

Week 1: Introduction

What is the Supply Chain ?

MIS 3537: Internet & Supply Chains

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Introductions

Post as comments on the blog

- **Name** (Include name you prefer to be called)
- **Major / Minor**
- Recent Internships / Industry Experience
- Include at least **one (1) Supply Chain you've dealt with and in what Role** (e.g. customer, ___)

What Do You Expect to Learn in this Class?

- _____
- _____
- _____
- _____
- _____
- _____

Have you ever wondered ...

- How successful companies differentiate
 - What is the reason behind WalMart's "Everyday Low Prices"?
 - How can Amazon sell so many things at such competitive prices?
- Economics of supplying digital products
 - Who will become the dominant player in the video streaming market?
 - Who are the suppliers to Apple?

Have you ever wondered ...

- Is outsourcing always good?
 - What are the challenges to outsourcing other than cost vs benefits?
- How to globalize?
 - How to compete in a global world?
 - Is your innovation process global?

..... and many more!

What this course is about?

- Competing with supply chains @ Internet speed
 - Supply Chain Basics
 - Impact of IT
 - Supply Chain Innovations driven by IT
 - New supply chain business models
 - Ethics and ‘green’ supply chains



Practical Relevance of Course

- MIS Majors
 - IT use is critical to supply chain management success
 - Career Opportunities
- Non MIS majors
 - Supply Chains often key to LT business success
 - Today's Supply chains rely on IT Systems
 - IT drivers of:
 - Cost cutting
 - Innovation / New markets

Course formalities

Blog: <http://community.mis.temple.edu/mis3537sec001s2019/>

Syllabus

Office Hours

Lecture slides

Group Work / Case Studies

Evaluations

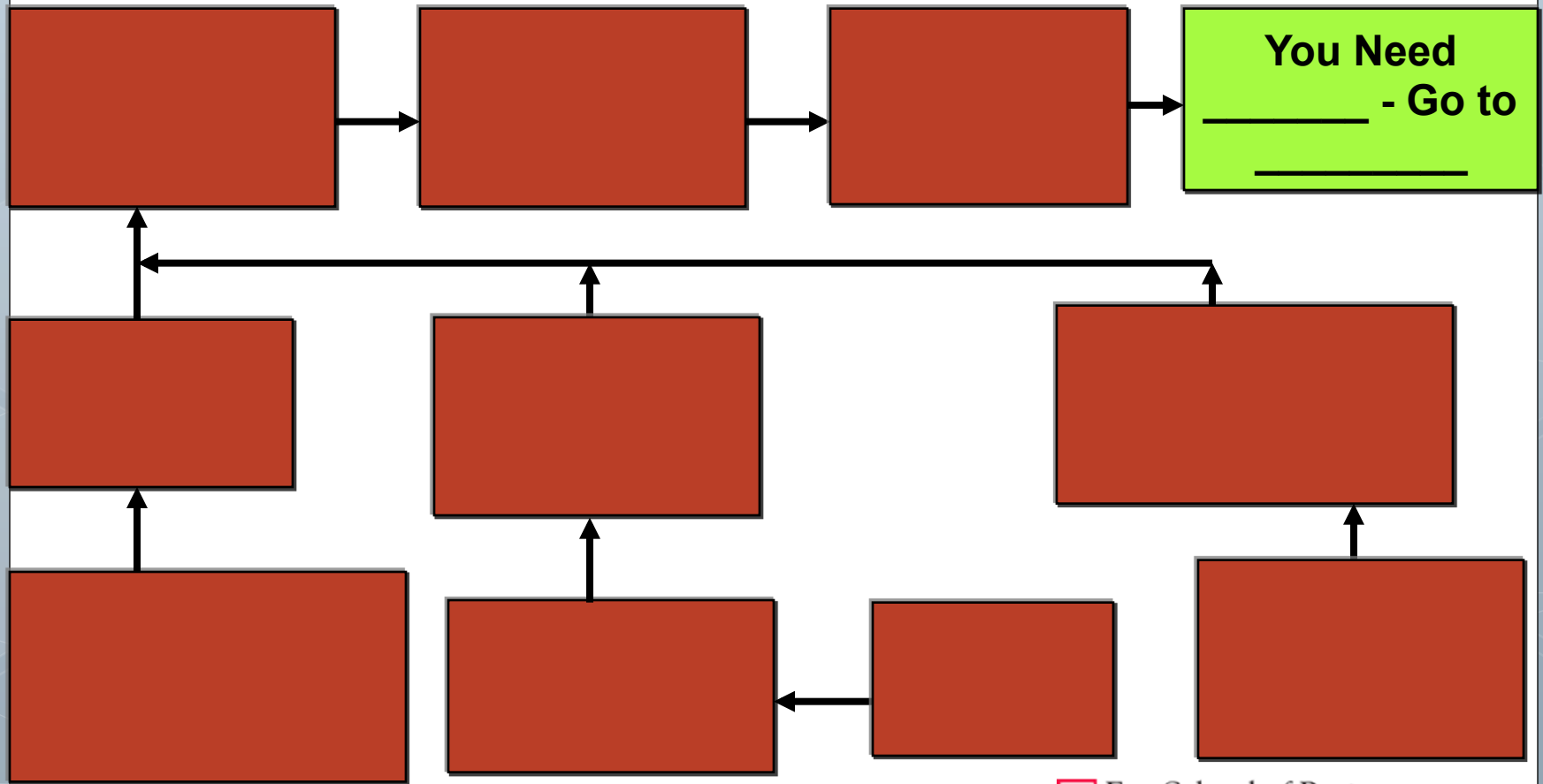
Class Participation

What is the Supply Chain ?

- Key concepts in supply chains
- Trends in supply chain



What is a Supply Chain?





You Experience Supply Chains

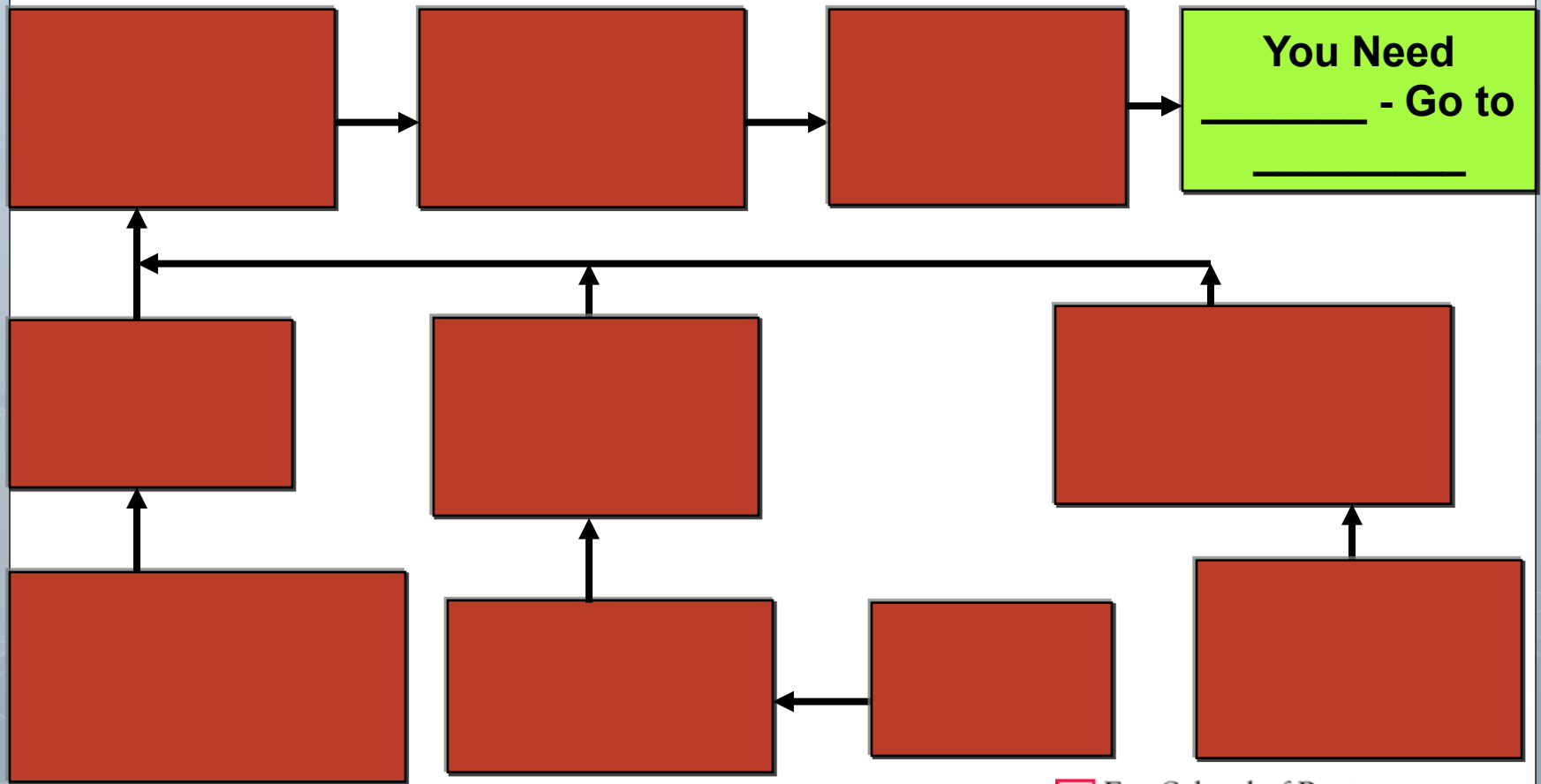
You need _____ go to _____

You bought _____ from _____

You need _____ go to _____

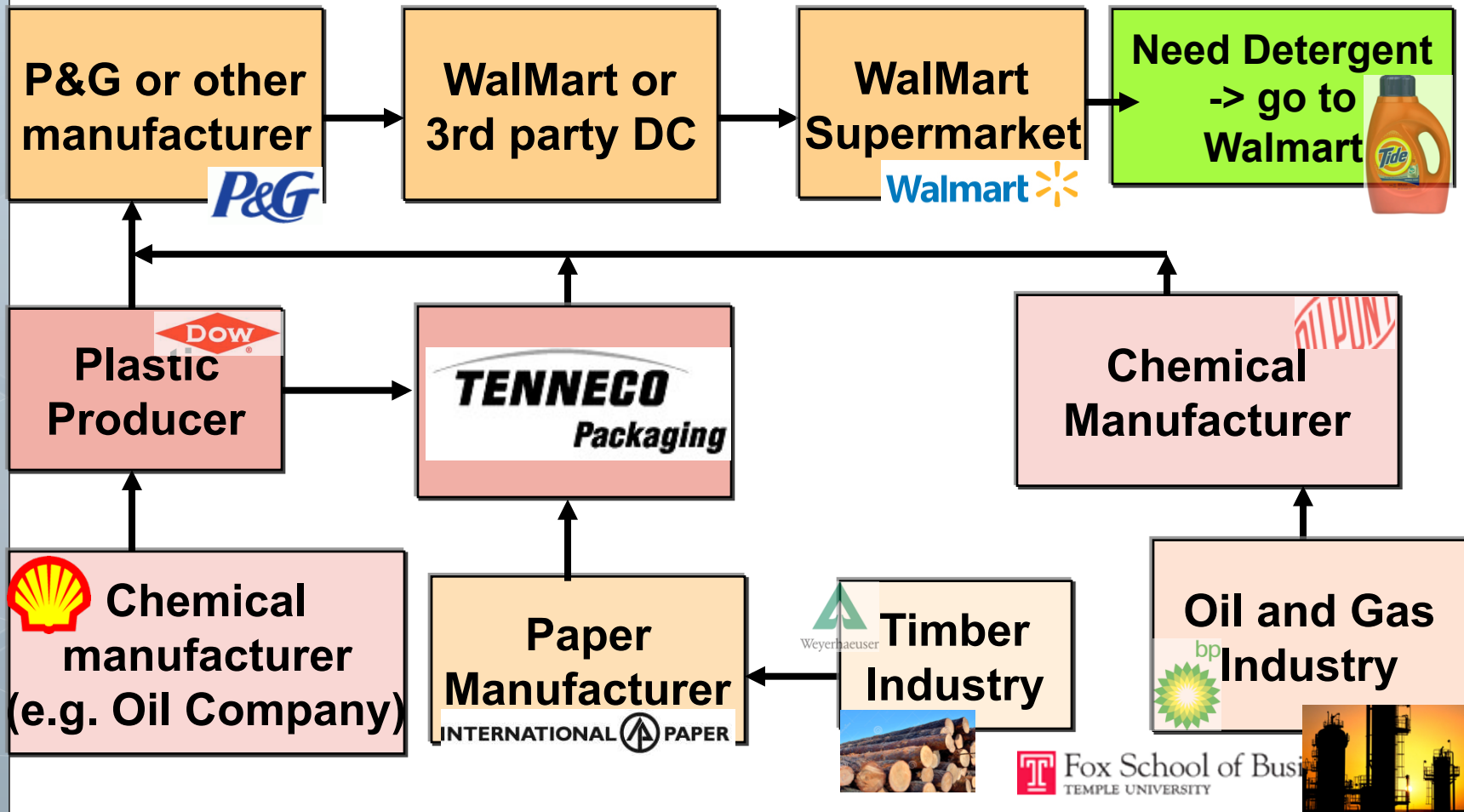


What is a Supply Chain?

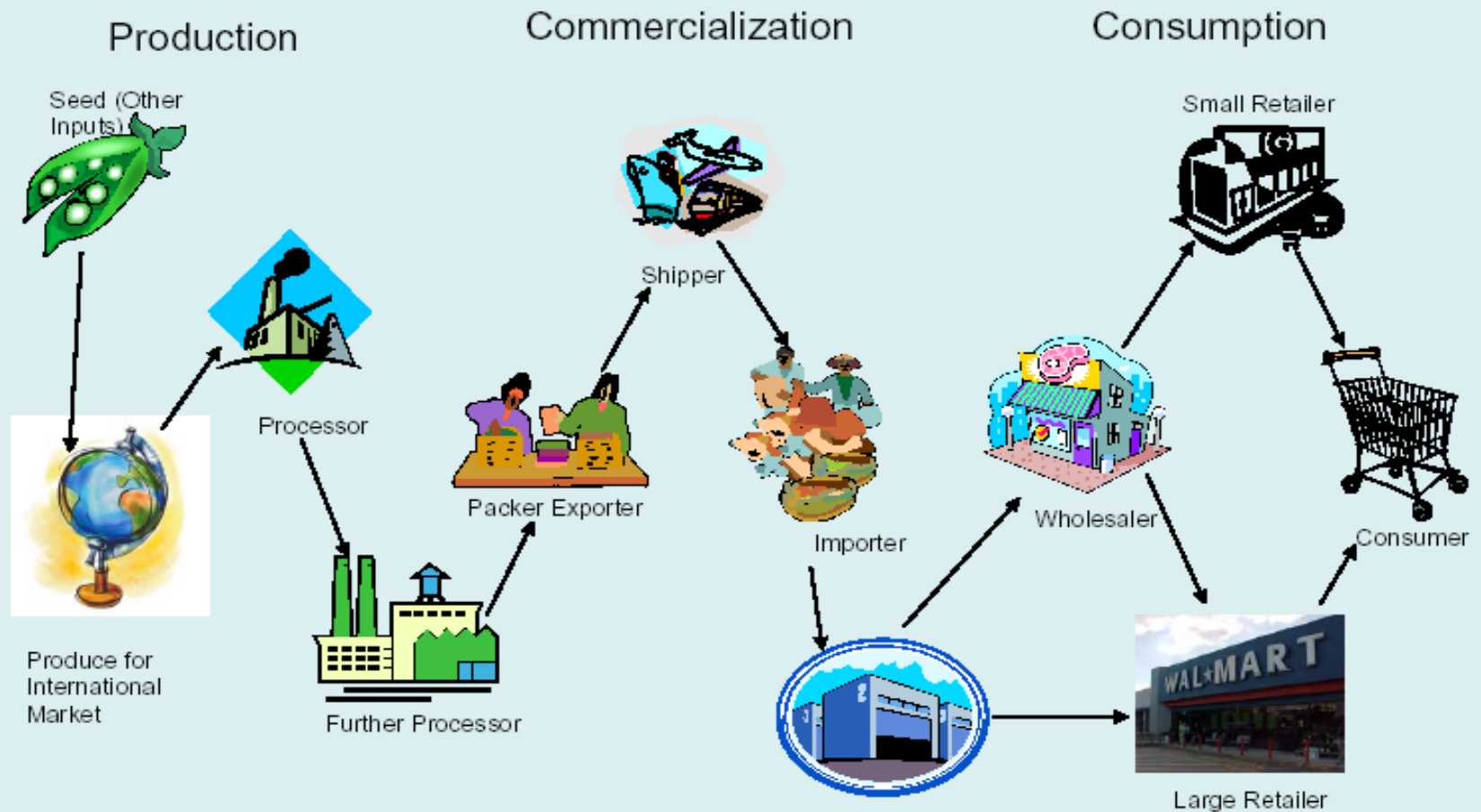




What is a Supply Chain?



Typical Agricultural Supply Chain



What is a supply chain?

- Also known as a “logistics network”
- Consists of
 - Suppliers
 - Manufacturing centers
 - Raw materials
 - Work-in-process inventory
 - Finished products
 - Warehouses
 - Distribution centers
 - Retail Outlets
 - Logistics, Transportation
 - Service Centers
 - ...

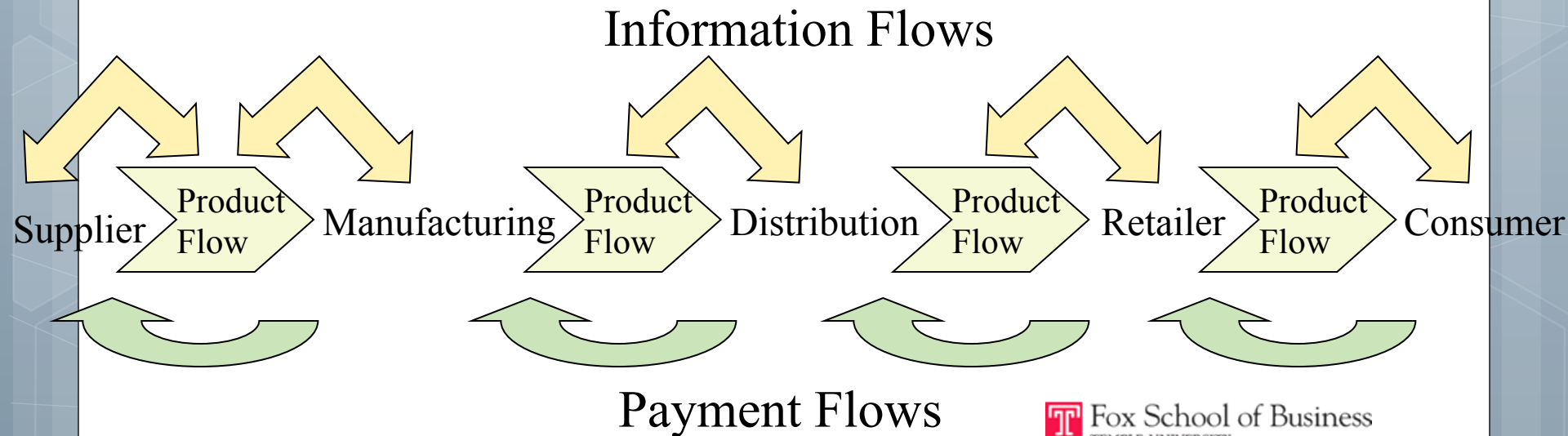
What constitutes a supply chain?

- Flow of materials (Physical flow)
- Financial Flow (\$\$, ownership, ...)
- Flow of information
- IT's Role
 - Information - Critical
 - Financial / Payment – Key Enabling Technology
 - Physical – Increasingly embedded

Concept of Supply Chain

Complex network of relationships that organisations maintain with trading partners to source, manufacture and deliver their products

- Includes physical, information and financial flows



What constitutes a supply chain?

- Information Technology in a supply chain
 - Hardware
 - Networking
 - Communications / Extranets / VPN
 - Software / Applications
 - Processes
 - Embedded in:
 - Product
 - Tools
 - Supply Chain Components (warehouses, trucks, ...)



Supply Chain Management

- A set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores
- Goals
 - To produce and distribute merchandise at **right quantities**, to the **right locations** at the **right time**
 - **Minimize system-wide costs** (lowest total cost) while satisfying system-level requirements



Supply Chain Management

- Decisions about the structure of the supply chain and what processes each stage will perform
- Strategic supply chain decisions
 - Locations and capacities of facilities
 - Products to be made or stored at various locations
 - Modes of transportation
 - Information systems
- Supply chain design must support strategic Business objectives
- Supply chain design decisions are often long-term and expensive to reverse – must take into account Risks (e.g. market uncertainty)

Typical Supply Chain activities

- Forecasting
- Production Planning
- Inventory Management
- Sourcing and Procurement
- Warehousing
- Distribution
- Payments

Knowledge Check

- Form groups of 4-5 students and explain the following terms in the context of supply chains
 - Cycle Time
 - Process & Capacity Planning
 - Sourcing
 - Contract Manufacturing
 - Inventory Policies
 - Vendor Managed Inventory
 - Distribution Network
 - Transportation
 - Lead Time
 - Lot Sizing
 - Incentive Alignment
 - Revenue Management
 - Demand Forecasting
 - Smart Contracts
 - Push vs. Pull Supply Chains



Learning Objectives

- Key concepts in supply chains
- Trends in supply chain

Factors driving supply chain

- Information technology
- **Global** suppliers / customers / competition
 - Companies are born global
- Shorter product cycles / **Clocks**peed
- **Customized** products
- Need for **collaboration**
- **Competition** < -- > **Transformation**



Trends in Supply Chains

- Supply Chain Virtualization
- Blockchain
- Share the Supply Chain
- Supply Chain Security
- Global Information Technology Standards
- Increased Social Awareness
 - Sustainability
 - Product safety





Shifts in Supply Chain Management

- **Shift 1: From Cross-Functional Integration to Cross-Enterprise**

- *Old question:* how do we get the various functional areas of our company to work together to supply product to immediate customers?
- *New question:* how to record and activities across companies, as well as across internal functions, to supply product to the market?



- **Shift 2: From Physical Efficiency to Market Mediation.**

- *Old question:* how do we minimize the costs our company incurs in production and distribution of our products?
- *New question:* how do we minimize the cost of matching supply and demand while continuing to reduce the costs of production and distribution?

- **Shift 3: From Supply Focus to Demand Focus.**

- *Old question:* how can we improve the way we supply product in order to match supply and demand better, given the demand pattern?
- *New question:* how can we get earlier demand information or affect the demand pattern to match supply and demand?

Demand or Supply
Prioritization?





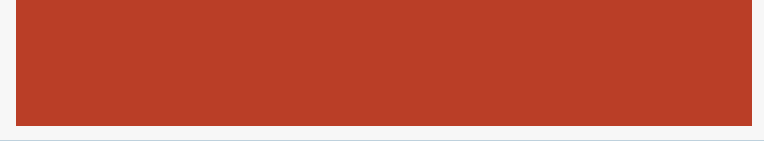
in Supply Chain agement

- **Shift 4: From single company, product design to collaborative, concurrent product, process and supply chain design**
 - *Old question:* how should our company design products to minimize product cost (our cost of materials, production, and distribution)?
 - *New question:* how should collaborators design the product, process, and supply chain to minimize cost?
- **Shift 5: From cost reduction to breakthrough business models.**
 - *Old question:* how can we reduce our company's production and distribution costs?
 - *New question:* what new supply chain and marketing approach would lead to a breakthrough in customer value?
- **Shift 6: From mass-market supply to tailored offerings.**
 - *Old question:* how should we organize our company's operations to serve the mass-market efficiently while offering customized product?
 - *New question:* how should we organize a supply chain to serve each customer or segment uniquely and provide a tailored customer experience?



Demand or Supply
Prioritization?





Next week...

- Crocs case



- **How Does the Internet Affect the Supply Chain?**



Homework...

- Form **10** Case Groups (6 students each)
 - Diversity is prized (major, experience, ...)
- Start following the Blog and Posting
 - Group Assignment this week requiring Post
 - Individual comments on Readings
- Readings
- Crocs Case Preparation