

# BIG DATA AT AMAZON

## Background Note

Amazon was founded in the year 1994 by Jeffrey Preston Bezos (Bezos). It started its operations at a time when the reach of the Internet was increasing and the Internet was being considered as a potential business medium. Understanding the trend, Bezos came up with the idea of selling books through the Internet. He felt that books were the best products to sell online as millions of titles were in print and an e-commerce site could house and sell many more books than the conventional brick-and mortar bookstores. Bezos calculated that the common brick-and-mortar stores could not house more than 200,000 books at a time and aimed to build a large online bookstore which would be bigger than any physical bookstore in the world.

Amazon was initially funded with the money that Bezos borrowed from friends and relatives. Bezos and his wife, along with some employees, built the website and tested it for over a year before launching it (Refer to Exhibit I for Timeline of Amazon). Amazon was finally opened to customers in the year 1995. Like many other technology giants, it was initially run from a garage – the one in Bezos' Washington home. At the time when Amazon started its operations, the book retailing market was highly fragmented and there was no major player except Barnes & Noble, Inc. Barnes & Noble had one-tenth of the total market share but no online presence.

Amazon thus got the first mover advantage and faced very little competition in its initial days of operation. Right from when it began its business operation, Bezos focused on customers and believed that customer loyalty was the key to penetrating the market and increasing sales. Amazon started to ship goods to all the 50 states in the US and 45 other countries within a month of its launch – and all this while still working from Bezos' garage. Amazon's popularity grew through word-of-mouth as customers recommended it to others. Within four months of its launch, Amazon was selling more than 100 books a day.

## Introduction

Leading e-commerce company Amazon.com, Inc. (Amazon) and its subsidiary Zappos were ranked among the top ten retailers in the National Retail Federation Foundation/American Express Customers' Choice Awards for two years (2010 and 2011) in a row. Industry observers felt that the coveted recognition was the result of Amazon's use of its big data resources to provide superior service quality. Right from the time it had emerged as a dominant provider of Internet services in the early 2000s, Amazon had started to focus on big data to improve its performance. Along with many other major Internet companies, it realized the importance of big data in the early 2000s, and had since then, focused on properly utilizing the huge databases of people who were shopping on its e-commerce portals.

Amazon leveraged its big data sources to give its customers good product recommendations and thereby improve the relationship with them. It utilized its big data resources to meticulously upgrade its famed customer recommendation system. Data on past purchases made by customers was used to give them highly customized product suggestions. Analysis of past customer data also helped Amazon in giving suggestions to new customers who were buying from its portal for the first time. Big data helped Amazon in developing 360 degree customer profiles and to create hyper-personalized marketing messages regarding the products based on the needs and preferences of individual customers.

On the customer side, Amazon also utilized its big data resources to improve the quality of its customer care. Easy access to the profiles of customers and their past purchasing/browsing habits made it easy for the company's customer service executives to provide quick solutions

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to the complaints of customers. The acquisition of Zappos by Amazon in the year 2009 further facilitated the use of big data in improving customer service quality. Big data resources were also put to some innovative uses like checking fraud at the organizational level.

### Big Data at Amazon

Over the years, Amazon had evolved from being a pure e-commerce player into a giant Internet services firm which offered a large range of services for individuals and corporations. It started to focus heavily on big data and embarked on its transition from a pure online retailer into a giant big data company. Amazon along with other major Internet giants like Yahoo! Inc. (Yahoo) and Twitter, Inc. (Twitter) realized in the early 2000s that they had huge amounts of data about their users which they could put to valuable use. While the other companies did not concentrate on the importance of big data, Amazon was quick to cash in on the invaluable database of people who shopped on its e-commerce portals around the world. The product recommendation team at Amazon thought of innovative ways in which it could use the data accumulated by the company. The result was the big data revolution which transformed the way Amazon did business...

As an e-commerce giant, Amazon's success had always depended on making the right products available to its customers. Making the right products available in turn depended on understanding the precise products that customers wanted. Understanding the needs and tastes of customers involved doing proper market research as well as analyzing its own customer base. Since its inception, Amazon had been renowned for its product recommender system which provided product suggestions to customers depending upon their past purchasing behavior. Data collected from its customers was the primary driving force behind Amazon's recommender system. Being the leading e-commerce player, Amazon had a large bank of data regarding the likes and the past purchasing behavior of its customer base.

### Utilizing Big Data

Amazon leveraged on big data to improve its relationship with its customers and provide superior customer service. The online retailer built a vast database of its customers and their buying preferences over a long period of time. It was one of the first e-commerce companies to start using the cross-selling/up-selling method. This customer recommendation system was later augmented by utilizing its big data resources. Using big data, Amazon started analyzing the past product purchases made from its online store by its customers and the other items that were purchased along with them. Data collected from its customers was used to give silent but highly customized suggestions to make them buy more. ....

### Looking Ahead

Analysts came up with suggestions on more ways in which Amazon could benefit from big data. Having its roots in selling books, Amazon had built a review system for the books sold through its website. Amazon's review system was mainly based on text reviews written by customers and the number of stars (from one to five) given to a book or author. This review system allowed Amazon to build a community and a loyal customer base. Over the years,

there were allegations that many authors had found a way to manipulate Amazon's review system and to get paid reviews for their books.....

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### Questions

- Analyze how Amazon utilized its big data resources to build a better relationship with its customers.
- Appreciate the importance of developing big data capabilities to improve the performance of a company.
- Discuss and debate how Amazon helped other e-commerce portals to leverage on its big data resources.
- Explore the ways in which Amazon could further utilize its big data resources to improve its business prospects.
- Suggest ways in which Amazon could utilize its big data capabilities to emerge as a dominant player in the big data space.