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Case 3. Cloud Wars Go Global

1) How do the four companies' cloud business strategies differ from each other?
- Top providers: AWS, Azure, GCP, Alibaba
  - Amazon Web Services (AWS)
  - [Microsoft] Azure
  - Google Cloud Platform (GCP)
  - Alibaba (i.e., Aliyun) - Chinese company
- [1]Understanding how cloud computing systems work based on AWS:
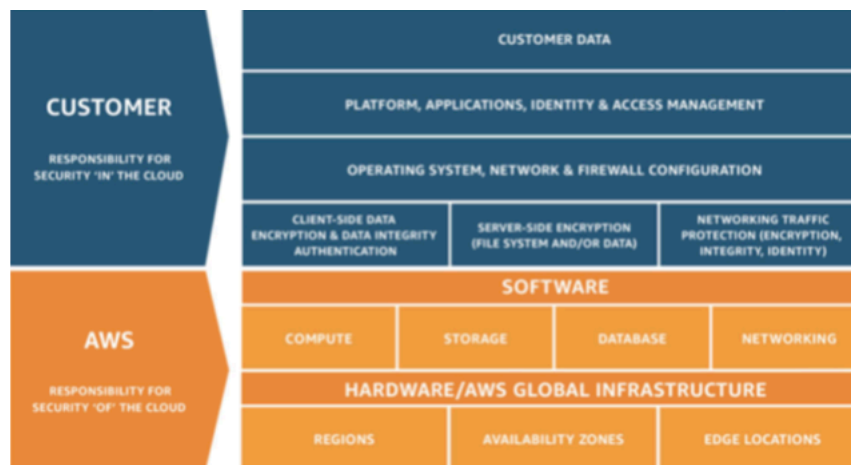
- **Difference in AWS**
  - According to *Cloud War,* Jeff Bezos, the founder of Amazon, rapidly increased revenue through investments and acquisitions with service platforms—grocery services from Whole Foods, gaming on Twitch, and the fashion website Zappos. Based on Figure 5, which illustrates the differences between Q2 of 2018 and 2019 revenue, we see that online stores, third-party seller services, Amazon Web Services,

Figure 5: Amazon Revenue and Segments, Q2 2018 vs Q2 2019

Source: https://www.statista.com/chart/15917/amazon-revenue-by-segment/

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[1] "Ran Dian: Zheng Zai Fa Sheng De Chuang Ye Shi = Startups." *Amazon*, Zhong Xin Chu Ban She, 2019, https://aws.amazon.com/startups/start-building/how-aws-works/.

physical stores, subscription services, and other avenues of revenue are the source of AWS's success. [2]Due to its title as the "most complete and technically advanced system" and its e-commerce ecosystem, it was the first to dominate expansively. Eventually, the high-tech innovative system included the "Internet of things (IoT), artificial intelligence (AI), augmented reality (AR), and data analytics" (Davis, 2020, pg. 6). These features differentiated their product as their cloud business focused on e-commerce vendors.

- This business strategy allowed Amazon to generate its profits due to AWS being the foundation of many of its business models. In 2019, Amazon's AWS made 9.2 billion U.S. dollars in profit ($35 billion in revenue), and 5.3 billion U.S. dollars from other business ventures.
- [3]By the end of 2020, CNBC reported that AWS made 13 billion U.S. dollars from operating income and 4 billion U.S. dollars (from operating income) by the second quarter of 2021 (Novet, 2021).
- Not only are they different due to their business strategy, but Alibaba and GCP are also different from AWS's revenue model because of their clouds being unprofitable.

- **Difference in Azure**
  - According to *Cloud War,* Microsoft's cloud computing business started two years after AWS. Due to their MS softwares (Windows and Office), Azure was popular with multinational corporations. They proved to be challengers through their data centre and 'hybrid cloud'—which allowed both cloud computing and control of confidential data. Although they had notable customers, Microsoft's cloud company targeted companies that did not associate with AWS due to the possible retail conflicts that may arise.
  - Their business strategy of using their existing pedigree for their cloud business created a synergy that allowed them to catch up to AWS. This made them particularly attractive to many industries requiring data collection and analysis—healthcare, retail, and financial services.
  - Azure's business strategy seemed to have paid off as it became the fastest-growing cloud company in 2019 in only three months—growing by 62 percent from September to December of 2019.

- **Difference in GCP**
  - According to *Cloud War,* although GCP didn't have the same strengths as Amazon and Microsoft, their focus on machine learning (ML) and AI led them to catch up with their competitors. Their large data system, which was collected over 17 years, made their cloud system valuable and attractive. Their clientele consisted of banks, financial service firms,

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[2] Schmid, Helen, et al. "Cloud Wars Go Global: How Amazon, Microsoft, Google and Alibaba Compete in Web Services ^ IN1658." *HBR Store*, https://store.hbr.org/product/cloud-wars-go-global-how-amazon-microsoft-google-and-alibaba-compete-in-web-services/IN1658.

[3] Novet, Jordan. "How Amazon's Cloud Business Generates Billions in Profit." *CNBC*, CNBC, 5 Sept. 2021, https://www.cnbc.com/2021/09/05/how-amazon-web-services-makes-money-estimated-margins-by-service.html.

Spotify, Lush Cosmetics, Apple, and Evernote which led their company's cloud platform to be a noteworthy competitor.
- Due to this advantage and their partnership with SAP, GCP became a formidable threat to other "cloud giants."
- In 2019, the platform experienced a 53 percent growth in 2018 and an 88 percent growth in 2019—skyrocketing from 500 million U.S. dollars (2016) to 8.9 billion U.S. dollars (2019).
- **Difference in Alibaba**
  - According to *Cloud War,* Alibaba and AWS emerged in rather similar ways—growing from e-commerce ecosystems and vendors. Alibaba is placed second in dominating Asia-Pacific clients due to its advantage of having a domestic market in China. Along with this, their clients with multinational corporations (MNC) in Asia and Europe, such as SAP, K'archer, and Ford, allowed them to expand globally.
  - Although AWS dominated the global market, Alibaba is China's leading cloud provider, which is a huge consumer base itself. This made it possible for Alibaba to make a presence in the cloud war.
  - Their presence in Asia-Pacific areas was enough to allow them to make a presence among their "Big Tech" competitors, growing 62 percent from 2019 to 2020 and exceeding 1.5 billion U.S. dollars in revenue in 2020.

2) What are the potential synergies between the cloud business with each company's non-cloud businesses?
- **AWS** offers an e-commerce ecosystem that allows other online businesses to receive cloud computing services. This is by using users' data to create predictions of what their online shoppers would buy using data collection on the cloud. By doing this, Amazon creates more revenue as they can sell more items with a prediction algorithm. Furthermore, Amazon's smart assistant, Alexa, uses the cloud for Natural language processing to further assist users and bring comfortability to their experience.
- **Azure** has an existing pedigree in Windows and Office that allows consumers to benefit from the cloud's objective. By using the cloud businesses for their MS products (Office, Azure, LinkedIn) to create a data centre for their users, industries in healthcare, retail, and financial services saw value in their product.
- **GCP** offers lengthy data of over 17 years of collection. This allows Google's clientele to have extensive analysis of their consumers which made GCP particularly attractive to many industries—especially the financial service industries. Using their ML and AI, and their partnership with SAP, a data processing software company, GCP became a prevalent influence. Furthermore, due to their rather low cost, and fast, high functionality, they are predicted to have more influence than their competitors AWS and Azure. They also have something similar to Microsoft's Office 365 software called G Suite (competition & revenue).
- **Alibaba** offers something similar to AWS as they leverage sales with their existing foundation of e-commerce vendors. They provided their cloud business to other online platforms to utilize data for online shopper predictions. They created revenue that exceeded the expected amount in 2020; their revenue increased by 62 percent from 2019 to 2020.

3) Who do you think will be the cloud winner of the battle for worldwide market share in 2025?

- Due to Alibaba being a Chinese company, I am not sure if it will become the cloud winner as political differences would get in the way of its global presence. According to *Cloud War*, they faced additional challenges as non-Chinese companies were wary of trusting their company with mission-critical workloads. This has been an issue for Huawei, a Chinese smartphone company, as well. Based on the study on Huawei, it was apparent that the Chinese smartphone's large presence and fast working 5G model was a threat to the U.S., creating a trade war between Huawei and the U.S. and their allies. Ignoring the U.K.'s statement of Huawei allegedly having "problems" that took place after the U.S. met with their allies to get the platform banned, there was no reasonable suspicion of Huawei's data system other than the accusations of being associated with the Chinese Communist Party. Just by association, Huawei was under enough suspicion to raise eyebrows at the legitimacy of their product. For the same (or similar) reason, although there is no current reason for Alibaba to be under suspicion, other than politics, this difference could lead to an obstacle to winning in the cloud war in 2025.
- [4]According to Google Finance's year-to-day (YTD) market summary of 2022, AWS is experiencing a 7.33 percent increase in stock price, their stock price being 0.16 U.S. dollars; GCP is experiencing a 0.76 percent decrease in stock price (31.46 U.S. dollars); Azure is experiencing a 12.86 percent decrease in stock price (15.81 U.S. dollars); Alibaba is experiencing a 0.51 increase in stock price (99.00 H.K. dollars = about 13 U.S. dollars). Based on this information, we might assume that GCP would win the battle for worldwide market share in 2025.
- Along with GCP's overall worth in the stock market, their access to data and partnerships with notable companies would allow them to flourish globally. [5]However, according to Google's Cloud information website, they currently sell to about 85 territories. [6]Alibaba distributes its network to more than 70 countries. [7]Amazon sells to 245 countries and territories. [8]Lastly, Azure sells to 245 countries.
- Therefore, although GCP seems like a reasonable choice at first glance, I would have to bet money on Azure due to the combined reasons of their market value and the number of countries they are currently distributing their services to.

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[4] "Google Finance - Stock Market Prices, Real-Time Quotes & Business News." *Google*, Google, https://www.google.com/finance/.

[5] *Google Cloud Platform Territory List*, Google, https://cloud.google.com/gcp-territory-list.

[6] "Alibaba Cloud Global Locations." *AlibabaCloud*, https://www.alibabacloud.com/global-locations#J_5392902970.

[7] "Global Infrastructure." *Amazon*, 2017, https://aws.amazon.com/about-aws/global-infrastructure/.

[8] Mingshen-Ms. "Supported Publisher Countries and Regions." *Microsoft Docs*, https://docs.microsoft.com/en-us/azure/marketplace/sell-from-countries.