

# Amazon: a retailer or a logistics company?

By Thomas K. Dasaklis

***“The logistics of distribution are the iceberg below the waterline of online bookselling”*** Jeff Bezos, founder and chief executive of Amazon.com



# The Amazon effect....

- "Major deflationary disruption" looms after Amazon purchase of Whole Foods



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Amazon did not just buy Whole Foods grocery stores. It bought 431 upper-income, prime-location distribution nodes for everything it does.

4:08 PM - Jun 16, 2017



477



15,736



27,507



- Amazon experimenting with its own delivery service to rival Fedex and UPS.
- Amazon increasingly wants a direct hand in the path from one-click purchase to Main Street.
- "Try Before You Buy": Amazon Launches assault on clothing retailers with prime wardrobe
- The Amazon Effect: retail bankruptcies surge 110% in first half of the year

# The Amazon effect....

- Amazon enters trillion dollar ocean freight business: how many jobs will vanish?
  - Amazon has begun shipping products from Chinese merchant partners to its U.S. warehouses via its own ocean freighters.
  - Amazon used to outsource exclusively.
  - Question: How long will it be before Amazon has minimal to no staff on self-guided transports?
- Amazon signs 50-year lease on 900-acre air cargo hub to house 40 "Prime Air" jets
  - Amazon is investing \$1.5 billion in the hub, which will receive \$40 million in tax incentives from the state of Kentucky over ten years if Amazon meets job targets.
- Eleven retailers will file for bankruptcy next, according to fitch



# The Amazon effect....

- Amazon has twice as many fulfillment centers as the rest of the entire us retail industry
- Amazon vs Maersk: the clash of titans shaking the container industry
- Amazon hosts robotics competition to figure out how to replace 230,000 warehouse workers
- Walmart warns truckers it will no longer work with them if they move goods for Amazon
- Amazon develops wireless technology that can effectively block customers in whole food's retail locations from "showrooming-the practice of using retail locations to test out products before buying them online.
- Amazon strikes deal with landlords to install lockers in apartment buildings

# Company Background

- Bezos started Amazon.com with a simple idea: to use the Internet to transform book buying into the fastest, easiest, and most enjoyable shopping experience possible.
- The company was incorporated in 1994 and opened its virtual doors in July 1995.
- At the forefront of a huge growth of dot-com businesses, Amazon pursued a get-big-fast business strategy. Sales grew rapidly and Amazon began adding products and services other than books.
- In fact, Amazon soon set its goal on being the world's most customer-centric company, where customers can find and discover anything they might want to buy online.



# Company Background

- Pre-structural level
  - Amazon is one of the **pioneers** of online consumer sales.
  - They sell books, music and many other items over the internet (although it started as an online bookstore)
- Uni-structural level
  - Amazon's supply chain management has an edge over other companies because of the shopping experience the company offers. It has supply chain and **fulfillment capabilities** and popular **pricing strategies**.
- Multi-structural level
  - Amazon was one of the first companies who introduced the **rating system**. The rating system is a way for customers to rate the service that they received from the vendor. Amazon manages and ships its own inventory and the inventory of other companies like Eddie Bauer and Target.



# Company Background

- Today Amazon claims to have the “Earth's Biggest Selection™” of products and services in the following categories: Books; Movies, Music & Games; Digital Downloads; Kindle; Computers & Office; Electronics; Home & Garden; Grocery, Health & Beauty; Toys, Kids & Baby; Clothing, Shoes & Jewelry; Sports & Outdoors; and Tools, Auto & Industrial.
- Other services allow customers to:
  - Search for a product or brand using all or part of its name.
  - Place orders with one click using the “Buy Now with 1-Click” button.
  - Receive personalized recommendations based on past purchases through opt-in e-mails.



# Company Background

- Relational level
  - Amazon's supply chain is so great that major brick-and-mortar retailers like Target Corp, Borders and Toys "R" uses Amazon's website for their e-commerce efforts.
  - They are effectively managing their inventory and became competitive by satisfying all type of customers.
- Critical level
  - Amazon conducts its business on an international scale. The company ships to almost 200 countries.
  - Right now, Amazon firmly has the e-commerce market at the palm of its hand. They have to expand their DCs to other countries to reduce transportation cost.



# Amazon's Supply Chain

Amazon's supply chain is one of the strongest world--wide:

- as it is firstly **agile**, meaning that it can react speedily to sudden changes in demand and supply.
- Furthermore, it is highly **adaptable** to changes in market structures and strategies and
- lastly their supply chain is able to **align** interests of all participants in a supply network, implying that when optimizing the performance of a supply chain, also the participants' interests get maximized.



# Amazon's Supply Chain

- Why is Amazon building more warehouses as it grows?
- How many warehouses should it have and where should they be located?
  - As it grew the company added warehouses allowing it to react more quickly to customer orders.
  - Increasing the number of warehouses near customers will reduce the response time.
  - Amazon aims to be able to deliver most items the day they're ordered, so it can keep rivals such as EBay and Wal-Mart Stores from peeling off customers.



# Amazon's Supply Chain

Flag	Country	Facility Type	Number of Active Facilities	Active Square Feet	Future Facilities	Future Square Feet
	United States of America	Fulfilment Centers and Redistribution Centers	77	59,903,900	21	16,003,300
		Sortation Centers	26	7,141,900	4	1,033,000
		Prime Now Hubs	42	830,500	0	-
		Delivery/Sortation Stations	18	1,420,200	0	-
		SubTotal USA	163	69,296,500	25	17,036,300
	Canada	Fulfilment Centers	5	2,140,100	0	-
	Mexico	Fulfilment Centers	1	400,000	0	-
	United Kingdom	Fulfilment Centers	10	5,270,300	2	1,654,000
		Delivery Stations	20	1,590,700	0	-
	Germany	Fulfilment Centers	9	9,404,200	1	-
		Sortation Centers	2	223,100	0	-
		Prime Now Hubs	14	66,500	0	-
	France	Fulfilment Centers	104	35,483,000	4	3,400,000
	Italy	Fulfilment Centers	1	645,600	0	-
		Prime Now Hubs	1	-	0	-
	Spain	Fulfilment Centers	1	827,700	1	-
	Czech Republic	Fulfilment Centers & Return Centers	2	1,291,200	0	-
	Poland	Fulfilment Centers	3	3,438,300	1	-
	China	Fulfilment Centers	17	7,486,700	0	-
	Japan	Fulfilment Centers	10	6,076,700	0	-
		Prime Now Hubs	8	17,100	0	-
	India	Fulfilment Centers	20	1,785,400	1	2,900,000
		Delivery Stations	4	-	0	-
	Brazil	Fulfilment Centers	1	106,200	0	-
SubTotal Rest of World			233	76,252,800	10	7,954,000
Global Total			396	145,549,300	35	24,990,300



# Amazon's Supply Chain

Should Amazon stock every book it sells?

No!!!!

If Amazon stocked every book it sells:

- it would need a warehouse the size of Nevada
- It would also have gigantic inventory costs.

Amazon uses three basic methods for selling books:

- standard inventory (physical inventory of the most popular books it sells)
- "just in time" inventory
- third party sellers



# Amazon's Supply Chain

Less popular books are subject to "just in time" inventory management:

- Amazon doesn't have the books, but has arrangements with the publishers to ship the books as soon as it receives orders (results in a slight delay in shipping to the customer, but Amazon saves a lot of money in inventory costs).

Has network of third party merchants who sell through Amazon:

- These third party merchants generally specialize in out-of-print books or books that deal with relatively arcane subjects. Those books are shipped to the customer directly from the third party and are billed by the third party to the customer's credit card or PayPal account. Amazon takes a small commission for acting as a middleman.



# Amazon's Supply Chain

- Amazon claims that it launched Amazon Logistics because the company was concerned there was not enough delivery capacity to meet a sharp increase in online orders and a growing demand for next-day delivery, so their service intends to help other carriers when there is a high demand peak.
- However, Amazon's website states that “the vision for Amazon Logistics technology is simple: to build Earth’s best delivery network”. Either way, the truth is that often delivery companies cannot reach the requirements set by consumers, and e-commerce retailers find themselves pushed to create their own solutions.



# Amazon's Supply Chain

Amazon's supply chain process is simple, yet effective:

- It starts with the customer placing an order. The order prompts a red light to come on in the warehouse which shows the worker the products that have been ordered, and the bar code is matched with the order.
- The product is then placed in crates on a conveyor, which goes through the distribution centre before being sorted by bar codes.
- Crates arrive at the central point, and bar codes of products are matched with orders and sorted automatically into one of several thousand chutes before going into a box.
- The bar code then identifies the customer order, boxes are packed, taped and weighed, and they are shipped by either US postal service or UPS for the last mile, arriving at the consumer within 1 to 7 days.



# Amazon's Supply Chain: anticipatory shipping

The idea is aiming to ensure that online shopping can be as immediate, as to buy goods on a physical location, in which you can pay and take the product at the same time.

How is this possible?

- Big Data
- Amazon can predict how many new books of Dan Brown's latest novel, how many Samsung 7 or how many drones will be sold in a given area, neighborhood, city, etc.
- This model simulates the reality by analyzing the customer behavior in the past and even though it is not exact, it allows to approach the number of orders that will be carried out.
- Given this estimate, Amazon sends a variety of products to its distribution centers and even trucks assigned to an exact area.
- From the user finally 'clicking' on the button, until the arrival of the purchase at home, the shipping can take just a few hours or less.



# Amazon's Supply Chain: Amazon Locker

- “Amazon Locker” has been firstly brought to the market in 2011 and has expanded rapidly in the beginning of 2016.
- The system behind “Amazon Locker” is similar to the principle behind DHL packing stations in Germany.
- Currently these lockers are solely available for testing in certain cities in the United States as well as London as the only European metropolis.
- This self-service was primarily developed for users who are not able to receive parcels due to long working hours which make it impossible to reach post offices on time.



# Amazon's supply chain drivers

## Transportation:

- Amazon relies primarily on national parcel couriers
- UPS, FedEx
- Has also its own logistics network (for example Amazon Prime Air)

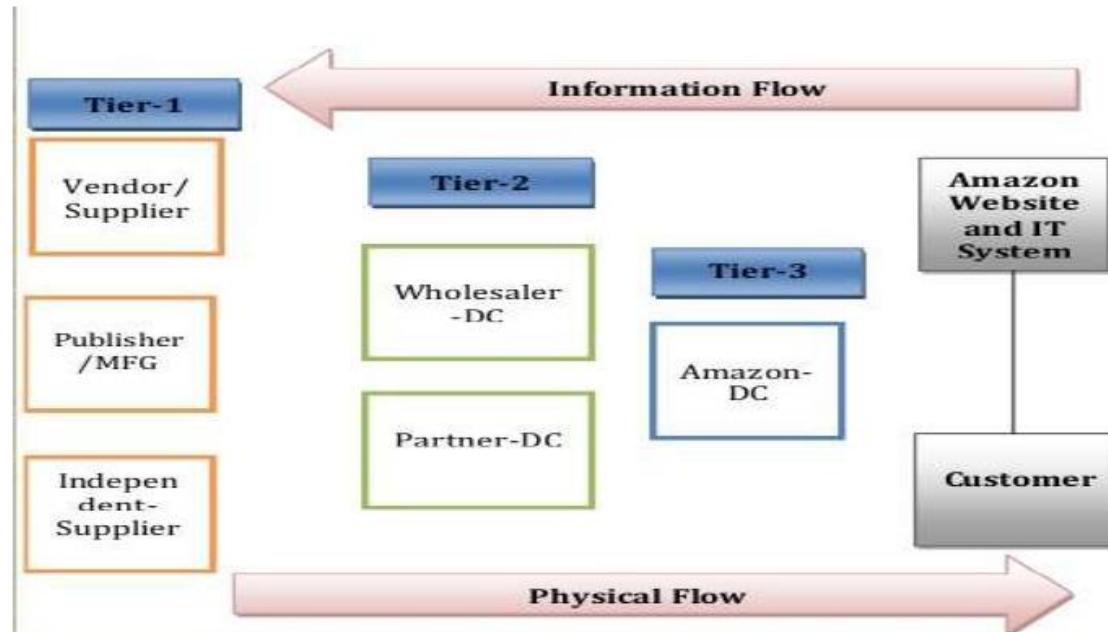
## Facilities:

- Amazon's warehouses are divided into 5 storage areas.
  - Library prime storage - Books and magazine
  - Case flow prime storage - Broken case and high demand
  - Pallet prime storage - Full case and high demand
  - Random storage - Smaller items and modern demand
  - Reserve storage - Low demand/irregular shaped products



## • Inventory

- High inventory
- Multi-tire inventory network.



# Amazon's supply chain drivers

## Pricing

- Amazon may not actually be the lowest-priced seller of a particular product in any given season. Its low prices on the highest viewed and best-selling items drive a perception among consumers that Amazon has the best prices overall.
- It offers its biggest discounts on its most popular products, while making profits on less popular ones (**price perception strategy**)
- **Amazon does make millions of price changes daily.**
- This strategy of prices moving up and down on a regular basis — and in real time — is known in the industry as '**dynamic pricing**'.
- It is a technique that has long been used in the airline industry to sell as many seats as possible, as profitably as possible.
- Amazon changes prices on an average of 15-18 percent of its assortment every day and this number is growing. Many retailers today are struggling to emulate, or even react to, this level of price dynamism.
- Price dynamism varies by season
- Some categories are more price dynamic than others.
  - Amazon's price dynamism varies between categories



# Amazon's supply chain drivers

## Information

- **Amazon web service:** allow partner retailers, the individual sellers and developers to advertise their products through Amazon.com by building their web based applications in a reliable, scalable and low cost way.
- **Simple storage service:** designed to make web scale computing easier for the business partners and developers by web service interface to keep and receive any data, any time, from anywhere.
- **Smart analytic search:** allow detecting and decreasing the examples of fraud in Amazon web site by analyzing the behavioral patterns of fraudsters and designing the predictive scores.



# Amazon's supply chain drivers

## Information (continued)

The mainframe of the company's information system is focused on **Service Oriented Architecture**.

- **Transaction processing system:** based on creating convenience for users.
- **Online payment system:** allows customers to pay via their Amazon account by controlled access
- **Recommender system:** to give the relevant and useful information to the customers.



# Amazon's supply chain drivers

- Sourcing

## Strategic Alliances

Amazon's Partners

COMPANY	NATURE OF BUSINESS
Ashford.com	Online retailing of luxury and premium products
Audible	Internet delivered spoken audio for PC based listening
Della.com	Online service for gift, gift advice
Drugstore.com	Online retail and information source for health, beauty, wellness, personal care and pharmacy
Gear.com	Online source for brand name sporting goods at discount prices
Greenlight.com	Online auto purchasing in partnership with local dealership
Kozmo.com	Online one hour delivery serve for entertainment and convenience products
HomeGrocer.com	Online grocer shopping and home delivery service
Living.com	Online retailing of home products and services
NextCard, Inc	Online issuer of consumer credit cards
Pets.com	Online source for pet products, information and services



# Amazon's Strategic fit

## Competitive strategy

- Respond to wide range of demand
- Fulfill orders in short lead time
- Meet high service level

## Supply chain strategy

- Both cost effective and responsive

Facility: more towards centralization

Inventory: high

Transportation: faster

Information: high investment



# Key Takeaways

- Amazon is making significant strides in improving and shortening delivery times by subverting traditional 3PL models and investing in new technology like drones and warehouse automation.
- For SMBs (*small and midsize business*) that compete with Amazon in the e-commerce and retail space, it will be difficult to compete with things such as drone delivery and same-day delivery.
- In that case, it would be wise to invest in things where SMBs *could* have a competitive edge, for example: customer service, product knowledge or niche product selections. Of course, small businesses need to ensure that they are also making appropriate investments in supply chain management technology.
- Regardless, SMBs should look to Amazon's example as what the future of supply chain management could look like.





Thank you!!!