

COMPETITIVE INVESTIGATION

Amazon Echo



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EXECUTIVE SUMMARY

In November 2014, Amazon released its first Echo smart speaker and created a new market. The launch provided an opportunity for the company to introduce “Alexa” – an artificial intelligence (AI) based digital assistant platform – which users could interact with via voice commands. Since then, the market has grown more crowded as it has evolved.

Google Home entered the fray as Amazon’s first major competitor in November 2016, and the two companies have been battling for market share ever since. Adding more fuel to the fire, both brands opened their platforms to third parties to develop a range of speakers and smart home hubs that use either Amazon’s Alexa or Google Assistant – Google’s intelligent assistant platform.

More recently, Microsoft’s first collaboration integrating its intelligent assistant, “Cortana,” with Harman Kardon speakers arrived on the market in October 2017, and Apple released its first smart speaker, the HomePod, in February 2018, which relies on intelligent assistant “Siri.”

As the market heats up, there are three major market forces that Amazon must be aware of and respond to in order to survive:

- 1. Shift to Early Majority:** The market is shifting from its “early adopter” phase – characterized by tech-savvy consumers willing to look past glitches and bugs in order to have the newest products – to an “early majority” phase, in which a much larger group of consumers adopt the product, so long as it is easy to use and familiar.
- 2. Platform Wars:** The smart speaker market is simply the current battleground for a much larger platform war, suggesting that the battle will be fierce. Major technology giants are scrambling for opportunities to increase market share and maintain relevance within a new computing paradigm.
- 3. The Privacy Paradox:** As voice controlled computing gains traction and becomes more mainstream, brands are increasingly challenged to prioritize consumer privacy and security without sacrificing convenience and usefulness. However, consumers tend to prioritize convenience and value over privacy, and will overlook concerns as the use cases become more compelling.

By preparing for and taking advantage of these market forces, Amazon can stay ahead of market shifts, trends, and ultimately, its competitors.



BACKGROUND

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Key characteristics and perceptions of major players in the market.
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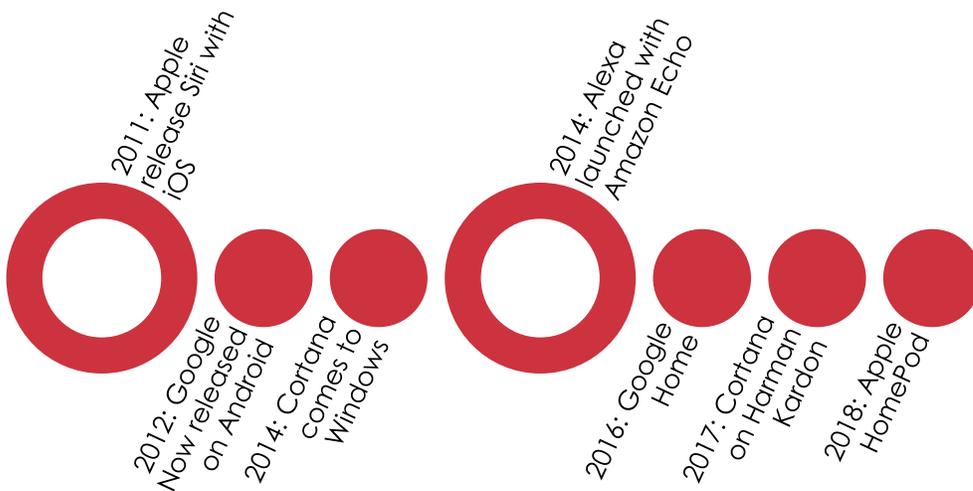
BACKGROUND

The way that people interact with computing devices is transforming. What was previously accomplished via keyboard and mouse is now often done by touching a screen with a finger, or increasingly, using voice commands.

The first major intelligent assistant, "Siri," was launched as a component of Apple's iOS operating system. Launched in 2011, Siri was followed by Google's "Google Now" in 2012, and Microsoft's "Cortana" and Amazon's "Alexa" in 2014. With the exception of Alexa, the first AI-based services were all initially bundled with mobile operating systems and later, desktop operating systems.

Lacking a mobile or desktop operating system, Amazon introduced its voice-controlled intelligent assistant Alexa inside the Amazon Echo smart speaker. When launched, the product was billed as a speaker that happened to be able to do a few things through voice commands, including playing music, reading weather reports, setting timers, and creating lists. The dedicated device approach turned out to have broad consumer appeal, making the Echo a surprise hit that hatched a brand new market.

With the Amazon Echo as a proof point, major consumer technology companies clearly believe that the next wave of computer interfaces are voice controlled systems integrated with artificial intelligence. All have subsequently followed Amazon's approach to bringing such a platform into the home via smart speakers. Google launched Home in November of 2016, more than one year after the introduction of the Echo. Microsoft's first smart speaker collaboration launched in October of 2017, and Apple's HomePod was released in February 2018.



MARKET FORCE: SHIFT TO EARLY MAJORITY

Competitors enter market amid shift from early adopter to early majority phase



Source: Everett Rogers Diffusion of Innovation Model

There is a well-documented [lifecycle](#) in consumer adoption of new technologies that is made of five distinct groups – innovators, early adopters, early majority, late majority, and laggards. Innovators are a small group of people at the cutting edge of creating new products and services, which are first picked up by early adopters who are eager to try new products. In exchange for early access, early adopters willingly accept potential exposure to product bugs or glitches, and are often happy to provide feedback accordingly. The next group to adopt a new technology are the early majority. This much larger group wants the technology to be proven and easy to use. One of the greatest challenges for companies introducing new technologies into the market is to maintain the interest of the early adopters while appealing to the early majority, as these two groups have fundamentally different interests.

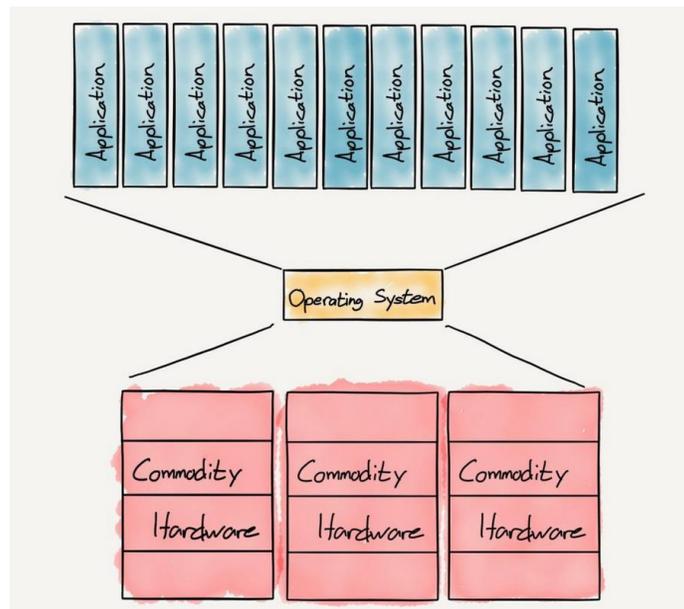
The smart speaker market has been in the early adopter phase for the past few years, with a small but dedicated user base willing to tolerate poor speaker quality or spotty voice interaction. With the arrival of more competitors, especially Apple, and adoption growing rapidly, the market is now transitioning into the early majority phase.

Implications

During this transition from early adopters to early majority, it is critical for Amazon to navigate wisely and appeal to both audiences in order to maintain its momentum. One benefit of the AI space is that it is widely known and accepted that tech companies are in the early stages of building this type of software. Amazon can continue to promote the skills that have been tested and are easy to use and useful, like setting timers and playing music, while encouraging its early adopter base to submit feedback and participate in testing new skills or beta updates.

MARKET FORCE: PLATFORM WARS

Battle to be the next major operating system



Source: Ben Thompson, Stratechery

The slow build of the intelligent assistant market is projected to increase in the coming years. Gartner [projects](#) that by 2019, 20 percent of user interaction will come in the form of voice commands, and by 2020, zero-touch UI will be available on two billion devices. If this projection bears out, or even comes close, the voice-based AI system that can capture the most users during this early stage in this industry transformation is poised to dominate as the next major operating system. As Ben Thompson of Stratechery [explained](#), companies that own the user relationship at the operating system level (between hardware and applications), possess valuable leverage over entire ecosystems.

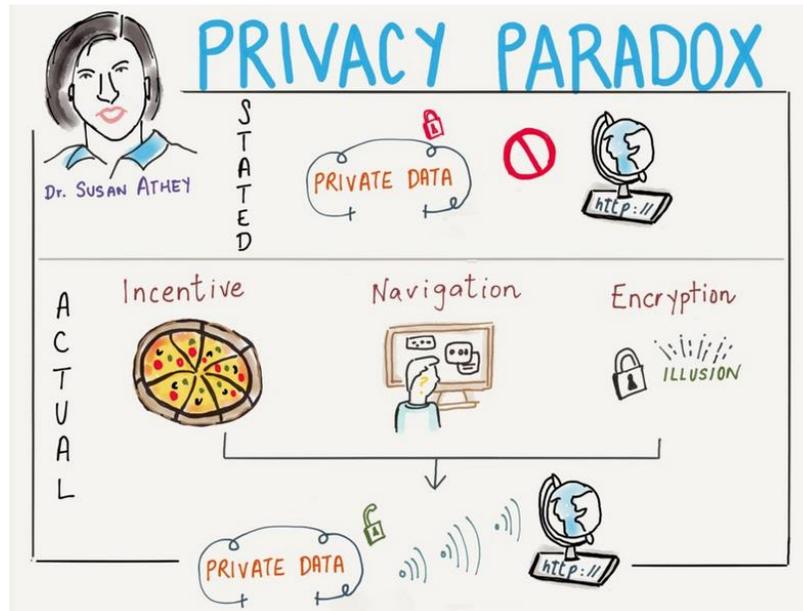
Microsoft (with Windows), Google (with Android) and Apple (with iOS) understand this paradigm, and are competing to provide the operating system of the voice controlled UI era. However, Thompson also notes, “the home was the one place in the world where smartphones were not necessarily the most convenient device, or touch the easiest input method.” According to Thompson, this insight – along with a lack of its own smartphone market to protect – enabled Amazon to create and lead a market for in-home voice-based personal assistants.

Implications

Though Amazon benefits from a head start, competitors are highly motivated to gain market share in this critical space as it might mean the difference between relevance and obsolescence in the future of computing.

MARKET FORCE: THE PRIVACY PARADOX

Convenience will win out over privacy



Source: Susan Athey, Stanford Institute for Economic Policy Research. Image credit: Fyza Parviz

With the shift from early adopter to early majority phase of the smart speaker market in progress, one of the biggest barriers to mass adoption relates to consumer hesitation about letting giant corporations “listen” to everything they say at home. With news reports about security breaches and data theft becoming commonplace, consumers say they are wary of sharing too much personal information with large corporations. However, despite stated preferences, eventually the convenience or experience enabled by a new technology outweighs risks attached to privacy or security concerns. This is called the [privacy paradox](#).

In the case of smart speakers, consumers already provide these major brands with access to the contents of their emails, photographs and other social media content, and they are generally resigned to sacrificing privacy to benefit from the connectivity and convenience that these services provide. As earlier entrants to the market, both Amazon and Google have faced difficult questions about what voice data they are storing in the cloud, and whether that data is legally protected. And as the smart speakers evolve into smart home hubs – incorporating cameras and other sensors as some in the Echo line already have – these questions will persist.

Implications

As the speakers become more ubiquitous, stories about their usefulness and value will ultimately resonate more strongly than stories about data security and privacy. However, consumers will maintain the reasonable expectation that major brands are making efforts to secure and protect their security and privacy. Amazon should be transparent about its commitment to privacy, but focus more on tangible benefits related to connectivity and convenience, as these benefits are perceived by consumers as worth the compromise.

MARKET FORCES: COMPETITIVE POSITIONING

Based on a brand's history and characteristics, as well as the lifecycle of the market force, there are critical inflection points at which a brand can adjust its strategy to increase opportunities and avoid risks. An inflection point – a point at which a brand's position relative a specific market force is changing – is the point at which a brand has the best opportunity to change or build on key perceptions.

	Amazon Echo	Google Home	Apple HomePod
Pitch	Most Flexible	Smartest	Best Hardware
Shift to Early Majority	 <p>The Echo's early entry and market leadership drives broad name recognition, and its family of products offers multiple entry points.</p>	 <p>Google Home has captured a decent share of the market during head to head competition with Amazon, but Apple and other 3rd parties are crowding the market.</p>	 <p>Apple enters the race with a high end device as the market is poised to break out of the early adopter phase, but questions about software capabilities could hinder adoption.</p>
Platform Wars	 <p>As the first major digital voice assistant to be untethered from a screen, Alexa has the advantage of developing a voice-only system from scratch, but doesn't have the benefit of a native mobile solution.</p>	 <p>Google's more open platform and superior knowledge graph have the potential to deliver a superior experience, but drawing on the web for information is messy and attracts controversy.</p>	 <p>Apple has a notoriously closed system which is perceived to uphold quality standards, but also has the potential to inhibit growth and innovation.</p>
The Privacy Paradox	 <p>As the market leader, Amazon is under increased scrutiny related to privacy. With new competitors emerging, superior privacy approaches could further damage Amazon's position.</p>	 <p>Google's advertising-dependent business model makes it the most obvious punching bag for concerns about privacy.</p>	 <p>Apple's closed system and rigid standards for integration, as well as a lack of focus on advertising revenue, offer an advantage in addressing privacy concerns.</p>

PROFILE: AMAZON ECHO



Background

Like other leading technology companies, Amazon is confident that a voice-enabled interface is the next major computing platform. The dominant PC and smartphone platforms (Apple, Google and Microsoft) have long had intelligent assistants to supplement either touch or type interaction. However, without its own screen-dependent operating system, Amazon was able to develop a “voice first” platform – Alexa – which was optimized to be used in the home.

Key Perceptions

Amazon is vulnerable to competition. While Amazon has been praised for not overpromising on the capabilities of Alexa, it must demonstrate its strength in connecting and enabling smart home gadgets to fend off serious competition from Google and Apple.

Alexa needs to improve to become truly useful. Amazon opened Alexa to 3rd party developers, and spent the last year building up the platform’s library of “skills.” While many in the media note the growth of the types of skills, there is a perception that the vast majority are not useful. However, it was also frequently noted that the voice controlled personal assistant space is new, the skills library is new, and services based on AI get better over time. The Echo services, therefore, are expected to improve.

Amazon expanding data collection activities, but cautiously. Amazon is generally perceived to be cautious in terms of storing audio data. However, amidst reports that it may sell transcripts to 3rd parties, as well as concerns that Echo products with cameras will have “always on” access to video, concerns that the brand will prioritize convenience over privacy remain.

MARKET POSITION

Leader

PRODUCTS

Echo
Echo Dot
Echo Plus
Echo Spot
Echo Show
Echo Look
Echo Tap

PRICING

\$39.99 - \$179.99

DIFFERENTIATORS

E-Commerce
Integration
Home “Skills”

VULNERABILITIES

Hardware Quality
Smartphone Integration

TRAJECTORY

Current Leader
Threatened by New
Challengers

PROFILE: GOOGLE HOME



Background

Google launched Google Assistant in May 2016 as an evolution of its intelligent assistant for Android, Google Now. The company continues to invest heavily in AI and Google Assistant is perceived to be the best at answering questions in context. With a current lock on second place, the company was the first of the major tech companies to release a competitor to Amazon with Google Home – which uses Google Assistant – after the Amazon Echo became a surprise hit.

Key Perceptions

Home’s capabilities have potential to break through. Google Home devices have not yet inspired broad adoption. However, Google is perceived to be in a stronger position than Echo to break through due to the integration of Google’s services. They are used by over 2.2 billion people and can be positioned as a distinct advantage in making the Home a truly useful device.

Google’s search dominance is an advantage, but has risks. Reviewers agree that Google’s search capabilities enable better question and answer functionality than other intelligent assistants, giving the company a possible advantage in the smart speaker space. However, by using “featured snippets,” accuracy rates of results go down, potentially damaging the credibility of the service.

Google suffers from skepticism around privacy concerns. Google recently released the Google Home Mini to reviewers with a glitch that made the device store all audio recordings, not just those after the wake word. Though Google disabled the feature that caused this glitch, privacy advocates worry that it is not a high enough priority for the company.

MARKET POSITION

Challenger

PRODUCTS

Google Home
Google Home Max
Google Home Mini

PRICING

\$39 - \$399

DIFFERENTIATORS

Search
AI Investment
Familiarity

VULNERABILITIES

Privacy Concerns Due to Advertising Business Model

TRAJECTORY

Clear Second Place
Vulnerable to Apple and 3rd party hardware makers

PROFILE: APPLE HOMEPOD



Background

Apple maintains a solid reputation for making the “best” tech hardware in whatever market it enters. The HomePod – just released in February 2018 – enters an established market with high-end hardware, but questions about the quality of its digital voice assistant Siri have earned the device mixed reviews.

Key Perceptions

A closed system and high standards for 3rd party integration may slow progress. Apple is lauded for its dedication to privacy and quality, but these principles may limit the company's attempts to become a smart home hub as it is not optimized for the interoperability and 3rd party innovation required in the smart home space.

Siri has not improved enough since its release. Though Siri has been around longer than its competitors, and early on was the standard to beat, Apple has received criticism for failing to innovate as other intelligent assistants have improved and evolved. Reviewers noted that Siri was the last feature to be revealed at the initial HomePod announcement, suggesting that Apple is now more deliberately focused on evolving Siri's capabilities.

Apple extends privacy respecting reputation to smart speakers. Apple's business model does not rely on advertising. This reality translates to the company collecting less personal information than competitors, a point that some in the media suggest has enabled Apple to offer better privacy controls and ultimately, market differentiation.

MARKET POSITION

NICHE

PRODUCTS

Apple HomePod

PRICING

\$349

DIFFERENTIATORS

High Quality Sound

Privacy & Security

Apple Ecosystem

VULNERABILITIES

High End Price Point

No Multi-Speaker Setup

Limited Use Case

TRAJECTORY

Last to Market

Early Mixed Reviews

RECOMMENDATIONS

Shift to Early Majority

Counter “creepy” with “cool.” Though the Echo launched three years ago, the concept of having a voice-based intelligent assistant in the home still gives people pause. The recent news that a bug in Amazon’s Alexa software caused the speaker to laugh without being prompted was widely covered in the media as being “[creepy](#),” “[bone-chilling](#),” and “[terrifying](#),” and evoked fears of machines being sentient, or rising up to take power from humans. While it can be easy to dismiss these fears as overwrought, the incident reveals both an underlying fascination and a persistent unease with interacting with machines as if they were human, or at least sentient. However, the intelligent assistant that is able to evoke positive feelings toward the device, while reassuring customers that they are in control, may be able to assuage fears of a machine uprising and create a new, less science fiction based paradigm in which people perceive these devices.

Emphasize quality over quantity. The reigning perception about all of the intelligent assistants is that though major brands and 3rd party app developers have created a significant number of apps (or “skills” in Amazon’s case), most are not useful. For example, the Alexa platform boasts over 25,000 “skills,” but studies have shown that most people only use two or three. While this puts the company ahead of competitors in terms of quantity, showcasing useful or engaging skills will illustrate tangible reasons users should choose Alexa over other assistants.

Platform Wars

Demonstrate 3rd party integration. As consumers amass smart home devices and components, it will be important that devices are accessible and usable from a unified interface. Highlighting the ability to integrate a wide variety of smart home products into the platform will greatly strengthen consumer messaging.

Balance ecosystem seamlessness with interoperability. Google, Apple and even Microsoft have existing operating systems and hardware ecosystems that must work with their intelligent assistants, but this also enables a more seamless experience. This can be an advantage in capturing brand loyalists. Conversely, Amazon’s Alexa does not have the same type of ecosystem to promote, and instead, prioritizes 3rd party integration and interoperability with other smart home systems and products. This is a clear differentiator from both Google and Apple.

RECOMMENDATIONS

The Privacy Paradox

Prepare for stories about corporations “listening” in consumers homes all the time. A major concern about a device that is passively listening all the time is that the large companies are recording and storing people's private conversations. In fact, smart speakers have already been characterized in the media as “[always-on surveillance](#)” devices. Though it is expected that eventually consumers will prioritize convenience and value over privacy, stories which demonstrate that brands are not taking privacy concerns seriously can slow the shift to accepting a passive listening device in the home.

Be transparent and react quickly. When Google released its Google Home Mini, a reviewer found a glitch in the touch controls that resulted in the transmission of all the audio in his home to Google's speakers, not just commands spoken after a “wake word.” Google quickly disabled the touch controls, but the issue furthered the perception that these devices are capturing too much of people's private data. However, its swift response, including compromising functionality for privacy allowed Google to demonstrate that privacy is a priority. This approach will be the expectation from other brands as well – Amazon must be transparent and act swiftly should major incidents related to privacy occur with its Echo devices.

ABOUT THE OWLS

We are research librarians with more than thirty years of experience conducting media and market analysis. From our headquarters in Portland, Oregon, we've had the opportunity to work with brands of all sizes and across a wide range of industries, from small local businesses to global nonprofits and Fortune 500 companies.



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