

# Lecture 3 Beergame App

## Guide for Single User

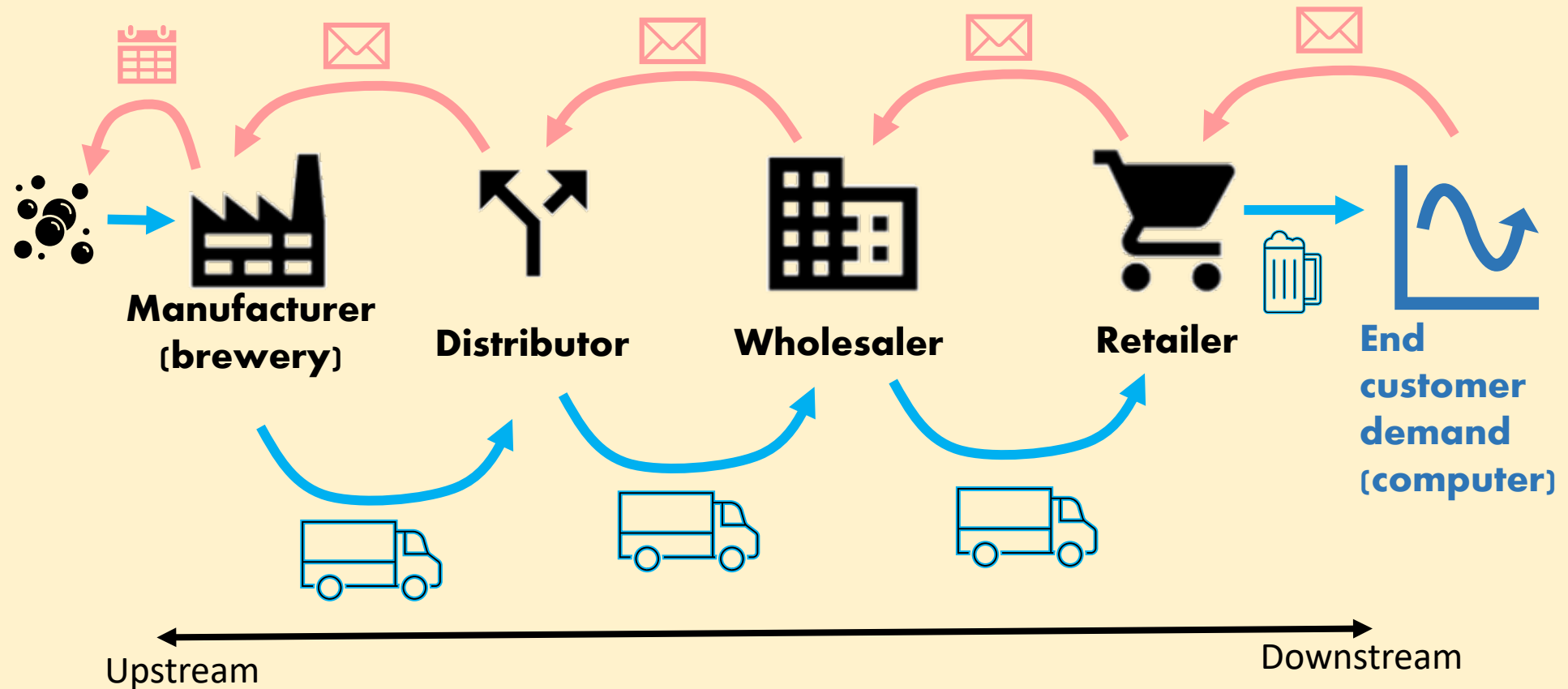
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# Beer Game background

- The beer game was devised by Massachusetts Institute of Technology (MIT) to demonstrate the problems of managing demand and SCM.
- You will be balancing:
  - How to manage demand (**being responsive**)
  - Minimizing costs (**being efficient**)

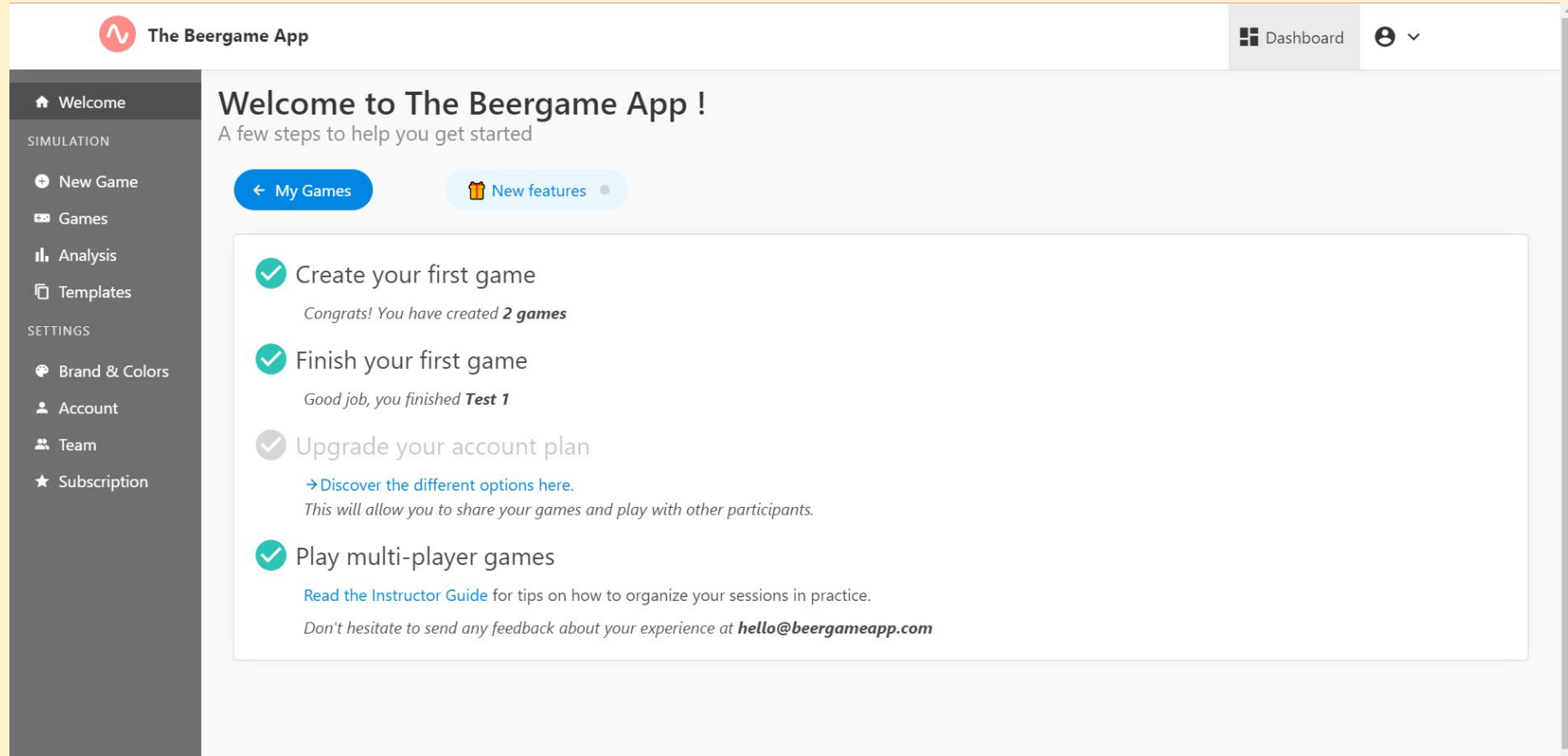
# 4 tier beer supply chain



# The information you will have: Cost and delivery time info

- Stock cost (inventory holding) = \$0.50 per case per week
- Back order costs (late to customer) = \$1 per case per week
- Delivery lead time
  - Order processing 1 week
  - Shipping delay 2 week
  - Total delay?** 3 weeks

# Welcome Screen



The screenshot shows the 'The Beergame App' interface. At the top left is the app logo and name. At the top right, there is a 'Dashboard' button and a user profile icon with a dropdown arrow. A dark sidebar on the left contains navigation options: 'Welcome', 'SIMULATION' (with sub-items: 'New Game', 'Games', 'Analysis', 'Templates'), and 'SETTINGS' (with sub-items: 'Brand & Colors', 'Account', 'Team', 'Subscription'). The main content area features a large heading 'Welcome to The Beergame App !' followed by the subtitle 'A few steps to help you get started'. Below this are two buttons: 'My Games' and 'New features'. A central white box contains a list of four tasks, each with a checkmark icon. The first two tasks are completed (green checkmarks), while the third is pending (grey checkmark) and the fourth is completed (green checkmark). Each task includes a congratulatory message and a link for more information.

**The Beergame App** Dashboard

Home Welcome

SIMULATION

- New Game
- Games
- Analysis
- Templates

SETTINGS

- Brand & Colors
- Account
- Team
- Subscription

## Welcome to The Beergame App !

A few steps to help you get started

← My Games New features

- ✓ Create your first game  
*Congrats! You have created **2 games***
- ✓ Finish your first game  
*Good job, you finished **Test 1***
- ⊖ Upgrade your account plan  
→ [Discover the different options here.](#)  
*This will allow you to share your games and play with other participants.*
- ✓ Play multi-player games  
[Read the Instructor Guide](#) for tips on how to organize your sessions in practice.  
*Don't hesitate to send any feedback about your experience at [hello@beergameapp.com](mailto:hello@beergameapp.com)*

# Create a New Game

The Beergame App

Dashboard

Create Practice 1

1. Define 2. Configure 3. Share

Maximum simultaneous games of your Free plan : 1.  
Currently active games : 0.

**Give your Game a name**

Name\* :  
Practice 1

Start from Template :  
Default Beer Game

Create several copies ?  
1

Custom Branding :  
 Keep The Beergame App default look.

Please note that with a *Free* account, your games can only be played in solo.  
It is a good way for you to discover how the app works !  
To organize multi-player sessions you'll need to **upgrade your account plan**

Next → **Click Next**

# Setup Game- use default for Practice

The screenshot displays the 'Create Practice 1' interface in 'The Beerge App'. At the top, a progress bar shows three steps: 1. Define, 2. Configure (selected), and 3. Share. Below this is the instruction: 'Review the settings and create your game below.'

The settings are organized into several sections, each with an 'Edit' button:

- General:** Number of turns: 15, Scenario Product: beer, Scenario Currency: \$, Transparent mode: Disabled, Timer duration: 1 min, Scenario Time Unit: week. Debriefing sections: Show the full debriefing.
- Supply-Chain Stages:** A flow diagram showing four stages from right to left: Manufacturer (Stock: 12pcs, Lead time: 3 weeks), Distributor (Stock: 12pcs, Lead time: 3 weeks), Wholesaler (Stock: 12pcs, Lead time: 3 weeks), and Retailer (Stock: 12pcs, Lead time: 3 weeks).
- Final Consumer Demand:** Demand applied on the Retailer: 4.4. A line graph shows demand starting at 4 for weeks 1-4, then rising to 8 for weeks 5-20.
- Messages:** Players Chat: Disabled. Includes instructions like 'Try to keep a reasonable amount of stock as it impacts your costs!', 'Watch out, you didn't have enough stock to fulfill the demand!', and 'It's time to decide a quantity and send your Order! Remember it will take some time to be delivered.'

At the bottom, there are two buttons: a 'Back' button and a 'Create Game' button, which is highlighted with a blue circle and the text 'Click Create Game'.

# Chose your Role

The screenshot shows a web interface for a game titled "Practice 1". At the top left, there is a logo and the text "Game: Practice 1". At the top right, there is a "Dashboard" link and a user profile icon. Below the header, the title "Practice 1" is displayed along with the date "May 27, 2021". A QR code and a "Settings" button are visible in the top right corner, along with status indicators for "Users 0/4" and "Week 0".

The main content area contains a flow diagram of the beer distribution network. It consists of five icons in a row: a person (Consumer), a shopping cart (Retailer), a building (Wholesaler), a truck (Distributor), and a factory (Manufacturer). Arrows point from the Retailer to the Consumer, from the Wholesaler to the Retailer, from the Distributor to the Wholesaler, and from the Manufacturer to the Distributor.

Below the diagram, the text "Play as.." is followed by a warning icon and the message: "This game was created with a **Free account** and can only be played solo. The other roles will be played by the computer." Below this message are four red buttons with icons and labels: "Retailer" (shopping cart icon), "Wholesaler" (building icon), "Distributor" (truck icon), and "Manufacturer" (factory icon). Below these buttons is the text "OR:" followed by a blue button labeled "Join a Random Position".



# Add your Name

The screenshot shows a game interface for 'Game: Practice 1' where the user is playing as a 'retailer'. A modal dialog box is open in the center, asking 'What's your player name?'. The input field contains the name 'Andre'. Below the input field are two buttons: 'Cancel' and 'OK'. The background interface is dimmed and includes a top navigation bar with 'Dashboard' and a user profile icon. Below that is a menu with 'Settings', 'Instructions', 'Messages', 'Turn Details', 'Auto-Play', 'Users 1/4', 'Orders 0/1', and 'Week 0'. A checkbox labeled 'See the game stage as a student' is checked. The main content area shows 'Week 0' with '\$0' and a 'Retailer' section with 'Add Name' and 'Stock: 12'. There is also a 'New Order' section with a quantity of '0' and an 'Order' button. At the bottom, 'Future deliveries' are listed as '+4 in 1 week' and '+4 (tbc) in 2 weeks'. A 'Statistics' section is visible at the very bottom.

# Instructions: Clarifies your role...

Game: Practice 1    Playing as: retailer    Dashboard    X

Settings    Instructions    Messages    Turn Details    Auto-Play    Users 1/4    Orders 0/1    Week 0

## Welcome Andre!

This game will teach you key supply-chain concepts, by simulating a beer distribution network.  
You'll play as **retailer**.

Consumer   ←   **Retailer**   ←   Wholesaler   ←   Distributor   ←   Manufacturer

You'll sell units to the **final consumer** (your client).  
You'll purchase units from the **wholesaler** (your supplier).  
The game is played in several turns, representing **weeks**.

× Close    Next →

● ○ ○ ○ ○

Statistics

# Instructions: Objectives of the game

Game: Practice 1    Playing as: retailer    Dashboard    Week 0

## Objective of the game

Fullfill your client's orders while keeping your **costs** to a minimum.

Your operating **Costs** will add up every week based on the number of units you have in **Stock** or **Backorder** (= late orders waiting to be fulfilled).

▲ Stock cost : \$ 0.50/unit/week  
● Backorder cost : \$ 1.00/late unit/week

You are starting with :

▲ Stock : 12 units    ● Backorder : 0 units  
▣ Cost : \$ 0

← Back    Next →

Reminder of costs

Starting position

Balancing cost with on-shelf availability

Statistics

# Instructions: Game play each “week”


Playing Screenshots for instructions video as retailer

Dashboard

## What happens each week ?

- You'll receive one of your previous purchase orders = **Incoming Delivery**,
- You'll receive an order from your client (*the final consumer*) = **Incoming Demand**,
- You'll ship available units towards your client (*the final consumer*) = **Outgoing Shipment**

The game will start with the below initial values :

  
Retailer

☑ Demand : **4 units**    🚚 Delivery : **4 units**

→ Shipment : **4 units**

If you don't have enough stock to fulfill **demand**, missing quantities will be added to your **Backorders**. They will be **shipped** to your client as soon as you receive more stock.

**New Stock** = *Previous Stock* + **Delivery received** - **Shipment sent**

Back    Next

○ ○ ● ○ ○

# Instructions: Decision making: your order

Playing Screenshots for instructions video as retailer

Dashboard

Settings

\*You are the creator of the

See the game stage a

Week 0

←

▲ Stock :

✉ Demand

New Order :

Future deliver

🚚 +4 in 1 week

✉ +XX in 2 weeks (tbc)

## Send an order

Each week you have to decide **how many units** to order from your supplier (the wholesaler).  
**Think carefully** before ordering, try to anticipate demand and monitor your stock level.

Retailer

xxx Order

🚚 +xx pcs in 1 week  
🚚 +xx pcs in 2 weeks  
...

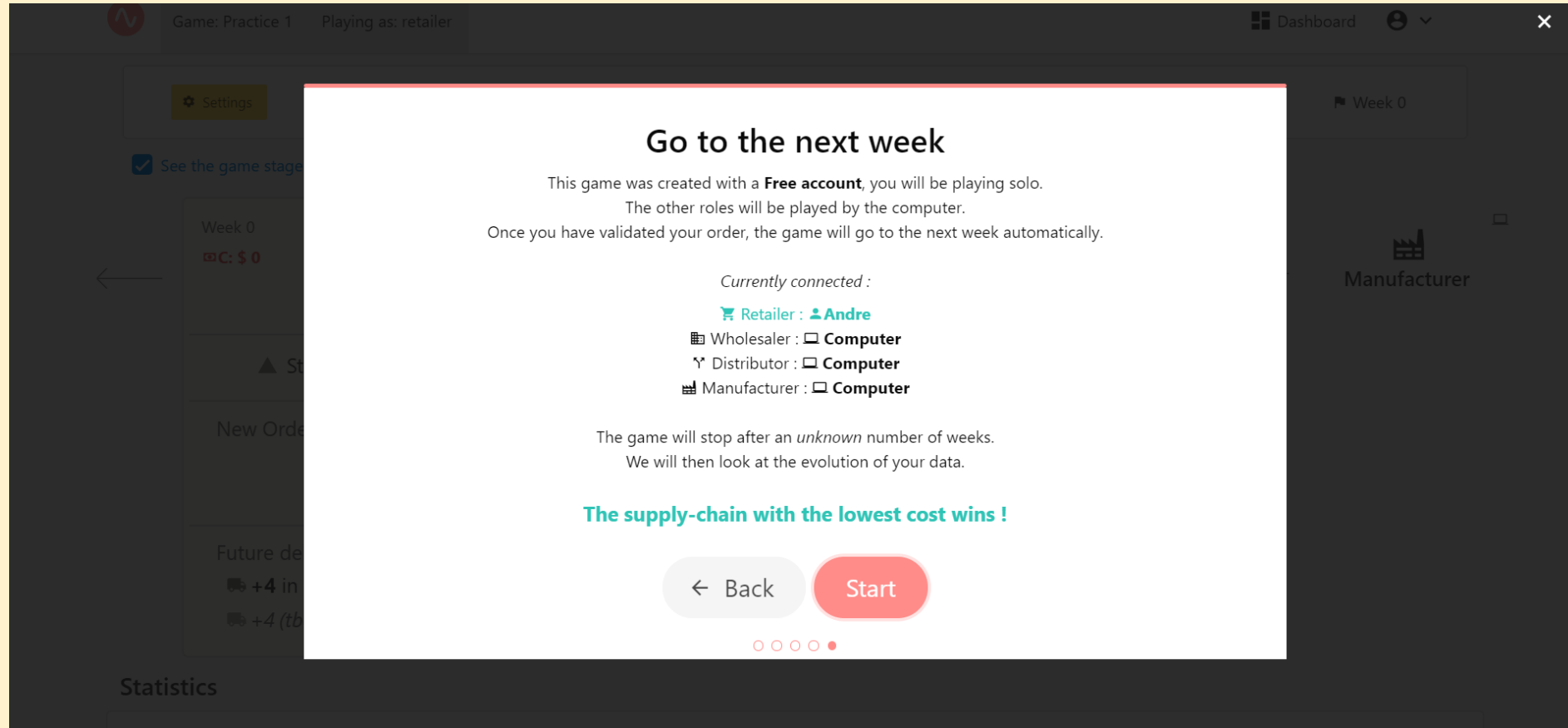
Enter the amount and press Order

Please note that your orders will only arrive in stock after **3 weeks** (= lead time).

Back Next

○ ○ ○ ● ○









# Instructions: Go to the next week



The screenshot shows a game interface with a dark theme. At the top, it says "Game: Practice 1" and "Playing as: retailer". There are icons for "Settings", "Dashboard", and a close button. The main content area is partially obscured by a white dialog box. The dialog box has the title "Go to the next week" and contains the following text:

This game was created with a **Free account**, you will be playing solo.  
The other roles will be played by the computer.  
Once you have validated your order, the game will go to the next week automatically.

Currently connected :

-  Retailer :  **Andre**
-  Wholesaler :  **Computer**
-  Distributor :  **Computer**
-  Manufacturer :  **Computer**

The game will stop after an *unknown* number of weeks.  
We will then look at the evolution of your data.

**The supply-chain with the lowest cost wins !**

At the bottom of the dialog box, there are two buttons: "Back" (with a left arrow) and "Start" (in a red rounded rectangle). Below the buttons are five small circles, with the last one on the right being filled red.

In the background, the game interface shows "Week 0" with a currency icon and "\$ 0". There is a "Manufacturer" section with a factory icon. The "Statistics" section is partially visible at the bottom left.

# Transaction Screen- Week 0

The screenshot shows a game interface with a dark theme. At the top, it says 'Game: Practice 1' and 'Playing as: retailer'. A 'Dashboard' button is visible in the top right. A central white modal window displays the following information:

**New Turn - Week 0 :**  
Transactions for the retailer

- ▲ Stock : **12** → **12**
- 🕒 Backorder : **0** → **0**
- 📺 Cost : **\$ 0**

Below these are three transaction entries:

- 🚚 Inc. Receipt : **+4** *received from the Wholesaler*
- ✉ Inc. Demand : **-4** *ordered by the end consumer*
- ✓ You ship : **4** *to the end consumer* ⓘ

At the bottom of the modal, there are two buttons: 'Close' (with an 'X' icon) and 'Show automatically at each turn' (with a checked checkbox).

The background interface includes a 'Settings' button, a 'See the game stage' checkbox, and a 'Manufacturer' section with a bar chart icon. The word 'Statistics' is visible at the bottom left.

# Game screen- Make an Order

Game: Practice 1 Playing as: retailer

Dashboard

Settings Instructions Messages Turn Details Auto-Play Users 1/4 Orders 0/1 Week 0

See the game stage as a student

Week 0  
C: \$ 0

Retailer  
Andre

▲ Stock : 12 ⌚ Backorder : 0

New Order ? :  
➔ 0 Order

Future deliveries :  
🚚 +4 in 1 week  
🚚 +4 (tbc) in 2 weeks ?

Statistics

Metrics : Unselect all  Stock  Backorder  Order  Demand  Cost  Receipt  Shipment

Make your order



# Transaction Window After Every order

The screenshot shows a game interface with a central modal window titled "New Turn - Week 0 → 1: Transactions for the retailer". The background interface includes a top bar with "Game: Practice 1" and "Playing as: retailer", a "Dashboard" button, and a "Manufacturer" icon. The modal window contains the following information:

- Stock:** 12 → 12 (indicated by an upward triangle icon)
- Backorder:** 0 → 0 (indicated by a clock icon)
- Cost:** \$ 0 → \$ 6 (indicated by a document icon)
- Inc. Receipt:** +4 received from the Wholesaler (indicated by a truck icon)
- Inc. Demand:** -4 ordered by the end consumer (indicated by an envelope icon)
- You ship:** 4 to the end consumer (indicated by a checkmark icon)

At the bottom of the modal, there are two buttons: "Close" and "Show automatically at each turn" (which is checked).

Below the modal, the "Statistics" section is visible, showing a "Metrics" row with a "Unselect all" button and checkboxes for Stock, Backorder, Order, Demand, Cost, Receipt, and Shipment, all of which are currently checked.

# Explore the data

Game: Practice 1 Playing as: retailer

Dashboard

Settings Instructions Messages Turn Details Auto-Play Users 1/4 Orders 0/1 Week 3

See the game stage as a student

Week 3  
C: \$18

Retailer  
Andre

▲ Stock : 12      ⌚ Backorder : 0

New Order ⓘ :

➡ 4      Order

Future deliveries :

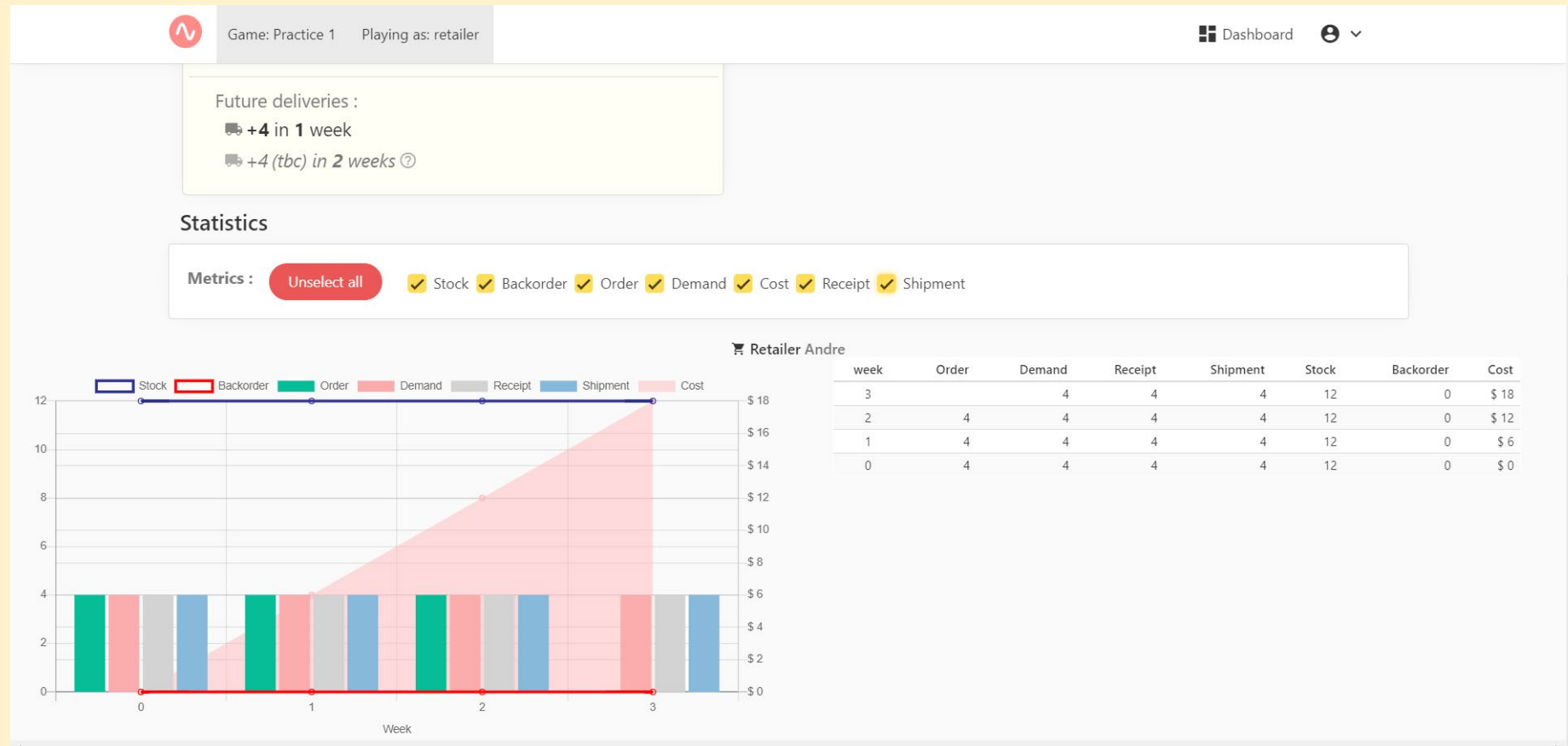
🚚 +4 in 1 week  
🚚 +4 (tbc) in 2 weeks ⓘ

Statistics

Metrics :    Unselect all     Stock  Backorder  Order  Demand  Cost  Receipt  Shipment

Scroll down for the data

# Customize Charts



# Download Debriefing

The screenshot shows a web interface for a game debriefing. At the top, there is a navigation bar with a logo, the text 'Game: Test 1', a 'Dashboard' link, and a user profile icon. Below the navigation bar, the main content area is titled 'Test 1' with a date 'May 27, 2021' and a status 'This Game is finished.' To the right of the title, there is a QR code, a 'Settings' button, and a 'Week 15' indicator. The 'Debriefing' section contains a thank you message and an explanation of the game's focus on supply chain analysis. Below this, there are two buttons: 'Download as pdf' and 'Download data (excel)'. The 'Global Results' section provides a summary of the game's performance, including total cost, average total stock, weeks with backorders, and retailer missed sales. At the bottom, there is a legend for a chart showing 'Game Total' with categories for Stock, Backorder, Order, and Cost.

Game: Test 1

Dashboard

## Test 1

May 27, 2021 ✓ This Game is finished.

QR Code Settings Week 15

### Debriefing

👋 Thanks for playing !

In large distribution networks it isn't easy to make supply meet demand. During this session you may have felt frustrated as other players weren't able to deliver, or ordered too much. The most important part of this game is to analyse the mechanisms behind those difficulties, and how we can overcome them.

[Download as pdf](#) [Download data \(excel\)](#)

### Global Results

At each stage, a performant supply-chain :

- Shouldn't have too many backorders - they drive penalties and lost sales.
- Shouldn't have too much stock - this increases storage costs, immobilized assets and obsolescence risk.

In this simulation our main focus is to keep **the sum of both costs** as low as possible.

<b>\$ 287</b> Total Cost	<b>32 units</b> Average Total Stock	<b>7/15 weeks</b> With backorders	<b>2/ 108</b> Retailer Missed Sales
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See below the evolution of your supply-chain throughout the game, all stages combined.

Game Total

Legend: Stock (blue), Backorder (red), Order (green), Cost (pink)

## Discussion

- What difficulties arose?
- Did you need any more information?
- What was the actual variance in end customer demand?
- What would you do differently next time?
- What strategy would be best?