

# Amazon.com, Inc: The AI Transformation

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In September 2019, Amazon held its second ever Device Event at its Spheres complex in downtown Seattle. Amidst the lush vegetation that populated the three spherical conservatories, the company showcased a deluge of devices based on Alexa, its AI-driven virtual assistant<sup>1</sup>. These devices included picture frames, speakers, earbuds, eyeglasses, even a microwave, as well as a ring that could be used to communicate with Alexa. The Device Event, signaled an intention on Amazon's part to get inside customers' everyday lives, and not only in their computer, smartphones or tablets.

Alexa, which could perform a range of tasks, from online shopping to managing appliances in the home, was just one of Amazon's many initiatives in the field of AI and automation. In an era where competition had driven margins down, Amazon was striving to find more ways to keep its spot as industry leader and bellwether.

But few issues drew more controversy than AI and automation, which could deliver amazing convenience and efficiency for the company and its customers, but raised significant concerns about privacy, ethics, and jobs. Nonetheless, Amazon was moving forward decisively, and Alexa was just one of many initiatives in the field: warehouse automation, delivery of packages by drone, cashier-less brick-and-mortar stores. But resistance was expected: the European Union was already moving towards regulating AI and automation, and personalities like Bill Gates advocated for a "robot tax" that would raise funds to retrain workers who lost their jobs due to automation<sup>2</sup>. Amidst this climate, Amazon had announced "Upskilling 2025" a plan to retrain 100,000 US-based employees by 2025, backed by \$700m<sup>3</sup>. As with everything Amazon did, it was soon put under immense scrutiny. Some thought it was just a PR exercise, a bucket in the ocean for a company whose revenue was counted in the hundreds of billions.

While Amazon was growing rapidly in retail and was well-positioned, competitors were getting stronger as well. There was a concern that the Chinese companies JD.com and Alibaba could be making inroads in Europe and other regions where Amazon was trying to get a foothold. Domestic brick-and-mortar competitors like Walmart were developing a more vigorous online

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presence. There was also the risk that a disruptive change might upend the whole retail industry, like Amazon itself did in the 2000s. To Amazon, it was clear that AI would be central in its efforts to stay ahead of competition, transforming its business from top to bottom. But how to transform a company with 800,000 employees and such an established business model? Moreover, how would the change be received outside and inside the company?

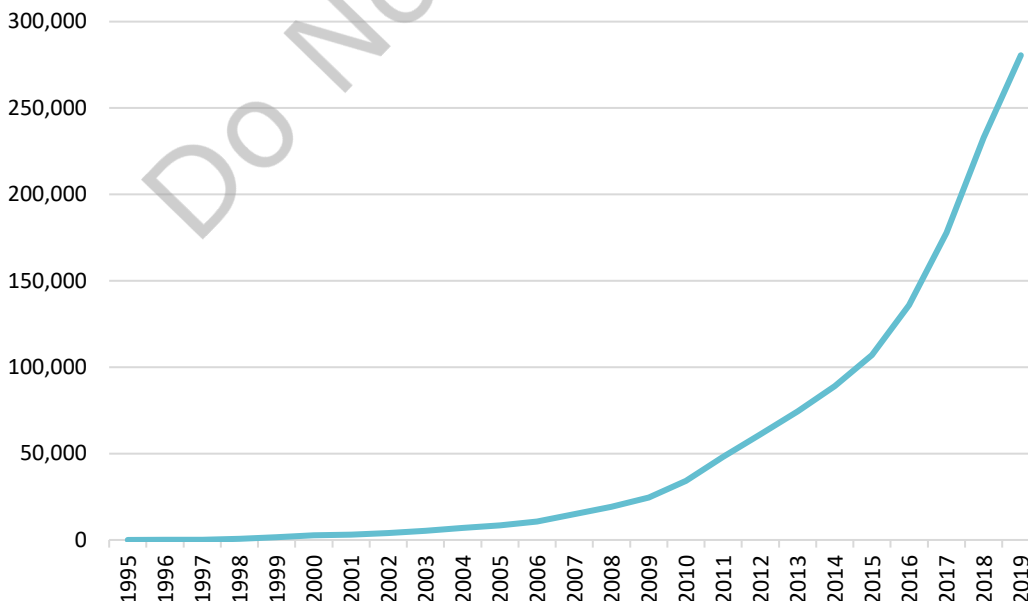
## Amazon.com, Inc.

### The History of Amazon

“It remains day one,” was a favorite saying of Amazon founder and CEO Jeff Bezos<sup>4</sup>, one that stressed the need to retain the entrepreneurial and innovative spirit that allowed Amazon to grow from a modest online book-seller run out of Bezos’ garage to one of the largest retailers in the world.

The company was founded in 1994 in Seattle. Bezos had just left his job in a Wall Street firm and, convinced of the growth potential of the fledging e-commerce industry, began drawing up plans to start an online retailer<sup>5</sup>. Books seemed an ideal choice since they were easy to ship and store, had a good value relative to their weight, and a large, reliable demand. In the early days, the company had a small bell that would ring every time a customer made a purchase on the platform, and very soon the bell had to be turned off<sup>6</sup>. Amazon was a success. In the late 1990s, the company began progressively to expand its inventory, adding toys, electronics, music CDs, DVDs, apparel, home furnishings. The company grew explosively. Indeed, by 2019 Amazon had maintained a 74% CAGR (see **Figure 1**, Amazon sales growth), and even seemed impervious to the dotcom crash of the early 2000s—actually posting their first net profit in 2001 (\$5 million).

**Figure 1**  
**Amazon Sales Growth, Millions of Dollars (1995-2018)**



Source: Amazon. “Annual Reports, Proxies and Shareholder Letters.” Amazon.com, Inc. - Overview. Last modified 2019.  
<https://ir.aboutamazon.com/annual-reports>



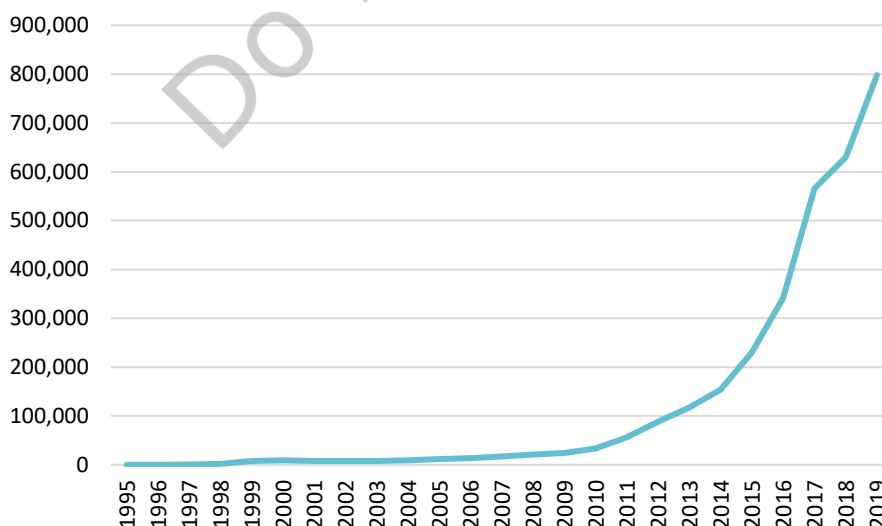
The company went public in 1997. It soon became one of the hero stocks of the first dotcom boom, enabling the fledgling company to acquire capital to finance ambitious M&A and growth plans. In the early 2000s, Amazon began developing cloud computing solutions, which crystallized in Amazon Web Services (AWS), launched in 2006. It was just one of the many business diversifications that Amazon would attempt in the following years, some successful, some not. For example, its attempt to enter the smartphone market with the Amazon Fire Phone was discontinued in 2015, just one year after launching. However, other ventures like the Kindle series of e-book readers (launched in 2010) or the Alexa virtual assistant (2014) were much better received by consumers. Amazon also entered the music and video streaming markets with services like Prime Music and Prime Video.

Amidst this expansion, Amazon had launched in 2006 Amazon Prime. Prime started as a subscription service, where customers could pay a yearly subscription (\$79 at launch) to get free shipping for a large catalog of eligible products. In the following years, Amazon would bundle a growing list of services under Prime, adding—for example—free music and video streaming, free cloud storage, and many others.

In the 2010s, Amazon began experimenting with developing a brick-and-mortar presence. It purchased the supermarket chain Whole Foods in 2017, with around 500 locations in the US. It also started its own chain of partly automated stores, called Amazon Go, in 2018. By the end of 2019 Amazon Go had opened 25 locations throughout the US<sup>7</sup>. In parallel to those efforts, the company had penetrated the last retail product category it had yet to enter—groceries and perishables, through Amazon Pantry and Amazon Fresh.

As Amazon both diversified its business and expanded it internationally, the workforce grew to keep pace. What began in 1995 as a small startup with 11 employees grew exponentially in the 2010s, topping at 798,000 staff by the end of 2019. The expectation was that headcount would continue to grow as Amazon sought to offer more products in more markets, and to deliver them in the quickest way possible.

**Figure 2**  
**Amazon EOY Headcount (1995-2019)**



Source: Amazon. "Annual Reports, Proxies and Shareholder Letters." Amazon.com, Inc. - Overview. Last modified 2019.  
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