

Coordination in a Supply Chain

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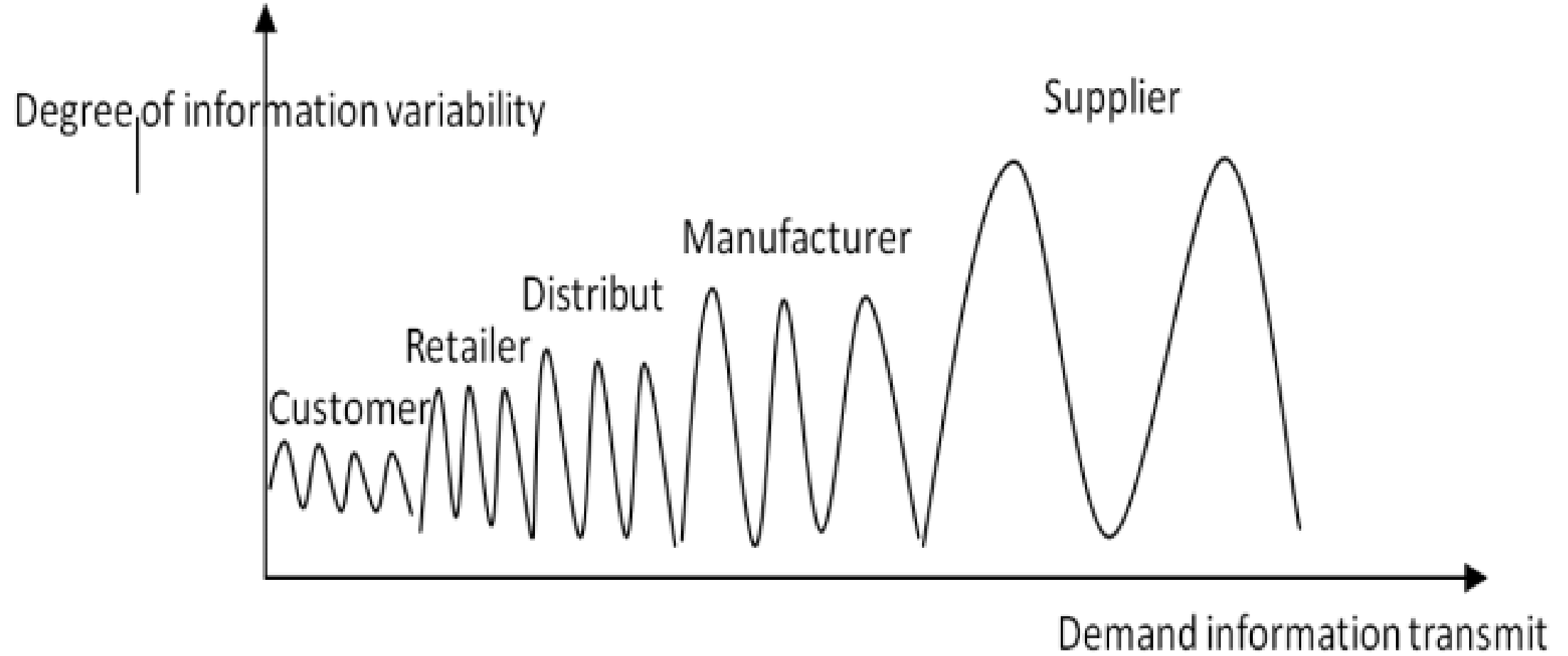
Coordination

- Good Supply chain coordination at all stages facilitates quick and adequate measures to increase total supply chain surplus provided that the information is shared appropriately and timely.
- Lack of coordination results when:
 - Objectives of different stages conflict
 - Information moving between stages is delayed or distorted

Effects of poor coordination: Bullwhip effect

- Through the numerous stages of a supply chain; key factors such as time and supply of order decisions, demand for the supply, lack of communication and disorganization can result in one of the most common problems in supply chain management.
- Fluctuations in orders increase as they move up the supply chain from retailers to wholesalers to manufacturers to suppliers

Bullwhip effect



Drivers of bullwhip effect

- Disorganization between each supply chain link; with ordering larger or smaller amounts of a product than is needed due to an over or under reaction to the supply chain beforehand.
- Lack of communication between each link in the supply chain makes it difficult for processes to run smoothly.
- Free return policies; customers may intentionally overstate demands due to shortages and then cancel when the supply becomes adequate again, without return forfeit retailers will continue to exaggerate their needs and cancel orders; resulting in excess material.
- Order batching; companies may not immediately place an order with their supplier; often accumulating the demand first.
- Price variations – special discounts and other cost changes can upset regular buying patterns; buyers want to take advantage on discounts offered during a short time period, this can cause uneven production and distorted demand information.
- Demand information – relying on past demand information to estimate current demand information of a product does not take into account any fluctuations that may occur in demand over a period of time.

Effects of poor coordination

- Manufacturing cost increases
- Inventory cost increases
- Replenishment lead time increases
- Transportation cost increases
- Shipping and receiving cost increases
- Level of product availability increases
- Profitability Decreases

Barriers of SC coordination

- Incentive Barriers
 - Sales force incentives
 - Multistage incentives decreases over all profit
- Information Processing Barriers
 - Forecasting based on orders, not customer demand
 - Inadequate and untimely information sharing
 - Demand gets distorted from downstream to upstream going through multistage
- Operational Barriers
 - Large lot size
 - Large/uncertain replenishment lead times
 - Rationing and shortage gaming
- Pricing Barriers: When pricing policies for a product lead to an increase in variability of orders placed
 - Lot-size based quantity decisions (discounts and promotions)
 - Price fluctuations
- Behavioral Barriers
 - Lack of inter-stage relationships and trust
 - Inability to identify the root cause of the problem locally
 - Blame game between stages
 - Lack of learning form foot steps

Achieving SC coordination

- Aligning goals and incentives
 - So that every participant in supply chain works to maximize total supply chain profits
 - Align goals across the supply chain and align incentives across functions
 - Alter sales force incentives
- Improving information accuracy
 - Sharing point of sale data
 - Implementing collaborative forecasting and planning
 - Continuous replenishment programs (CRP)
 - Vendor managed inventory (VMI)
- Improving operational performance
 - Reducing replenishment lead time and lot size
 - Rationing based on past sales and sharing information to limit gaming
- Designing pricing strategies to stabilize orders
 - Encouraging retailers to order in smaller lots and reduce forward buying
 - Moving from lot size-based to volume-based quantity discounts
 - Stabilizing pricing
- Building strategic partnerships and trust