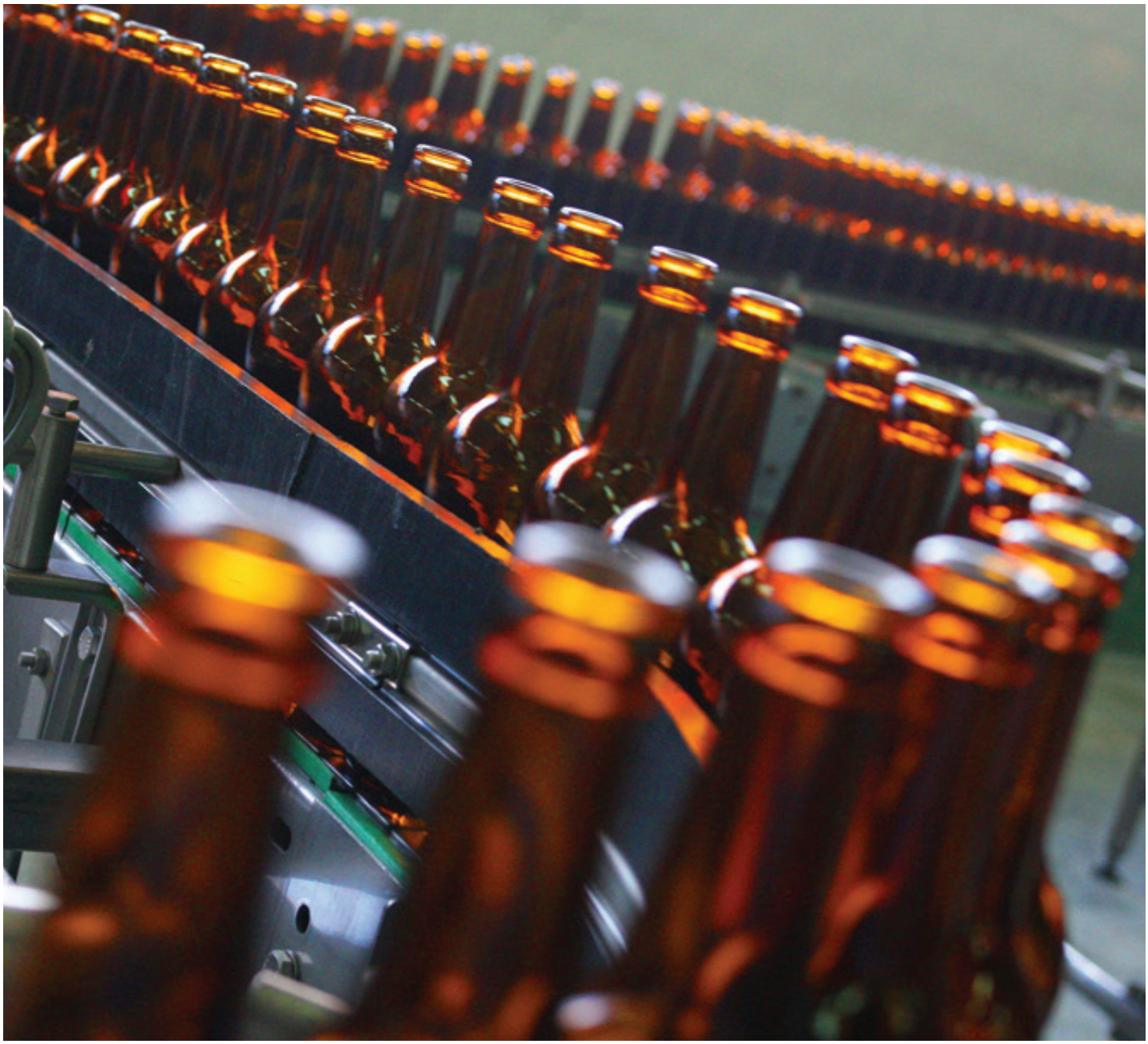
SUPPLY CHAIN MANAGEMENT SIMULATION

ROOT BEER GAME V2

FOR COURSES IN:

OPERATIONS MANAGEMENT

SUPPLY CHAIN MANAGEMENT



Harvard Business Publishing Education

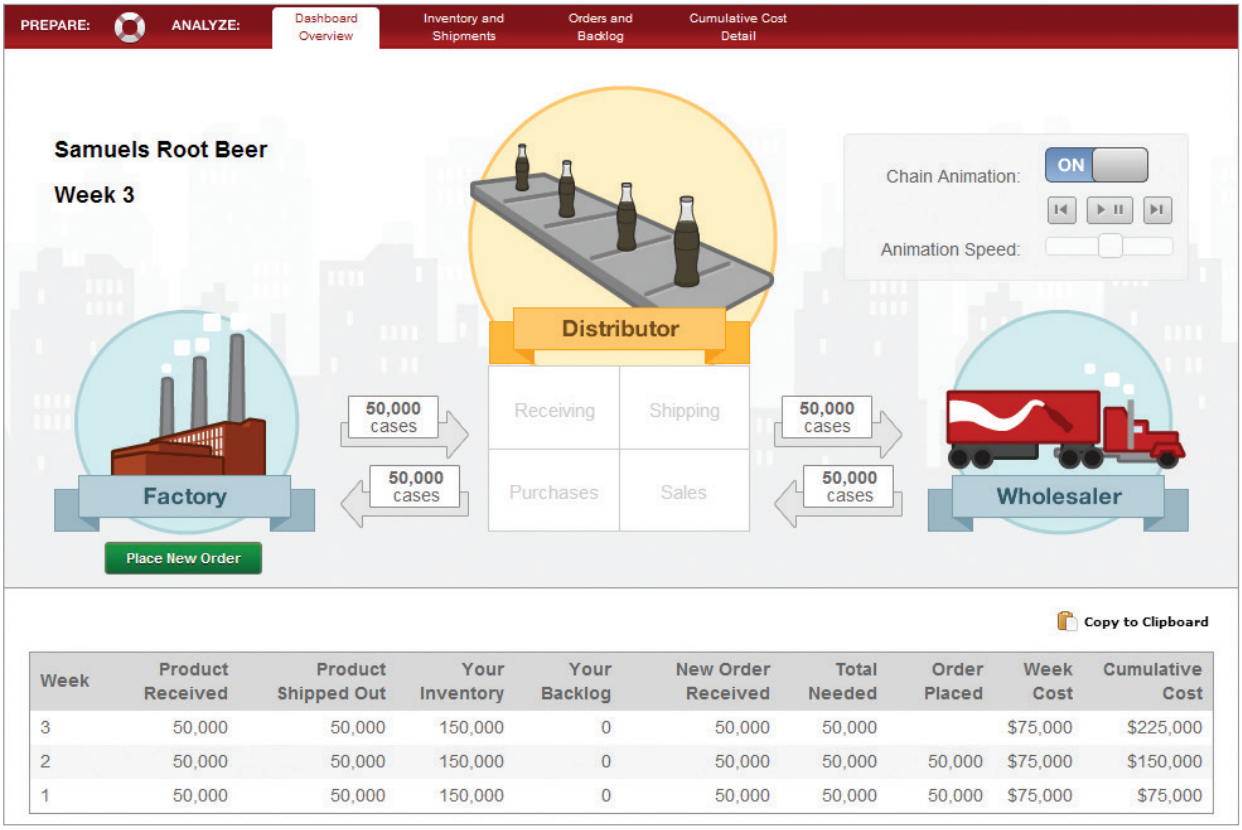
hbsp.harvard.edu

SUPPLY CHAIN MANAGEMENT SIMULATION

ROOT BEER GAME V2

The second release of this multi-player simulation retains the fast-paced challenges of the original while adding an enhanced user interface and new graphs and tools for conducting a debrief.

Each student assumes one of four roles in a root beer supply chain. Students consider how to manage inventory and prevent a backlog as they send orders to the adjacent connection in the supply chain. Limited information, a lack of demand visibility, and shipping delays rapidly contribute to excessive overstocking of inventory or extreme stock-out situations at different points in the supply chain. Students experience a dynamic known as the "bullwhip" effect as small changes in customer demand cause oscillations in ordering patterns moving across the supply chain.



Week	Product Received	Product Shipped Out	Your Inventory	Your Backlog	New Order Received	Total Needed	Order Placed	Week Cost	Cumulative Cost
3	50,000	50,000	150,000	0	50,000	50,000		$75,000	$225,000
2	50,000	50,000	150,000	0	50,000	50,000	50,000	$75,000	$150,000
1	50,000	50,000	150,000	0	50,000	50,000	50,000	$75,000	$75,000

→ **Students review inventory and backlog and place orders based on anticipated demand.**

The Root Beer Supply Chain

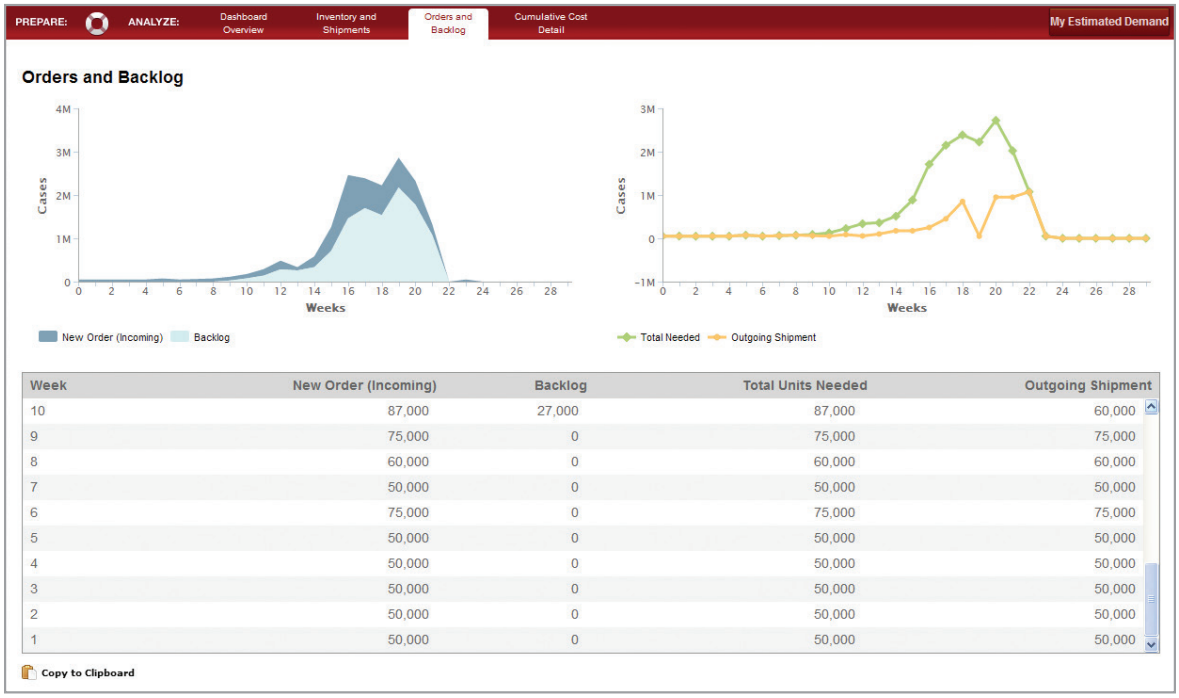
There are four roles in the root beer supply chain: factory, distributor, wholesaler, and retailer. The supply chain begins at the factory where raw materials for root beer are converted into a syrup. The syrup is shipped in cases to the distributor where the root beer is bottled. The wholesaler orders cases of root beer and sells them to the retailer. The retailer orders root beer from the wholesaler based on customer demand.

Reviewing and Placing Orders

In each simulated week, students review new orders, inventory on hand, and order backlog. A running timer forces students to review information quickly and place orders for the current week. The simulation helps students understand the dynamics of the supply chain by animating the flow of orders and products moving up and down the supply chain. Students typically play for 35 simulated weeks, and faculty can adjust the number of weeks to control how long the simulation lasts.

Estimating Customer Demand

At the conclusion of the simulation, students in the roles of the factory, distributor, and wholesaler must draw graphs to represent what they each believe actual customer demand was for the entire simulation run. The retailer always sees actual customer demand each week and does not need to complete this step. These graphs are available in the Administration Tools for faculty to display to students and show how their perceptions differ from the actual demand curve in the simulation.



Week	New Order (Incoming)	Backlog	Total Units Needed	Outgoing Shipment
10	87,000	27,000	87,000	60,000
9	75,000	0	75,000	75,000
8	60,000	0	60,000	60,000
7	50,000	0	50,000	50,000
6	75,000	0	75,000	75,000
5	50,000	0	50,000	50,000
4	50,000	0	50,000	50,000
3	50,000	0	50,000	50,000
2	50,000	0	50,000	50,000
1	50,000	0	50,000	50,000

→ **Students review inventory, previous orders, and backlog before placing new orders.**

Running the Simulation as a Single Player

The simulation includes an option for students to play as single players. The student assumes the role of the retailer and the simulation manages the other three roles. As the retailer, the student views orders from retail customers and places orders for root beer with the wholesaler. Single-player results are tracked separately from multi-player results to simplify the debrief session for each type of player.

Administration tools on next page

SUPPLY CHAIN MANAGEMENT SIMULATION

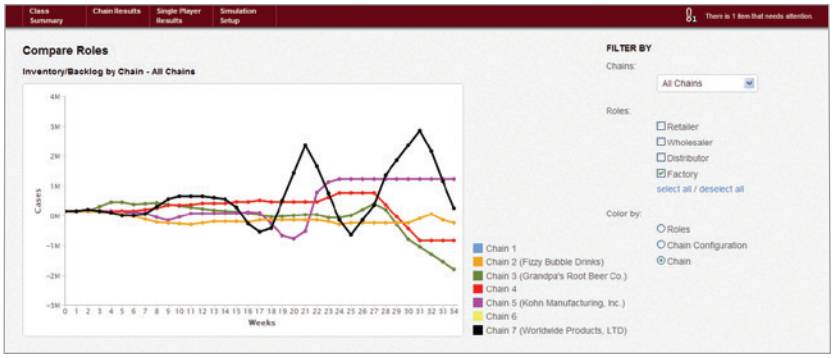
ROOT BEER GAME V2

Customer Service: 24 hours a day, 7 days a week
hbsp.harvard.edu/customerservice

Administration Options and Tools

A comprehensive Teaching Note covers key learning objectives, including:

- Understanding the "bullwhip" effect
- Understanding demand forecasting, required lead times, and the effects of batch ordering
- Exploring techniques for controlling the bullwhip effect
- Reducing uncertainty and demand variability
- Understanding the role of centralized information



→ **Detailed graphs allow faculty to compare results across roles, chains, or chain configurations for an entire class.**

PRODUCT #6619

Multi-player: 4 roles; Single-player option
Seat Time: 60 minutes

DEVELOPED IN PARTNERSHIP WITH FORIO ONLINE SIMULATIONS

Configuring Chains

Faculty can set up the simulation quickly using predefined chains or define their own configurations. For example, the "Classic Beer Game" sets the shipping delay to two weeks and hides point-of-sale information. Faculty can configure all parameters including shipping delays and the ability for students to view point-of-sale and unfilled order information.

NEW TO THIS EDITION

Design: Updated animation and navigation allow students to analyze information quickly and place orders.

Teaching Materials: Updated Teaching Note reduces the time required to learn the simulation.

Dynamic Debrief Slides: Presentation-ready debrief slides are available for instructors to download.

Setup Options: Instructors can assign any number of students as single players.

FREE TRIAL ACCESS
hbsp.harvard.edu

A Free Trial allows full access to the entire simulation and is available to registered Educators on our website.

Educator registration is a free service for faculty at degree-granting institutions and allows access to Educator Copies, Teaching Notes, Free Trials, course planning tools, and special student pricing.

NOT REGISTERED? Apply now: hbsp.harvard.edu

Harvard Business Publishing Education

100% paper FSC

Product #M11406 MC207470118