Voice War Case Study Analysis

Intelligent Voice Assistant technology has been gaining a lot of popularity over time and many tech giants have ventured into this segment to create a stance in the market.

The best-positioned firm in the voice wars would be Google Assistant and Amazon's Alexa. The weakly positioned firms would be Apple's Siri and Microsoft's Cortana.

Google:

- As Google owns android OS and has core search engine technology and voice technology (AI, NLP, machine learning) it is at a major advantage when compared to other firms for its voice assistant. Google's voice assistant 'Hey Google' is available by default in all android devices and cannot be uninstalled as well. It was also made available on iOS devices through an app. With Google Assistant being available in 52 countries and 30 languages, it captured a larger consumer base.
- Google made use of its SDK efficiently by incentivizing third-party developers to build new skills and kept adding these skills to its ecosystem. Google Assistant had around 1830 skills.
- Also allowed third-party hardware to enable Google Assistant on their devices, further broadening the consumer base.

Amazon:

- Amazon's Alexa Skills Set consisted of APIs and tools that were easier for third-party developers to create new skills. This led to the creation of 25,000 skills for Alexa which was much greater than its competitors. Also, these skills were very diverse covering almost all the tasks. These skills could be easily integrated into the hardware devices such as Fire, Echo, etc.
- However, Amazon's ecosystem for Alexa usage was limited to its hardware devices and had a disadvantage with phones and tablets as it could only be used through the Amazon app.

Apple:

- Apple was the first one to make an entry in the voice technology with its intelligent assistant Siri. Also, Siri is the most widely used because of the loyal Apple users who are a majority in the US. But Apple's Siri looks weekly positioned because of multiple reasons.
- Initially, it was made available only on Apple devices which restricted the consumer base. Although they opened to third-party applications, they still maintained a close ecosystem, which reduced the partnerships and skills creation.
- Siri was available only for specific applications such as messaging, voice calling, etc. Also, Apple's HomePod was priced much higher compared to other voice-enabled speakers. These reduced its usage.
- Apple being known for its data privacy, retained the voice technology user data only for up to 6 months, putting itself at a disadvantage as it now cannot use this data to improve the functionality of Siri and couldn't provide better updates. This reduced its integration with other hardware devices and its accuracy. Siri could only answer up to 62.2% of questions correctly.

Microsoft:

- Initially, Microsoft came up with its intelligent voice assistant Cortana for its Windows devices. Although Microsoft has an upper hand in terms of available devices for Cortana (iOS and Android through mobile applications, 500 million windows devices) it was still weekly positioned.
- Cortana Skills Kit for developers to build new skills was ineffective, its certification process was hard to understand when compared to the ones offered by Google and Amazon. This limited the creation of new skills (only 235 skills)
- Also, Cortana was geographically constrained (only 13 countries) and linguistically constrained (only 8 languages)

Winner-take-all or winner-take-most market?

Initially, it might look like the market is a winner-take-all due to the following reasons:

- Google has the best voice technology out there and with greater advancements in voice technology and AI, the assistant gets better with every usage, beating the competitors and could lead to a single assistant dominating the market.
- There is a great network effect involved in this technology. As more and more users start using voice assistants and as more skills are added to the assistants, there would be more partnerships taking place and would eventually lead to increased usage.

- Users tend to stick to one single assistant as they would already be used to certain standards of one assistant. For example, if a user has been using Alexa for a very long time, they would not think of switching to Google Assistant, although the latter has better capabilities. This could lead to a customer lock-in and increase switching costs.

However, the voice technology market could be a winner-take-most due to the following reasons:

- Each firm has dominated its field. For example, Google has the better technology when it comes to search engines and voice assistants. Amazon has a competitive edge in terms of hardware devices such as Echo. Apple has the maximum loyal consumer base and Microsoft has an upper hand in laptops with its windows OS. Each one can impose a restriction on their devices. For example, Google could restrict Alexa's usage on its products such as YouTube, Amazon could restrict Google's Assistant on the Amazon website. Hence, this would lead to no single Assistant that could satisfy all the user needs.
- Also, the firms can partner with each other to provide better assistant. For example, Amazon partnered with Microsoft to integrate Alexa and Cortana. Alexa could access Microsoft calendar and emails; Cortana could access the Amazon shopping website on windows PCs. This would not lead to a single winner.
- Developers tend to create skills for multiple assistants and not stick to one. Also, home device manufacturers and car manufacturers would not stick to one assistant. Instead partner with multiple assistants to avoid monopoly.

Google's strategy in Voice:

Google had a competitive advantage when it came to technology. It was able to achieve 95% accuracy in speech recognition. The revenue stream for intelligent assistants is through dedicated voice-enabled devices. Although Google is leading in terms of voice technology and has the maximum number of Google Assistants enabled on devices (android phones, tablets, watches, etc.), it is falling behind in terms of revenue through dedicated voice-enabled hardware devices. This could be because of a smaller number of skills available when compared to Amazon's Alexa and lesser integration with home devices when compared to Alexa. Also, as Amazon owns a huge, dedicated marketplace, its Echo device for its voice assistant Alexa is leading in this segment. Echo has a market share of 66.7% in the smart speaker segment and Google Home has only 29.5%.

Recommendations:

- Google aims to provide personalized two-way conversation voice assistants to each and every user and it should focus on this approach. A personalized voice assistant is what makes Google stand out among its competitors. Google has a great capability in achieving this as they own the required technology of AI, NLP, etc. This gives them an edge over Amazon.
- To overcome the problem of market share, Google should launch lower-priced dedicated voice-enabled devices and increase the number of skills with better integration with third-party devices.
- Google could monetize its voice assistant through its partnership with big retailers such as Target, Walmart, Costco, etc. For example, Google could get a cut of the Walmart sales revenue made by Google Assistant. Also, Walmart's user's purchase history could be used by Google to include more skills.
- Google could deploy the feature of identifying the device owner's voice and link that voice to the account, restricting others from using the device. But this feature could be provided as an option and not made mandatory, bringing a sense of security to users who are concerned about sensitive personal information.
- Instead of using the Assistant to advertise through voice, Google could focus on text-based promotion. For example, when a user asks, 'Hey Google, show me the list of restaurants near me', Google could show the search results along with a relevant advertisement.
- Google could promote in-skill purchases. For example, 'Teach a kid how to brush teeth'. Such skills could be bought by the users and would become a source of revenue to Google.
- Privacy was a concern to many users. It was found that Google Mini devices were listening to the owner's conversations and recording them all the time. Such data when stored on the servers could be hacked. Hence, Google could make use of Blockchain technology which is safe and secure. As the data would be stored in a distributed and decentralized way, hacking into one will not affect the other block.
- Google could shift from a B2C voice assistant to a B2B approach. It could make its voice assistant available to numerous small and large businesses. For example, to a Bank, Google Assistant can help in handling the customer request calls.

- Google could create an ecosystem of its own where all its products and services are linked with Google Assistant providing a better user experience. This could also increase the sale of Google products as consumers would get a personalized experience of Google Assistant with Google devices.

Google's general Business Model:

Revenue Streams:

- Google's major revenue stream is advertising. This is further segmented into:
  - Google properties: In this revenue stream, Owners pay the entire amount to Google for advertisement (pay-per-click) on its website and properties such as YouTube, Gmail, Google Photos, Google Play, etc. (AdWords)
  - Google network member properties: In this, the members of Google properties such as YouTubers, people owning their website on Google, etc. display the advertisements on their videos or sites. Google gets a cut of the pay-per-click money from the owners and the rest is given to the network members.
- Google's other revenue streams include in-app purchases, hardware devices such as Google Home, and cloud services such as Google Drive.

Costs: Maximum costs are incurred through the cost of sales (costs involved in maintaining the data centers, manufacturing hardware devices, etc.). Followed by research and development, and general and administrative costs.

Cars, Enterprise Solutions, and Other Platforms:

Amazon, Google, Microsoft, and Apple partnered with car manufacturers such as BMW, Audi, and Nissan to add their respective intelligent voice assistants onto their dashboards. These voice assistants were used to navigate, make calls, change music, etc. Companies could utilize the geographical data collected by these dashboards. Google and Apple also added these assistants onto their wireless earphones. All these firms also provided enterprise solutions to businesses. Google and Apple provided solutions to businesses to mimic business chat and customer service conversation with the help of their intelligent voice assistants. Amazon and Microsoft collaborated to provide cross-platform utilization of their voice assistant.

Connected Home:

I believe that Amazon is going to win the war for the connected home. Connected home features mainly included security, lighting, and thermostats.

Challenges:

- The major challenge faced in the connected home is the availability of numerous vendors in the market and integrating voice technology with each one of them is a tough job.
- Also, consumers feared data security due to which the adoption rate was low.
- The companies are incurring costs for the development of skills in the connected home devices and many of the skills are going non-utilized by the consumers (Exhibit 8). If companies, try to create a device with a limited number of skills then the product would be perceived as a low-quality product.

Amazon's approach to Connected Home:

- As per the case study, a household with Echo spent $1700 compared to $1000 without Echo. Amazon leveraged the consumer purchase data to further encourage consumers to restock their items by directing them to order on the Amazon website through Alexa enabled Echo. This is more like influencing the consumers to shop on the Amazon website instead of any other website such as Walmart.
- Amazon overcame the challenge of integration by making Alexa compatible with any third-party hardware device.
- Amazon came up with unique strategies such as incentivizing the developers for building special skills that increased user engagement.
- Amazon's smart home skill API and lighting API further strengthened partnerships with companies such as Sony, Logitech as these APIs helped the companies in making hands-free TV and media control players possible via Alexa.