Supply Chain Management Under Covid-19

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Supply Chain Cash Flow

Cash Flow has become a reliable indicator for many companies as it helps provide a snapshot of the liquidity and solvency of a business.

There are three core cash flows that companies should track and analyze in order to conduct a successful cash flow analysis:

- Operating Activities
- Investing Activities
- Financing Cash Flow

Businesses then use these line items see where exactly money is coming from and where its going out. This helps in drawing conclusions about the company’s current state.

Greg Tully

How Covid-19 has Affected Companies’ Cash Flows

Covid-19 has shown companies that they must refine their overall supply chain, liquidity management and overall business strategy with a greater focus on potential risk.

Within the supply chain:

- Affected operations
- Suppliers (critical and possible alternatives)
- Customers

Are all areas of concern, while a company’s:

- Cash-to-conversion cycle
- Management of liquidity
- Operation models

Are segments of their cash flow which are the most vulnerable to the effects of Covid-19.

Greg Tully Per: Deloitte US

The future of Cash Flows

With the onset of the pandemic, CEOs and CFOs initial response were all about survival. Now they have the opportunity to instill practices that promote prudent cash and liquidity management.

By orienting your ongoing operations around the practice of improved cash management, you will be better suited to answer these crucial questions:

- “How much money do we need by a certain date/time ?”
- “Where can new funding be implemented within our existing structure”

Executives of large and small companies alike, are positioned to strengthen the cash culture within their organization, to set their trajectory on a more secure and sustainable path.

Greg Tully

Supply Chain Management in Healthcare

- Obtaining resources, managing supplies, and delivering goods and services to providers and patients
- Starts at manufacturer, sent to distribution center, purchased by healthcare organization, stocked for providers
- Participation of regulatory agencies (FDA) and health insurance companies (Medicare)
    - Determine if providers will be reimbursed for using medical resources
- Misaligned incentives and independent goals can disrupt the flow of the supply chain

How has COVID-19 affected Healthcare?

- Doctor’s and their mental health
  - Working long hours to treat patients
  - Time away from their families
- Vaccine shortage
- High risk for pregnant women
- Lack of preparedness (workers, equipment, sanitizers)
- Hospitals have become financially strained
- Economic loss of $202.6 billion
- 40% of deaths are from nursing homes

Class Connection - EOQ Model

- Economic Order Quantity model
- Ideal order quantity that will satisfy customer demand and minimize costs
- Parts are produced by a medical manufacturer and sent to provider, who assumes order quantity to minimize inventory costs
- Example: a defective item having time dependent demand and holding cost when there is a delay in payment
    - Provider has to quickly order the optimal quantity while minimizing costs

Supply Chain Management in the Food Industry

Food must be transferred from supplier to consumer in need

A company's reputation is at fault if one aspect of the chain fails

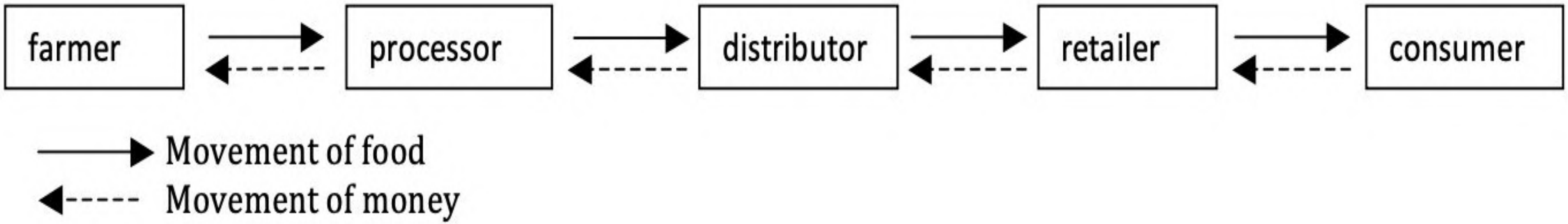


Figure 1. Movements of food and money in a simple food supply chain

Gabriella Cardoso

How has COVID-19 affected the Food Industry?

Main Issue: obtaining raw materials from suppliers in time

Revised menus included

- Takeout-friendly dishes
- Cost-Effective Dishes
- Dishes that included accessible ingredients

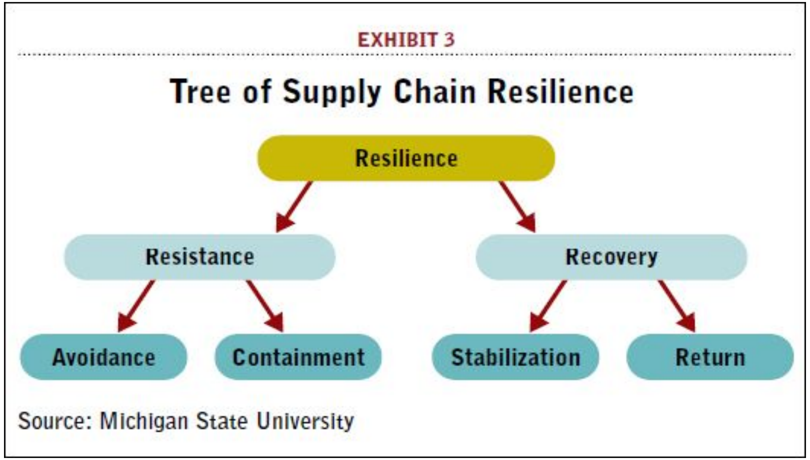
Many restaurants had to stop serving beef hamburgers

- Meat processing plants had to pause operation
- Meat production was down 25% (per the USDA weekly report)
- Surge in meat prices

Gabriella Cardoso

Class Connection- Supply Chain Resilience

- ➢ The ability to resist disruptions and recover from disruptions
- ➢ Companies have used the momentum of the pandemic to rebuild their supply chains
  - More technological advances in the food supply chain industry than ever before.
  - Robotic machines reduce the dependence on migrant labor
- ➢ Consumers are broadening their horizons and using more suppliers.



Gabriella Cardoso

Supply Chain Management In the Automotive Industry

- The supply chain for manufacturing cars, trucks, and all other vehicles is one the most complex in the world and is only becoming more intricate.
- Only the electronic industry has a larger quantity of suppliers, manufacturers and other third parties that contribute to the automotive supply chain(Blume Global).
- Globalization: the word used to describe the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information (Peterson Institute for International Economics).

Class Connection: MRP

- Material Requirement Planning
- A system for calculating the materials and components needed to manufacture a product.
- Consists of three primary steps:
    - Taking inventory of the materials and components on hand
    - Identifying which additional ones are needed
    - Then scheduling their production or purchase

COVID-19 Effects on Automotive Supply Chain

- While the lack of computer chips has been the most publicized issue within the industry this only scratches the surface of shortages.
- Ex:
  - Resin
  - Steel
  - Titanium Dioxide
- The cost of these shortages and manufacturing disruptions is expected to total $210 billion(AlixPartner).

Supply Chain in the Retail Industry

-Retailers purchase items from suppliers or manufacturers and then sell them to consumers.

- The retailer is responsible for picking, packing, and shipping orders to customers after they have been placed.

-Retailers must keep an eye on the supply chain to ensure that it is quick and efficient in order to keep the business running smoothly.

How has COVID-19 affected the Retail Industry?

-The continuation of retail stores forcing to close due to the Covid-19 pandemic, exemplifies an extraordinary interruption of commerce.

-Consumer behaviors during the pandemic can possibly become permanent such as the transition to digital shopping.

-Retailers have developed no-touch customer experiences with an emphasis on hygiene.

Class Connection - Retail Industry

-Because of the supply chain concerns, merchants and manufacturers are now over-ordering, which is effectively leading to an even worse predicament.

-Customers recognize the supply chain problems in today's society, therefore ordering items in advance.

Example: Chip Shortages ----> causing an increase in Americans extending car leases rather than leasing a new car due to low inventory.

Brianna Harris

Retail Industry Resilience During Covid-19

- Increase in digital retail
  - Online and pickup
- Holiday promotions started earlier
  - Retailers anticipated difficulties that customers would have
  - Allowed customers to shop safely

Brianna Harris

Healthcare Resilience During Covid-19

- Public Health functions
    - Testing, contact tracing, vaccine
- Zoom appointments with doctors

Brianna Harris

Food Industry Resilience During Covid-19

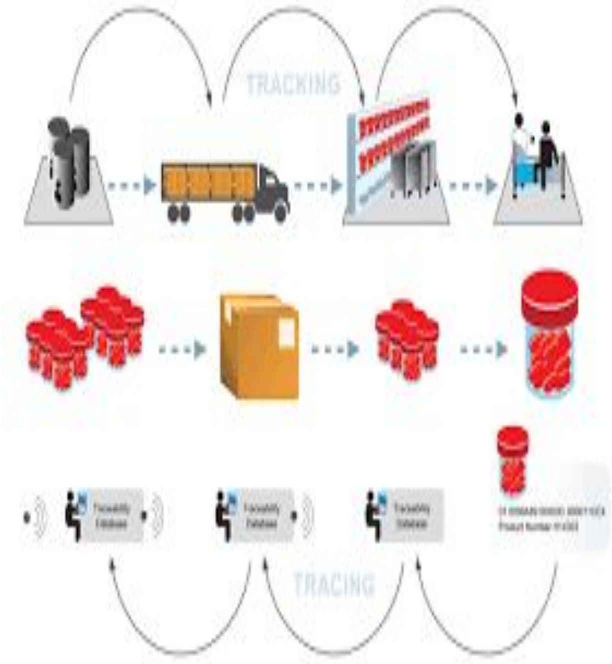
- Implementing safe options to receive food
  - Contactless delivery, online shopping
- Local produce shops are thriving
  - Grocery stores have been experiencing shortages
- Independent shops have opportunities during the pandemic
  - International chains are closing stores
  - Growing opportunity for independent businesses

Supply Chain Visibility

- Supply chain visibility is the ability to track individual components, sub-assemblies and final products as they travel from supplier to manufacturer to consumer. This picture here shows how the tracking and tracing of a supply chain would work.

- The Covid-19 pandemic has caused major disruption to global supply chains. The crisis has revealed weak links, but has also shown the benefits of good sourcing practice. The collection, sharing and analysis of the data created across the supply chain can be of tremendous value as it creates greater visibility within the supply chain.

- In addition to this, increased visibility within the supply chain has never been as important as now. Businesses have faced and continue to face the challenges that Covid-19 and economic recovery from the pandemic have presented.



Supply Chain Visibility (cont)

- During the height of Covid-19, companies had to and still have to develop systems that enhance visibility to better enable collaboration with suppliers, contract manufacturers and logistics providers.

- Data provides valuable insights into the status of the supply chain, as well as better connectivity between those in the chain, such as in relation to service, flow, inventory, cost and efficiency. It allows visibility of sources of uncertainty and variability and enables us to recognize certain issues

- It also enables businesses to introduce certain techniques so that the demand signal can be more stable and there are fewer surprises in regards to demand and supply.

cooperation and collaboration.

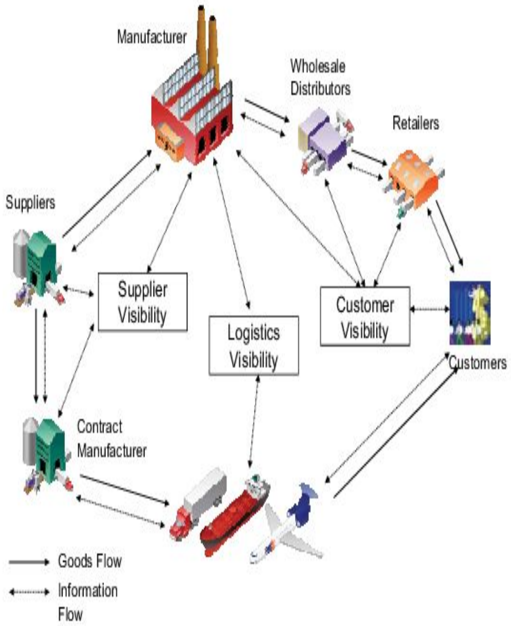


Fig. 1. A view of Supply Chain Visibility from a manufacturer's perspective

Supply Chain Visibility Barriers

- Data provides valuable insights into the status of supply chain which allows a better connectivity between those in the chain (the service,flow,inventory,cost & efficiency)
- Technology has opened new possibilities to communication and supply chain transparency.
- Trust and privacy are core issues in supply chain and are traditionally obstacles to data sharing in SC
- Blockchain in the supply chain has the potential to improve supply chain transparency and traceability as well as reduce administrative costs.

Industry affected most during Covid 19

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J.C. Penney closing more stores after exiting bankruptcy. Will your store close in March 2021? See the list.

KELLY TYKO | USA TODAY | 8:17 pm EST December 22, 2020

The coronavirus pandemic may have been the last straw for the struggling J.C. Penney company.
USA TODAY, WOCHIT

J.C. Penney will close more stores in the spring after already closing 150-plus stores since filing for bankruptcy.

AP NEWS

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After nearly 200 years, Lord & Taylor goes out of business

By JOSEPH PISANI August 28, 2020

NEW YORK (AP) — Lord & Taylor, one of the country's oldest department store chains, is going out of business after filing for bankruptcy earlier this month.

The retailer was sold just a year ago for $100 million to Le Tote, a San Francisco online clothing rental company, by Canadian parent Hudson's Bay Co.

Lord & Taylor will permanently close its remaining 38 stores and shut down its website, the company said

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The last 2 Toys 'R' Us stores in the US have closed down after the COVID-19 pandemic hit sales

Kevin Shalvey Jan 30, 2021, 12:00 PM

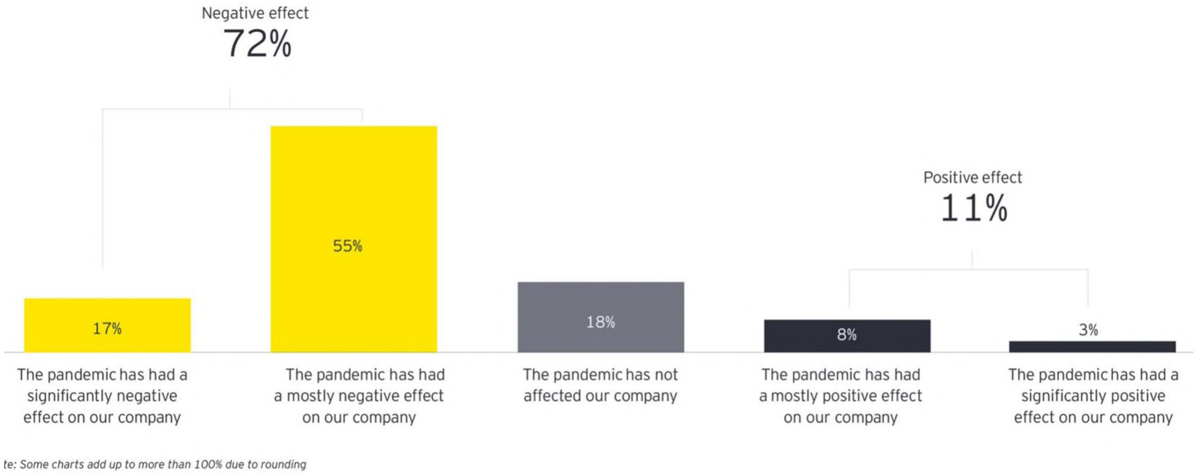
A rendering of a redesigned Toys 'R' Us store, from owner Tru Kids. Tru Kids

- The last 2 Toys 'R' Us stores in the US have closed.
- Tru Kids, the brand's owner, will continue to invest in online sales, CNBC reported.
- Toys 'R' Us opened new stores in Texas and New Jersey in 2019.

James Britton

Conclusion

- Multiple national lockdowns
  - Affecting every major industry
  - Shutting every company down that was not considered essential
- Slowed down the inflow of raw materials or finished goods which impacted manufacturing as a whole



James Britton

Changes being adopted for Supply Chain

- Innovation from linear supply chains to better integrated networks that connect companies with suppliers
- Companies will begin to transition to digital transformations
    - Through automation and digital enablement
    - Driverless trucks/forklifts, delivery drones, and robots
- With advancements in technologies, companies will become more efficient in their supply chain

James Britton

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- What Is Globalization?