

‘Strategic fit between the IT Infrastructure and Marketing strategy of Amazon’

Pratistha Chandra

(Indian Institute of Information Technology (IIIT), Devghat, Jhalwa, Allahabad, Uttar Pradesh, India)

Abstract: Amazon, a company that began from selling just books, has transformed itself to a giant that offers 100 million product selection choices. No other online retailer has been able to match its abilities to deliver such a wide variety of products at lowest prices and at fastest speed. It is also one of the most innovative companies in the world and in no time, it has gained a foothold in the cloud computing arena too. This phenomenal success has been possible because of its laser focus on customer centricity. To achieve that, its IT Infrastructure has played a key role. This research paper aims to understand how its IT Infrastructure underpins the three pillars of its marketing strategy- fastest delivery, widest assortment of products and lowest prices. The data has been gathered from leading and latest journals, newspaper reports and magazine articles.

Keywords: ITs Infrastructure, Marketing Strategy, Amazon, Data Analytics.

I. INTRODUCTION

Amazon started in 1994 with selling books through its website, Amazon.com. But today it has become the go-to-place for almost everything – from electronics to art, across the world. For decades, it has been consistently delighting customers and beating competitors with its three pronged strategy – Lowest prices, widest assortment of products and fastest services.

The objective of this study is to answer: How exactly does its IT Infrastructure enable it to implement its marketing strategy? How does Amazon manage to create such a great customer experience and even so at such a large scale of operations? What is the IT Infrastructure it uses and the resulting benefits it enjoys?

This paper aims to examine how the IT infrastructure enables Amazon to implement its marketing strategy and gain competitive advantage.

Theory

Amazon’s IT Infrastructure and P’s of marketing mix: The elements of the marketing mix are essential for developing an effective marketing strategy. The IT infrastructure used at Amazon underpins the activities revolving around the elements of the marketing mix namely - Product, Price, Place, Promotion, People, and Process – to implement a unique and effective marketing strategy.

Product

Amazon sells the widest variety of products – as of May 2016 - 353,710,754 products were offered by Amazon and its marketplace sellers combined. In India, it adds around 180,000 items to its platform everyday (Suveen Sinha, 2017). No other online or offline retailer is even close to this assortment. In India, it sold around 42 million products. . In U.S. alone, Amazon.com has over 150 million monthly unique visitors (Economist report, 2014)

This has been possible because its website and interfaces are user friendly and fastest. Anyone wanting to sell can simply sign up at its website at a nominal charge and reach millions of customers within seconds. Rest all other hassles - from promotion, inventory and shipping activities to payment processing and customer service are taken care by Amazon’s uniquely automated softwares and processes. It enjoys a unique trust with its sellers and customers. As soon as delivery is made, payments are directly made to the seller’s bank account within 7 days (amazon.com). In 2014, more than 2 million third party sellers supplied about 40% of the products sold on Amazon. Using smart softwares and algorithms, there is a perpetual flow of real-time ,ultra detailed information and metrics that allow Amazon to measure nearly everything its customers do – what they put in their shopping basket but do not buy, when ‘abandon point ‘ is reached for a kindle reader etc. This way it can keep track of what users are looking for next.

Amazon has also introduced some very innovative products and product features. In 2004, it launched its Smartphone – Firephone that stands out with features never seen before like ‘Firefly’ button and ‘Mayday’ feature. These unique features are created using cloud computing.

Amazon has also designed drones to successfully deliver products to customers in no time. The Kindle has changed the way people read and carry books today. All these and many more innovations have been possible

because of its smart softwares, algorithms and IT systems that reduce wastage of resource, time and effort and free up resources for new idea generation and implementation.

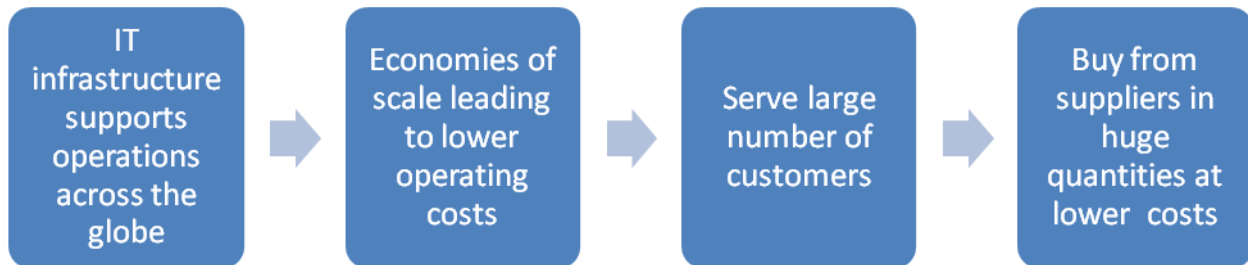


Figure1: Amazon Prime Air drones designed to deliver products faster

Price

Amazon offers 10% lower prices than any other retailer (SuveennSinha, 2017). It undercuts its rivals by such lower prices. According to an interview given to CNN, Jeff Bezos said ‘Our model is to sell premium products at non-premium’ prices.

This is possible because its IT infrastructure supports its operations across the globe and enables it to achieve economies of scale. Economies of scale means lower operating costs because of larger scale of operations. One example of these economies of scale is that because Amazon can serve to a larger number of customers, it buys products from its suppliers in higher quantities. And because it buys in larger quantities it is able to buy them at lower prices because of higher discounts from suppliers. It transfers some of these cost savings to customers in the form of lower prices.



It is reported that Amazon changes prices on as many as 80 million products in a single day ,during the Christmas shopping season .It uses dynamic pricing algorithms on its website using big data analytics (BBC story,2014).Data about customers’ activities on the website, competitor pricing, order history and similar factors are used to decide the prices. This way it earns high profits on less popular items and gives high discounts on best sellers (Nora Aufreiter, Josh Leibowitz and Kelly Ungerman, 2012).

Amazon has a very sophisticated supply chain due to its IT systems - softwares, hardwares, network and communication, which leads to best in class efficiency and reduces costs of goods sold by 3-4% .The amazon marketplace, allows third party sellers to easily sign up and sell their products. This increases choices for customers, increases competition among sellers and further reduces the prices of products. It uses advanced demand estimation technology that helps to keep fewer inventories and save on working capital. All these lead to reduced costs which are then passed onto customers as low prices.

Place



Figure2: Inside of Amazon's Warehouse [Source : CNN]

Amazon's IT Infrastructure has transformed its supply chain. The real time exchange of information across its supply chain gives it the ability to make timely deliveries to its millions of customers in millions of product varieties. It ships to 185 countries.

Its strategy to deliver products to millions of customers at fastest speeds is made possible through smart fulfillment centers (another name for 'warehouses'), delivery stations and sortation centers. From the FCs, the packaged item goes to the sortation centers where it is sorted based on geographical region. Then it is sent to the delivery stations, prime now hubs or airport hubs depending on the address. It is boosting its fulfillment centers with more and more automated workforce.

In US alone, there are 40 fulfillment centers. Each fulfillment center has around 1 million items. India has around 27 fulfillment centers and 4 delivery stations. There are around 130 fulfillment centers worldwide.



Figure3: Peak inside an Amazon FC. It houses around 1 million products

[Source: Fox news]

The fulfillment centers consist of the world's most nimble Infrastructures and IT Platforms. Its ability to do same day delivery is possible because of the speed at which orders are received, picked, packed and shipped from its warehouses. That is due to the quickest real time information flow and exchange between its automated systems and human workforce. The Amazon added 26 new warehouses in 2016, Bloomberg reported.

When customers place orders online by clicking the 'buy' button on amazon.com, the Amazon IT system checks the delivery pin code. Based on that, they redirect the order to the nearest located warehouse which has stock. In that particular warehouse, the computer programs work out where the item is present in the inventory. Then they send a notification to the worker (called 'picker'). The pickers carry a handheld devices which immediately displays the notification. They also display where the item is available in that inventory area. They go to the particular item, pick it, scan it to ensure it's the correct object and send it for packaging process.

Real time tracking of the delivery fleet is done through computers, handheld devices and systems placed at various delivery stations, sortation centers, prime now hubs and airport hubs. As soon as order is placed, workers are notified and guided by handheld smart devices to help them pick, pack and ship the product at fastest speed. That is due to the quickest real time information flow and exchange between its automated systems and human workforce. Workers are guided and monitored constantly by softwares. These are highly sophisticated softwares that track progress of your item delivery every moment. For example, it uses Artificial Intelligence softwares such as 'Addfix'. This software recognizes the postal addresses and converts it to coordinate based addresses (Economic times bureau, 2016). This is important because often the addresses put down by customers are often incomplete or mismatched. To ensure the right delivery to the right place, such softwares play a key role.

Amazon has the world's most advanced order management systems (Source: Mckinsey) that enable it to offer same day delivery services or even 1 hour delivery targets. Its 'demand forecasting systems' are very modern that help it save on inventory costs.

It also offers 'Amazon Prime' – a paid subscription service that allows its members to avail free 2 day shipping. This service is available in countries like USA, Germany, India, France, Japan etc. It is reported that prime members spend about 3-4 times more than prime members.

How is it possible? Amazon Go stores use technologies of computer vision, sensor fusion and deep learning (source: amazon.com). They are the same type of technologies of Artificial Intelligence used in self-driving cars. They keep track of when you pick or return an item on the shelf and monitor your virtual cart. Once you're done shopping and leave the store, they automatically charge from your amazon account and send a receipt.

Another major step taken by Amazon is using robotics and drones to ensure fastest delivery. It is estimated they can help reduce the delivery times to just 30 mins! The company has done extensive research and development to create 'sense-and-avoid' sensors and algorithms which would help the Prime Air drones to see obstacles and move around them to avoid collisions.

Promotion

Amazon invented collaborative filtering algorithms for product recommendations. While customers browse for products on the website, recommendation system algorithms display products that have been viewed or bought by other users. This generates more leads and has led to 35% of sales.

Its Affiliate marketing program is another effective promotion tactic that is supported by its IT systems. Anyone can become an affiliate marketing partner to Amazon using easy to use features present on amazon.com and promote its products on their social media sites or blogs. For eg. There is a 'SiteStripe' toolbar to easily add links to social media, blogs etc.

Product Advertising API for affiliate marketers provides programmatic access to Amazon's product selection and discovery functionality so that developers can integrate Amazon products directly into your website. Through data analytics, Amazon keeps track of how customers browse on its website. It found that Indians browse heavily and like to see a large variety of options before they decide to purchase. This trait was captured in its 'Aur Dikhao Aur Dikhao' Campaign.

Process

Thousands of processes take place every hour at Amazon. To make these complex processes quickest and optimized, Amazon is continuously searching and working on its Information technology, including its infrastructure.

For example, to ensure high performance and cost efficiency even for huge workloads, it has used NoSQL databases. Traditional relational databases use table and rows to store data and run on a single machine and therefore, are less flexible and scalable in case of high loads. But NoSQL databases allow for much higher flexibility to store data many more times and scalability up to a large number of systems. One such NoSQL database service that is offered by Amazon web services is 'DynamoDB'

It has automated all its basic, repetitive and low value steps in all processes. Moving towards more innovation to optimize its processes, robots are increasingly being used in its warehouses. In FCs, about 200 robots help workers prepare 10,000 to 20,000 orders for delivery/day. Amazon acquired KIVA robotic systems, a company that makes these robots.

A unique set of robots, commonly called 'cybots' slide under item shelf racks and move around the warehouse. There are tiny QR barcodes on the floors. They read these codes, broadcast their positions and move around the aisle. They carry the item from the inventory to the picker. This saves a lot of time and helps to save collisions between bots. As soon as customers place orders, these robots are set in motion within seconds.

In sortation centers (SCs), robots called 'Butler and Sorter' work differently. They process and find out the best way to combine multiple items of different dimensions, placed at opposite ends of the warehouse, in a box of

correct size. The accuracy of these robots is around 99.9%. These robots work with precision and efficiency because of the advanced softwares that command them.

As reported by Bloomberg, Amazon uses internal softwares and commodity material handling equipments called 'Amazon Fulfillment Engines' (AFEs). These softwares make decisions such as - which item a worker will pick next off a shelf, where that order will be routed to in the facility, where it'll be combined with other items that eventually arrive as a single shipment to the customer. Optimization of routes for pickers saves a lot of time.

Smart algorithms are used to pack orders in exactly the right sized boxes. Human workers do not need to figure out which boxes to use for which product. There are softwares which eject just enough tape to seal these boxes.

Once packed in boxes, automated process called 'SLAM' adds address to each box as it passes through conveyer lines called SLAM lines. This ensures that the correct address label is put on the boxes in least time. The conveyers on which the items, totes and packed orders move around in warehouses are superfast conveyers. The order levels often fluctuate and there are rush hours too. To maintain the flow, softwares regulate the line to maintain a steady pace.

People

Amazon is a leader in collecting, storing, processing and analyzing data gathered about customers and employees. It analyses customer data to find how they spend their money. It uses predictive analytics to improve customer satisfaction and customer loyalty through targeted marketing (Jodi Kantor And David Streitfeld, 2015). It analyses employee data to assess their performance and ways to simplify the processes to increase employee productivity and convenience. It uses Information technology tools to engage more frontline workers in the process of continuous improvement. It can spot where exactly are workers facing problems. (Marc Onetto, 2014). It ensures when software engineers are not building pages that load fast enough.

Employees can be productive and deliver best customer services when the softwares, applications and interfaces that they use are easy to use and quickest to respond. It saves a lot of time and effort. In its warehouses, workers are provided with pistol like devices that guide them on the shortest path through thousands of shelves. The handheld smart devices also help measure their progress and log in the items that they pick up from the shelves. It moves to introduce more robots that will automatically detect the location of the ordered items and bring it to the pickers will also save much time and increase convenience for the picker. They will not have to move along long aisles to pick items.

Secure payment process

To purchase from amazon, users can pay through the debit card and credit cards etc. This takes place through standard payment processing service providers.

For businesses, 'Amazon Pay' is a smart solution. Your customers can place orders on your website but they can chose to pay through their card details stored in their Amazon accounts. This way they need not share their information and is a very secure method.

Customers are also assured by the A-Z guarantee feature on the amazon website. Buyers can file for refund claims in case of damaged products or failure of delivery. This service also gives access to large and small businesses to Amazon's fraud detection, chargeback controls, and risk-management processes.

DATA security

Amazon has around **300 million** plus accounts of users worldwide (Source: Statistica.com). Users share their personal details such as email ids, phone numbers and their bank account details. Thus, securing such confidential data of myriads of users is of utmost priority for the internet based company .

Data centers

Data centers contain servers, network connectivity and redundant power supplies. They are separately housed in facilities called 'Availability zones'. In about 18 geographic regions, Amazon has 47 availability zones (Marc Wulfraat, 2017). Each region has multiple availability zones that are connected to each other with fast, private fibre-optic networking. Replica of data is maintained across multiple availability zones or even regions to increase redundancy and fault tolerance. Amazon Data centers house **between 50,000 to 80,000 servers**. In order to reduce its costs and increase efficiency, Amazon is also building its own hardwares for its data centers.

Data warehouse

They are central repository to data coming from 1 or more data sources such as transactional systems and other relational databases. They can handle huge workloads and provide data analytical capabilities for effective decision making.

Being an intensely data driven, technology company, Amazon uses data and analytics extensively. It spends a lot on its data warehousing technology. It uses reports, dashboards and analytical tools at every step to extract:

- Insights from the data for what customers want and tailor its strategies
- Monitor the business and people performance
- Support quickest decision making

All such reports and analytics are powered by the data warehouses. They store data efficiently, process it and deliver query results within seconds to hundreds and thousands of customers currently.

Amazon also offers a cost effective, simplified and fast data warehousing solution called Amazon **Redshift**. It is one of the offerings from its cloud services basket whereby users can set up their own data warehouses without investing on hardwares, softwares, time and skilled human resources. They can use its pay as you go model and at a low cost, get their data warehouse set up and scaled up whenever huge volumes of data flow in as business grows.

Redshift delivers fast-query performance when analyzing virtually any size of data set .It uses the conventional business intelligence applications used today.

Important: Redshift delivers about 10 times the performance than an on premise Data warehouse. This is possible through columnar data storage, advanced compression, and high-performance disk and network I/O.

Data Security

Amazon has around 300 million plus accounts of users worldwide (statistica.com, 2017).Users shares their personal details such as email ids, phone numbers and their bank account details. Thus, securing such confidential data of myriads of users is of utmost priority for the internet based company.

Therefore, Amazon has built its data center and network architecture in a way to handle sensitive customer information. It uses sophisticated software and encryption technologies such as SSL (Secure sockets layer) software. This software encrypts every information that the user inputs during transmission.

Data center security:

Data centers consist of large data halls with several hundred thousands of servers and network (such as routers, switches and hubs). The premises are surrounded by three layers of security. Amazon keeps track of every personnel, incoming disk and network communication equipment that enters the facility. It has taken strict measures to ensure safety and security. For instance, in case disk brakes, it is not returned for warranty. Instead, it is destroyed before it leaves the facility.

Kaizen

Since the beginning, Amazon has believed in the philosophy of ‘Kaizen’ as a powerful tool. It is continuous improvement of all functions and processes and involvement of all employees from top to bottom of the organization in this improvement process. Kaizen aims to eliminate wastage. All processes are regularly revisited and each step is clearly defined. IT systems that monitor the processes provide useful data inputs that help to standardize these processes.

Spending on IT Infrastructure

For the first twelve years,Amazon.com committed around **\$2 billion** to set up and refine its IT Infrastructure (Jane Laudon and Ken Laundon,2010).It has focused heavily on modernizing its data centers and softwares so that it can add new features to its website and service offerings. It is adding more and more servers, equipments and data centers. As of 2016, Amazon spent around **\$12.5 billion in ‘technology and content’** last year(Bloomberg ,2016). ‘Technology and content ‘includes R&D activities for new platform development and the cost of Information technology Infrastructure including infrastructure for supporting AWS.

“Technology and content” expense for Amazon over the past 10 quarters.

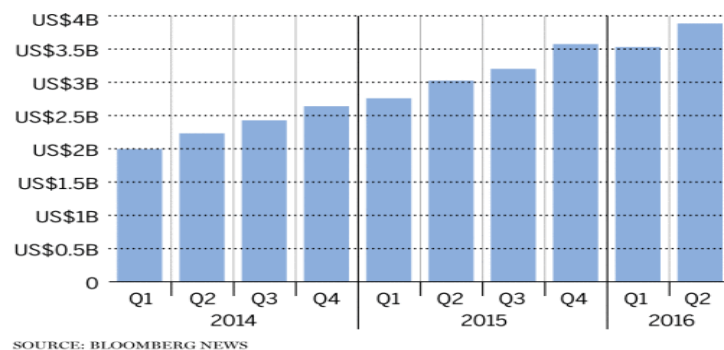


Figure4: Amazon spending on Technology Infrastructure

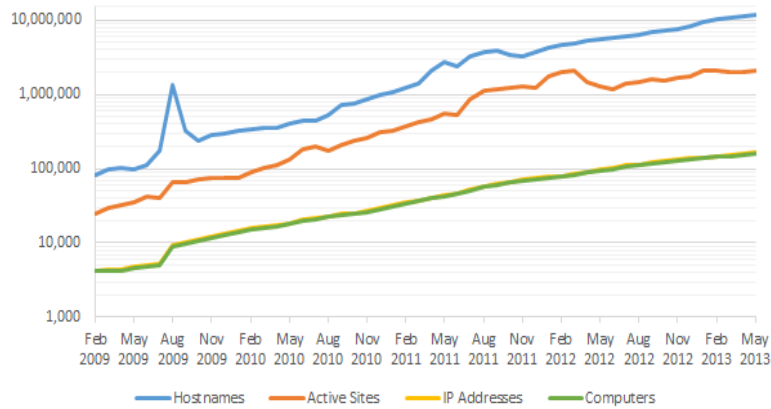


Figure5: Growth of Amazon's IT Infrastructure [Source: www.netcraft.com/archives]

II. LEVERAGING IT CAPABILITIES: AMAZON WEB SERVICES (AWS)

In its initial years, Amazon.com committed **\$2 billion** to set up and refine its IT Infrastructure that would help it develop amazing capabilities. It **continually added IT resources** and focused heavily on **modernizing its data centers and softwares** so that it could add new features to its website and service offerings. As a result, Amazon had built up so much IT Infrastructure that it developed tremendous computing capacity and its infrastructure was considered to be among the most robust in the world.

Later, Jeff Bezos observed that its data storage capacity and server time were utilized only in small portions at any one time. In order to get more returns from the \$2 billion investment in IT, the company began renting its infrastructure and launched its cloud computing services called 'Amazon Web services' (AWS).

Users build on the AWS through the Application Programming Interfaces (APIs) that are provided by Amazon and run their processes on Amazon's computer systems. Simple and easy to use, it has created the opportunity for independent developers, start ups; small and medium sized businesses and large corporations to work at Web scale and build expertise.

Amazon today has more than **2 million servers**, according to a research estimate by Gartner. Its cloud business in India has over 75,000 customers including taxi hailing app Ola, television network NDTV and Tata Motors. Microsoft also uses Amazon S3 services to increase software download speeds for its users.

S3 stands for Simple storage Service and is a storage service for the internet. Amazon S3 has a simple web services interface that you can use to store and retrieve data. The NASDAQ stock exchange uses S3 to host data for Nasdaq Market Replay. The CIA, intelligence agency of the USA uses AWS.

Revenues from AWS: In 2016, AWS's revenue reached \$12bn, up by more than 150% since 2014. Illustrated below in figure6.

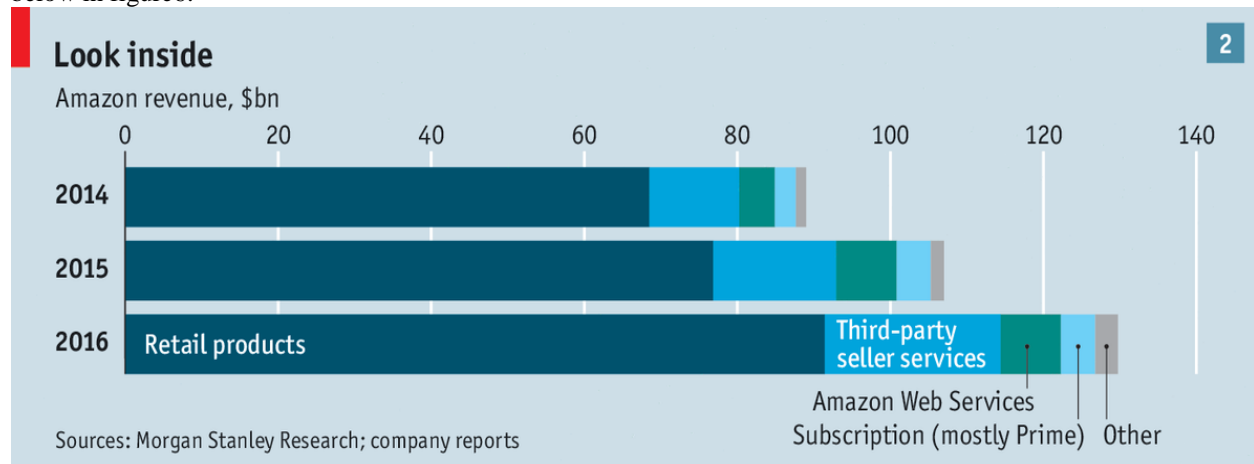


Figure6: AWS revenues on the rise

III. FINANCIAL DATA ABOUT AMAZON

Revenue: 136 billion USD (2016)

Net income: 2.371 billion USD (2016)

Income Statement

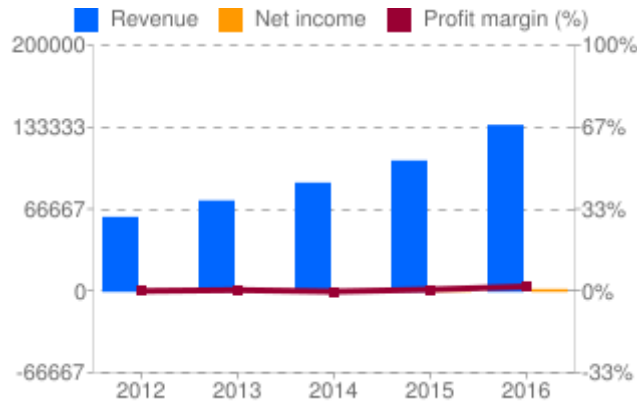


Figure7: Amazon's Income Statement

Balance Sheet

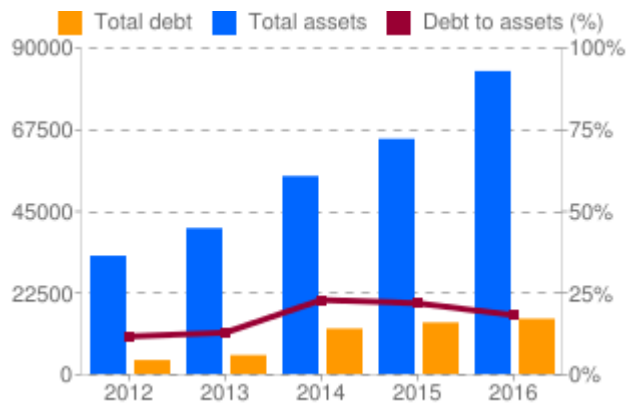


Figure8: Amazon's Balance Sheet

Amazon still struggles to make profits. Its P/L statement shows that it has high revenues. But because it believes in investing heavily for long term growth - like its investments in modern IT Infrastructure and emerging technologies - profits are very low.

Amazon has become one the most trusted companies in the world. Despite such low profitability, its investors are highly optimistic about it. They feel that it'll grow much faster and bigger than any other firm in history. [Fig 7] Illustrated below shows the substantial rise in its market cap between 2013-2017 with current market cap of \$419 Billion (net worth)

This has now made it the world's fifth largest company by value. It is the biggest online retailer in America. Amazon Web services (AWS) is larger than the three closest competing cloud providers combined, in terms of basic computing services and is rapidly grabbing market share.



Figure9: Amazon's growth in Market Capitalization from 2013-2017

IV. RESEARCH FINDINGS

Through this research, it is evident that Amazon's IT Infrastructure has played a key role in making it the leader in online retail. Amazon has a constant focus on modernizing and refining its IT Infrastructure. This has led to breakthrough innovations and helped it tailor its unique marketing initiatives based on customer needs. The real time flow of information and data analytics have empowered it to provide the fastest services and win customers' loyalty like no other e-tailer has. The infrastructure is constantly updated to support the culture at Amazon - that is to act quickly on limited information to stay ahead. Now it is rapidly working on artificial intelligence and machine learning to deliver goods more quickly.

With such massive IT Infrastructure set up, it began renting it and moved into cloud computing business. AWS has a 27% share in the global cloud infrastructure market followed by Microsoft, IBM and Google. Today, be it start ups, small businesses or large corporations, all are huge beneficiaries of Amazon Web Services

Significance of this study

In various studies, IT Infrastructure is mostly seen as a supporting tool for data handling, achieving efficiency and improving communications across the layers of the organizations. Generally, only when a need or disruption occurs do organizations take steps to revamp their IT infrastructure. But as is evident from this detailed analysis of Amazon, it is clear that a suitable IT Infrastructure can empower e-commerce companies to achieve marketing excellence and give them a competitive edge. Therefore, organizations need to adopt a proactive approach during the initial stages and ensure a suitable IT Infrastructure is in place before they implement their strategies.

V. CONCLUSION

Today, Amazon is one of the world's most valued and fastest growing companies. From the day it started, the company has focused on building skills and capabilities to provide a great customer experience. IT Infrastructure has enabled Amazon to build these skills and capabilities and implement its unique marketing strategy. Its founder, Jeff Bezos, was far-sighted to realize that delivering millions of products, at lowest prices and at lightning speeds was only possible with world class IT Infrastructure.

While it still struggles to maintain profitability, investors are highly optimistic about Amazon. Despite its high revenues, its profits are low because it spends heavily for long term growth – one example is that the company does not hold back from investing in developing and modernizing its IT resources and capabilities. IT Investments at Amazon is about **three times higher than top retailers**. Research firm Gartner estimates that Amazon has over **2 million servers**, many more than Microsoft and Google.

Discussion

E-Commerce is at a nascent stage and it will require lots of capabilities to create true value for customers and operate customer experience at scale. The services that e-commerce companies are able to provide to their customers, suppliers and workers are directly dependant on their IT resources and capabilities (Jeffrey Hughes and James Kaplan, 2014). IT Infrastructure can help to develop these capabilities and to constantly innovate to ensure great customer experience

Limitations of the study

The secondary data gathered from credible sources is limited to the specific case of Amazon and the study is majorly focused on e-commerce companies.

Directions for future research

Future research can be done to find out how different types of e-commerce companies (based on their business needs, size and similar parameters) can use IT Infrastructure accordingly to gain competitive advantage. Maybe a model or framework can be created to assess what types of softwares, hardwares, network equipments and systems should be in place for different organizations based on their marketing and business needs.

Sources of funding of the study

The study was totally self-financed by the author.

VI. REFERENCES

- [1] 'About Amazon - Our Innovations - Amazon Fulfillment Network', accessed April 10,2017,amazon.com.
- [2] 'Amazon bulking up it not yet slowing down relentlesslycom' (Jun 2014), The Economist report.
- [3] Bloomberg View, 'The Big spenders on R&D', (April-2016), Bloomberg report, <https://www.bloomberg.com/view/articles/2016-04-29/amazon-and-facebook-are-big-spenders-on-r-d>
- [4] 'BBC - Future - How algorithms run Amazon's warehouses', (Aug 2014)BBC story, bbc.com.
- [5] 'Flipkart to revamp technology infrastructure, invest \$10mn in new servers from Dell', (Jan 2015), Economic Times Report .
- [6] Jane Laudon and Ken Laudon , 'Management Information systems', 11th edition ,Chapter 5, (2010).
- [7] Jodi Kantor And David Streitfeld (Aug 2015) , ' Inside-amazon-wrestling-big-ideas-in-a-bruising-workplace ' , The New York times report .
- [8] Jeffrey Hughes and James Kaplan (2014), 'Where IT infrastructure and business strategy meet' ,McKinsey Insights Article.
- [9] Marc Onetto (Feb 2014), 'When Toyota met Ecommerce Lean at Amazon', McKinsey Quartely report .
- [10] Moulisree Srivastava (October 2016) , 'Google to set up data center in India by 2017',Business Standard Report .
- [11] Marc Wulfraat , President of MWPVL, 'Amazon Distribution Network Strategy' ,available on mwpvl.com.
- [12] Nora Aufreiter, Josh Leibowitz and Kelly Ungerman (October 2012) Amazon's secret sauce ,Mckinsey Insights Article.
- [13] 'Snap Inc to spend-1-billion-on-amazon-cloud-services' ,(Feb 9,2017),Reuters Report .
- [14] Rich Miller , (Sep. 2015) , 'Inside Amazon's Cloud Computing Infrastructure' ,www.datacenterfrontier.com
- [15] Statistica website,www.statistica.com,April 2017
- [16] Suveen Sinha, (April 2017),'Amazon's Amit Agarwal has created solutions unique to India',Business standard