

Supply Chain Planning

- **Introduction**
- **Class format and protocols**
- **Intent and learning goals**
- **Overview**
- **Requirements and expectations**

Class Format and Protocols

- **Part of SMA program in manufacturing; 5th year**
- **At MIT: 15.762, ESD.267J, 1.273J (H1)
15.763, ESD.268J,1.274J (H2)**
- **Web access for MIT students**
- **Use mike's to talk, sit around the camera**
- **Remove trash at end of class**
- **Public Supply-Chain Seminar on Friday**

Intent and learning goals

- **Develop your understanding of supply chain phenomena and challenges**
- **Develop your modeling skills and tool kit, applicable to supply chain planning**
- **Learn tactics, concepts and counter-measures for supply chain improvement**

Approach

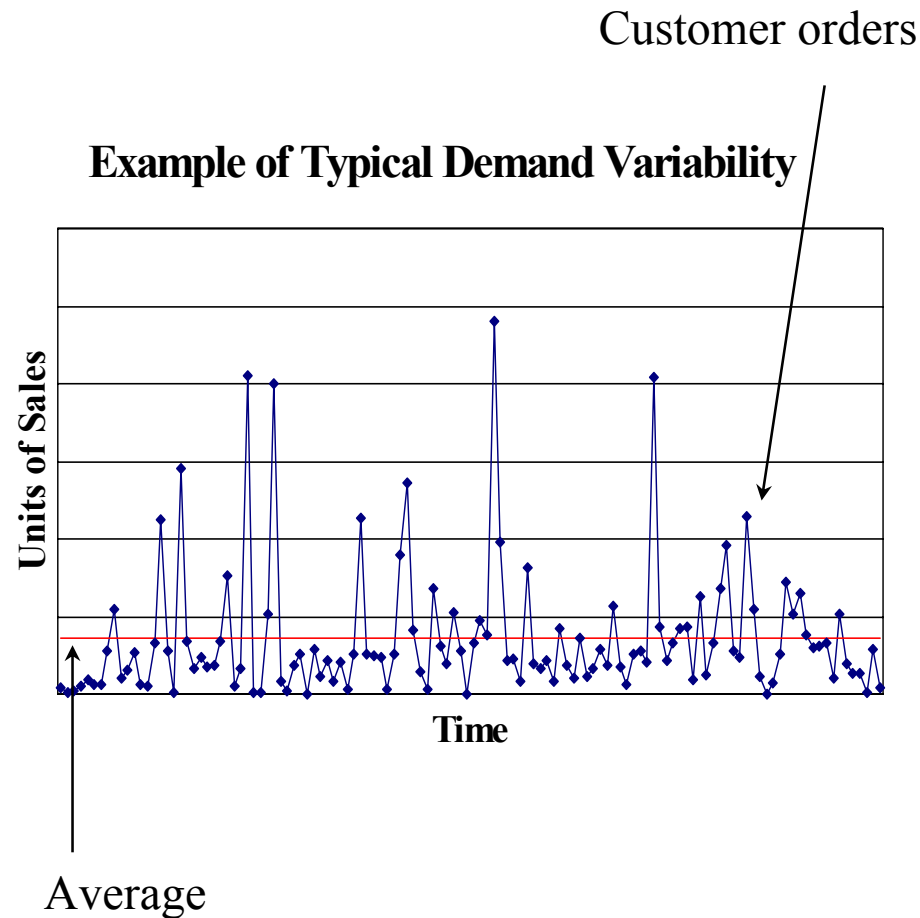
- **Models, frameworks and general principles for supply-chain conceptualization: how to think about supply chain challenges?**
- **Specific tools and software: how to develop a solution plan?**
- **Cases and applications: how to apply in practice?**

Overview

- **Primary challenge: given uncertainty and constraints, how to design and plan a supply chain to meet certain goals?**
- **Types of uncertainty and constraints will vary with context**
- **Applicable counter-measures and tactics will vary with context**

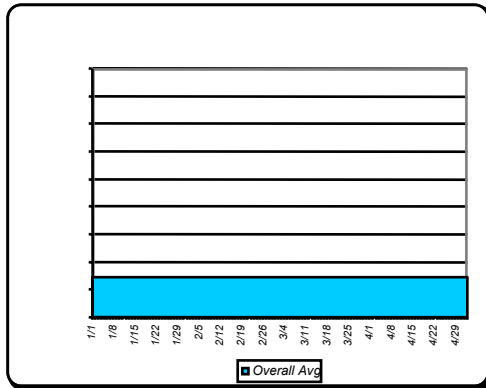
Demand Variability

- Volume variability
- Mix variability
- Seasonal variability
- Time sensitive product

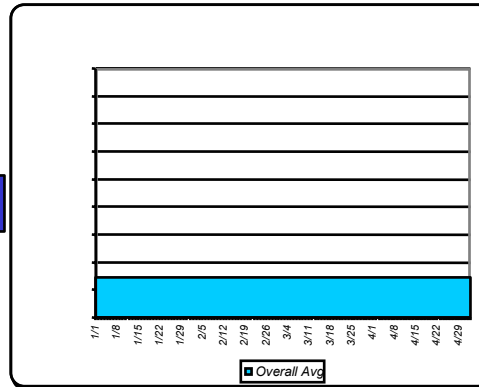


Leveling the signal

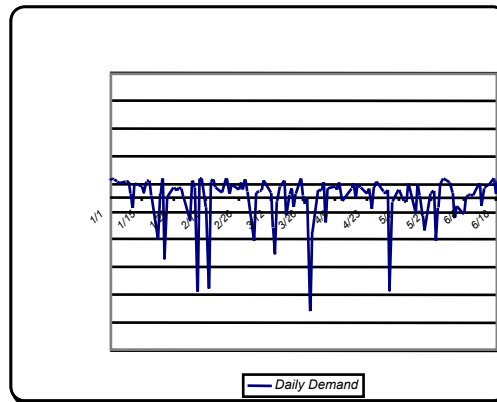
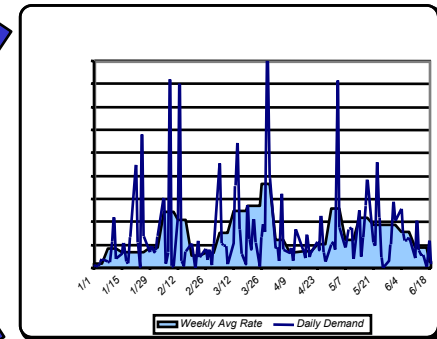
Cascade Level
Demand Upstream



Manufacturing



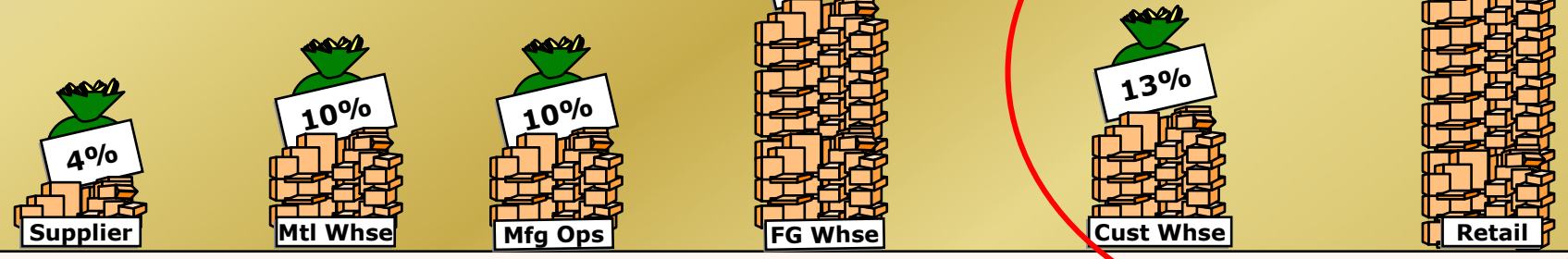
Finished Goods



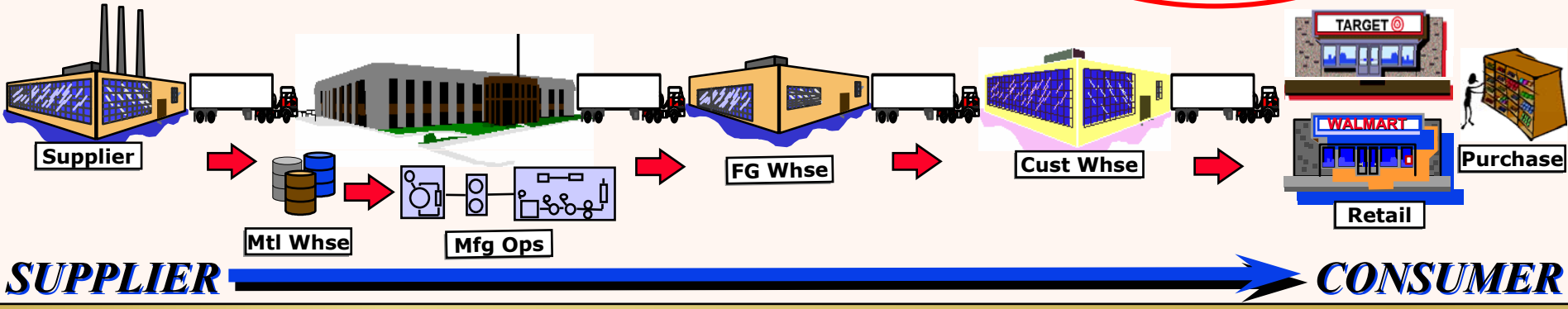
Inventory Buffer for Variation

The Cosmetics Supply Chain

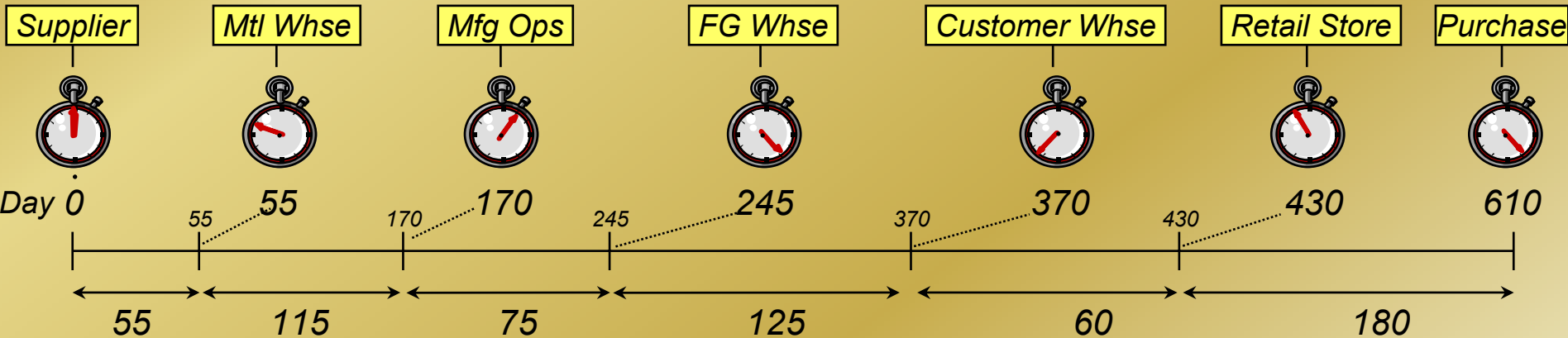
The Inventory



The Chain



The Time Total = 610 days



Requirements and Expectations

- **Come to class prepared**
- **Group assignments: four case write-ups & two computer prep's/problem set**
- **Group size: 3-4 students, ideally from a mix of programs**
- **Your feedback**
- **Syllabus**