Artificial Intelligence’s role in Amazon

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AI Bootcamp

10/31/24

Case Study: Amazon's use of AI

Name of company: Amazon.com, Inc

When was the company incorporated?: Amazon was incorporated on July 5, 1994. (Bezos, 1998)

Who are the founders of the company?: Jeff Bezos is the founder of Amazon (Bezos, 1998)

How did the idea for the company (or project) come about?: Jeff Bezos started an online bookstore, recognizing the potential of the internet for e-commerce (Kauffman & Walden, 2001).

How is the company funded? How much funding have they received?: Amazon is funded through revenue generated from its e-commerce operations like Amazon's website, subscription services such as Amazon Prime and cloud computing services through Amazon Web Services (Bort, 2016). Amazon has raised about $1.5 billion in venture capital funding before its initial public offering in 1997 (Bort, 2016).

Business Activity:

What specific problem is the company or project trying to solve?: Amazon seeks to simplify and enhance the shopping experience by offering a selection of products and efficient delivery options (Huang & Rust, 2021). By using AI and machine learning, the company improves how it manages deliveries and inventory, leading to faster shipping times (Huang & Rust, 2021). AI also helps personalize customer interactions by analyzing data and targeting marketing efforts (Huang & Rust, 2021). Additionally, Amazon boosts security with AI-based fraud detection and offers round-the-clock customer support through chatbots (Huang & Rust, 2021). Its sustainability efforts use AI to streamline logistics and reduce the carbon footprint of deliveries (Huang & Rust, 2021).

Who is the company's intended customer? Is there any information about the market size of this set of customers?: Amazon targets a broad range of consumers,

and its global e-commerce market is projected to exceed $6 trillion by 2024 (Malthouse, 2013). The expanding market shows the increasing shift towards online shopping as consumers seek personalized experiences, competitive pricing and quick delivery (Malthouse, 2013). As Amazon continues to innovate and adapt to consumer needs, it positions itself to capture a substantial share of this growing market (Malthouse, 2013). The company's focus on customer engagement and satisfaction is crucial in appealing to its broad customer base, ensuring it meets the diverse preferences and demands of online shoppers.

What solution does this company offer that their competitors do not or cannot offer? (What is the unfair advantage they utilize?): Amazon's unfair advantage is it collects customer data and uses smart computer programs to understand information. This allows Amazon to suggest products that each customer might like based on their past purchases and browsing history, creating a personalized shopping experience that makes customers happier and more likely to buy (Daugherty and Wilson, 2018). Additionally, Amazon can predict what items people will want to buy and ensure those items are in stock, while also figuring out the fastest and cheapest ways to deliver products (Daugherty and Wilson, 2018). The company uses computers and robots to improve how its warehouses and delivery processes work, making them faster and more efficient (Daugherty and Wilson, 2018). These factors help Amazon provide better service and sell more products than many other companies, which often struggle to match Amazon's capabilities because it has invested significant time and money into developing these systems (Daugherty and Wilson, 2018).

Which technologies are they currently using, and how are they implementing them?: Amazon uses smart computer programs to improve how customers shop on its website and app. For example, machine learning analyzes what customers have bought and looked at before, allowing Amazon to suggest products they might like, which often leads to more sales (Agrawal, 2018). Amazon's voice assistant Alexa and its online chat helpers can understand and respond to customer questions in a natural way, making it easier for people to get help and complete their purchases (Agrawal, 2018). Predictive analytics also plays a role by anticipating which products will be popular, helping

Amazon ensure that these items are in stock so customers don't have to wait long for their orders (Agrawal, 2018).

Landscape:

What field is the company in?: Amazon operates primarily in the e-commerce and cloud computing sectors (Brynjolfsson & McAfee, 2014). In the e-commerce space, Amazon serves as a marketplace for many types of products, ranging from books and electronics to clothing and groceries (Brynjolfsson & McAfee, 2014). The company is known for its customer-centric approach, offering features like user reviews, fast shipping options and a return process which helps the shopping experience (Brynjolfsson & McAfee, 2014). Amazon's website provides a wide range of cloud-based solutions, including storage, computing power and machine learning services, to businesses of all sizes (Brynjolfsson & McAfee, 2014). This not only drives significant revenue but also positions Amazon in the digital transformation of various industries (Brynjolfsson & McAfee, 2014).

What have been the major trends and innovations of this field over the last 5-10 years?: Amazon has used AI to make improvements in online shopping (Brynjolfsson & McAfee, 2014). The company has created personalized shopping experiences by using AI to analyze customer data and recommend products that customers are likely to enjoy. Voice shopping has grown with devices such as Amazon Echo and Alexa, making it easy for users to shop by just talking. Automated customer service through chatbots allows Amazon to provide support anytime, improving response times. AI helps predict what products will be in demand and manages inventory effectively, ensuring popular items are always in stock.

What are the other major companies in this field? Competitors include Walmart, Alibaba, eBay, and Google in e-commerce, as well as Microsoft and IBM in cloud computing and AI technologies (Statista. (2023).

Results:

What has been the business impact of this company so far? Amazon has reshaped retail, adding growth in e-commerce and logistics. Its revenues exceeded $514 billion in

2022, demonstrating its extensive market impact (Stone, 2021). AI is an important factor in their success because of their recommendation engine generates about 35% of the company's revenue by providing product suggestions (Stone, 2021).

What are some of the core metrics that companies in this field use to measure success? How is your company performing based on these metrics? Key metrics include revenue growth, customer acquisition and retention rates, order fulfillment speed, and market share. Amazon consistently shows strong performance across these metrics, maintaining a dominant position in the market (Davenport and Ronanki, 2018). Amazon continues to progress in these metrics because of their investment in AI technologies (Davenport and Ronanki, 2018).

How is your company performing relative to competitors in the same field? Amazon leads the e-commerce market in the U.S. and globally, outperforming competitors in customer satisfaction and operational efficiency. Its continuous innovation keeps it ahead in market share and customer loyalty (Stone. 2021). As of 2023, Amazon holds a 37.8% share of U.S. e-commerce market, surpassing its closest competitor being Walmart which is at 6.3% (Stone, 2021). The company's net sales reached $514 billion in 2022 which increased from $470 billion in 2021 (Stone, 2021).

<u>Recommendations:</u>

If you were to advise the company, what products or services would you suggest they offer? I would suggest Amazon expand its AI health tech services, leveraging its data capabilities to offer personalized health recommendations.

Why do you think that offering this product or service would benefit the company? The healthcare market is growing quickly, and by entering this field, Amazon could broaden its services, connect with more customers and use AI to provide personalized health solutions. This is significant at this point in time due to the obesity crisis.

What technologies would this additional product or service utilize? This plan could utilize machine learning for personalized health insights, store health data securely online and offer automated customer support through chatbots.

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