Amazon Web Services

Building dynamic capabilities for IT

Musangi Muthui, CGU SISAT
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Introduction

Amazon was founded in 1994 and began its retail operations by selling books (Huckman et. al., 2008). They soon expanded into other product categories including toys, movies and music. To ensure a responsive and quality experience for customers, Amazon built and refined an infrastructure robust enough to handle dynamic fluctuations in web traffic and fulfilment of their long-tail product strategy.

In 2003, Amazon tapped Andrew Jassy to develop the Amazon Web Businesses platform, believing that they could leverage their technical expertise to help other organizations address the need for scalable, reliable infrastructure without large capital outlays. By 2008, Amazon had launched twelve services, with four of them being under the umbrella of "Infrastructure Web Services" (Huckman et. al., 2008).

Applegate (2009) defines the business model as "how an organization interacts with its environment, to define a unique strategy, attract the resources and build the capabilities, required to execute the strategy, and create value for all stakeholders." Likewise, Drucker (2005) speaks about the importance of accurately defining the theory of the business, which are "the assumptions on which the organization has been built and is being run" including markets, customers, competitors, technology, dynamics, strengths and weaknesses.

In this brief case study, we will analyze how Amazon leveraged principles of dynamic capabilities, Applegate's business model and Drucker's theory of the business to successfully launch the Amazon Web Services (AWS) business.

Defining the strategy

Amazon definedd themselves as a technology company that had successfully leveraged their technical expertise to build an online retail operation (Huckman et. al., 2008). As Bhatt et. al. (2010) explains, IT in itself does not confer direct competitive advantage to the firm, however, the level of IT infrastructure flexibility can impact the firms ability to respond to opportunities, changing market conditions and allocation of its resources.

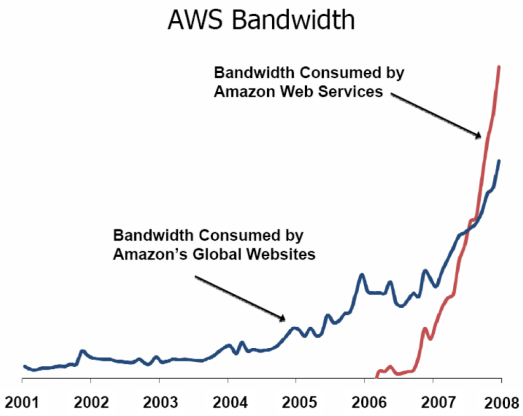
With Amazon's goal of becoming "Earth's most consumer-centric company, where customers can find and discover anything they might want to buy online, and endeavour[ed] to offer customers the lowest possible prices," the flexibility and robustness of the IT infrastructure was a necessity (Huckman, 2008).

Defining themselves as a technology company and a "consumer-centric company" made AWS less of a contradiction for the theory of their business. It also meant along the way, leadership would be spurred on to set goals for IT delivery that would enable them to operate at higher efficiency.

These capabilities turned out to be valuable in delivering a strong user experience for their customers. But it also meant that Amazon faced the challenges of underutilization during slow sales periods, and thus sought ways to incorporate monetization of both their technical expertise and excess capacity into their theory of the business. Amazon sought to deliver recombinant innovation (Shuen et. al., 2009) by expanding their consumer offering into a core business capability and strategy that could be delivered to other businesses. Two implementations of this were the Associate's group and AWS, which we discuss below.

Attracting resources & capabilities

Amazon already had experience with syndication strategy (Shuen et. al., 2009) when it rolled out zShops by selling shelf space to rivals. This later became Amazon Marketplace. Continuing its syndication strategy into the digital space, Amazon



Source: Huckman et. al. (2008)

opened their product information to developers through an API as part of the Associate's group (Huckman et. al., 2008).

Developers were well positioned to take the product information and format it for their websites, which then drove traffic back to Amazon. This decision to appeal to developers, as opposed to executive leadership, proved advantageous.

Large scale implementations can often

be pitched to leadership instead of developers thus leaving this powerful group out of the decision making process for technology platform selection. By giving power directly to the constituency most responsible delivering functionality to market, they were able to implement innovative ideas for propagating Amazon product information.

Amazon was pleasantly surprised at how creative developers were in implementing the initial product API (Huckman et. al., 2008). The subsequent positive reception to and demand for AWS, as evidenced by the steep rise in bandwidth utilization, was a testament to both its value, and developer perception of how well it addressed a need and allowed them to achieve their goals with less effort and risk.

Creating stakeholder value

One of the initial target groups for AWS was startups. We can assume that many large firms already had substantial investments in data center infrastructure. Organizational processes, data security concerns and culture would be impedements to convincing CIOs in large firms to move their operations to AWS.

However, startups are inherently dynamic and must build an organization with the capacity to "purposefully create, extend, or modify its resource base" (Helfat et. al., 2007; Esterby-Smith et. al., 2009). Startups are looking to disrupt a market, or, at a minimum, increase the competition for market share. Scaling quickly can be a challenge for a small firm with limited resources, both in terms of capital to acquire resources and build out the infrastructure to handle increasing demand.

The ability to scale and meet growing online demand generated by good strategy decisions and/or social buzz can accelerate market growth, or, conversely, lead to the firm's demise if the customer experience is negatively impacted by an inflexible or inadequate infrastructure. This network effect operates exponentially through viral propagation. Shuen et. al. (2009) note how companies like Xing and Flickr grew their online businesses on the premise that "members of a community naturally influence each other." Huckman et. al. (2008) demonstrate how Animoto's decision to leverage AWS allowed them to fully capitalize on their network effect by presenting users with a consistent and quality user experience as members began to influence each other into delivering more traffic to the site.

Conclusion

Amazon acknowledged the threat of competitors and ease of entry into the market early in its lifecycle. Being responsive meant not only expanding their retail operation, but also growing an organizational culture that valued innovation and viewed flexible IT as an enabler for strategic advantage. The firm was able to lead the industry by leveraging its own dynamic capabilities to capture the market opportunity of infrastructure as a service, and the need for scalable IT that was priced per use without upfront costs.

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