

# The Beer Game

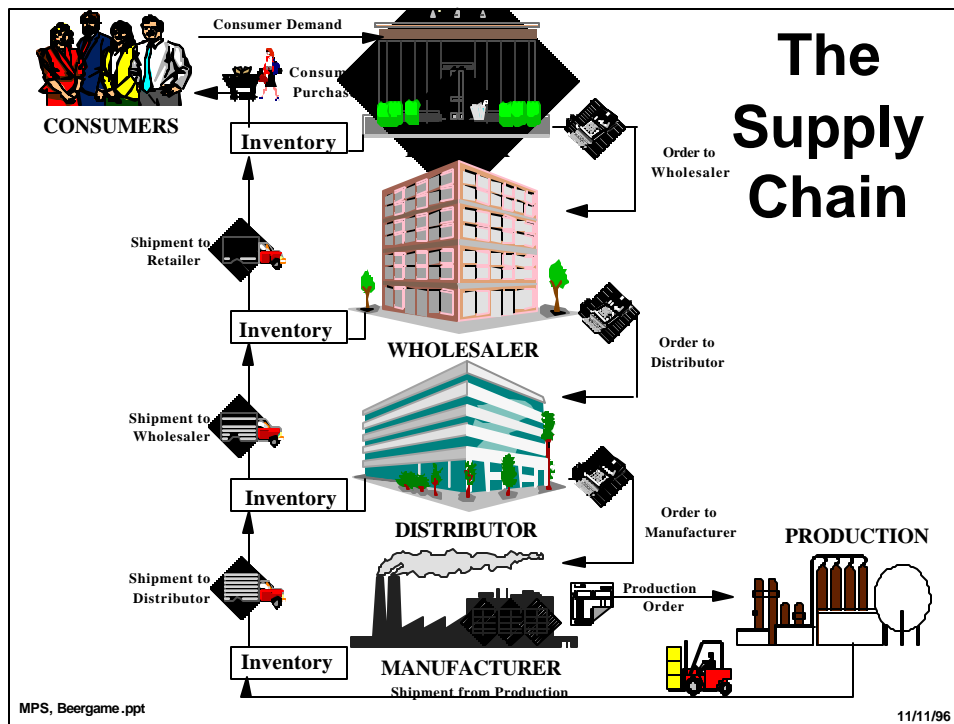
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## The Beer Game

- Our Objectives are:
  - to provide a valuable learning experience about supply chains
  - to have fun.
- The game is not designed with any specific industry in mind.
- Rather, it is designed to elicit a certain behaviour that is characteristic of most supply chains.

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## The Beer Game - Rules

- Every Week:
  - New shipments received from your supplier.
  - New order received from your customer.
  - Customer order is filled from inventory.  
Any balance goes into backlog.
  - Cost is:
    - \$0.50 per case in ending inventory;
    - \$1.00 per case in backlog
  - You place a new order with your supplier

## The Beer Game - Rules

- Backlogs do not go away!!
- All orders must eventually be filled
- No communication with team-mates
- If you have played before...
- **Lowest cumulative cost team is the winner.**

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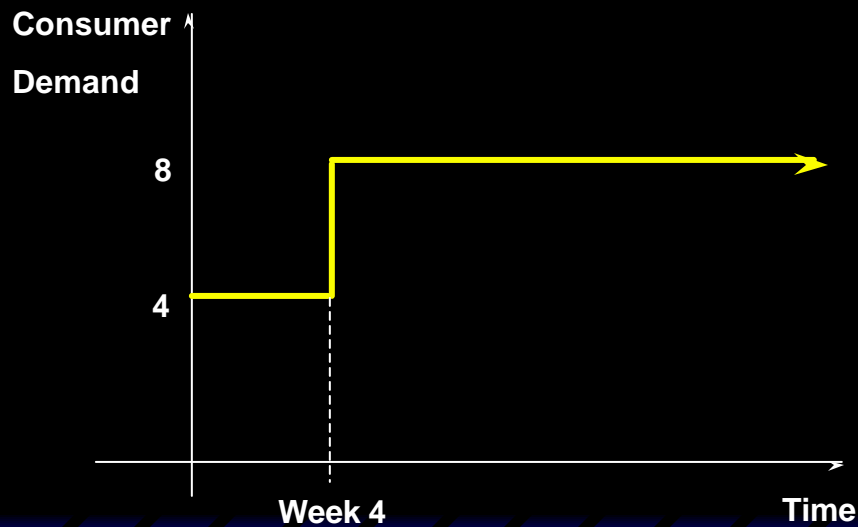
## What happened?

**Blame**  
**Blame**  
**Blame**

- the computer
- my supplier
- my customer
- the consumer
- myself
- the system

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## What happened to Consumer Demand?



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## The Beer Game - Observations

- One or more players cut orders in an attempt to reduce inventory
- Suppliers see a reduction in order size as a signal of declining demand and reduce their orders even more
- Meanwhile, retailers see a jump in consumer demand
- Retailers order extra in an attempt to fill the pipeline

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## The Beer Game - Observations

- Suppliers see higher orders as a signal of increasing demand just when their inventory is being reduced
- **Backlogs develop and build !**
- In the face of growing backlogs, players grow impatient and increase their orders - forgetting that all previous orders will eventually be filled
- Backlog situations eventually turn into excess inventory situations as previous over-orders are filled

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An analysis of thousands of games shows that though not all players order the same amounts, they all overreact at approximately the same time.

***It always happens !!***

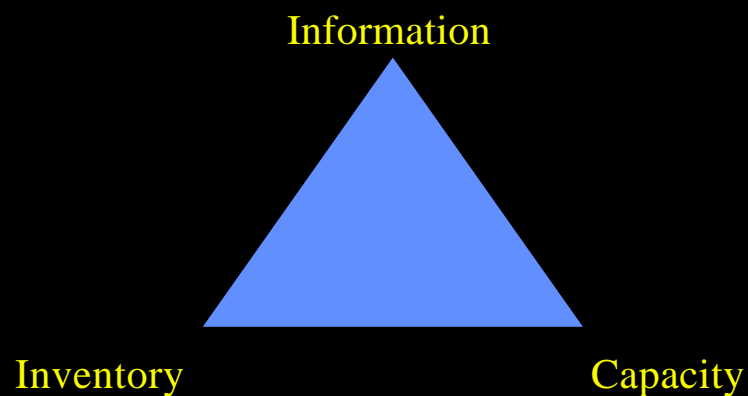
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## Reacting to Stockouts

Event	Analysis	Action
Stockouts	None	Increase my order
Stockouts	Supplier has not filled my past orders	Get a new supplier
Stockouts	Demand is erratic	Try to smooth out demand
Stockouts	My orders are too erratic	Dampen my decision rules
Stockouts	Delays in system cause these problems	Change the system. Work to shorten lags

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## Which cost more?



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## Beer Game Lessons

- Inventory cost money, but may help increase service levels
- Lags cause problems and longer supply chains cause problems
- Need information systems to monitor each stage in the chain
- Also, need cooperation in the channel
- Are partnerships the answer???

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