

Week 4:



MIS 3537: Internet & Supply Chains

Prof. Edward (Ed) Beaver



Today World Wide Technology, Inc.

- 2015:
 - A global systems integrator
 - \$7.4 Billion Sales, 3,700 employees
 - Regularly achieves average growth >20 % per year
 - A proven and innovative approach to help large public and private organizations discover, evaluate, architect and implement advanced technology
 - Configuration, Integration and advanced logistics solutions
 - Private Minority owned Enterprise
 - \$27.5 million venture capital investment repaid in 2005.

Clear Orbit. Now owned by



TAKE
Enabling Business Efficiencies

- June 2007: TAKE Solutions acquired ClearOrbit to combine with existing supply chain management divisions.
- Technology solutions and service provider in:
 - Life sciences
 - Supply Chain Management
- \$35 MM Sales, ` 200 employees
- Private Company

Break Time



Start Recording

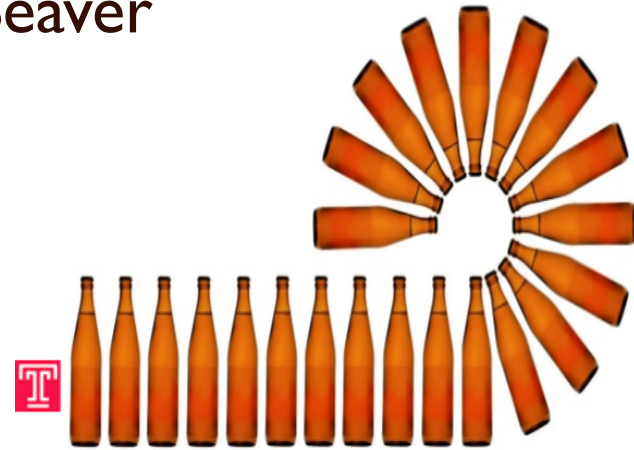


Week 4:

Beer (Root) Game Introduction

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Learning Objectives



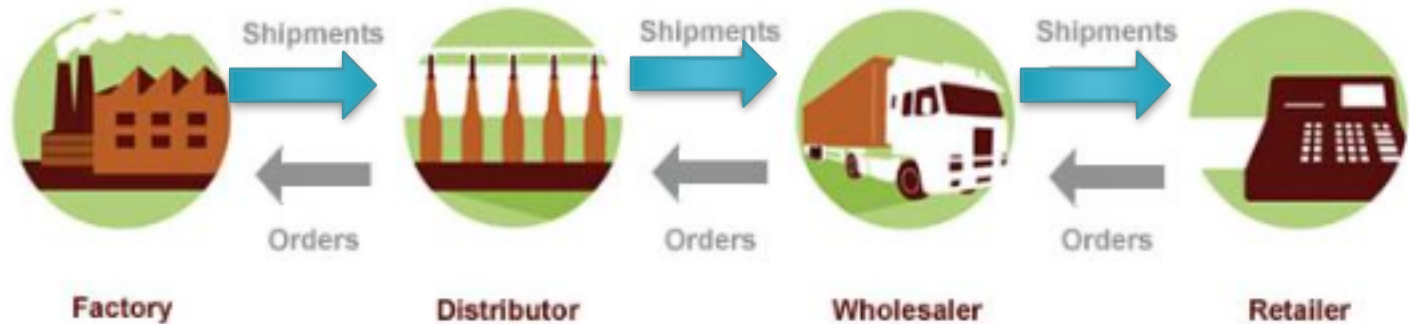
- Have some fun with the beer game
 - ‘Experience’ working in a simulated supply chain
 - ‘Real’ introduction to Bullwhip Effect
 - Have fun in class while learning

The beer game



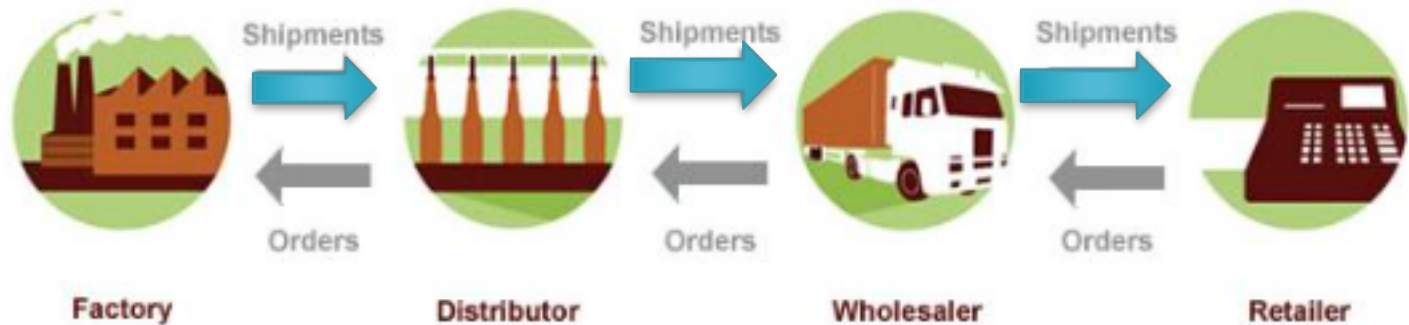
- Originally conceived at MIT
- A very good exercise in understanding the bullwhip effect
- The structure and rules...



Game Roles (SC Players)



- **Factory (1):** Manufactures syrup
- **Distributor (3):** Bottling and package (case)
- **Wholesaler (10):** Local warehousing
- **Retailer (10,000):** Sale to customer

Game Flows



- Types
 - Physical 
 - Information (orders) 
- Frequency: once per period
- Delays (displayed on the ordering box)
 - 2 weeks order to ship
 - 2 weeks ship to delivery

The rules of the game

- You, the player, can play one of the four roles; you are the manager at the
 - Retailer
 - Wholesaler
 - Distributor
 - Factory
- The factory has access to unlimited amounts of raw materials, labor etc.



The Rules: Routine



- Each week you will receive orders from downstream
- You ‘must’ ship the order if you can. If you can’t – it goes into backlog and must be shipped in later week when stock is available.
- Each player replenishes stock from ordering from the partner upstream (except factory which produces)



The rules: Decisions



- Each player must work with these parameters
 - Order: the order amount received from the next level along your supply chain
 - A retailer's orders are dependent on the perceived demand; a wholesaler's order amount is based on what demanded by the retailer and so on.
 - Inventory: the numbers in stock
 - Backlog: unfulfilled orders from past week(s)



The rules: On the Clock



This Week (Intro)

- You'll have as much time as you need
- Proceed to next week when all orders have been placed

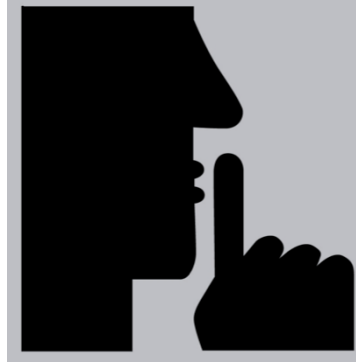
Next Week (Round 1)

- There will be a timer (upper right of screen)
- If counter is zero without your input, system will reuse previous decision



The rules: Silence

- You may **not** speak to each other or communicate in any way. Only place orders and ship product.



The rules: Winning



How do you win?

Lowest Total Cost for entire Supply Chain
(inventory cost + backorder cost)

- Inventory cost: For every item in the inventory, the holding entity (retailer, etc.) is charged \$ 0.50
- Backorder cost: For every item unfulfilled, the entity unable to fulfill the order is charged \$ 1.00

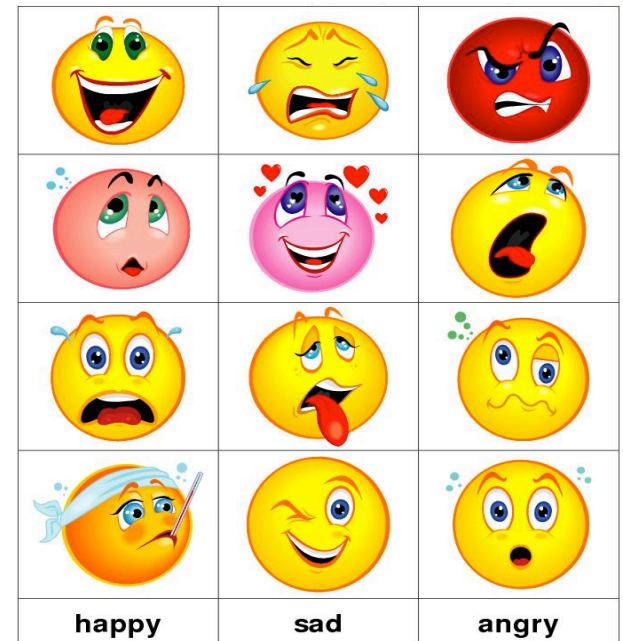


Let's play the game!



Your thoughts

- Any Questions about the Logistics, Process of Playing the Game?
- Which role are you playing?
- How are you Feeling?



Next week (February 11)...

- In class Beer Game:
Complete Round One



What's
the
plan?

Follow Up

- Each team Decides Change to make for Round 2 (*by February 25*)
- Each team on their own completes Round 2 with the change (*By March 10*)
- Beer Game Write-up (*By March 10*)

Extra – Future Slides

Your thoughts

- Which role did you play?
- What were your individual costs? What was the total supply chain cost?
- Share your thoughts about the game
- What could have helped you bring down the costs?