AMAZON ALEXA AND THE RISE OF VOICE

A playbook by Salmon
Customer Experience Design
INTRODUCTION

Voice assistants are taking the world by storm. The uptake of these devices since their first introduction a few years ago has been unprecedented, and continues to grow.

These devices have had a huge impact on commerce and continue to change people’s relationship to screens, and by extension, brands. Shopping is becoming an increasingly popular practice on these devices, as they invade homes, often appearing in multiple rooms around the house, as well as in offices, cars and other shared spaces.

With convenience being an important factor in eCommerce, it’s only natural that people will turn to these devices to make their purchases.

This playbook will introduce the notion of voice, and the main voice devices available on the market at the moment – with a main focus on Amazon’s Alexa.

ABOUT THE AUTHOR

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Amy works with leading brands to provide deeper insights into user behaviour. She applies psychology and associated best practices, to design user experiences.

Her expert areas include luxury, fast fashion and impulse buying. She is passionate about innovative technologies that are impacting how consumers and business interact, in particular, the effect they have on people and their relationships with brands.
1. WHAT IS AMAZON ALEXA?

Alexa is a personal voice assistant developed by Amazon. Initially, it was embedded into Amazon’s own hardware (Echo, Echo Dot, Echo Plus, Echo Show and more recently Echo Spot).

However, as Alexa has risen in popularity, increasing amounts of companies are seeing this as an opportunity to reach customers. Alexa can now be embedded into a range of voice enabled devices via the Alexa Voice Service (AVS) (e.g. BMW, Mini 2018, Garmin Speak). In licensing Alexa to third-parties, Amazon can start the integration across platforms and promote the use of Alexa (over competitors) to wider audiences, without really doing anything. This was evident at CES 2018, where a record-breaking number of third-party devices were integrated with the software.
2A. WHO IS USING ALEXA?

Until the end of 2017, Alexa was only available in the US, UK and Germany, although the hardware could be used in limited ways in other countries. However, as of December 2017, Amazon has announced the rollout of their voice assistant to a further 80 countries.

With regards to demographical usage, currently, Amazon has not released any accessible data on who owns or is using Alexa. However, research conducted by JWT and Mindshare (2017), suggests that voice users are more likely to be young, male and in a higher income bracket.

![Image of Amazon Echo](https://example.com/image)

**Figure 2**

Usage of voice technology by demographic (% smartphone users)

Source: Speak Easy survey Feb 2017; n = 1002 UK smartphone users Q: Would you ever consider using voice technology?
2B. HOW IS ALEXA BEING USED?

A report by Kantar (2017), suggested that Alexa is most commonly used for listening to music (via Amazon Music), and controlling smart home devices (e.g., lighting and heating).

Similar conclusions were found in a study conducted by JWT and Mindshare (2017). It suggested that purchasing a researched product or previously purchased product wasn’t a main activity. However, it was more popular than purchasing a product first time.

Stats suggest that purchasing is currently not one of the main activities on these devices, however retailers will be looking to change this soon.

The chart below presents the most popular uses, according to Kantar’s 2017 report.

<table>
<thead>
<tr>
<th>Top 10 Ways Shoppers Use Voice-Controlled Smart Home Assistant</th>
<th>All Echo device owners</th>
<th>Index vs. all Echo owners</th>
<th>Gen Y/X</th>
<th>Boomers/Seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listen to music/streaming radio</td>
<td>55%</td>
<td></td>
<td>94</td>
<td>115</td>
</tr>
<tr>
<td>Get weather forecast</td>
<td>51%</td>
<td></td>
<td>84</td>
<td>137</td>
</tr>
<tr>
<td>Set timers/alarms</td>
<td>41%</td>
<td></td>
<td>90</td>
<td>105</td>
</tr>
<tr>
<td>To look up info/answer questions</td>
<td>37%</td>
<td></td>
<td>84</td>
<td>136</td>
</tr>
<tr>
<td>Have casual conversations (e.g., “tell me a joke”)</td>
<td>31%</td>
<td></td>
<td>87</td>
<td>130</td>
</tr>
<tr>
<td>Get news/sports briefings</td>
<td>30%</td>
<td></td>
<td>87</td>
<td>129</td>
</tr>
<tr>
<td>Make shopping or to-do lists</td>
<td>20%</td>
<td></td>
<td>102</td>
<td>95</td>
</tr>
<tr>
<td>Manage my calendar</td>
<td>18%</td>
<td></td>
<td>96</td>
<td>109</td>
</tr>
<tr>
<td>Play games (e.g., Jeopardy, 20 questions)</td>
<td>17%</td>
<td></td>
<td>115</td>
<td>65</td>
</tr>
<tr>
<td>Purchase items</td>
<td>17%</td>
<td></td>
<td>114</td>
<td>68</td>
</tr>
</tbody>
</table>

Note: Arrows indicate statistically significant difference vs. all Echo device owners (95% confidence level)
3. WHAT IS A SKILL?

A skill is Amazon’s version of an app. Skills help to provide users with more personalised experiences. Currently there are 25,000 skills available globally, in a variety of different categories:

- Food and Drink
- Music and Audio
- News
- Education and Reference

Companies should investigate their entry into skills as they are an easily accessible and viable option to help reach customers and increase sales.
4. WHICH COMPANIES ARE USING SKILLS WELL?

It is hard to gauge which skills are succeeding based on Amazon website reviews, as currently there is little feedback available. Regardless, it will be interesting to see how the review of skills progresses, with more people purchasing devices and using them.

So far, functional skills that have high utility appear to work best, such as weather, travel, news, music. This could be due to the language used to invoke them, and the simplicity and singularity of tasks being asked to complete (e.g. “Alexa, what is the time?”).

Companies that currently use skills include: Ocado, Just Eat, Domino’s Pizza, Open Table, Mercedes-Benz, BMW, Fitbit, Philips Hue, Sonos, Hive, National Rail, Uber.
5. AREAS WHERE SKILLS ARE LACKING

The main limitation across all skills appears to be language barriers. Language doesn’t flow as naturally as normal human interaction would, and this frustrates people (see page 22 on Future Impacts of Voice).

To keep people interested in voice devices, developers need to start thinking of ways to design skills to ensure interactions aren’t too automated.

Ways in which this could be done, could be including variety in responses, particularly opening introduction (instructions don’t need to be read out each time); personalised responses to requests and improvement of language skills (FT has found this to be greatly improving, 2017).

UK retailers have some catching up to do! Of the Top 50 UK retailers, only 1 has a skill (Ocado). This highlights an area for development for retailers, in order for them to get ahead of their competitors.
6. CREATING A SKILL – AND MAKING IT WORK

When developing a skill, it is important to consider the small window given to capture the customer’s attention. A skill has 0.5 seconds to respond to each request, whether it involves searching, providing information, browsing or purchasing. When developing a skill, it’s important to remember the small window you have to capture a customer’s attention. Skills should be created to work simply and effectively.

When creating a skill, Amazon recommends focussing on conversational design and getting “people to try it out conversationally”.

Invocation names need to be concise, short and easy to pronounce/understand, in order to ensure full efficacy. Often, they are the brand or product name (e.g. Domino’s Pizza, National Rail).
7. RISING COMPETITION

Whilst Alexa appears to have paved the way, a number of other voice assistants and devices are entering the market and rising in popularity.

Google devices:
Home, Home Mini, Home Max

Microsoft assistant:
Cortana

Apple assistant:
Siri

Apple device:
HomePod
The increasing presence of technology in our daily lives has long been criticised by many. For years, people have been striving for progressively ambient (less apparent or visible) computing. The development and progression of AI could see these two issues converge and provide a solution.

“Technology has been a great thing, but it’s been too unnatural, an add-on to life, for 40 years.”
Walt Mossberg, 2017

The rise in voice means that technology will become less physically present, whilst still being more accessible than ever before. This provides lots of possibility for companies trying to reach customers with minimal effort.
9. IMPLICATIONS OF TALKING TO A DEVICE

Talking at home when you are alone, whether that be to the TV, the dog or yourself is not unusual. It can be a source of comfort, to express feelings or emotions or simply a subconscious action. So why should this be any different when related to a device?

Talking out loud and alone can be attributed to self-talk, internal conversations we have with ourselves (which are sometimes vocalised). Self-talk can be beneficial for many reasons; it aids children’s memory and learning development, it can curb negative emotions, promote self-confidence, and de-stress individuals.

Integrating the benefits of self-talk with voice technology could have many positive implications for people.
10A. EXAMPLES OF PURCHASING VIA VOICE SEARCH

Currently the only voice assistant in the UK that can facilitate direct purchasing (See 10B)

Uses an automatic search engine on your device to search “buy shampoo”

“BUY SHAMPOO”
“ORDER SHAMPOO”
“WHAT SHAMPOO SHOULD I BUY?”

Directs you to top 5 hair salons nearby

Purchasing is currently only available in the US via Walmart
10B. EXAMPLES OF PURCHASING VIA AMAZON ALEXA

“BUY SHAMPOO”
“ORDER SHAMPOO”
“WHAT SHAMPOO SHOULD I BUY?”
10C. EXAMPLES OF A RANGE OF RESPONSES FROM VOICE ASSISTANTS

“WHERE AM I?”

Supplies the distance away from London
“7.2 miles east to the centre of London”

Gives a rough location, using a map
“You seem to be in Watford”

Typically gives the street address

Supplies a specific address
“36 Clarendon Road, Watford”
11. ANTHROPOMORPHISING ALEXA

Anthropomorphising is the attribution of human form or personality to things that are not human; those ads with talking dogs – you get the idea. Many reports and figures suggest that people want AI to be more humanised:

- In a recent UK survey, it was found that the most desirable trait people want in AI is conscientiousness (SYZYGY, 2017)
- People currently refer to Alexa using female pronouns (such as ‘her/she’).
- Amazon is introducing ‘speechcons,’ which will enable Alexa to say things with more expression, and consequently appearing more human-like.
- To date, Alexa has had 250,000 marriage proposals.

Research has shown that people’s trust in devices increases when they can attribute human-like characteristics to them (Waytz, Heafner and Epley, 2014); we perceive the device to be more capable and reliable when it appears to have a human-like mind.

This is important to bear in mind when considering the implications of using voice devices (and skills) as a way of reaching customers. Developers are encouraged to introduce more variety into the responses Alexa gives to invocation names, so that the standardised response is not given every time (e.g. when opening a skill, the instructions do not need to be recited again and again), as well as making the interaction within the skill more personalised (something that skills currently lack).

Sophia is a social humanoid robot, developed by Hanson Robotics.
12. ALEXA AND CHILDREN

In the hope that the younger generation will be using Alexa more and more, Amazon is now actively seeking people to develop skills specifically for children. It is currently running a $250,000 prize fund competition for people to design ‘Kids Skills.’ People are naturally both apprehensive and excited about voice assistants becoming a prominent part of children’s lives. Key concerns include:

- Manners
- Language development (“Alexa didn’t understand me, I must have said it wrong”)
- Implications of children anthropomorphising voice assistants

Some researchers suggest that the increasing presence of AI in children’s lives is a motivating factor in encouraging vocal interaction. With voice assistants understanding language to an increasing degree of accuracy, in the future they will be able to provide children with one-on-one vocal interactions at all times. Whether this is promising for language development or a concern for parents is unforeseen at present.

13. IMPLICATIONS OF SHOPPING USING VOICE DEVICES

There are some factors that brands must be conscious of when entering the realm of shopping via these devices:

- Pronunciation of names/products – they need to ensure that their customers know how to pronounce their brand/product name correctly.
- Intercepting shoppers at the correct point in their purchasing journey (e.g. “Alexa, order shampoo,” “Alexa, what’s the best shampoo for thick hair?”).
- Conversely, companies should start encouraging customers to be specific about the product they are requesting when talking to Alexa. (e.g. “Alexa, order TRESemmé”).

(See p21 – Winning at Voice on Amazon).
14A. WHAT NEEDS TO IMPROVE?

App usage needs to be minimised. Currently, when you ask Alexa to add something ambiguous to the basket (such as batteries); you then have to go to the app and select which brand you want. There needs to be a more streamlined process where voice is used throughout. This will be more easily facilitated with the introduction of screens to voice assistants (e.g. Amazon Echo Spot and Echo Show).

Currently, the most popular use of Alexa/voice assistants is playing music and controlling smart home devices (such as lighting/heating). Brands have some distance to go before voice can be used effectively for purchasing.

This could possibly be related to trust – currently, people don’t completely trust AI, for example, in choosing the correct product, paying the correct price, with the correct method, and selecting the correct delivery option, etc.).

Retailers will need to improve their skills to become more trustworthy, to encourage people to use them on a day-to-day basis, as people do with other types of skills.
14B. WHAT NEEDS TO IMPROVE?

Like any newbee, Alexa is still learning and needs to make improvements to the accuracy of its search capabilities.

“Alexa, add a 2 litre bottle of coke...”

“Alexa, add six cans of coke...”
Dictation (the ability to transcribe from voice to text) has progressed greatly over the years (error rates are now less than 5% – on par with humans).

However, Natural Language Processing (NLP – the ability to understand the text and respond accordingly), still needs improvement to ensure a seamless experience.

Whilst NLP’s progress is hard to quantify, it is evident to anyone conversing with devices which implement NLP, that there is room for improvement. However, with increased use and monetary investment, it is a given that this will happen in the (near) future.

It is only natural that the more/less accurate a voice assistant is in understanding/responding to requests, the more/less people will want to use such devices.

Whilst people are willing to change their behavior in certain ways when using voice assistants (e.g. reading out loud a shopping list, or asking for a ‘flash briefing’), people are less reluctant when the behaviour change feels less natural (e.g. rephrasing a request, or changing the speed in which they talk). JWT and Mindshare’s (2017) study showed that half of regular Alexa users had to change their behaviour in order to incorporate Alexa into their lives.
16. WINNING AT VOICE ON AMAZON

Those wishing to capture a customer’s attention using Alexa must, at a minimum, ensure their products have the following on Amazon:

- Complete and accurate product information
- Strong reviews and ratings
- Well priced products
- Good search rankings

Essentially, companies must take ownership of their product content, in order to fully utilise the benefits of voice assistants.

The information used by Alexa will reflect the information provided online. Therefore, companies should make sure the product content is free of: special characters, lengthy sentences, and is clearly written with correct grammar and bullet points. Bullet points can be clearly communicated to customers when they request more information via Alexa.
17. FUTURE IMPACTS OF VOICE

Expanded role of digital butler services
- With respect to our growing reliance on voice assistants, what will we be willing to use them for in the future, and what will we be reluctant to use them for? (e.g. banking)
- Compare this with the rise in the usage of sat navs – and people’s increasing trust in devices, leading them to move away from maps or printed instructions

Emergence of new behaviours
- Vocalising shopping lists
- Asking for time/flash briefings
- Looking at how people search via type/voice
- Reluctance to adopt some new behaviours vs willingness to adopt others

More open usage outside the home due to our increasing comfort in talking to devices
- Used predominantly in cars/homes/private spaces
- Will see a rise in usage on the street, in the office, and in more public arenas
USEFUL TERMINOLOGY

**Alexa Voice Service (AVS)** – Used by developers to add Alexa voice assistant to any voice enabled device.

**Ambient computing** – An ecosystem of technology and internet-connected “things” that can intelligently respond in real time.

**Anthropomorphising** – Attributing human features or behaviours to a non-human object/entity/animal.

**Invocation name** – A coined term (often the brand name but not essential) following a phrase which invokes an action (e.g. “Alexa, open National Rail to find out train times,” “Alexa, ask National Rail when my next train is,” “Alexa, what delays are there on National Rail?”).

**Natural Language Processing (NLP)** – The extent to which computers can understand, translate and respond to natural human language and speech.

**Personal Voice Assistant** – A type of virtual assistant. They use natural language processing (NLP, see below) to match vocal user requests to executable commands.

**Self-talk** – The act of talking to yourself, the inner voice that can be said out loud, or that may have a silent/internal monologue.

**Skill** – Amazon’s version of an App. A skill can be installed from increasing numbers of external companies, in order to use their services (e.g. National Rail, Domino’s Pizza, Tesla).

**Smart home device** – A device that can be controlled by other smart devices (such as a voice device). These are often used on things like electronics and appliances (e.g. lighting, door locks etc.).

**Speechcon** – A specific list of words available to make Alexa appear more human-like.

**Utterance** – The awakening phrase/word for a skill, in the future companies could look to capitalise on utterances (e.g. “Alexa, order me pizza,” resulting in an order lodged with Domino’s Pizza).

SOURCES AND FURTHER INFORMATION

4. SYZYGY, (2017). Sex, lies and AI [https://daks2k3a4ib2z.cloudfront.net/59c269cb7333f20001b0e7c4/59db44b29215e6b00015e18d8_Sex_lies_and_AI-SYZYGY-Digital_Insight_Report_2017_UK.pdf]
ABOUT SALMON

Salmon is a global digital commerce consultancy that defines and delivers market-changing solutions and customer journeys for the world’s leading brands.

Established in 1989, with operations in London, Amsterdam, Sofia, New Delhi, Seattle, Beijing and Melbourne, Salmon clients include Argos, Asian Paints, Audi UK, DFS, Halfords, Jumbo, LloydsPharmacy, Premier Farnell, Sainsbury’s, Selfridges and Sligro Food Group.

In June 2017, Salmon, POSSIBLE Commerce and Marketplace Ignition partnered with Wunderman to form the new eCommerce powerhouse “Wunderman Commerce”.

For more information on Salmon Customer Experience Design, get in touch:

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