Visualization of the Food Supply Chain

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Group Members

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Overview

- Project Description and Objectives

- Recommended Visualizations and Dashboard Implementations
  - *Visualizations modified to use random data*
- Lessons Learned

Project Description

The purpose of this project is to utilize data provided by CSCS to develop visualizations that could provide actionable insight into the status of their food supply network for the IHOP and Applebee's restaurant brands.

Objectives:

- Research data visualization methods, and available tools

- Explore data from CSCS and determine which visualizations to develop

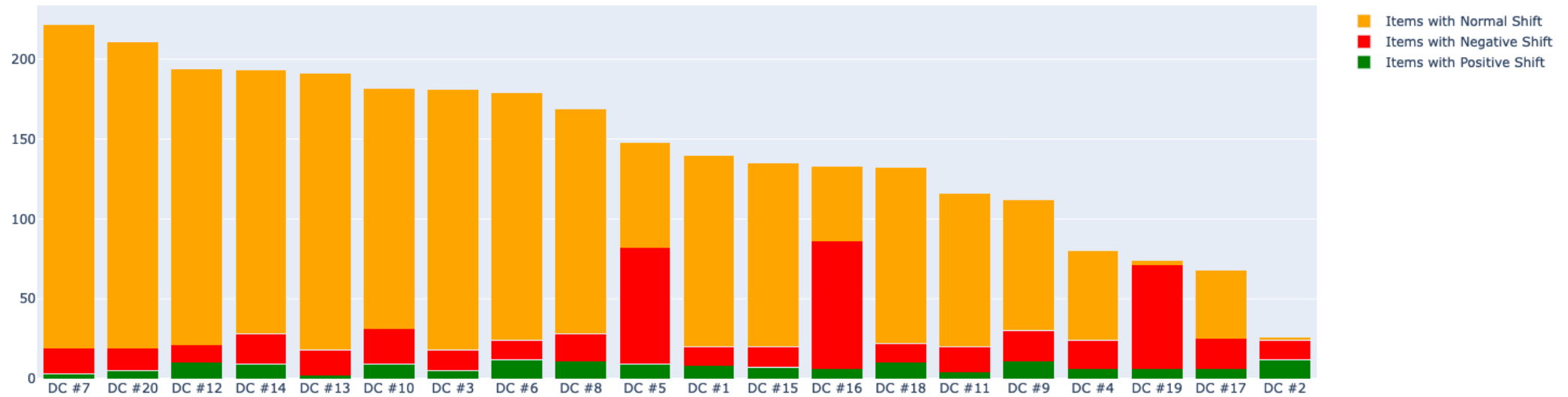- Implement visualizations and create a dashboard

Recommended Visualizations

Visualizing Shift in Sales

Goal: To **highlight** Distribution Centers that had many items with a significant increase or decrease in sales

Data: We use sales data from the most recent week and compare it to the average sales in the previous weeks for an item
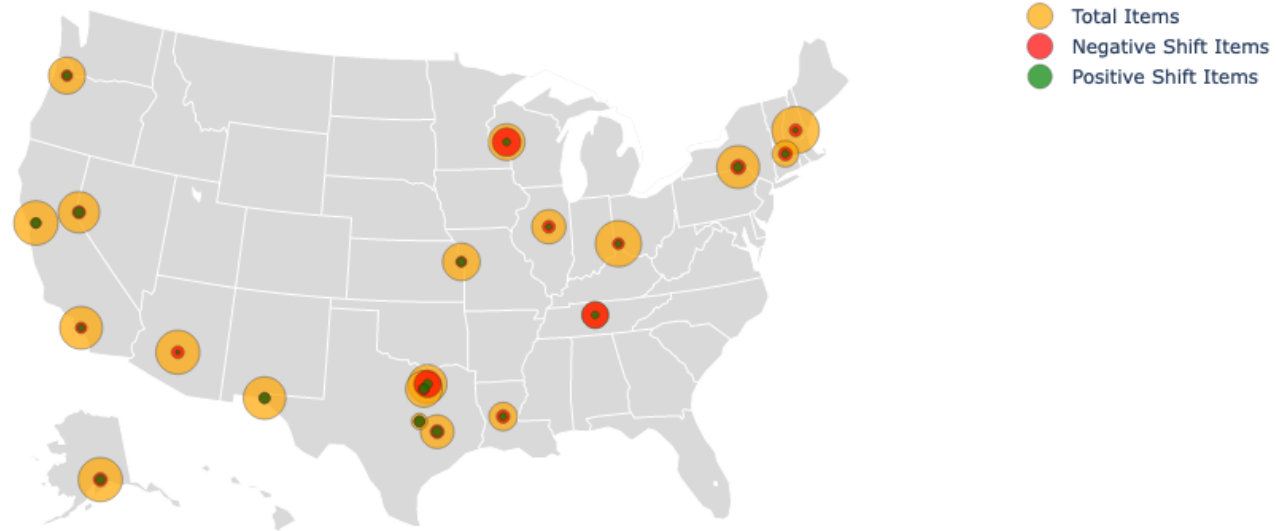
Visualization: We visualize the data using a *stacked bar plot* and a *bubble map*

Overall View of Sales

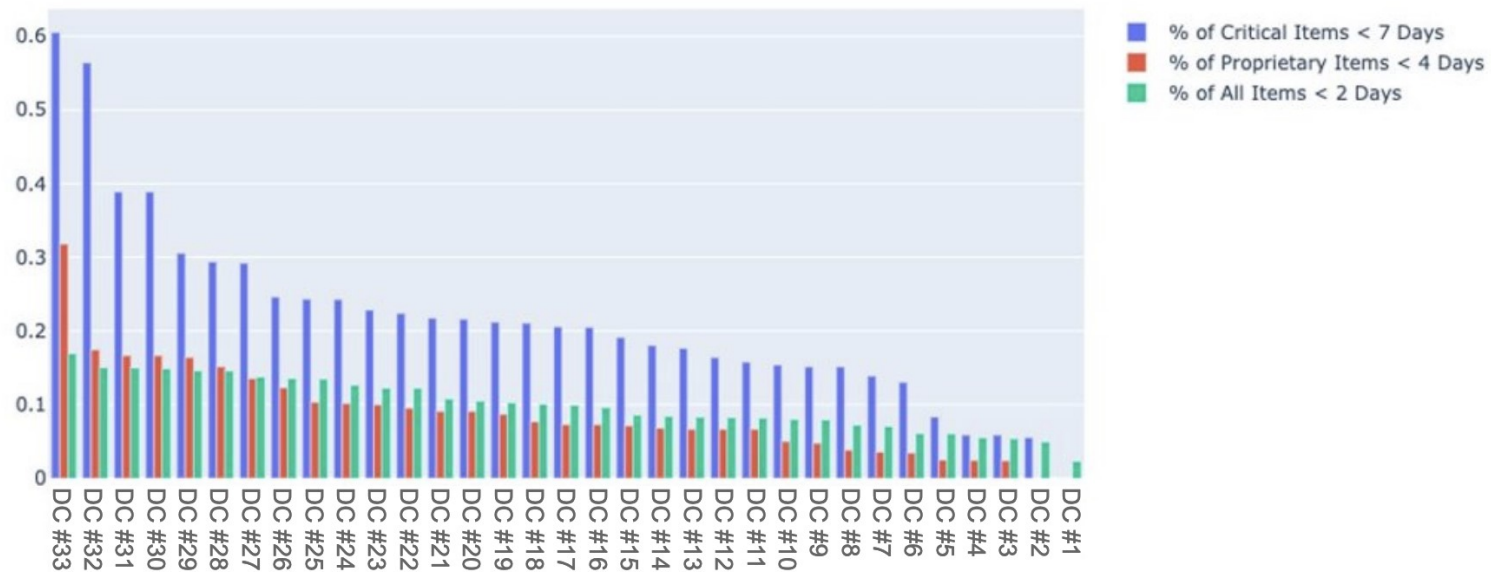Number of Items with a Shift in Sales per DC

Overall View of Sales

Visualizing DC Potential Shorts

Goal: Visualizing the shortage percentages of the expected days on hand of inventory items

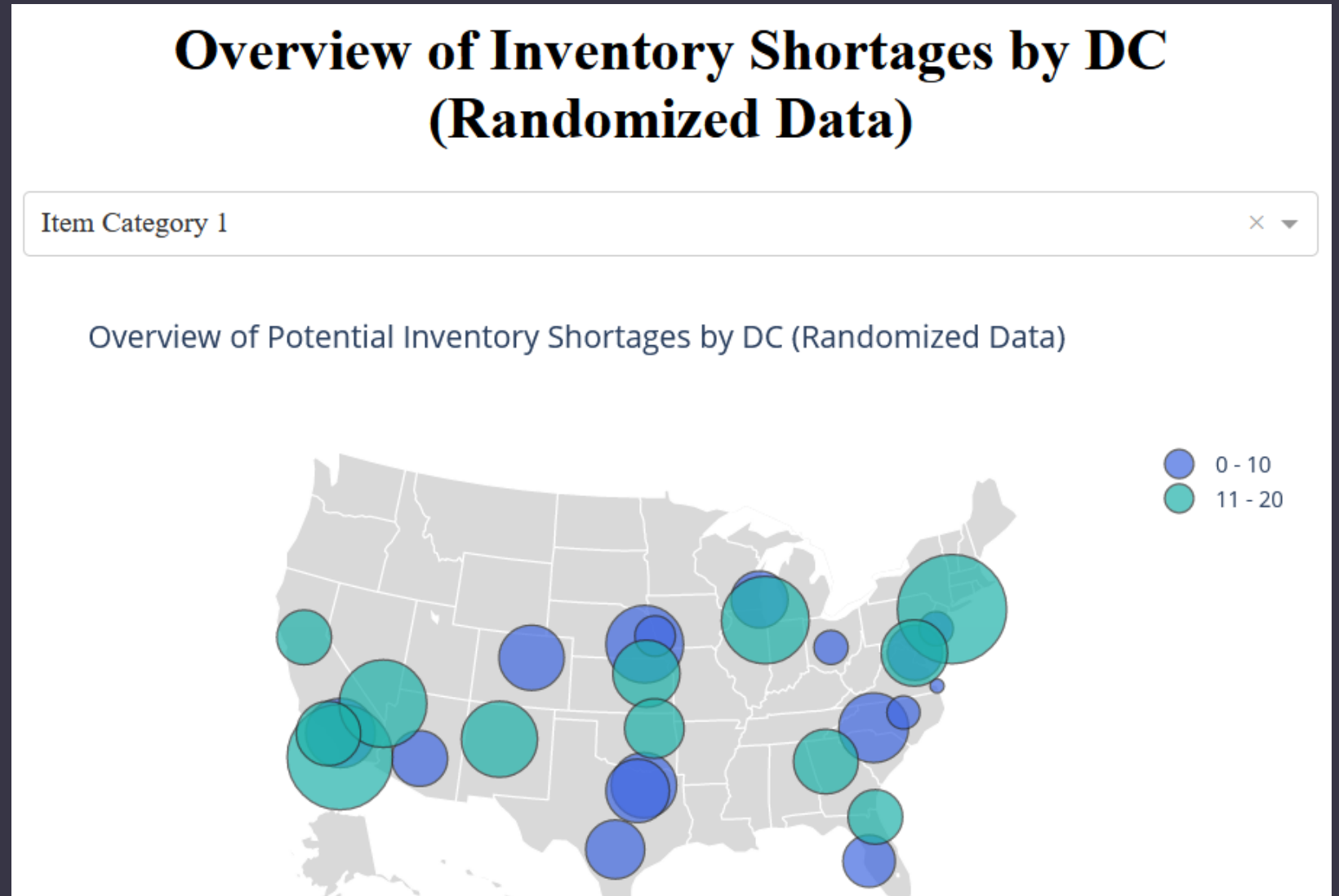Data: We use DC potential shorts data from their system

Visualization: We visualize the data using a *bar plot* and a *bubble map*

Overview of Shortage Percentages by DC

Shortage Percentage by DC

▪ An overview of the size of shortage percentages by each DC, colored by different levels

Overview of Inventory Shortages by DC (Randomized Data)

| Item Category 1 | × ▼ |

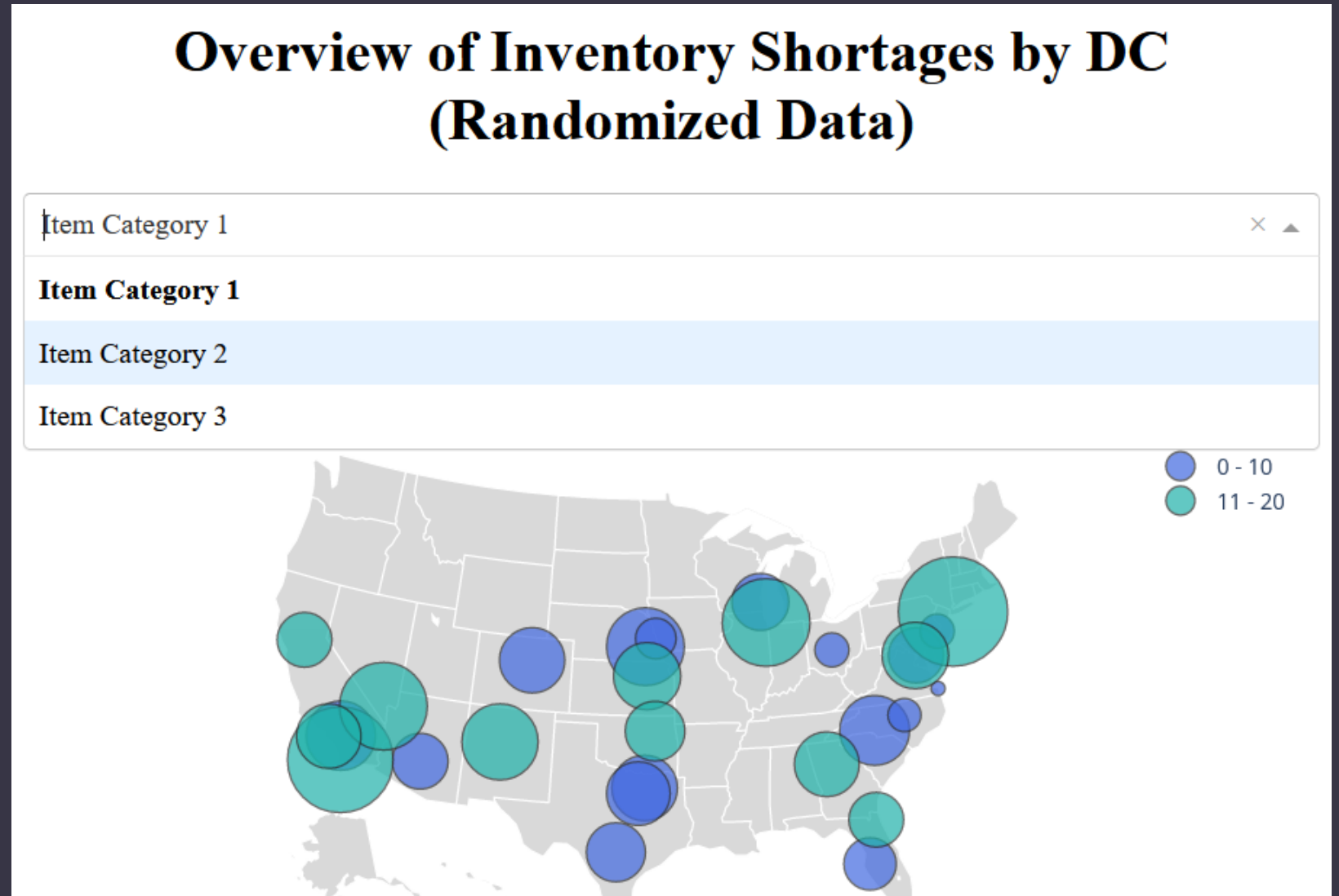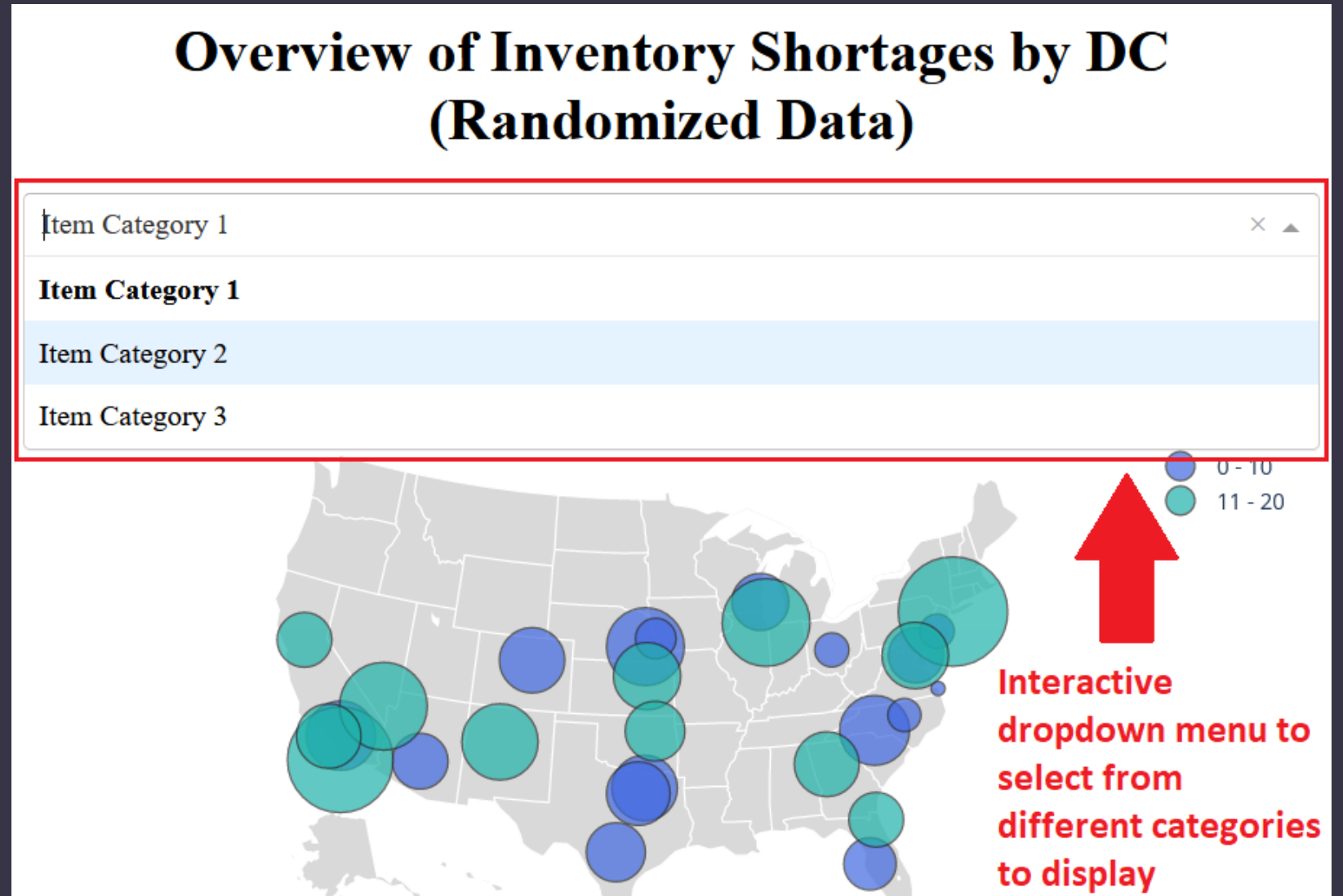Overview of Potential Inventory Shortages by DC (Randomized Data)

○ 0 - 10
○ 11 - 20

Shortage Percentage by DC

- An overview of the size of shortage percentages by each DC, colored by different levels

Overview of Inventory Shortages by DC (Randomized Data)

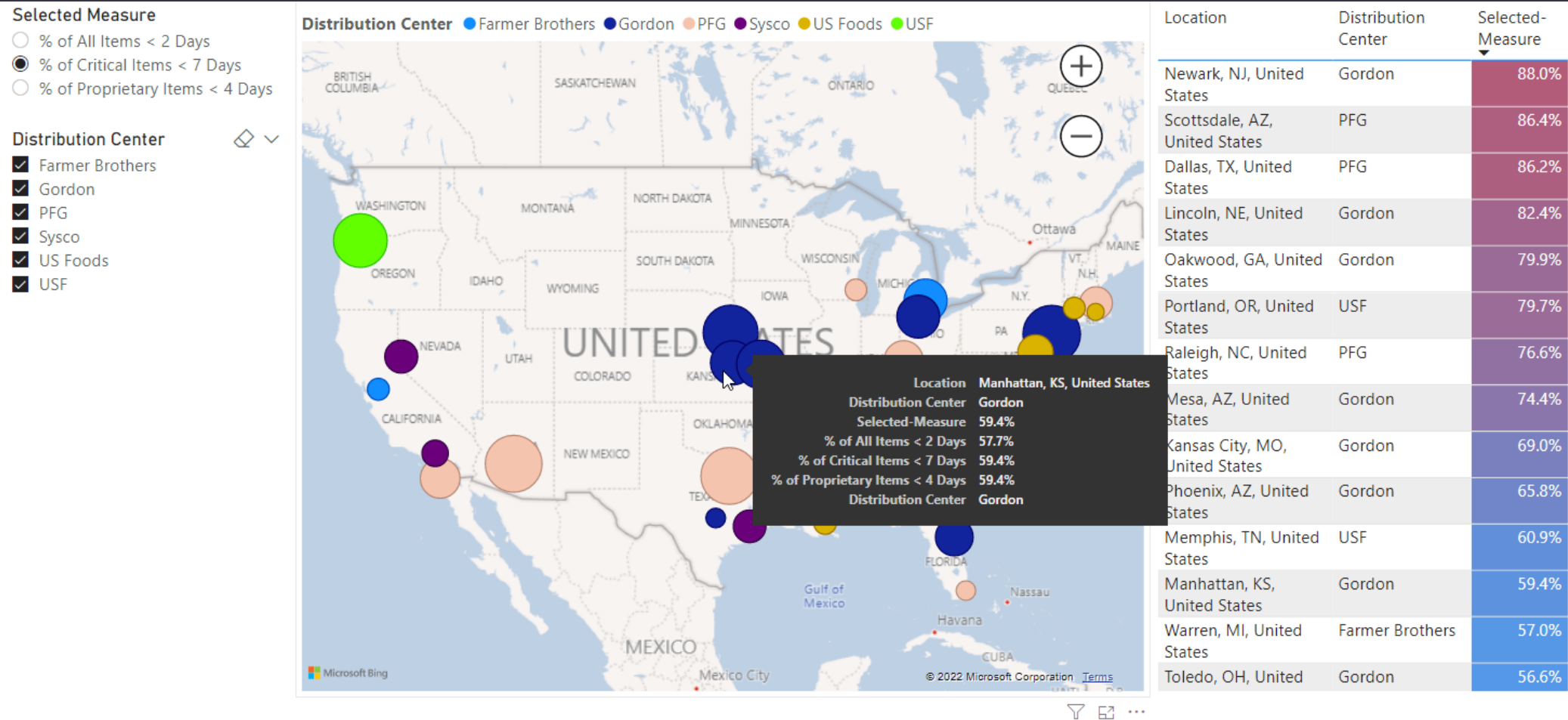| Item Category 1	✕ ▲
Item Category 1	
Item Category 2	
Item Category 3	

- 0 - 10
- 11 - 20

Shortage Percentage by DC

An overview of the size of shortage percentages by each DC, colored by different levels

Overview of Inventory Shortages by DC (Randomized Data)

Item Category 1

Item Category 1
Item Category 2
Item Category 3

0 - 10
11 - 20

Interactive dropdown menu to select from different categories to display

DC Potential Shorts using Power BI

Accomplishments

Delivered data visualizations that provide more insight into CSCS's supply chain operations:

- The data contained valuable insights, but those were not always clear in tabular form
- Data plotted on a map can add significant information
- Using bubble map plots provides unique insight:
- Interactive visualizations allow users to filter and select data relevant to their needs

What we learned

- Data analytics from start to finish:
  - Identified business question
  - Explored data to identify reports that could tell a story that answers that question
  - Researched tools and implemented visualizations
  - Refined work with feedback from client meetings

- Project Management:
  - Working with client to define objectives, develop strategies, and deliver results
  - TEAMWORK IS IMPORTANT!

Thank you!

QUESTIONS?