Project Report

On

"A STUDY ON LOGISTICS SUPPY CHAIN OF AMAZON''

DMSR- G. S. College of Commerce & Economics, Nagpur

Affiliated to

Rashtrasant Tukadoji Maharaja Nagpur University

Nagpur

In partial fulfilment for the award of the degree of

Master of Business Administration

Submitted by

Chanchal Daigavane

Under the Guidance of

Dr. Aniruddha Akarte

Department of Management Sciences and Research,G.S. College of

Commerce & Economics, Nagpur

NAAC Re-Accredited "A" Grade Autonomous Institution

Academic Year 2021-22

CERTIFICATE

This is to certify that **CHANCHAL DAIGAVANE** has submitted the project report synopsis titled Study **A Study on Logistics Supply Chain of Amazon,** towards partial fulfillment of **MASTER OF BUSINESS ADMINISTRATION** degree examination. This has not been submitted for any other examination and does not form part of any other course undergone by the candidate.

It is further certified that she has ingeniously completed her project as prescribed by DMSR - G. S. COLLEGE OF COMMERCE & ECONOMICS, NAGPUR (NAAC Reaccredited "A" Grade Autonomous Institution) affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

Dr. Aniruddha Akarte   **Dr. Sonali Gadekar**
   (Project Guide)   **(Co-ordinator)**

Place: Nagpur
Date: 25/07/2022

G.S. College of Commerce & Economics, Nagpur

DECLARATION

I here-by declare that the project with title "**A Study on Logistics Supply Chain of Amazon**" has been completed by me in partial fulfillment of MASTER OF BUSINESS ADMINISTRATION degree examination as prescribed by DMSR -G. S. COLLEGE OF COMMERCE & ECONOMICS, NAGPUR (NAAC Reaccredited "A" Grade Autonomous Institution) affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur and this has not been submitted for any other examination and does not form the part of any other course undertaken by me.

Chanchal Daigavane

Place: Nagpur

Date:25/07/2022

G.S. College Of Commerce & Economics, Nagpur

ACKNOWLEDGEMENT

With immense pride and sense of gratitude, I take this golden opportunity to express my sincere regards to Dr. N.Y. Khandait, Principal, G.S. College of Commerce & Economics, Nagpur.

I am extremely thankful to my Project Guide Prof./Dr.Aniruddha Akarte for his/her guideline throughout the project. I tender my sincere regards to Co-ordinator, Dr. Sonali Gadekarfor giving me guidance, suggestions and invaluable encouragement which helped me in the completion of the project.

I will fail in my duty if I do not thank the Non-Teaching staff of the college for their Co-operation.

I would like to thank all those who helped me in making this project complete and successful. (mention the names with designation)

Chanchal Daigavane

Place: Nagpur

Date: 25/07/2022

INDEX

Executive Summary

"In 1994, Amazon was founded by Jeff Bezos that is currently one of the most valuable

companies. Amazon has become a global leader by selling more than a million products."

(Duffy, 2018) In this report, potential issues and future opportunities have identified that

further explained with various analysis tools by considering impact analysis. Finally, solutions

and strategies have evaluated and further demonstrated with individual implementation plans.

Moreover, a description of strategies relating to the development of sustainability and financial

value has illustrated. "The key supply chain challenges online retailers are lack of authenticity of

the product and suppliers, outsourcing of third-party suppliers, increased cost of shipping, and

disrupted quick delivery." (SCCG, 2020)

The issues we identified are increased shipping cost, higher dependency on other

logistics companies, Disruption in last-mile delivery, Low focus on Amazon online retail store as

compared to Amazon Web Services, and loss of supplies due to the Covid-19 pandemic. Also,

impact analysis with a relative root-cause analysis had assessed. Also, there are different

opportunities have identified for future opportunities that are flourishing online grocery sales,

Amazon Prime Air delivery service, and expansion of Whole Foods to turn into multitasking

stores.

The significant impact of these identified issues and opportunities are late deliveries,

increased cost of shipping, reduced customer satisfaction as well as overall profit. The objective

here is to improve the supply chain by diminishing the impact that decreases the overall

efficiency of Amazon. To solve issues, and to improve opportunity, provide pick-up location to

the customer, improve the supplier selection process as well as last-mile delivery. To add on,

changing business model similar to "Reliance JioMart" helps enhance quick delivery. Also,

sustainability has primarily focused on environmental and social benefits.
To improve

environment pillar, implementation of the latest gadgets and electric vehicles increase "the

prediction made by Amazon on carbon reduction." On the other hand, the social pillar should

implement by empowering employees and encouraging their talent, the company's growth

could be increased in the situation of COVID-19. Similarly, the financial analysis and its

improvement have explained by the installation of lockers in various locations including

convenience stores and shopping centers to solve the short-term solution.

CHAPETER 1

INTRODUCTION

LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Logistics is generally seen as a differentiator in terms of the final bottom line of a typical "hard and tangible goods" organization; enabling either a lower cost or providing higher value.

While a lower cost is mostly a one-time feel good factor and has been the traditional focus area in logistics, high value comes into the picture much later and may be tangible or intangible in a good's initial stages.

So while an organization like Zappos may look costly at a first glance, the extraordinary customer service due to robust policies is a value which more than offsets the slightly higher cost.

Logistics is concerned with both materials flow and information flow. While the materials flow from the supplier to consumer, the information flows the other way round. It is not only concerned with inventory and resource utilization, customer response also falls under the ambit of logistics.

In simple terms, logistics can be seen as a link between the manufacturing and marketing operations of a company. The traditional organizations used to think of them separately, but there is a definite value addition in integrating the two due to the interdependence and feedback channel between the two.

The level of coordination required to minimize the overall cost for the end consumer gets tougher to achieve as the number of participants in a supply chain increase, as an extremely efficient flow of material and information is required for optimization.

Logistics cover the following broad functional areas: *network design, transportation* and *inventory management*.

Manufacturing plants, warehouses, stores etc. are all facilities which form key components in the network design. Transportation: the cost and consistency (reliability) required out of the transportation network determines the type and mode of the movement of goods and also affects the inventory.

Buffer (or safety) stock is the reserve stock held to safeguard against shortages or unexpected surge in demand, to avoid "stock-outs". Fewer inventories with negligible stock-outs — the hallmark of an efficient logistical system.

Basic concepts of Logistics and SCM

Inventory Planning

Organizations want to minimize the inventory levels due to its almost linear relationship with the cost. Yet if the demand is forecasted accurately, there would ideally be no need for inventory and the goods will move seamlessly from warehouses to customers.

o That would have been awesome, but it is deep into the ideal world zone. In the real world, the forecasted numbers can only take you so far and some inventory has to be

maintained to satiate any surges in demand; the cost of unhappy consumers who are not serviced is often huge, and is immeasurable in most cases.

o Yet overstocks lead to increase in working capital requirements, insurance costs and blocked resources which could have been productive someplace else.

o Making a business forecast has largely been a gut-based process, but is changing rapidly in the era of data-based decision making. The forecast depends on the historical baseline for sales, seasonality (soft drinks have higher sales volume in May), recent trends (Samsung is losing out to competitors when it comes to phones, a declining trend), business cycles (economies go through expansion and contraction every few years), promotional offers (up to 50% off can drive the average fashionista mad) etc.

Transportation

The kind of transportation employed by an organization is a strategic decision (it usually accounts for around $1/3^{rd}$ of the total logistics cost) based on the required level of risk exposure, customer service profiles, geographic area covered etc. Truck shipments take more time for delivery compared to air transport (customers with relaxed turnaround times); is cheaper but necessitates maintenance of higher inventory levels.

o Transportation serves the purpose of not just product movement, but storage as well (not very intuitive). Time spent for delivery means saved time for warehousing, and many times the cost to offload and reload shipments can be greater than the cost of letting the goods stay in the transportation vehicles itself.

o   Two basic thumb rules apply for transportation decisions: truck load (TL) shipments are better than less-than-truckload (LTL) shipments as storage space is a perishable commodity (just like a commercial airline does not want to fly with empty seats), and the cost per kilometer decreases as the distance increases (two 500 km shipments is usually more expensive than a single 1000 km shipment).

o   The factors which determine the economies of transportation decisions include but are not limited to: distance between the starting and destination points, and density (higher density products take less space — space constraints outweigh weight constraints by a huge margin), stow ability (spherical packaging will lead to more empty spaces compared to cubical) and volume of the goods. Different modes of transport serve different strategic ends (rail, road, air, water etc).

o   FlipKart has eKart for its logistical operations and warehousing, whereas smaller e-commerce players generally outsource their operations to specialized logistics players such BlueDart, DHL and now Delhivery.

Packaging

The end goals differ: can either be done for end consumers or for logistical considerations. The packaging will then depend on the end goal; form factor plays the lead role when packaging goods for the end consumers, while function plays the lead role in packaging for logistical operations.

Warehousing

It is the back-end building for storing goods. Based on the needs of the organization, it can be in-house or outsourced.

o   Primary functions of a warehouse are product movement and storage. Activities such as offloading of the goods coming from the suppliers, the intermediate packaging (if required), and shipping to other destinations (retailers or end consumers) are handled in the warehouse. Similarly, they can also serve as a storage house for handing peak consumer demand to avoid stock out of items, and acts as a buffer between the starting point (usually manufacturing plant) and ending point (think about a typical retail outlet).

o   Different distribution strategies can be adopted by an organization based on its needs and infrastructure in place, namely:

- *Cross-Docking*: Relies on minimal processing at the warehouse level and facilitate seamless connection between "incoming" and "outgoing" goods through technologies such as bar code scanners; becoming increasingly important due to established structured communication between retailers and manufacturers; best for high velocity goods with predictable demand patterns.
- *Milk Runs:* The delivery guy is out to deliver items from a single supplier to multiple retailers or to pick up items from multiple suppliers for a single retailer (An Indian Doodhwala can literally teach a thing or two about this, hence the naming we think).
- *Direct Shipping*: A supplier directly ships to a particular retailer without any intermediaries. Mostly happens with big-name stores with huge good volumes, and very frequent replenishments. Big savings on time.
- *Hub and Spoke Model:* Hub serves as the central node for nearby places, and the spokes depend on the hub for their needs (think of a metropolitan and various tier-2 cities in its proximity).
- *Pooled Distribution:* Region is the most important factor driving this strategy. Delivers to every destination point in a geographical area, smart for handling peak time loads and LTL shipments. Plus one for the planet as a bonus!

Objectives of Logistics Management

Here are the top 10 objectives of logistics management

1. Improve Supply Chain Efficiency

Logistics management leads to greater visibility into the supply chain and fastens the inbound and outbound activities. It is extremely beneficial to reduce the overhead cost and allow delivery processes within the stipulated time. Managing inventory, storage functionalities, and optimizing warehouse operations can significantly enable businesses to better control costs and increase the overall efficiency of operations.

2. Inventory Management

Managing the inventory is an integral part of the smooth running of businesses. Identifying which and how much stock to order is useful to maintain the inventory levels and satisfy the end customers. Therefore, inventory management tends to limit the risk of stockouts. Also, decreasing inventory levels efficiently eliminates unnecessary costs and improves SCM operations.

3. Fulfill customer requirements

The main objective of logistics management is to execute proper planning on transportation modes and inventory available to satisfy the customers. This leads to a smooth freight moving process and timely delivery of products or goods. Logistics management allows customers to stay informed and enhances the overall experience by providing them with relevant information. Analyzing the customer's wants is the best way to build the synergic relationship and brand reputation of an organization.

<u>4. Mitigate product damage</u>

It is an additional cost to logistical expenses which can be caused due to improper logistical handling, absence of load unitizing, incorrectly designed packaging, etc. An efficient logistics management strategy is needed to enable minimum product damage. Therefore, proper monitoring of all product movements is essential to fulfilling the objectives of logistics management.

<u>5. Reduce Operational Cost</u>

Embracing logistics management is the best way to drive up revenue and reduce the overall cost of the supply chain operations. It allows optimum utilization of raw materials and faster delivery of products which help companies to gain a competitive advantage. However, streamlining a complex network of operations and management of goods is useful in minimizing the logistics cost. Controlling and managing the supply chain ecosystem with intelligent route planning can also enhance business productivity.

<u>6. Quick Response</u>

The main objective of logistics management is customer satisfaction. Solving the customer query and issues in the shortest time frame is an effective way to enhance the logistics strategy. Therefore, it plays a crucial role in accomplishing timely delivery. Companies tend to operate reactively to each order as logistics management provides them with relevant information to intensify decision-making capability. This leads to rapid response and accuracy in the operation process.

7. Optimize delivery performance

Providing on-time delivery to the customers is extremely important as it helps to build long-term relationships with them. Consistency in delivery performance through proper planning and implementation can save a lot of time and resources. Companies get insights into the real-time updates and the exact location of the delivery vehicles. Getting control and visibility of the delivery processes is viable <u>logistics strategy</u> to meet customer expectations better.

8. Efficient Flow of Information

The integral part of logistics management is to strengthen the communication flow of internal business functions and external partners. Maintaining a clear communication network allows businesses to become agile and more responsive. One of the major objectives of logistics management is to facilitate collaboration. Therefore, establishing a seamless communication flow helps the companies to coordinate with vendors, suppliers, and customers.

9. Quality Assurance

The quality should be maintained throughout all facets of the logistics industry. Companies should take thoughtful efforts and always perform activities out of a supervisor's vision. Monitoring the quality of overall logistics operations by utilizing new-age technologies can improve business growth. Quality assurance is considered to be one of the major aspects of the objectives of logistics management.

10. Reduce Carbon Footprint

A reliable logistic system tends to introduce new-age technologies for reducing carbon emissions. Undoubtedly, the transportation industry is considered to be the major reason for creating a negative impact on the environment as vehicles emit polluting gases. The objective of logistics management is to take measures for optimizing routes, automation in workflow, and so on which help in setting a benchmark in green and sustainable logistics.

ABOUT AMAZON

Amazon was founded by Jeff Bezos from his garage in Bellevue, Washington, on July 5, 1994. Amazon.com is an American tech multinational whose business interests include e-commerce, cloud computing, digital streaming, and artificial intelligence. Initially an online marketplace for books, it has expanded into a multitude of product categories: a strategy that has earned it the moniker The Everything Store.

It has multiple subsidiaries including Amazon Web Services (cloud computing), Zoox (autonomous vehicles), Kuiper Systems (satellite Internet), and Amazon Lab126 (computer hardware R&D). Its other subsidiaries include Ring, Twitch, IMDb, and Whole Foods Market. Its acquisition of Whole Foods in August 2017 for US$13.4 billion substantially increased its footprint as a physical retailer.

Amazon has earned a reputation as a disruptor of well-established industries through technological innovation and mass scale. As of 2021, it is the world's largest online retailer and marketplace, smart speaker provider, cloud computing service through AWS, live-streaming service through Twitch, and Internet company as measured by revenue and market share In 2021, it surpassed Walmart as the world's largest retailer outside of China, driven in large part by its paid subscription plan, Amazon Prime, which has over 200 million subscribers worldwide. It is the second-largest private employer in the United States.

Amazon also distributes a variety of downloadable and streaming content through its Amazon Prime Video, Amazon Music, Twitch, and Audible units. It publishes books through its publishing arm, Amazon Publishing, film and television content through Amazon Studios, and has been the owner of film and television studio Metro-Goldwyn-Mayer since March 2022. It also produces consumer electronics—most notably, Kindle e-readers, Echo devices, Fire tablets, and Fire TVs.

Amazon has been criticized for customer data collection practices, a toxic work culture, tax avoidance and anti-competitive behavior.

History and Timeline of Amazon

Amazon has come a long way since it was founded by Jeff Bezos in his garage in Bellevue, Wash., on July 5, 1994.

The following is a brief history and timeline of events that have evolved Amazon from its humble beginnings to a multinational business empire.

The 1990s

Amazon officially opened for business as an online bookseller on July 16, 1995. Originally, Bezos had incorporated the company as Cadabra but later changed the name to Amazon. Bezos is said to have browsed a dictionary for a word beginning with A for the value of alphabetic placement. He selected the name Amazon because it was exotic and different and as a reference to his plan for the company's size to reflect that of the Amazon River, one of the largest rivers in the world. Since its inception, the company's motto has always been "get big fast."

The 2000s

In 2005, Amazon Prime This membership-based service for Amazon customers offers free two-day shipping within the contiguous U.S., as well as streaming, shopping and reading benefits. According to Amazon's website, current Amazon Prime membership rates are $14.99 a month or $139 per year.

Amazon Web Services

This comprehensive and evolving <u>cloud computing</u> platform was also born in the 2000s. The first Amazon Web Services (<u>AWS</u>) offerings were launched in 2006 to provide online services for websites and client-side applications. Amazon Elastic Compute Cloud (<u>EC2</u>) and Simple Storage Service (<u>S3</u>) are the backbones of the company's growing collection of web services. The same year, Amazon also launched a cloud computing and video-on-demand service known at the time as Unbox.

By changing the way people bought books, Amazon also shaped how they read them with the launch of its first Kindle e-reader in 2007. This device helps users browse, buy and read e-books, magazines and newspapers from the Kindle Store.

From the 2010s to present

Amazon debuted its first tablet computer, the Kindle Fire, in 2011 and the Amazon Fire TV Stick, which is part of Amazon's extensive line of streaming media devices, in 2014.

Amazon also started an online Amazon Art marketplace for fine arts in 2013, which has featured original works by famous artists such as Claude Monet and Norman Rockwell.

The popular in-home virtual assistant <u>Amazon Alexa</u> was rolled out to consumers in 2015 and was followed by the Alexa-equipped Echo Dot in 2016.

Amazon acquired the organic grocery store Whole Foods in 2017 and launched Amazon Go, a chain of cashierless grocery stores in 2018.

Amazon's key milestones

COMPANY PROFILE

Amazon India Limited is an unlisted public company incorporated on 22 December, 1994. It is classified as a public limited company and is located in East Delhi, Delhi. It's authorized share capital is INR 2.50 cr and the total paid-up capital is INR 5.17 lac.

Amazon India Limited's **operating revenues range is Under INR 1 cr** for the financial year ending on 31 March, 2021. It's **EBITDA has decreased by -48.22 %** over the previous year. At the same time, it's book networth has decreased by -0.56 %. Other performance and liquidity ratios are available here.

Description: Amazon India Ltd. provides online retail services.

Products & Services: mobile phones, assericess, gadgets, kitchecn sets, clothes, toys, etc....

Category: Service provider

The current status of Amazon India Limited is - Active.

The last reported AGM (Annual General Meeting) of Amazon India Limited, per our records, was held on 20 November, 2021. Also, as per our records, its last balance sheet was prepared for the period ending on 31 March, 2021.

Amazon India Limited has three directors - Atul Jain, Perinchery Vasudevanraman Elayath, and others.

The Corporate Identification Number (CIN) of Amazon India Limited is U01100DL1994PLC063704. The registered office of Amazon India Limited is at PARSVNATH TOWER NEAR SHAHDARA METRO STATION, SHAHDARA, DELHI, East Delhi, Delhi

Amazon Mission, Vision & Values

Amazon's Mission

For Amazon and Jeff Bezos, the mission is simple. As he himself says, *"Our goal is to be earth's most customer-centric company"*, in other words, to become the company most focused on customer satisfaction, selling absolutely everything, anywhere in the world.

"Our goal is to be earth's most **customer-centric** company"

▸ Where people can find and discover **anything they want to buy**

▸ Deliver to **everyone on the planet**

Jeff Bezos, Founder & CEO

For this purpose, Amazon addresses several types of customers and offers several services:

- General public: Amazon.com (books, objects, applications, films…)
- Marketplace: FBA (fulfillment by Amazon)
- Content creation (film, series)
- Service in the Cloud and Machine Learning

"Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Customer reviews, 1-Click shopping, personalized recommendations, Prime, Fulfillment by Amazon, AWS, Kindle Direct Publishing, Kindle, Fire tablets, Fire TV, Amazon Echo, and Alexa are some of the products and services pioneered by Amazon."

Amazon Vision Statement

Our vision is to be earth's most customer-centric company; to build a place where people can come to find and discover anything they might want to buy online.

Amazon Values

- ➢ Customer Obsession
- ➢ Ownership
- ➢ Invent and Simplify
- ➢ Learn and Be Curious
- ➢ Hire the Best
- ➢ The Highest Standards
- ➢ Think Big
- ➢ Bias for Action
- ➢ Earn Trust
- ➢ Deliver Results

Amazon Clients & Services

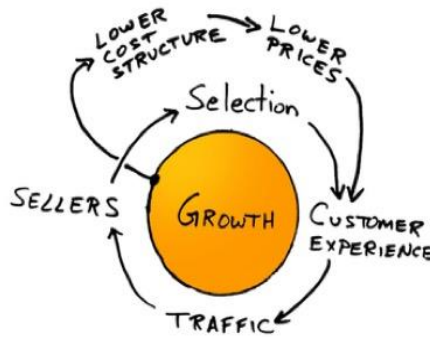
Amazon's virtuous circle :

A diagram was drawn by Jeff Bezos at the very beginning of Amazon. Its goal: **to sell as many products as possible**, which will increase customer experience and satisfaction, which increases traffic because customers are happy, which increases the number of salespeople and therefore products, which increases quantities, which reduces structural costs, which makes products cheaper etc, etc…

This is how Amazon keeps growing indefinitely.

An example of this virtuous circle is **Amazon Prime.** After paying a subscription, you have access to all free deliveries in less than 48 hours, in addition to series, films or books on Kindle platforms. In the long term, Amazon **realized that its Prime customers were buying 3 times more products through Amazon**, which **allows the company to sell more**, then according to the logic of its virtuous circle to offer more, and finally **to reduce its structural costs and logistics costs.**

DIRECTORS - AMAZON INDA LIMITED

The company has 3 directors and no reported key management personnel.

The longest serving director currently on board is Perinchery Vasudevanraman Elayath who was appointed on 09 June, 2014. Perinchery Vasudevanraman Elayath has been on the board for more than 8 years. The most recently appointed director is Gautam Kumar Banswal, who was appointed on 01 June, 2022.

Perinchery Vasudevanraman Elayath has the largest number of other directorships with a seat at a total of 20 companies. In total, the company is connected to 52 other companies through its directors.

09 June, 2014

PERINCHERY VASUDEVANRAMAN ELAYATH

Director

02 November, 2015

ATUL JAIN

Director

01 June, 2022

GAUTAM KUMAR BANSWAL

Director

Company information

As of 2022

Country	U.S.
Headquarters	Seattle
Industry	Internet Services and Retailing
CEO	Andrew R. Jassy
Website	https://www.amazon.com
Company Type	Public
Ticker	AMZN
Revenues ($M)	$469,822
Profits ($M)	$33,364
Market Value ($M)	$1,658,807.3
Employees	1,608,000

AMAZON LOGISTICS

Before starting the overview of the company's logistics operations, it is important to formulate a precise and comprehensive definition of the term 'logistics.' According to Richardson, Castree, and Marston, logistics refers to "the process of planning, implementing, and controlling the efficient, cost-effective, and synchronized flow and storage of raw materials, inventory, finished goods, and related information from point of origin to point of consumption."

Amazon is characterized by a complex logistics system that consists of third-party logistics and private logistics department. In some countries, the company relies on postal services as a way of delivery. For example, despite the fact that the retailer owns its own logistics department in China (Beijing Joy Delivery), it also utilizes

services of China Postal Express & Logistics (Li & Fan 2014). Amazon makes an emphasis on strengthening its e-commerce function; therefore, its logistics infrastructure hinges on the following logistics resources: "railway, highway, civil aviation, postal services, warehousing, and commercial networks".

Amazon uses many different transportation services to deliver packages. Amazon-branded services include:

- **Amazon Air**, a cargo airline for bulk transport, with last-mile delivery handled either by Amazon Flex, Amazon Logistics, or the United States Postal Service.
- **Amazon Flex**, a smart phone app that enables individuals to act as independent contractors, delivering packages to customers from personal vehicles without uniforms. Deliveries include one or two hours Prime Now, same or next day Amazon Fresh groceries, and standard Amazon.com orders, in addition to orders from local stores that contract with Amazon.
- **Amazon Logistics**, in which Amazon contracts with small businesses (which it calls "Delivery Service Partners") to perform deliveries to customers. Each business has a fleet of approximately 20–40 Amazon-branded vans, and employees of the contractors wear Amazon uniforms. As of December 2020, it operates in the United States, Canada, Italy, Germany, Spain, and the United Kingdom. Amazon Prime Air is an experimental drone delivery service.

Amazon directly employs people to work at its warehouses, bulk distribution centers, staffed "Amazon Hub Locker+" locations, and delivery stations where drivers pick up packages. As of December 2020, it is not hiring delivery drivers as employees.

Rakuten Intelligence estimated that in 2020 in the United States, the proportion of last-mile deliveries was 56% by Amazon's directly contracted services (mostly in urban areas), 30% by the United States Postal Service (mostly in rural areas), and 14% by UPS.[48] In April 2021, Amazon reported to investors it had increased its in-

house delivery capacity by 50% in the last 12 months (which included the first year of the COVID-19 pandemic in the United States).

In 2018, Amazon had more than 800 logistics sites counting around 20M m^2 worldwide, with half of its sites based in the US :

- Fulfillment centers (round 300 worldwide)
- Delivery stations (round 300 worldwide)
- Prime Now Hubs (small warehouses close to cities, they allow Amazon to achieve deliveries within 2 hours and represent the future for Amazon – round 80 worldwide)
- Sortation Centers (distribution centers that allow parcels or pallets to be sorted, they are generally located next to fulfillment centers – around 80 worldwide)
- Pantry/Fresh Food DC's (fresh produce distribution center – round 20 mainly in the US)
- Whole Foods Retail (12 warehouses gained after Whole Food Group takeover)
- Airport Hub (in construction in Kentucky)

AMAZON SUPPLY CHAIN

Amazon first launched its distribution network in 1997 with two fulfillment centers in Seattle and New Castle, Delaware. Amazon has several types of distribution facilities consisting of cross-dock centers, fulfillment centers, sortation centers, delivery stations, Prime now hubs, and Prime air hubs. There are 75 fulfillment centers and 25 sortation centers with over 125,000 employees. Employees are responsible for five basic tasks: unpacking and inspecting incoming goods; placing goods in storage and recording their location; picking goods from their computer recorded locations to make up an individual shipment; sorting and packing orders; and shipping. A computer that records the location of goods and maps out routes for pickers plays a key role: employees carry hand-held computers which communicate with the central computer and monitor their rate of progress. Some warehouses are partially automated with systems built by Amazon Robotics.

In September 2006, Amazon launched a program called FBA (Fulfillment By Amazon) whereby it could handle storage, packing and distribution of products and services for small sellers.

Amazon fulfillment center in Lauwin-Planque, France   Amazon.de   fulfillment   center
in Graben, Germany

Amazon fulfillment center in Macon, Georgia, U.S   Amazon.es fulfillment center in San
Fernando Henares, Spain

Amazon.co.jp fulfillment center in Ichikawa, Japan   Amazon.co.uk fulfillment center in Glenrothes,
Scotland,UK

SWOT Analysis of Amazon

Amazon is the world's leading online retailer and its success has spurred other physical, brick, and mortar retailers to have an online presence. It is often referred to as the online equivalent of Wal-Mart because of its reach and global footprint as well as its aggressive pricing strategies.

Amazon can leverage on several opportunities in the emerging markets and can ensure that its global supply chain of networked warehouses deliver substantial value for itself and its stakeholders. Further, Amazon has to rethink its business model of operating at close to zero margins and the fact that the company has not returned a decent profit in the last five years gives it much room for improvement.

Strengths

- Being the world's leading online retailer, Amazon derives its strengths primarily from a three-pronged strategic thrust on cost leadership, differentiation, and focus. This strategy has resulted in the company reaping the gains from this course of action and has helped its shareholders derive value from the company.
- Amazon primarily derives its competitive advantage from leveraging IT (Information Technology) and its use of e-Commerce as a scalable and an easy to ramp up platform that ensures that the company is well ahead of its competitors.
- One of the key strengths of Amazon is that it enjoys top of the mind recall from consumers globally and this recognition has helped it enter new markets, which were hitherto out of bounds for many e-Commerce companies.

- Using superior logistics and distribution systems, the company has been able to actualize better customer fulfillment and this has resulted in Amazon deriving competitive advantage over its rivals.

Weaknesses

- In recent years, Amazon as part of its diversification strategy has been "spreading itself too thin" meaning that it has allowed its focus to waver from its core competence of retailing books online and allowed itself to venture into newer focus areas. While this might be a good strategy from the risk diversification perspective, Amazon has to be cognizant of losing its strategic advantage as it moves away from its core competence.
- As Amazon offers free shipping to its customers, it is in the danger of losing its margins and hence, might not be able to optimize on costs because of this strategy.
- Considering the fact that Amazon is an online only retailer, the single-minded focus on online retailing might "come in the way" of its expansion plans particularly in emerging markets.
- One of the biggest weaknesses and something that has been oft commented upon by analysts and industry experts is that Amazon operates in near zero margin business models that have severely dented its profitability and even though the company has high volumes and huge revenues, this has not translated into meaningful profits for the company.

Opportunities

- By rolling out its online payment system, Amazon has the opportunity to scale up considerably considering the fact that concerns over online shopping as far as security and privacy are concerned are among the topmost issues on the minds of consumers. Further, this would improve the company's margins as it lets it reap the advantages of using its own payment gateway.

- Another opportunity, which Amazon can capitalize on, relates to it rolling out more products under its own brand instead of being a forwarding site for third party products. In other words, it can increase the number of products under its own brand instead of merely selling and stocking products made by its partners.

- Amazon can increase the portfolio of its offerings wherein it stocks more products than the norm currently which places it in a position of strength and comfort as this can translate into higher revenues.

- The fourth opportunity, which Amazon has, is in terms of expanding its global footprint and open more sites in the emerging markets, which would certainly give it an edge in the uber-competitive online retailing market.

Threats

- One of the biggest threats to Amazon's success is the increasing concern over online shopping because of identity theft and hacking which leaves its consumer data exposed. Therefore, Amazon has to move quickly to allay consumer concerns over its site and ensure that online privacy and security are guaranteed.

- Because of its aggressive pricing strategies, the company has had to face lawsuits from publishers and rivals in the retailing industry. The obsessive focus on cost leadership that Amazon follows has become a source of trouble for the company because of the competitors being upset with Amazon taking away the business from them.

- Finally, Amazon faces significant competition from local online retailers who are more agile and nimble when compared to its behemoth type of strategy. This means that the company cannot lose sight of its local market conditions in the pursuit of its global strategy.

Two main elements of the Amazon Supply Chain

When it comes to Amazon's supply chain, there are two main elements critical to its success – Amazon Fulfilment Centers and the Amazon Delivery Fleet.

Amazon Fulfillment Centers

With 112 million of Amazon's customers having a Prime membership and utilizing two-day shipping, it's vital that Amazon has the fulfillment and logistics network to accommodate these orders.

Currently, Amazon has more than 175 fulfillment operating centers globally in more than 150 million square feet of space. California alone has 21 fulfillment centers while Texas is not far behind with 14. Worldwide, Amazon has an estimate of 500 warehouses located near major metropolitan areas.

Here's an infographic showing the distribution of Amazon Fulfillment Centers in the United States:
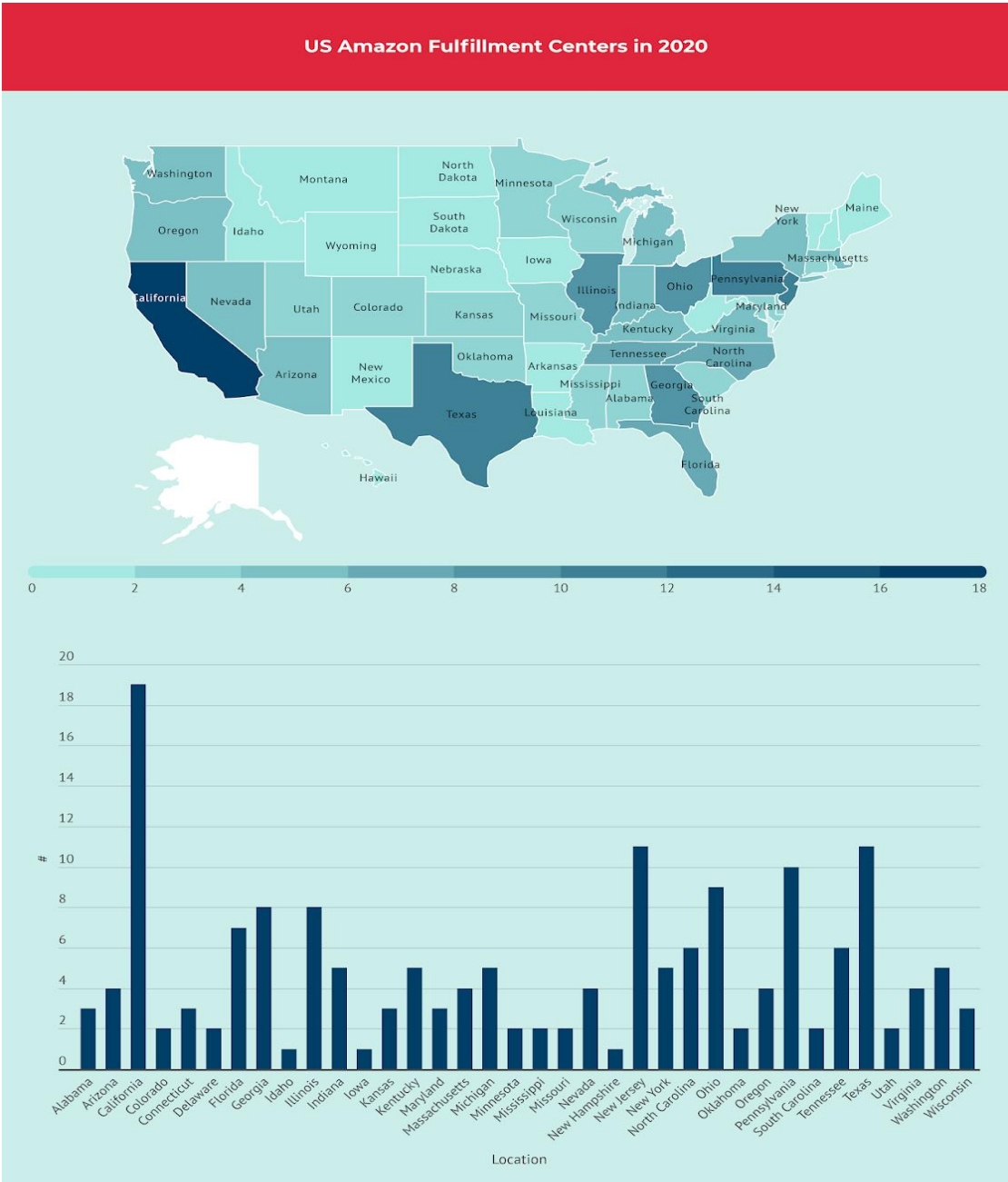
With the COVID-19 pandemic generating a boom in ecommerce, Amazon has experienced record growth within the last year. In 10 months, Amazon has had to hire 427,300 employees to keep up with demand. Third-party sellers experienced a 60% annual increase in sales, with this trend expected to continue into 2021. In a bid to respond to growing demand and a capacity crunch in its fulfillment centers, Amazon will open around 50 new warehouses and fulfillment centers in the US and more globally.

Amazon Delivery Fleet

While having the capacity to store inventory and fulfill orders is key, Amazon's delivery fleet is just as important. To deliver orders to its customers, Amazon has various transportation and delivery partners that help keep up with demand.

To start, Amazon's trucks help carry about 2,000 boxes or more from the fulfillment centers to the sort centers. There, Amazon then distributes the packages according to location and the delivery speed required. After that, the company selects the most efficient transportation mode to transport these packages.

If you've always wondered how Amazon meets its one or two-day delivery window for Prime members, Amazon has an airplane fleet that helps with delivery. These airplanes fly from more than 20 airports around the United States and can carry about 30 or more containers. On the ground, Amazon uses trucks, vans, bikes, and at times – even robots. Interestingly, Amazon is now exploring the use of drones to deliver items to locations that are near their fulfillment centers.

Recently, Amazon has also launched the Delivery Service Partners company that provides its employees with $10,000 in start-up costs and three-months of pay to launch their own delivery business. This not only helps with strategically expanding Amazon's delivery network, but it is also an awesome way to make money with Amazon.

Notable Amazon products and services

Amazon offers an ever-expanding portfolio of services and products. Following is a list of its noteworthy offerings.

Retail

- **Amazon Marketplace:** Amazon's e-commerce platform enables third-party retailers to showcase and sell their products alongside Amazon items.

- **Amazon Fresh:** Amazon's grocery pickup and delivery service is currently available in nearly two dozen U.S. cities and a few international locations. A grocery order can be placed through the Amazon Fresh website or the Amazon

mobile app. Customers can either get their groceries delivered or visit the store for pickup.

- **Amazon Vine:** Launched in 2007, Amazon Vine helps manufacturers and publishers get reviews for their products to help shoppers make informed purchases.

- **Woot:** Acquired by Amazon in 2010, Woot offers limited time offers and special deals that rotate daily. This shop features refurbished items, as well as new items that are low in stock. Prime members get free shipping.

- **Zappos:** Amazon bought Zappos in 2009. This online retailer of shoes and clothing carries a wide range of brands, including Nike, Sperry, Adidas and Uggs.

- **Merch by Amazon:** This on-demand T-shirt printing service enables sellers to create and upload their T-shirt designs for free and earn royalties on each sale. Amazon does the rest -- from printing the T-shirts to delivering them to customers.

- **Amazon Handmade:** This platform enables artisans to sell handcrafted products to customers around the world.

Consumer technology

- **Amazon Kindle:** Amazon's first e-reader, Kindle, enables users to browse, buy and read e-books, magazines and newspapers from the Kindle Store.

- **Amazon Fire tablet:** Previously known as Kindle Fire, Amazon's popular and high-profile Fire tablet competes with Apple's iPad.

- **Amazon Fire TV:** This line of Amazon's streaming media players and digital devices delivers streamed video content over the internet to a paired high-definition television.

- **Amazon Alexa:** This cloud-based, AI-powered, voice-controlled personal assistant is designed to answer queries, interact with users, and perform other tasks and commands.

- **Amazon Echo:** This is one of Amazon's smart home devices that comes equipped with a speaker and connects to Alexa. Amazon Echo can perform several functions, including talking about the weather, creating shopping lists and controlling other smart products, such as lights, switches and televisions.

- **Amazon Echo Dot:** A smaller, puck-shaped version of the original Amazon Echo, an Echo Dot can be placed in any room and can answer questions, play music, and read news and other stories.

- **Amazon Echo Show:** As part of the Amazon Echo line of speakers, the Amazon Echo Show works similarly through Alexa but also offers a 7-inch touchscreen display to play videos and music and conduct video calls with other Echo users.

- **Amazon Astro:** This is Amazon's first home monitoring robot that works with Alexa. It is designed to help with various household tasks, such as home monitoring, caring for the elderly through notifications and alerts, and following owners from room to room to play TV shows, music or podcasts.

Subscription services

- **Amazon Prime:** This subscription service provides members access to exclusive shopping and entertainment services, discounts and more. As an example, all Amazon Prime members enjoy free one-day or two-day shipping on qualifying orders.

- **Amazon Prime Video:** This is Amazon's on-demand video streaming service that offers a selection of about 24,000 movies and over 2,100 TV shows. This service is included with an Amazon Prime membership.

- **Amazon Drive:** Previously known as Amazon Cloud Drive, Amazon Drive is a cloud storage app that offers 5 gigabytes (GB) of free and secure online storage for photos, videos and files for Amazon customers. Amazon Prime members get free, unlimited, full-resolution photo storage, along with 5 GB of video storage.

- **Twitch Prime:** A monthly subscription service, Twitch Prime is a subsidiary of Amazon Prime. It gives members premium access to Twitch -- a video streaming platform that offers a fun and social way to watch people play games.

- **Amazon Music Prime:** This is Amazon's music streaming service that is free for Prime members.

Digital content

- **Amazon Pay:** An online transaction processing platform, Amazon Pay enables Amazon account holders to use their Amazon accounts to pay external online merchants.

- **Amazon Music Unlimited:** Amazon's premium music service costs $8.99 a month for Prime members and $9.99 for non-Prime members.

- **Kindle Store:** Part of Amazon's retail website, the Kindle Store can be accessed from any Kindle device to purchase e-books.

- **Amazon Appstore for Android:** Amazon's app store for the Android operating system enables users to download games and mobile apps to supported devices.

<u>AWS</u>

- **S3:**This is Amazon's scalable, cloud-based object storage. Files are referred to as *objects* in S3 and are stored in containers called *buckets*.

- **Amazon Simple Queue Service (SQS):** <u>SQS</u> is a pay-per-use web service that is designed to provide access to a waiting message queue where messages can reside until a computer processes them.

- **Amazon EC2:** This web service interface provides scalability with resizable compute capacity in the AWS cloud. Users can run virtual servers or instances, commonly known as EC2 instances, that can be scaled up or down, depending on the network requirements.

- **Amazon S3 Glacier:** <u>Amazon S3 Glacier</u> is a low-cost cloud storage service for data that might be associated with longer retrieval times. It also offers data archiving and backup of cold data.

- **AWS Identity and Access Management (IAM):** IAM provides <u>secure and controlled access</u> to resources.

- **Amazon Redshift:** This data warehouse in the cloud enables users to query petabytes of both structured and <u>semistructured data</u> using standard Structured Query Language queries. For example, to address the expanding volume of transactions, Nasdaq moved from a legacy on-premises data center to the AWS cloud, which is powered through the Amazon Redshift cluster.

Amazon AI services

- **Amazon SageMaker:** A fully managed cloud machine learning platform, Amazon SageMaker enables developers and data scientists to build, train and deploy machine learning models for predictive analytics applications.

- **Amazon Lex:** This service for building conversational interfaces into any application using voice and text is powered by the same technology as Alexa.

- **Amazon Polly:** A text-to-speech service, Amazon Polly uses deep learning technology to convert text into spoken audio. It includes 60 voices across 29 languages.

- **Amazon Rekognition:** This software-as-a-service facial recognition and analysis platform uses a deep learning algorithm to process images and extract information from them.

- **AWS DeepLens:** This programmable video camera enables developers to easily experiment withmachine learning, AI and the internet of things.

- **Alexa Voice Service:** This programming interface provides developers with a set of C++ libraries to add Amazon Alexa's speech and other capabilities into their applications and devices.

- **Amazon Transcribe:** This service converts speech to text quickly and accurately by using a deep learning process called *automatic speech recognition*.

- **Amazon Translate:** Amazon Translate is a cloud service that can convert large amounts of text written in one language to another language.

Amazon privately owned brands

- **AmazonBasics:** This is Amazon's privately labeled, low-budget brand that mainly sells kitchen, tech and household products.

- **Amazon Elements:** This line of domestic products includes health and personal care items, as well as nutritional supplements.

- **Mama Bear:** This private label of Amazon sells baby wipes, newborn through size 6 diapers, baby food, diaper pail refills and baby laundry detergent.

- **Presto!:** This brand started as a laundry detergent in 2016 but has added household paper towels and toilet paper to its product line.

- **Amazon Essentials:** A Prime-exclusive program, this clothing line offers basic wear for men, women, babies and kids, with additional options for family, big and tall, and athletic activity.

- **Happy Belly:** This private label of Amazon was introduced in 2016 and sells snack food items. In February 2019, the brand also began offering milk delivery services.

- **Goodthreads:** This menswear apparel line is available exclusively to Amazon Prime members. The label offers both casual and professional pieces and is deemed a bit higher quality and more stylish than the Amazon Essentials brand.

Amazon's business web

The e-commerce giant is involved in a range of businesses and industries.

Retail

Publishing

Subscription Services

Streaming Services

Amazon

Third-party seller services

Amazon Web Services

Food retail and grocery delivery

Healthcare

Consumer technology

What Happens After You Click the Buy Button

How does an Amazon Fulfillment Center work? These are the steps that take place after a shopper has clicked the buy button.

1. Receiving Products

At Amazon Fulfillment Centers, products are either taken off trailers by forklift or manually built into pallets. The separation of freight occurs between those that are coming from an Amazon facility and those from third-party vendors using FBA. Unsurprisingly, half of the items currently sold on Amazon are from small businesses and entrepreneurs.

2. Storing of Items

Unlike other warehouses that store their items by type, Amazon stores its items randomly. Amazon has yellow tiered bins with random items – all tracked by computers. These bins then ferry to Amazon associates based on the product size.

3. Picking Orders

When you've clicked the "buy button", and your order comes in, a robot will bring pods full of items to Amazon associates working at pick stations. These pickers will read the screen, retrieve the item and place it into a yellow plastic box – also known as a tote.

4. Quality Assurance

For robots and humans to work cohesively together, there's a great deal of quality assurance required. There's a need to make sure that the item's physical location matches what's in the computer, and that the robots function correctly. Fine-tuning occurs throughout the entire process as technological innovation is vital in a large-scale supply chain business like Amazon.

5. **Packing Orders**

Lastly, items that belong to different shipments are both organized and scanned before being sent to the pack station. There, the system will recommend box sizes to Amazon associates and measure out the amount of tape required. Third-party vendor items are shipped in original boxes, but Amazon works with third-party vendors to reduce packaging.

Pros and Cons of Amazon Logistics

Just as a coin has two sides, the Amazon Logistics program also has benefits and drawbacks:

Pros

- The customer orders are delivered faster. In fact, options like <u>same-day shipping</u> or even 2-hour delivery are also available in some geographic locations.
- Amazon has added enhanced map tracking to help customers track their orders. Photo confirmation option is also added to ensure the parcel is delivered.
- Amazon Logistics also keeps up with the demand during high and seasonal shipping volumes. This helps to prevent overcrowding at Amazon warehouses.

Cons

- The seller can't pick the delivery provider to ship his orders. So, if there has been a negative experience with a certain service provider, it is most likely to be repeated.
- Any late or mishandled delivery can lead to negative reviews for the seller. This can impact his sales significantly.
- The sellers don't have control over Amazon Logistics. Also, the sellers can't provide any insights or suggestions for improving the shipping process.
- Amazon is persistent in offering the best e-Commerce services to the consumers, and with Amazon Logistics, it is creating a more extensive and denser shipping network.

4 Benefits of Studying Supply Chain and Logistics Management

The business world is quite dynamic. You need to have a comprehensive understanding of how it operates. It's essential to learn the process within and between an organization. Its where supply chain and logistics management comes in. It's an exciting course that you can take online. Here are the top fascinating benefits of studying supply chain and <u>logistics management</u>.

1. Improve the organization's profitability

There're numerous job opportunities within supply chain management. <u>Supply chain management recruitment</u> organizations are searching for individuals who can contribute to their financial success. They need someone who can analyze cost efficiencies, maintain proper inventory levels as well as decrease operating expenses

Working as a supply chain manager is beneficial as you get to do what you enjoy. You contribute to the company's goal of increasing sales, infiltrating new markers as well as making a difference. It's a chance to make the company gain a competitive advantage as well as increase shareholder value. Engaging in **online management courses** is the ideal way to prepare you for the responsibilities that lie ahead.

2. Logistics as well as decision making

Businesses continue to experience significant changes, and the global supply chain continues to become dated. Its causing businesses to keep struggling when they have to adapt to manufacturing location changes and using cost-effective techniques

Companies keep looking for individuals who have logistic management training. Its because these individuals can spot a complication. They then proceed to provide the best possible solution. It's nice to study a course that is quite relevant to business dynamics.

3. Proper system implementation

Studying supply chain and **logistics management** is a suitable career investment. It enables you to work around the technology. You stand to benefit from implementing new technology into a company's current operations. It is because these technological advancements minimize cost as well as streamline the processes.

Being a supply chain manager means you will be at the forefront of applying the best possible technology. You must undertake a course that will enable you to be part of the movers and shakers of the organization. That being said, if options are what you need, you can try the Kanban supply chain.

4. Keep up with challenges and trends

When you choose to study supply chain and logistics management, you get to know how to handle trends in the industry. It's an excellent opportunity to deal with what clients want and calculating the company's books.

A. <u>OBJECTIVE OF STUDY</u>

- ➢ To study the impact of Logistics on supply chain performance of Amazon

- ➢ To study of cost associated with the logistics on supply chain of Amazon

- ➢ To study the current scenario of logistics supply chain

- ➢ To study the service improvement for Amazon

B. <u>Scope of the Study</u>

The study is selected to establish the effectiveness and feasibility process of logistics management in the organization, it helps the company to learn the process involved and taken necessary changes if needed. It provides effective information to fill the gaps in the logistics management to have a better and the smooth control over the logistics, therefore is great scope in this field as it can help the organization.

• To understand the efficiency of logistics administration frame work

• To analyze the all types of logistics problems of the organization

• To understand and examine the process of logistics

• To understand the importance of the organization hoe it delivers products and services to its customers

• To analyze the speed and reliability in the distribution of products.

REVIEW AND LITERATURE

LTERATURE 1

A RESEARCH STUDY ON LOGISTIC AND E-COMMERCE OF AMAZON AND FLIP-KART

RESEARCH BY -

- M. Budi Djatmik1
- Rahul B. Chauhan
- Nalbiy Salikhovich Tuguz
- Sameer Ahmed S. Shah

DETAILS : Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(6). ISSN 1567-214x

Reverse Logistics in India is a perfect platform for the entire Reverse Logistics ecosystem to come together to search for new partners, new ideas and learn from the market leaders about their experiences. Mr. Gopalkrishnan V K PJAEE, 17 (6) (2020) 7864 (Member, CII-IL Advisory Council & Vice President, Genpect) on the theme of the discussion said, "Service organizations are struggling to transform from cost to profit centers. To enhance the service profitability, the service organizations need to optimize cost to services, increase customer satisfaction and at the same time also drive service revenue. " A research paper on 'Reverse Logistics' was released on the occasion and among other dignitaries present were Mr. Sunil Kumar (Director – SCM, Oracle) and Mr. Nithin Chandra (Principal, A.T.Kearney), Mr. Bharat Malik (Head-Service, Micromax India and International) and Mr. Sushil

Rathi (Vice President, Mahindra Logistics). The Service Solutions was the Knowledge Partner of the conference

Amazon is the largest internet based company in the United States. Amazon.com started as an online bookstore, but soon diversified, selling dvds, vhss, cds, video and mp3downloads/streaming, software, video games, electronics, apparel, furniture, food, toys, and jewelry. The company also produces consumer electronics notably, kindle, fire tablets, fire tv and phone and is a major provider of cloud computing services. Amazon has separate retail websites for united states, united kingdom & ireland, france, canada, germany, the netherlands, italy, spain, australia, brazil, japan, china, India and mexico, with sites for sri lanka and south east asian PJAEE, 17 (6) (2020) 7865 countries coming soon. Amazon also offers international shipping to certain other countries for some of its products. In the year 2011, it had professed an intention to launch its websites in poland, and sweden. In early june 2013, Amazon.com had launched their Amazon India marketplace without any marketing campaigns. In july, 2013, Amazon had announced to invest $2 billion (rs 12,000 crores) in India to expand business, after its largest Indian rival Flipkart too had announced to invest$1 billion.

3. RESEARCH METHODOLOGY

A. HYPOTHESIS

A null hypothesis and an alternate hypothesis have been contracted by the researcher to analyse the referred objective.

They are –

H0: There is no significant impact of logistics supply chain management on performance of Amazon.

H1: There is a significant impact of logistics supply chain management on performance of Amazon.

Conclusion

I reject null hypothesis

The study shows the goal of logistics supply chain management is to steer the actors of one or several supply chains in order to optimize their performance and thus offer the creation of common value, especially for the customer.

RESEARCH DESIGN

PROBLEM STATEMENT

In the current era of technology and the internet, the business has become very complicated and complex. With the advent of globalization, the sector of business and management has been completely revolutionized and transformed as compared to the traditional methods of conducting business operations. It has lead to more and more competition between a big and well-known business organization that operates its business activities all over the world. In this context, the factor of supply chain management remains at the center of the topic. It occupies the central position of the overall regulation of business management because it has a major role in accelerating the quality and sales rate of the companies. However, poor management of supply chains has drastic implications on the business organization in terms of customer dissatisfaction, loss of trust, poor quality of product and services, loss of reputation, and increased market competition. Therefore, supply chain management has a central role in achieving a high productivity rate in the competitive market, globally.

Generally, research is considered as an endeavour to arrive at the answer to intellectual and practical problem through the application of scientific methods to the knowledge universe. It is movement from known to unknown. Research is essentially

a logical and an organized enquiry seeking facts through objective verifiable methods in order to discover the relation among them and to refer from the board principles or laws. It is really a method of critical thinking.

Research may be defined as a systematic and objective analysis and recording of controlled observations that may lead to the development of generalization of principles or theories resulting in predicting and possibly ultimate control of events.

Methodology is often used in a narrow sense to refer to methods, technology or tools employed for the collection data as well as it's processing. This is also used sometimes to designate data collection to arrive at the conclusion. Infects, it describes that what should have been done. It provides answers to some of the major questions while search like what must be done, how it will be employed, how sources of data will be analysed to arrive at the conclusion. For systematic research scientific approach is necessary. It is therefore essential to follow systematic methodology to arrive at a proper conclusion.

> **The procedures involved in the concept of research methodology are: -**

1) Selection of subject.

2) Selection of project title.

3) Selection of time period.

4) Collection of data.

5) Reliability of data.

6) Reporting.

CHAPTER 3

<u>SOURCES OF DATA</u>

The data collection can be grouped under two types:

- **Primary Data**

- **Secondary Data**

Primary data

The primary data are those which are collected afresh and for the first time, and thus happens to be original in character. But this study is based on secondary data. Thus, the primary data is not required for this study.

Secondary data

Secondary data are those which have already been collected by others. When it is not possible to collect data in primary form, the researcher may take the help of secondary data. They are thus which have already been collected for serving the objectives other then what the researcher might have in his mind.

The sources of secondary data includes: -

1) Books

2) Websites

3) Journals

1. BOOKS:

A book is a collection of paper or other material with text, pictures, or both written on them, bound together along one edge, usually with covers. In library and information science, a book is calling a monograph to distinguish it from serial periodicals such as magazines journals or newspapers.

2. WEBSITE:

A website may be the work of an individual, a business or other organization and is typically dedicated to some particular topic or purpose. Any website can content s hyperlink to any other website, so the distinction between individual sites, as perceived by the user, may sometimes to blur.

3. JOURNALS:

A journal may publication issued at stated intervals, such as magazines or the record of the transactions of a society, are often called journals. In academic use, a journal refers to a serious, scholarly publication, most often peer-reviewed. The purpose of a journal is to provide a place for the introduction a scrutiny of new research and often a forum for the critique of existing research.

Analysis

Inventory

Inventory management is a key part of supply chain management the efficiency of which can spell a difference between success and failure of an organization. According to an industry report issued by the US Department of Commerce, more than $522, 000 million was held in inventory by retailers in 2013 (cited in Chaffey 2015). Therefore, the tech giant tries to carry as little inventory as possible. For example, almost all books sold by the company are not stored in distribution centers but supplied directly from publishers to buyers, which is an effective method of minimizing storage costs for slow-moving items (Lau, Nakandala & Shum 2016).

The company uses a multi-tier inventory model, which is an extremely efficient approach to managing multiple inventory locations. Figure 3 shows the directions of physical and information flows in the model.
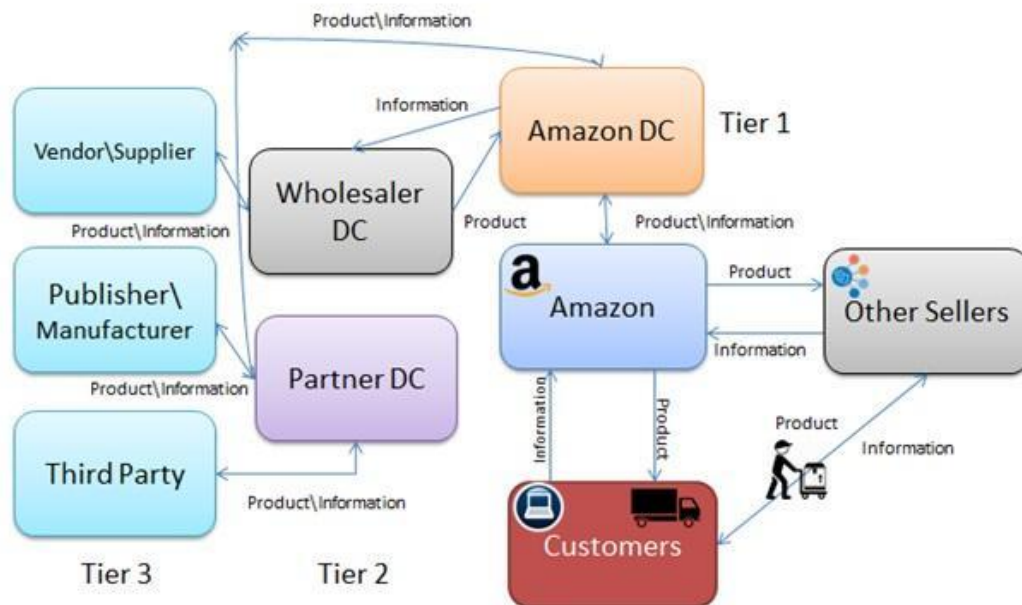
It is clear from the picture that the physical flow of products starts from third party vendors and manufacturers (tier 3), proceeds through wholesaler and partner distribution centers (tier 2), and ends at Amazon distribution centers. Despite the fact that such an approach allows the company to preserve a low inventory level, it is associated with multiple complexities such as demand forecast, redundant safety stock, and a bullwhip effect, which creates a demand distortion (Liu 2013).

In order to facilitate its replenishment decisions, Amazon utilizes a wide range of custom optimizing tools that analyze sales history data and increase visibility across its demand chain (Ivanov, Tsipoulanidis & Schonberger 2017). The company maintains an inventory of millions of products; therefore, it is a heavy user of both private and outsourced IT solutions. Currently, the retailer's central data warehouse consists of 28 Hewlett Packard servers, each of which contains four CPUs (OPEP 2015).

Given that Amazon works with third-party sellers, in order to ensure that its reputation is not damaged, the tech giant provides its partner companies with custom

inventory management solutions (Grundey 2015). The company's software helps third-party sellers to integrate their inventory data from multiple sources, thereby reducing a rate of error occurrence and increasing customer satisfaction.

It is extremely important since accurate product availability is a key to increased sales and revenues (Wallace & Xia 2014). Also, the system allows Amazon customers to offer items even if they are not currently in stock, which is an attractive trend in e-commerce (McAvoy 2016). A recent retail industry report reveals that more than 63 percent of consumers show a propensity for purchasing at online stores that support this technology (AGC Partners 2016).

Reverse logistics is a part of Amazon's inventory management strategy. It has to do with the fact that from 25 to 50 percent customers return their online purchases (Manners-Bell 2014). In order to reduce the number of returns, the company urges its venders to add detailed descriptions of goods they sell as well as to feature high-resolution pictures of them. Moreover, the e-retailer has strict packaging policies. For example, those vendors that fail to polybag or properly bubble wrap items are charged a packaging fee (AMZ Advisers n.d.).

Warehousing

Being the largest e-commerce retailer in the world, Amazon requires effective warehousing that is capable of supporting multiple delivery options. The size of the company's warehousing and fulfillment centers varies greatly and averages around 62, 000 m^2 (Manners-Bell 2014). The location of its warehousing/distribution facilities is an important consideration for Amazon since state incentives and sales taxes substantially differ across the US. As a result of such differences, the e-retailer has been forced to strategically locate its facilities "closer to metropolitan areas in

which there are larger concentrations of the customer" The attempt to extend its same-day delivery capacities is a continuation of the strategy to cut warehousing costs.

Amazon also locates its warehouses close to major transportation hubs used by UPS and FedEx. These companies rely on rail routes; therefore, Amazon's major warehousing centers are located in Tennessee, Virginia, Pennsylvania, and Ohio. Such warehouses are filled with robotic shelves manufactured by Kiva Systems that automate many warehousing tasks (Knight 2015). Human-machine collaboration is a key feature of all warehouses of the company, which reduces the rate of mistake occurrence and reduces operations costs.

Transportation

In terms of transport, the majority of deliveries are now subcontracted by Amazon. But their objective is to develop their own service to deliver 50% of orders in advance.

4 types of delivery exist at Amazon for the moment:

- Drop Shipping (delivery by the supplier, however, this mode is not highlighted on the Amazon site because the customer experience is not controlled, i.e. Amazon never sees the products and can never control their delivery time)
- "Slow Free Delivery" (3/5 days)
- Prime: Delivery in less than 48h (for subscribers – 40€ in France)

- Prime Now: Delivery in less than 2 hours (under certain conditions, notably geographical). Prime Now also has only 30,000 references, mainly on so-called "urgent" products (Beauty, Health, etc.). Once again, the strategy is to develop these Prime Now Hub throughout metropolitan France.

The problem with these fast deliveries is the cost of transport. While the cost of storage has remained stable for about ten years, the cost of transport has exploded.

Packaging and Handling

Packaging and handling of items sold by Amazon are automated to a great extent. All fulfillment centers of the company work in coordinated harmony with robots that increase the productivity of human labor (Knight 2015). The flow of products through the centers is controlled by computer systems that track their arrival and dispatch. Sophisticated scanners operated by the company workers help to recognize the dimensions of each product and allocate a proper amount of packaging material. Robotic shelves are even capable of identifying and sorting items destined for individual customers (Knight 2015). Also, all boxes are weighted before shipment to avoid mistakes.

In order to make unpacking easier for its customers, the company has launched two packaging certification initiatives: frustration-free packaging and e-commerce ready packaging (Amazon 2014). These initiatives help to ensure that Amazon's vendors adhere to standardized packaging requirements, thereby improving customer experience and optimizing the handling and transformation of items. The initiatives regulate shape, marking, labeling, and barcode requirements of vendors' packaging (Amazon 2014).

Problems and Recommendations

Green Logistics

Despite the fact that the company's e-commerce-ready packaging program, regulates the use of recyclable materials and enhances customer experience, Amazon's efforts to make its logistics greener are still lacking in both scope and quality. The company relies on three freight transfer modes: road, rail, and water. Unfortunately, the environmental impact of these modes is quite damaging. Figure 5 shows the average CO^2 emissions per tonne-kg.
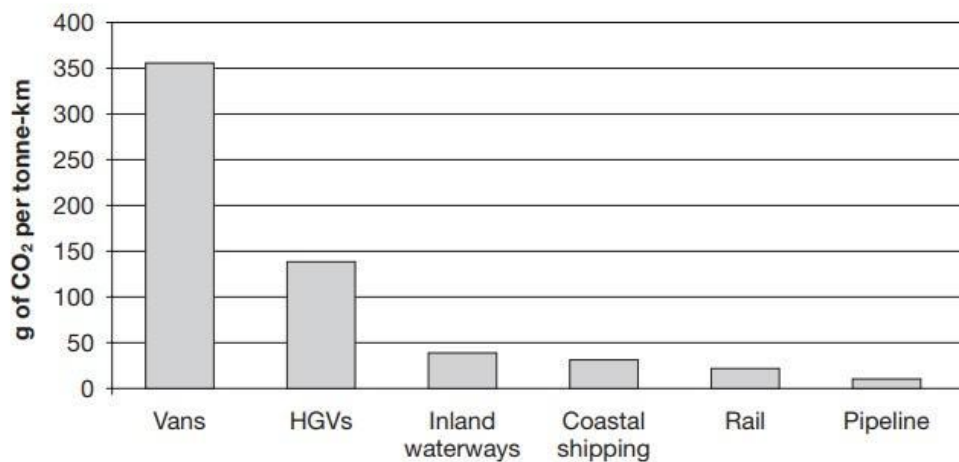
It is evident from the picture that rail freight relates to fewer environmental effects in terms of CO^2 emissions. It means that a recent company's move to purchase delivery trucks is not viable from a sustainability perspective. By making its delivery more environmentally friendly, Amazon will be able to improve its logistical value proposition, thereby making the company more attractive in the eyes of its customers and investors. Therefore, the company has to shift its focus from delivery vans to rail and water modes of transportation.

Swarm intelligence is an IT approach to solving complex problems that can be effectively utilized to reduce the company's carbon footprint. The ant colony

optimization (ACO) is a swarm intelligence algorithm that mimics the behavior of foraging ants (Zhang et al. 2015). The application of the algorithm can help Amazon to find the shortest routes to distribution facilities, thereby optimizing its supply chain design. A chaotic particle swarm optimization (CPSO) is another application of swarm intelligence that might prove useful in making the company's transportation less damaging for the environment. Venkatesan and Kumanan (2012) argue that the algorithm is capable of streamlining any supply chain network.

Amazon can also make use of SEAMO2, which is an algorithm developed by Harris and associates. Using the mix of integer programming and aggregated data analysis, the algorithm helps to "establish the best allocation of customers to serving facilities" and provides "good quality trade-off solutions" (Harris, Mumford & Naim 2014, p. 19). In addition to making the company's logistics more sustainable, this solution will also help to reduce Amazon's operations costs.

Aerial Package Delivery

Amazon logistics department has recently been under a lot of pressure due to the implementation of the Amazon Prime program that relies on freelance drivers. A scoop from the British Broadcasting Corporation (BBC) reveals that the company's delivery workers are regularly breaking speed limits in an attempt to stay on schedule and deliver up to 20 packages per day (Monaghan 2016). Furthermore, the workers are forced to spend more than 11 hours a day driving, which is against the law (Monaghan 2016). Also, Amazon drivers in the UK receive much less than the national minimum wage.

Finally, driven by the desire to cut the costs of the program, Amazon has allowed independent vendors to ship directly to Prime customers. Kline (2015) argues that this decision might leave the company "exposed to any shipping problems its partners may have" . These problems are grounds for a lawsuit that might substantially

damage the reputation of the company. Also, the relinquishing of control over the delivery of its products is fraught with refunds.

Several years ago, the e-commerce giant announced its intention to start a drone delivery program. The project is dubbed Prime Air, and its core idea is the utilization of unmanned aerial vehicles in logistics. It can be argued that in order to ameliorate the issues associated with its original Prime service, the e-retailer has to invest heavily in Prime Air instead of expanding its fleet of cargo vehicles for the last mile delivery. It will help to improve the logistics operations of the organization by reducing legal risks and cutting its reliance on FedEx and UPS.

From the financial point of view, the operation is feasible since there would be no shortage of people willing to receive their packages in under two days. It is projected that despite its numerous drawbacks and inefficiencies, Amazon Prime memberships will exceed 25 million this year (Vempati et al. 2017).

Ark Invest, a developer of innovative investment strategies, has outlined a cost-benefit framework showing that in comparison with ground transportation, aerial delivery with the help of unmanned vehicles is a much cheaper and effective delivery option (Keeney 2015). The company's publication shows that the retailer will be capable of delivering a package in under 30 minutes while charging its customers only $1 (Keeney 2015). There is no doubt that this analysis contains numerous gaps due to a lack of information on Amazon's demand intervals across different areas. Furthermore, current regulations of the Federal Aviation Administration (FAA) pose many restrictions on commercial drone flights. However, if the company is able to get approval for its operations, it will get access to the untapped market of aerial delivery.

The feasibility of drone delivery has been proven in China where several companies have started delivering goods through the air (McKinnon 2016). The country's experience proves that the likelihood of the emergence of such services in the US is also predicated on their logistical trade-offs. However, in order to explore the

potential of air delivery, Amazon will have to reshape its current stockholding points. It has to do with the fact that major logistical facilities of the company "serve areas with radii of hundreds of kilometers, vastly greater than the typical catchment area of a drone" (McKinnon 2016).

Keeney (2015) claims that the cost of a major overhaul of the company's infrastructure will approach $50 million. In addition to retrofitting existing warehouses, Amazon will have to hire additional workers ($300 million), acquire a fleet of small octocopters ($80 million), and spend up to $350 million per year in operating expenses (Keeney 2015). However, given that numerous researchers confirm the feasibility of aerial delivery operations, Amazon should be working on the development of a drone fleet rather than expanding the number of its trucks.

Objective of research

The fundamental target is to discover the viability of strategic administration and furthermore to discover how the representatives do their function in Future supply chain.

Questionnaire Technique

This is an imperative and extremely prominent technique for information accumulation. This is embraced by people, associations and Government. In this strategy a poll is arranged and sent to respondents. The poll when sent to the respondents, a demand is made that the inquiries ought to be addressed and returned. The achievement of this technique to a great extent relies upon the correct drafting of inquiries. Drafting survey required a lot of aptitude and experience.

CHAPTER 4

<u>**Data Analysis and Interpretation**</u>

The information gathered through the overview are down on investigate about the plaintiffs' assumptions around various specifics requested in review. The data accumulated thru the review is refreshed into table plus the data is being interpreted. The inquiry form for the overview contains nineteen questions including choices. The subjects secured is decisions of working zone, representatives' size of every organization, cash turning zone in task, benefit region, advantage offering, definitive adequacy, stock, zone, thing accessibility and consumer loyalty. Study of information is exceptionally capable and skilful which ought to be done just by the researcher himself or under his immediate supervision. It is through careful study that the hidden features of the information are uncovered and genuine speculations are made. Statistical data never represent themselves. Only by methods of analyzing, investigating and interpreting the survey information, their striking characteristics, between relationship, cause and association are brought out. Study of information implies basic examination of the information for understanding the attributes of the object under examination and for deciding the patterns of relationship among the factors identifying with it utilizing both quantitative and qualitative methods.

- Amazon is one of the best companies in the nation-

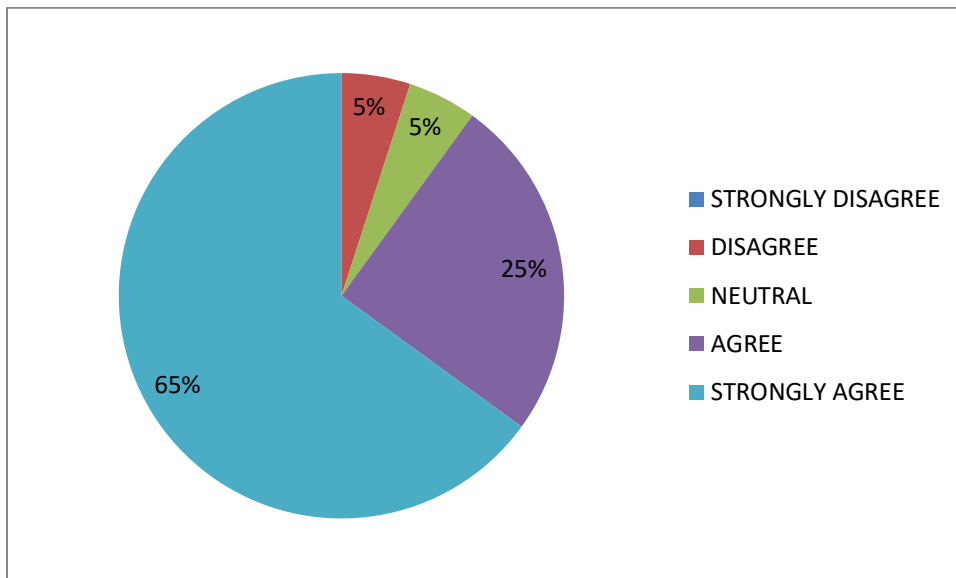| OPTIONS	RESPONSE
STRONGLY DISAGREE	0
DISAGREE	10
NEUTRAL	10
AGREE	80
STRONGLY AGREE	100
TOTAL	200
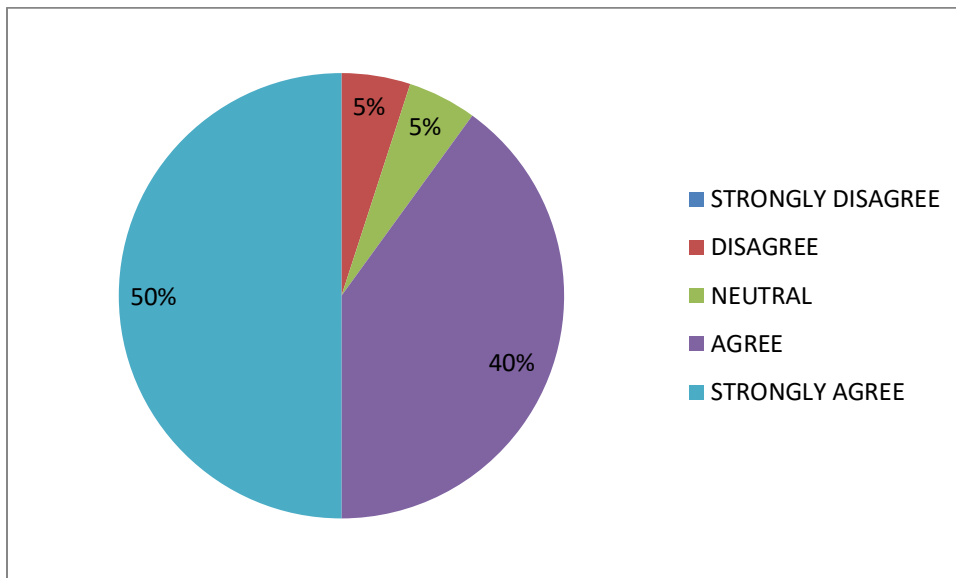
INTERPRETATION

Amongst 200 respondents, 50% of total respondents think that Amazon is one of the best company in the nation. 5% respondents totally disagree with the given statement. Also 40% agree with it and 5% are neutral about it.

- Amazon Ltd. is an Alternative to Big Brands Like Flipkart Ltd. ,Alibaba, Wal-Mart Etc –

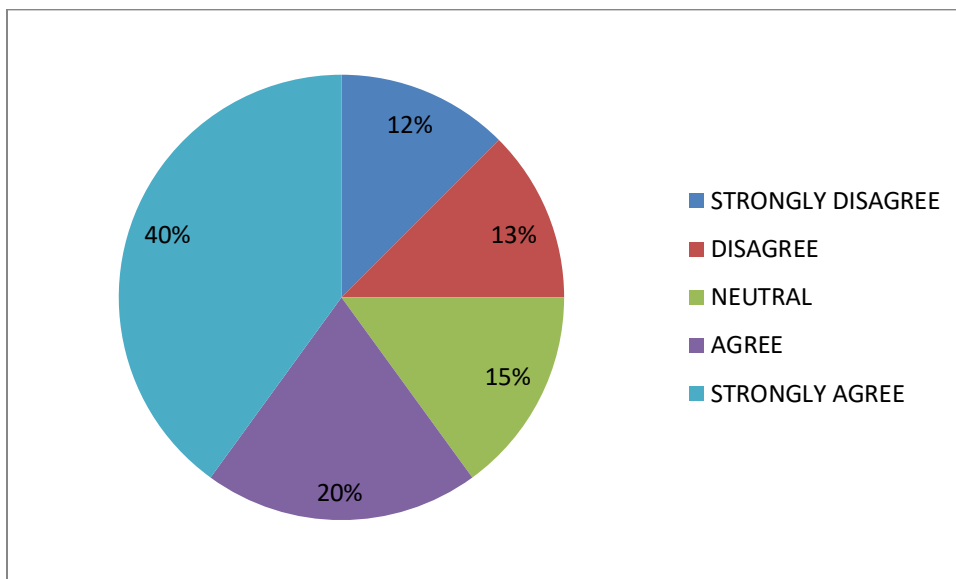| OPTIONS	RESPONSE
STRONGLY DISAGREE	0
DISAGREE	10
NEUTRAL	10
AGREE	50
STRONGLY AGREE	130
TOTAL	200

INTERPRETATION

Amongst 200 respondents, 65% of total respondents think that Amazon is an Alternative to Big Brands Like Flipkart Ltd., Alibaba, Wal-Mart etc. 5% respondents totally disagree with the given statement. Also 25% agree with it and 5% are neutral about it.

- Amazon provides consumers and retailers best quality goods and services

| OPTIONS	RESPONSE
STRONGLY DISAGREE	25
DISAGREE	25
NEUTRAL	30
AGREE	40
STRONGLY AGREE	80
TOTAL	200

INTERPRETATION

Amongst 200 respondents, 40% of total respondents think that Amazon provides consumers and retailers best quality goods and services. 13% respondents totally disagree with the given statement. Also 20% agree with it and 15% are neutral about it.

- Amazon supply chain is one of the ideal network of supply chain-

| OPTIONS	RESPONSE
STRONGLY DISAGREE	20
DISAGREE	20
NEUTRAL	10
AGREE	60
STRONGLY AGREE	90
TOTAL	200
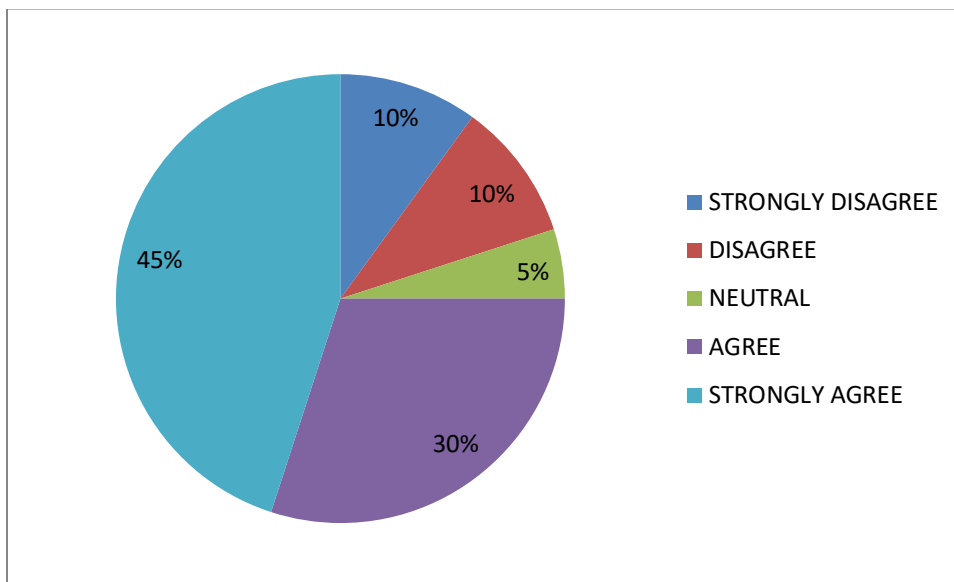
INTERPRETATION

Amongst 200 respondents, 45% of total respondents think that Amazon supply chain is one of the ideal network of supply chain. 10% respondents totally disagree with the given statement. Also 30% agree with it and 5% are neutral about it.

- Were the products you ordered and the products you received the same –

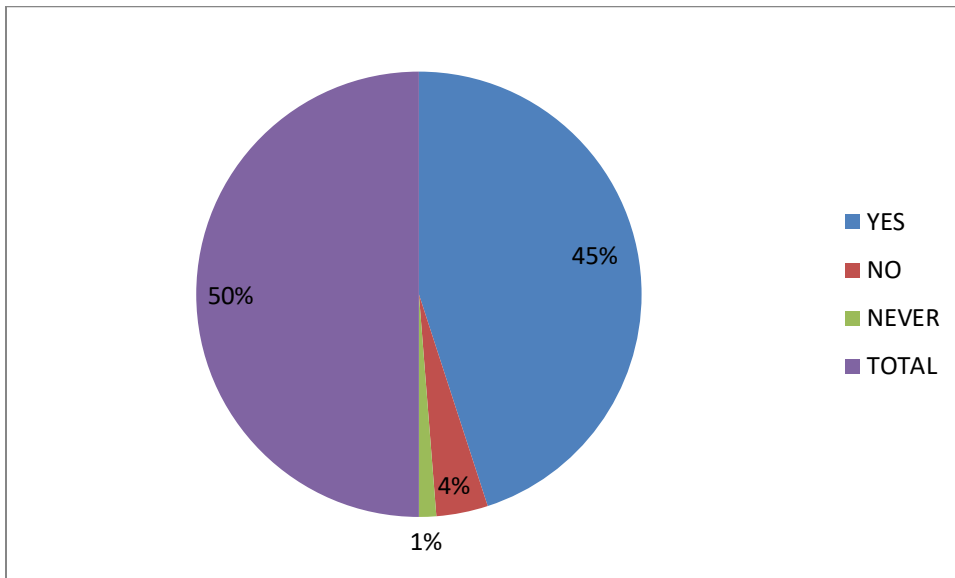| OPTIONS	RESPONSE
YES	140
NO	38
NEVER	22
TOTAL	200
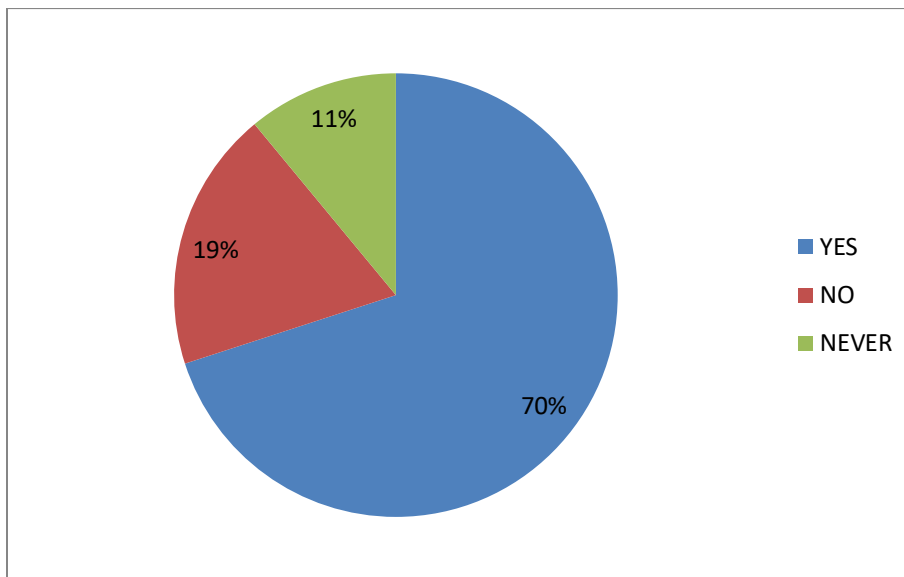
<u>INTERPRETATION</u>

Amongst 200 respondents, 70% of total respondents are favour in this statement that Amazon products you ordered and the products you received the same. 19% are not favour in this statement.

- Is the product delivery time same as that shown in the site –

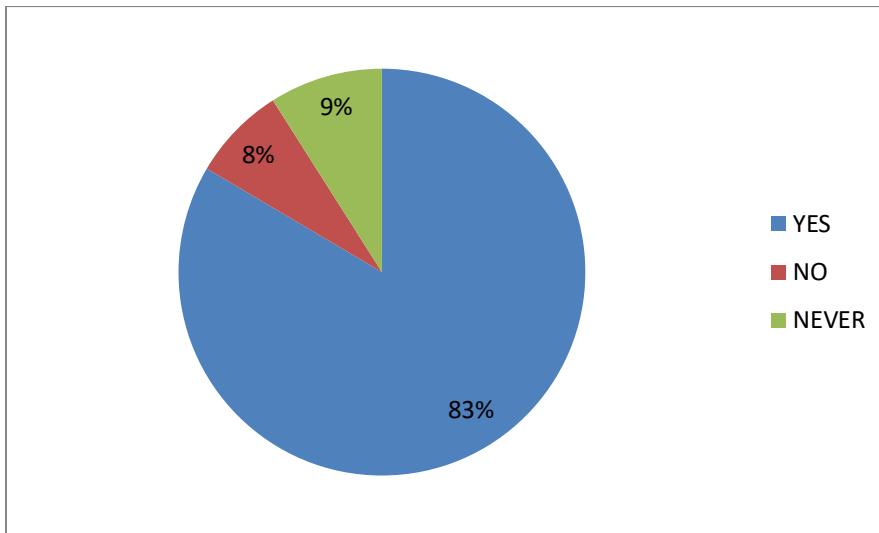| OPTIONS	RESPONSE
YES	180
NO	15
NEVER	5
TOTAL	200

INTERPRETATION

Amongst 200 respondents, 90% of total respondents are favour in this statement that Amazon product delivery time same as that shown in the site. 7% are not favour in this statement

- Are you satisfied with the 'return the product' procedure of Amazon –

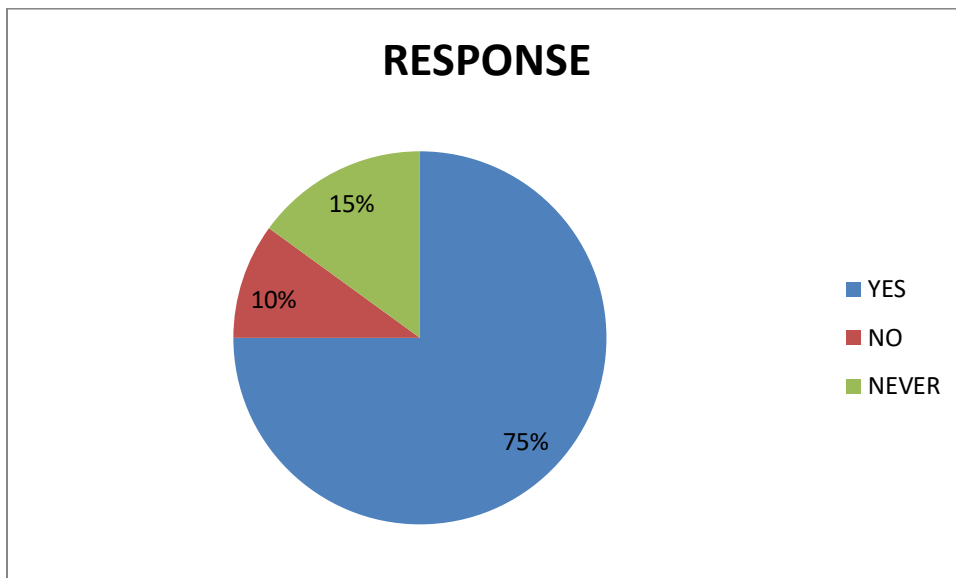| OPTIONS	RESPONSE
YES	167
NO	15
NEVER	18
TOTAL	200

INTERPRETATION

Amongst 200 respondents, 80% of total respondents are favour in this statement that are you satisfied with the 'return the product' procedure of Amazon. 8% are not favour in this statement

- Are you satisfied with the customer care service of AMAZON –

OPTIONS	RESPONSE
YES	150
NO	20
NEVER	30
TOTAL	200

RESPONSE

- YES
- NO
- NEVER

15%

10%

75%

INTERPRETATION

Amongst 200 respondents, 75% of total respondents are favour in this statement that are you satisfied with the customer care service of AMAZON, 10% are not favour in this statement

Findings

- There is good rapport between management and employees and they always work to maintain the same.
- Amazon deals with excellence and use standardized products so that it increases the company's profile and reputation.
- The activities and operations of 3PL logistics provider should be given preference and compete with them.
- Operations in the organisation is well occupied with advanced technologies
- Service proposal currently has decent impact through additional organisations. The focused ranges consist Cargo, Cross docking, also value addition through proper methods.
- Strategic decisions are mostly followed by organisation are quite tough to implement.
- Organisation profit and standards are good compared to other organisation.
- Cargo and cost adding is well-thought-out be the best service which the organisation provides.
- Management is always strong to appoint efficient and skilled persons.

CHAPETER 5.

Suggestion

- Company must provide orientation and training for the employees in order to know whereabouts of the firm.
- It is perceived that Customer Relationship Management (CRM) at Amazon is very good. They need to work on discounts and price cuts for an increase in the number of customers also to increase customer relationship efficiency.
- The table speaks out that the effectiveness of logistics is huge. Amazon need to work on inventory storage.
- From the pie graph we see that the level of customer satisfaction is high. They need to improve on the consumer engagement methods.
- Employees involvement should be increased in the decision-making process.
- Tracking and live tracing of the goods for both the company and the client order must be further enhanced.
- Delivery of goods can be further paced.

Conclusion

We have shown that the goal of supply chain management is to steer the actors of one or several supply chains in order to optimize their performance and thus offer the creation of common value, especially for the customer. An evaluation of supply chain performance can only be carried out with prior identification of value creation for the customer, the company itself and all actors across the chain. Although all supply chains have great disparity between their actors, often related to different maturity levels, objectives and constraints, seeking to improve performance across the whole supply chain is essential. The value creation approach is a key element in achieving a high-quality supply chain for the company and the entirety of the chain. Highlighting this element with value creation attributes is fundamental for any manager looking to direct the various actors in a supply chain. Performance can be measured by using indicators related to value creation attributes, which can then establish a company's maturity or performance level. Implementing processes within an organization and evaluating their performance using models focused on value creation can help to guide the company in identifying those practices that are closely related to their performance.

- There are many hidden logistics costs that can eat up any business's margin. If you're looking to keep logistics costs down and want to hand off time-consuming tasks like order fulfillment and shipping, check out Ship Bob.

- With a network of fulfillment centers across the United States, technology that integrates with the leading ecommerce stores and platforms, discounted shipping rates, and a variety of services to meet your needs, Ship Bob can not only lower logistics costs but help you drive revenue.

- Amazon.com uses Business to customer Model for its better growth. Amazon mainly focuses on the customer satisfaction by providing the various ways to ensure that like as personalization, user ratings and reviews, minimum shipping charge which act as the key ingredients for success of amazon.com. But still Amazon have to do some change on its system like as Global Expansion, Integrating on New Technologies, Innovation of New products.

CHAPETER 6.

BIBLIOGRAPHY

a. Logistics and Supply Chain Management – Written by Donald Bowers ox.

b. BUSINESS LOGISTICS - BARDI

c. Abdinnour-Helm, S. (1999), 'Network Design in Supply Chain Management', *International Journal of Agile Management System*

d. Agarwal, A., and R. Shankar (2003), 'Online Trust Building in E-enabled Supply Chain', *Supply Chain Management: An International Journal*

e. Alvarado, U., and H. Kotzab (2001), 'Supply Chain Management—The Integration of Logistics in Marketing', *Industrial Marketing Management*

WEBSITES:

1. www.google.com

2. www.logisticsmanagement.com

3. www.Wikipedia.com

4. www.safexpress.com

5. www.logisticsworld.com