Beergame

Beer Game - Background

- Originally called the 'production-distribution game'.
- The game was developed by Sloan's System Dynamics Group in the early 1960s as part of Jay Forrester's research on industrial dynamics.
- Its has been played all over the world by thousands of people ranging from high school students to chief executive officers and government officials.
- Of course, there is no beer in the beer game, and the game does not promote drinking.

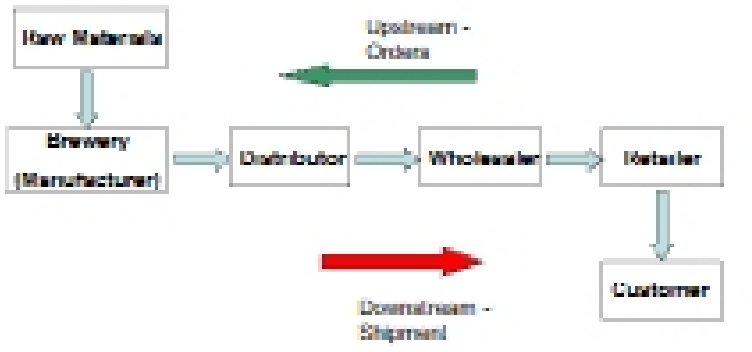
Source:
http://web.mit.edu/jsterman/www/SDG/beergame.html

Players

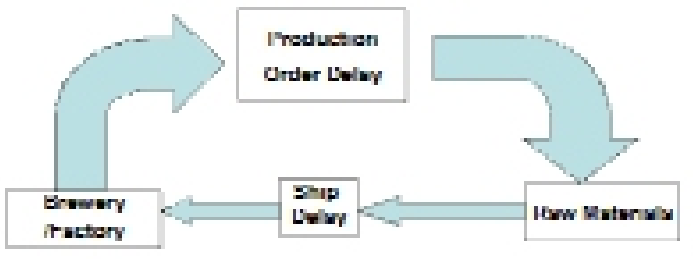
- Brewery (Manufacturer)
- Distributor
- Wholesaler
- Retailer
- Customer – system
- Goal : Meet demand at minimum cost

(Inventory cost versus Backorder cost)

Beer Distribution Game



Manufacturing (Brewing) Delays



Objective

- Is to satisfy the demand of the customer, while keeping the cost low.
  - cost for holding inventory
  - cost for not satisfying demand (backorder)
  - demand for the product remains until it is satisfied i.e. backorder persists until it is fulfilled.

Rules

- Objective : Minimize the total costs
  - What are the costs?
- Shipment of order cannot exceed = customer order + backlog!
- Cost :
  - Inventory : $0.50/case/period
  - Backlog: $1.00/case/period

Beer Game Rules

- Every week
  - New shipments from your supplier
  - New order from your customer
  - Customer order is filled from inventory, any balance goes into backlog
  - Cost
    - Holding cost : $0.5/ unit
    - Backorder cost: $1.0/unit
  - You place a new order with your supplier

Information Card

Game Number: 1, 2

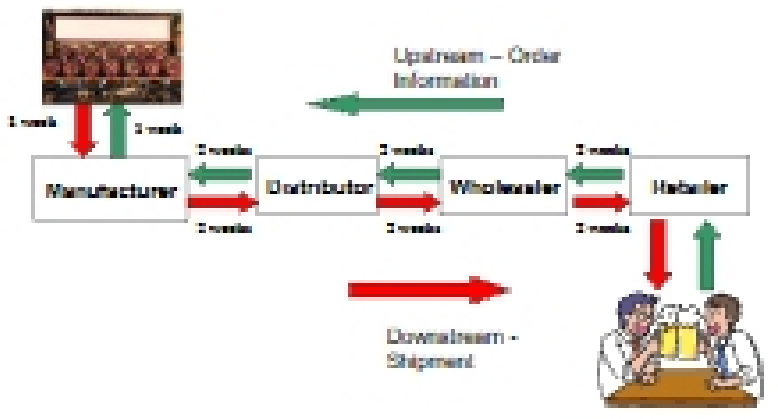
Position: Factory

Password: 2690

Beer Distribution Game - Game Initialization

- Demand = 4 cases per period.
- Marketing promotion starts in week 5.
- Inventory System
  - Place an order at the end of each time period
  - Each facility begins with 12 cases of inventory.
  - Replenishment lead time is 2 or 4 periods.
  - Current order size = 4 cases = demand.

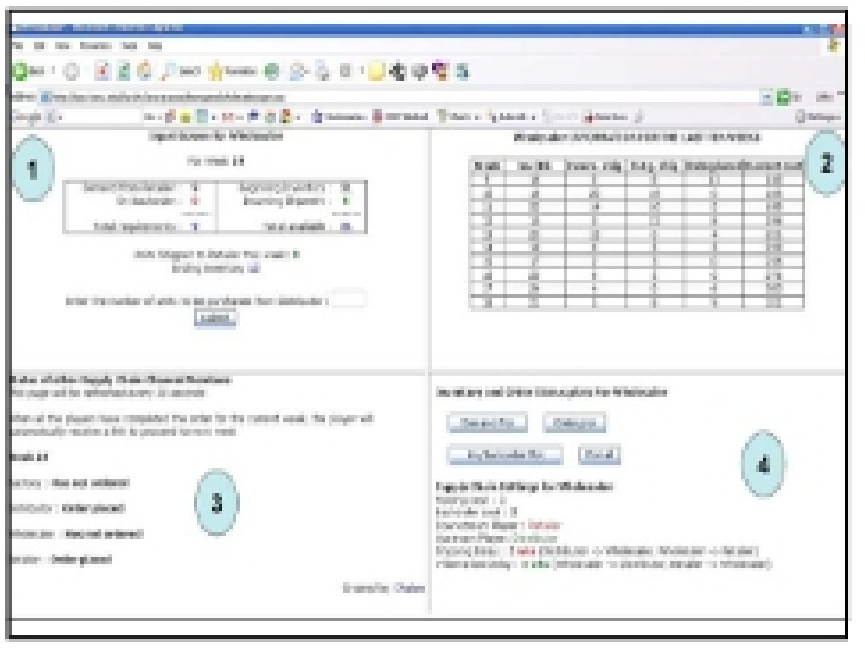
Beer distribution game's supply chain



Address

- http://davinci.tamu.edu/beergame/v1

- Click on your group and enter the pass word provided

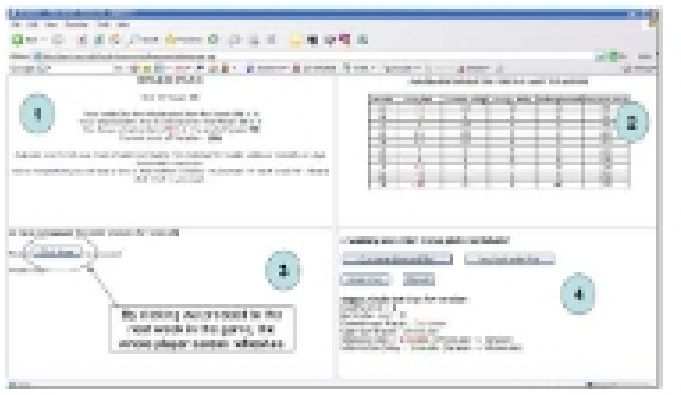


Order Input Screen

- Total demand = Current demand + Backorder
- Available to ship in a week = Incoming shipment + on hand inventory
- If Available to ship > Total demand,
  - Ending inventory balance = Available to ship – Total demand
- If Available to ship < Total demand,
  - Backorder (unsatisfied demand) = Total demand – Available to ship

Don't worry all these calculations are done for you!!!

Channel member "proceed to next period" screen



Information for the Last Ten Weeks

- Inventory/backorder
- Incoming shipment
- Outgoing shipment
- Order placed
- Current cost