Agenda:

1. New Year Resolutions

2. What is a Supply Chain?

3. About the course: Syllabus, Operations,...

4. Supply Chain Basics
   - Stages in an SC
   - Processes
   - Flows

5. Objectives of SCM

6. Project
   - Teams
   - Context
   - Relation to TIM 105/205
   & other courses
New Year Resolutions for 2014

1. Work harder & in a more timely fashion

2. Work with honesty & integrity

3. Build up serious Excel skills
   - Spreadsheets
   - Excel as a computational tool
   - Excel as a programming environment (Visual Basic)

4. Build up serious analytical skills
   - Forecasting
   - Uncertainty analysis
   - Optimization
What is a Supply Chain?

Example: Assume that you want to buy laundry detergent

- Customer needs detergent
- Walmart, Safeway, etc.
- Retailer
- Distributor
- Manufacturer (Procter & Gamble)
- Plastic suppliers
- Packaging suppliers
- Chemical suppliers

Flow of product (supply)
Supply Chain Basics

Purpose of a Supply Chain: Supply high-quality product to the customer on-time, and at the lowest possible cost (price).

Objective of SC Management is to maximize the profitability of the entire supply chain.

It's no longer about Company A "vs" Company B (TIM105/205) but about A's supply chain "vs" B's supply chain.

Read the Apple article on the TIM125/225 website.
Supply chain profitability $\Delta$

(Revenue from the customer) - (all the costs incurred in the SC)

Goal: maximize SC profitability (aka SC surplus)

Stages in a SC:

(Suppliers) — [Manufacturer] — [Distributors] — [Retailers] — [Customers]

(See laundry detergent example above)
Processes in a Supply-Chain

(a) Cycle-View

Cycles occur between 2 neighbouring stages

(b) Push-pull view

Cycles can be push or pull
Pull $\Rightarrow$ cycle is initiated by a request ("pull") from the customer.

Push $\Rightarrow$ cycle is initiated in anticipation of customer demand.

Example: **DELL** : **BUILD-TO-ORDER**

```
Suppliers  --------  DELL (Manufacturer)  --------  Customer
               ^                          ^
               |                          |
             Push-pull boundary
             |

PUSH $\Leftrightarrow$ PULL
```

**Pull-cycle**: Dell initiates a customer order cycle based on a customer request.

**Push-cycle**: Dell also stocks supplies for making PCs in anticipation of customer demand.
Flows in a Supply Chain

- Product (supply) flow
- Cash flow
- Information flow

```
(upstream)
```
```
   Information

"Stage"  "Stage"
  <----  <----
    Cash    Cash
```
```
  <----  <----
    Product  Product
(downstream)
```
Project Proposal:

due on 1/15/14

1. Propose 'something'

   - describe your product

   - what you are going to do with this product during this quarter

2. Project plan
   including roles & responsibilities

3. Supply chain network for your product.
   - Dissect your product
   - Develop the supply chain (as in the laundry detergent example)

4. Reflective analysis of your team project work from last quarter.