Supply Chain Disruptions, their financial and human impact

- Peanut Corporation of America
- Toyota Recall
- BP Oil Spill
- Chinese Toys Recall
Background

• Supply Chain Disruptions

The seeming rise in *number* and *intensity* of disruptions – Why?

• A more complicated world
  – Product proliferations and supply network growth

• A more dependent world
  – Globalization and outsourcing to suppliers

• A more connected world
  – Fast communication technology, better logistics and transport
Peanut Corporation of America (PCA)

- **Product Recall**
  - The most extensive food recall ever in US history.
  - It involved at least 361 companies and 3,913 different products manufactured using PCA ingredients. Example of product brands affected are: SunRidge Farms, Trail’s End, Reser’s, Trader Joe’s, Walmart, Whole Foods, Keebler and Little Debbie.

- **Cause of Disruption:**
  - Outbreak of Salmonella from peanut butter, peanut paste, and peanut meal produced by the Peanut Corporation of America (PCA) at its Blakely, Georgia processing plant.

- **Human Casualty:**
  - In late 2008 and early 2009, nine people died and at least 691 people in 46 states, half of them children, fell ill due to food poisoning from eating products containing peanuts, according to CDC).
  - The real numbers were believed to be much higher, since for every reported case of salmonella, another 38 cases go unreported.

- **Financial Cost**
  - Peanut Corporation of America filed for Chapter 7 bankruptcy liquidation in 2009
  - 41 civil lawsuits have been filed while the federal criminal investigation continues.

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Toyota Sudden Acceleration Recall

- **Sudden acceleration in Toyota vehicles**
  - Product Impact:
  - 8.1 million vehicles recalled
  - $1 Billion settlement

- **Cause of Disruption:**
  - Possibly electronics made by suppliers
  - Possibly gas pedal supplier (CTS in USA, Denso in Japan)

- **Human Casualty:**
  - 34 deaths since 2000
  - Through Feb 2010 total of 1,120 complaints
    - alleging 34 crashes and six injuries

- **Financial Cost**
  - $1 Billion settlement with the Federal Government
  - Cash payments from a pool of about $250 million to eligible customers

- **Other Damages:**
  - Hundreds of lawsuits have been filed against Toyota since 2009

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2010 Deepwater Horizon oil spill

The disruption:
Major oil spill from semi-submersible exploratory offshore drilling rig *Deepwater Horizon in the Gulf of Mexico.*

What happened? Supplier-Customer miscommunication:
BP well was deeper than the 18,000 feet depth reported. BP failed to communicate that additional depth to Halliburton crews, who, poured in too small a cement cap for the additional pressure caused by the extra depth.

Environmental Cost:
An estimated 4.9 million barrels of oil was spilled
1.8 million US gallons of Corexit dispersant was applied.

Financial Cost:
- Company estimates it will pay $7.8bn to 100,000 people and businesses

Human Impact:
Over 40% of the population living within ten miles of the coast had experienced
One in five households has seen their income decrease
Over one-quarter of coastal residents think they may have to move
One-third of parents reported that children to have experienced either physical symptoms or mental health distress as a consequence.
Displaced businesses (fishermen, boating and tourism) in the order of
Mattel - Toy Recall

What happened:
A subcontractor, Hong Li Der, hired by Mattel’s contractor in China, Early Light Industrial, used lead paint in making the toys. This took the frontline news for several product recalls related to Mattel’s toys manufactured overseas.

Financial Cost
$30 Million
- 4% decline in U.S. gross sales, compared to 11% increase the previous year

Human Cost:
- Following 170 reports of loose magnets on Polly Pocket play sets, the CPSC recalled over 2.4 million of Mattel’s Polly Pocket play sets in the U.S.
- In at least three of the reported cases, children had swallowed magnets and suffered serious intestinal perforations requiring surgery and hospitalization.
- Tragically, one of the co-owners of Lee Der Industrial committed suicide shortly after the recall announcement
Superstorm Sandy

What happened:
The largest Atlantic hurricane on record (as measured by diameter, with winds spanning 1,100 miles (1,800 km)).

Financial Cost
$63 billion (estimated), the second-costliest Atlantic hurricane.

Human Cost:
Fatalities: 131 in USA, 253 total across the Caribbean and Canada. Over 4.8 million people without power in 15 states (2 Million in NJ). 346,000 homes damaged /destroyed in New Jersey.

Social, Business and Supply Chain Impact
13,000+ flights canceled across the U.S. on Oct. 29; 3,500+ on Oct. 30. (19,729 cancelled thru Nov 1).
New Jersey Transit shut down in its entirety.
NY Stock Exchange and NASDQ closed for two days.
Many gas stations were closed (60% on Nov 2), and people lined up for hours to get gasoline for generators and heaters.
Plants and processors struggled to keep running and product moving as power outages, flooding, and damage across the region made food distribution difficult.
Grocery stores flooded, resulting in the disposal of contaminated foods.
Other retailers lost power, having to shut stores after suffering multi-day power outages.