

THE BEER GAME

SUMMARY OF THE RULES

- “Practicing foul shots” for management
- Each move represents a week
- Competitive-cooperative game, with limits on cooperation
 - You work with a partner
 - You can’t talk to the rest of your team
- Objective: Run the minimum-cost distribution system
 - Each unit of inventory: \$0.50 per week
 - Each unit of backlog: \$1.00 per week
 - Costs are cumulative over time
 - Team with the lowest total cumulative cost wins

PRELIMINARIES

- **Introduce yourself to your team members**
- **Pick a team name**
- **Record your team name and position on your GAME RECORD**

HINTS ON PLAYING

- You can't look ahead at orders
- Stay in step with me and your team
- One partner move the pieces, and one partner record on the **GAME RECORD**
- You receive orders and ship "downstream"
 - After you fill an order, slide the order slip under the board
 - Your customers will wait forever, but it costs you (backlog)
- You place orders and receive from "upstream"
 - It takes time for orders to reach your supplier and for shipments to reach you
- The Factory position is a little different

STEPS OF THE GAME

[Repeat each week]

- 1. Receive inventory and advance shipping delays
(Factories advance production delays)**
- 2. Look at your incoming orders and fill them**
 - Fill incoming orders PLUS orders in backlog**
 - If you don't have enough inventory, ship as much as you can and add the rest to your backlog**
- 3. Record your inventory or backlog**
- 4. Advance the order slips and factories brew
(Factories introduce production requests from last week into the production delay)**
- 5. Place and record your orders
(Factories place and record production requests)**

CALCULATING BACKLOG

Last week's backlog _____
+ **New orders** _____
= **Orders to fill** _____

- **Amount shipped** _____
= **This week's backlog** _____

RETAILERS:

**PLEASE DON'T TELL WHAT
THE CUSTOMER ORDERS WERE**

CALCULATE GAME STATISTICS

- 1. Calculate your score**
 - Total your inventory
 - Total your backlog
 - Calculate your total cost
- 2. Plot your inventory or backlog**
- 3. All positions except Retailer:**
Plot estimated retail customer orders
- 4. Retailer: Calculate your total team score**

DEBRIEFING

HOW DID YOU FEEL?

- **Did you feel**
 - **Calm?**
 - **Collected?**
 - **In control?**
- **OR, did you feel a little**
 - **Frazzled?**
 - **Frustrated?**
 - **At the mercy of events?**

WHAT ABOUT YOUR TEAMMATES?

- Do you think they
 - Showed great skill?
 - Had your best interests at heart?
- OR maybe you think they
 - Fouled up?

HOW YOU DID

**WHAT WOULD HAPPEN IN THE REAL WORLD
WITH THIS KIND OF PERFORMANCE?**

RESULTS OF THE BEER GAME

- Performance of teams is always poor
 - Average costs are about \$2,000
 - The best possible cost is about \$200
[A factor of 10 improvement is possible!]
- Similar patterns always occur,
even though very different people play
- Our deeply embedded 'mental models' interact
with the structure of the system
 - The result is a poor outcome
 - Furthermore, it is hard to learn to do better

HOW COULD YOU REDUCE COSTS IN THE BEER GAME?

- **Improve information flows**
 - **When is this feasible?**
- **Improve forecasting**
 - **Will your forecasts be self fulfilling?**
- **Eliminate the wholesaler and distributor**
 - **What are the implications of this?**
- **Improve ordering policies**
 - **Could you be replaced by a computer?**

CONSIDER AN ANCIENT GREEK TRANSPORTED TO OUR TIME

- **Our science and technology has advanced so far as to seem like magic**
- **Our social and management structures would appear familiar**
 - **Why the lack of progress?**

LESSONS OF THE BEER GAME

- **The structure of our management processes creates their behavior**
 - **Changing the people without changing the structure doesn't improve things permanently**
- **Therefore, the highest leverage lies in redesigning the structure of a process**
- **Systems thinking is essential for effective redesign**
 - **The cause of a problem is often distant in time and space from the symptoms**
 - **Impacts of structural changes cross organizational and functional boundaries**