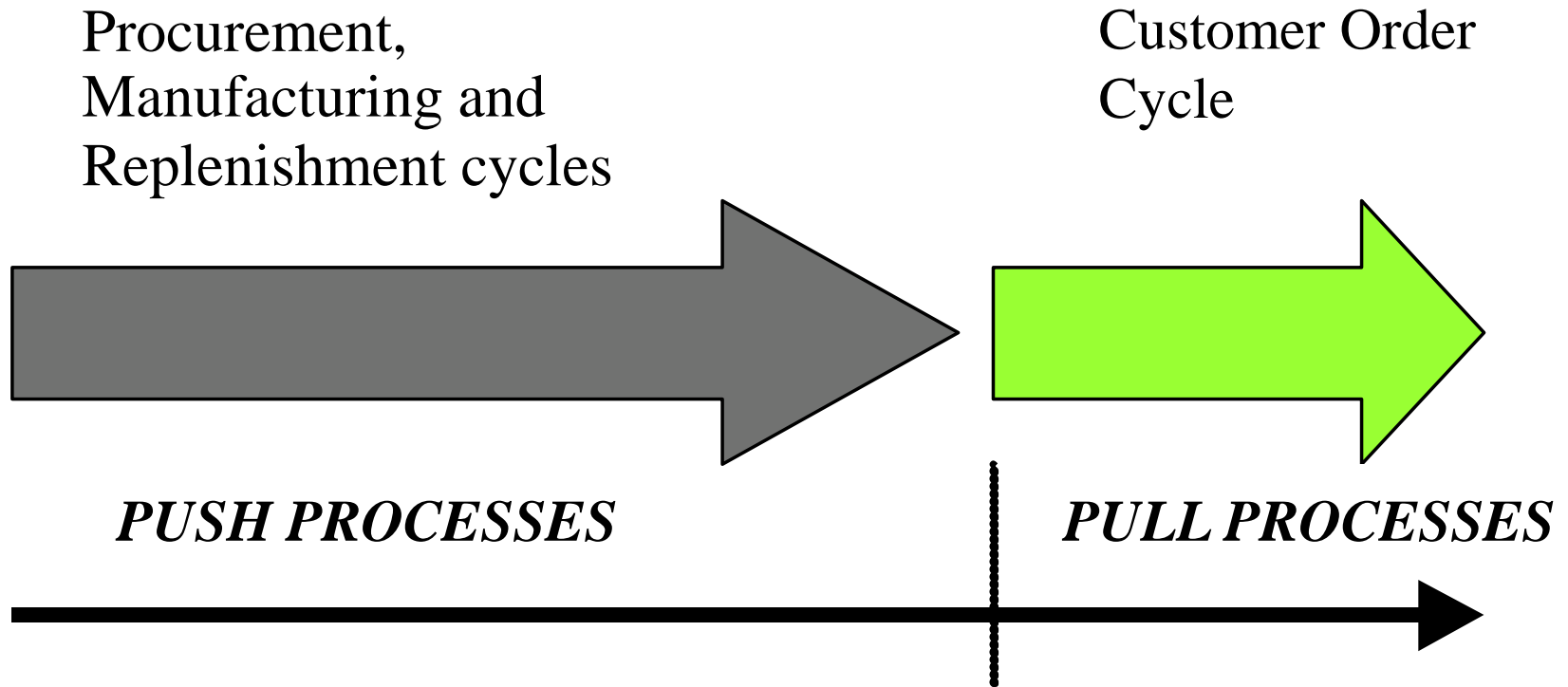
In **Push** systems, work release is based on downstream demand forecasts

- Keeps inventory to meet actual demand
- Acts **proactively**
 - e.g. Making generic job application resumes today (e.g.: exempli gratia)

In **Pull** systems, work release is based on actual demand or the actual status of the downstream customers

- May cause long delivery lead times
- Acts **reactively**
 - e.g. Making a specific resume for a company after talking to the recruiter

Push/Pull View of Supply Chains



Customer
Order Arrives
Push-Pull boundary

What make supply chain difficult?

- **Supply chain strategies cannot be determined in isolation, they are affected by a *development chain***
 - Product design phase
- **Global Optimization**
 - Complex network of facilities
 - Different facilities, different (conflicting) objectives
 - Dynamic system (customer wants vs supply)
 - System Variation over time
- **Uncertainty and risk are inherent in every supply chain**
 - Matching supply and demand
 - Inventory and back-order levels fluctuate
 - Forecasting accuracy
 - Demand is not only source of uncertainty (lead times, mfg yields, transportation times, component availability)
 - Lean manufacturing, outsourcing, offshoring that focus on cost reduction increase risks significantly

Drivers of Supply Chain Performance



Inventory



Transportation



Facilities

Logistical
Drivers



Information



Sourcing



Pricing

Cross
Functional
Drivers

Supply Chain Management Structure



- **Strategic Management** (goals, KPIs, key principals, segregation of duties)
- **Function and Organization Structure**, multi-functional groups, centralization of major groups and services and materials
- **Implementation of services and materials catalogue**, matrix of accountability segregation due to category
- **Demand planning, purchases, contract administration, management of commitments, materials management, etc.**
- **Supplier evaluation, supplier efficiency**
- **Optimization of materials management system, including liquid and non-liquid assets**
- **Risk matrix, control matrix, risk management procedures**
- **IT Component**



Offshore Supply Chain Scenario

Scenario – Main Players

Operator: Big Time Oil Company, Inc. (BTO)

Drilling Contractor: Drill Baby Drill, Inc. (DBD)

Gunslinger: Drill Ship, owned by DBD

Distribution Co.: DistributionNOW

Scenario



Roles

1-Company man Carter

2-Rig Manager Rick

3-Toolpusher Tom

4-Driller Dave

5-Materialsman Mindy

6-Shorebase Procurement Debbie

7-Distributor Mike

8-Warehouse Wendy

Terminology

1. Company man- a representative of an operating / exploration company on the rig
2. Rig Manager-the person in charge on the rig
3. Toolpusher – on a drillship, toolpushers are the general manager responsible for operations and personnel of the different departments on board (on a land drilling rig, the toolpusher may be the rig manager and responsible for all operations)
4. Driller-person in charge of drilling operations
5. Materialsman – responsible for on aboard material management and inventory
6. Shorebase Procurement – in charge of managing suppliers and procuring material for operations
7. Distributor – company that provides material from a large number of suppliers to customers. They generally inventory material and provide point of sale service
8. Warehouse-responsible for receiving, managing, issuing and shipping material

Discussion

Financial Impact

- 26 hours of lost time, equates to lost revenue. \$700,917
- \$15,000 in parts and freight expense
- Crew and operating expense standby time

Where did the supply chain fail?

- Gunslinger's on board stock...
- DBD's Shorebase warehouse...
- DBD regional inventory...
- Replenishment systems with DBD
- What about the consolidation of inventory by DBD?

The rig was suspended in a state of risk, what would have prevented it?

- Spare mud pumps outfitted...
- Proper inventory on board...
- Forecasted demand...plan for the unanticipated