



Consumer Perceptions of Augmented Reality

Exploratory Research Group™





Table of Contents

03 Background & Objectives

06 Methodology

08 Executive Summary

10 Detailed Findings
Current Perceptions

20 Detailed Findings
Understanding Use Cases

33 Detailed Findings
Messaging & Communication

40 Appendix



Background & Objectives



Background & Objectives

The current landscape when it comes to new technology is being heavily influenced by things like virtual reality (VR), artificial intelligence, and smart devices. Augmented reality (AR) is another vertical that will be impacting a variety of industries. While the AR and VR markets are set to grow up to \$150 billion by 2020, augmented reality has the majority of the share of that market at an estimate of \$120 billion.

As a result, many brands in a variety of verticals are likely to adopt new tools utilizing AR. But prior to developing and marketing an augmented reality offering, brands need to learn how aware consumers are of AR and what their expectations are when it comes to such tools. This research focuses on exploring perceptions and uncovering use cases for augmented reality currently in the market or those that have the potential to be developed. Brands can use these learnings to develop and/or craft messaging around their augmented reality apps or technology.

The results can also be used to identify important lines of questioning among a brand's own target audiences as it relates to AR: how they'd use it, what features they'd prefer, and what gaps should be considered when they introduce their AR offering to the market.

Hypothesis / Assumptions:

- On average, people are aware of the term "augmented reality" but unfamiliar with its actual definition and/or capabilities
- Consumers find the most top-of-mind examples of AR are in gaming

What are current consumer perceptions and use-cases surrounding augmented reality and how can businesses leverage this feedback in their own AR development and messaging?

Research Objectives

- Uncover consumer perceptions and current awareness around augmented reality and its purpose.
- Determine consumer needs or ideas when it comes to AR, specific to certain categories.
- Understand how consumers would adopt specific applications or use cases of AR.
- Compare similarities and differences in sentiments across those who are more aware and less aware of AR.



Methodology

Methodology

Exploratory Research Group™

This study was conducted online where respondents answered open-ended questions and follow-ups posted by a trained moderator.

This technology fosters a dynamic qualitative discussion where respondents are easily able to interact with others in the group.

Qualitative research is based on a small number of individuals and provides a rich source of information useful in understanding a given subject matter or population, in confirming existing knowledge or suppositions, and in providing direction for planning and strategy. Caution should be used in generalizing the findings to a larger population.

# of Groups	Total Respondents	Days in Field	Recruit to Report (in days)
2	40	3	7

Audience

Gender	Males & Females
Age	18–65
Marital Status, HHI, Kids in HH	Capture
Phone	Smartphone User
Smart Devices Used	Capture
Augmented Reality Awareness	Group 1: More Aware Group 2: Less Aware



Executive Summary

Executive Summary

If you're a brand looking to develop an AR solution, be prepared to develop and message an affordable one that solves a practical need in consumer's daily lives without imposing on their personal information and well-being.

Key Findings	Implications
Consumer understanding of AR can be somewhat limited; however, perceptions are positive and provide AR tools with the opportunity to easily fulfill consumer expectations.	It's less significant to stress what AR is and more important to describe how it works in relation to a specific objective or process. If respondents understand this they are likely to find it more relevant. Through the means of online content and videos, brands can appeal to potential AR users while acting as a thought leader in the technology space.
While the gaming industry is certainly going to continue to be a dominant AR developer, other industries have the opportunity to turn AR into something with a more practical purpose.	Brands outside of gaming, technology, retail, and home improvement may have to work harder to exhibit a pragmatic use for AR. But brands within those industries should already be looking to develop an AR tool relevant to them. Ensuring an AR tool solves needs and specific pain points throughout the customer experience is just as important as making sure the tool works properly. Those brands who can also communicate how it educates and helps people will likely improve brand perceptions in the process.
Even though AR is perceived as an exciting and new technology, consumers still have some concerns and skepticism about it.	Like many technologies, being explicit in the way the tool works and providing detailed information on the data it uses and collects will be important for AR. Messaging that addresses concerns for data security, personal well-being, and cost, and that highlights a unique and functional benefit to its users will have a better chance of preventing negative perceptions and help increase usage and adoption.



Detailed Findings

Current Perceptions

Awareness

Gaming applications, such as Pokémon GO, are the most popular sources of initial awareness for augmented reality

1

Gaming apps, or advertisements related to gaming, are the most common sources of awareness when it comes to AR. Many respondents provide specific examples such as Pokémon GO and Nintendo 3DS games.

2

Other advertisements in app stores, online, or on television that are related to virtual reality, like those for smart phones and headsets, also lend awareness to AR.

3

Besides advertisements, some respondents note having heard or read about AR while browsing tech industry news, events, or other content online.

Understanding

Respondent definitions of augmented reality vary, but most mention something virtual and the use of a smart device

There is clearly some confusion in the marketplace in the difference between augmented reality and virtual reality, as many provide a definition closer to that of VR.

Most have at least heard of augmented reality or know enough to attempt to provide a definition on it. However, some immediately jump to a definition more specific to virtual reality.

Many respondents define AR as having something to do with using a phone, camera, and/or video in addition to something virtual taking place (whether it be an object or environment).

A few respondents who are more aware of AR define it as being something that includes a virtual object being placed in the real world through the use of a smart device.

However, some of those who are less aware of AR struggle to describe it in more detail—some failing to describe it past it being some form of technology.



“

I'm not 100% sure. I think it's a program downloaded onto a smartphone and then placed into a headset and then a virtual scene plays out in front of their eyes.

Male
Age 55, Less Aware

“

Augmented reality is seeing things on a device that aren't there in the real world.

Like games where you see the same world on the screen but objects are on the phone that aren't there.

Female
Age 31, More Aware

“

It's reality, but with images or other effects imposed on top of it, visible using some kind of technology (e.g., VR headset, cell phone). You may or may not be able to interact with it.

Male
Age 27, More Aware

“

Augmented reality places digital images into real life settings. I guess it's like Pokémon Go or like the Bitmoji filters on Snapchat.

Female
Age 20, Less Aware



Questions & Confusion

There is a desire to learn more about AR; specifically how it works and how it can be used in more situations

While there are many questions and a lot of confusion regarding exactly how AR works at a high level, most respondents are eager to learn about how it could apply to their life and how it could be used outside of gaming.

A few people ask questions about what the future of AR looks like and how it will impact them and others. Almost all of the questions were posed positively and show a genuine desire to learn more.

The resources that respondents would use to learn more about AR include:

- Search engines
- News platforms
- App stores
- YouTube
- A tech-savvy friend or family member



“

I am curious as to how far this type of technology can go in regards to actually being useful in a person's daily life? What kind of additions to the field are coming up that aren't "gaming" related?

Male
Age 36, More Aware

Reactions To Definition

When told what AR is, respondents have little confusion and are surprised by the variety of solutions that AR could entail

Few respondents are particularly surprised by the definition of augmented reality.

However, there is some initial recognition in the difference between it and virtual reality among some, while others still struggle to grasp the disparity between them.

Some are surprised by the variety of tools and uses that define augmented reality.

- Some note that while it is similar to what they already thought AR was, it was much more inclusive than they had anticipated and includes technology and uses they hadn't thought of.

“

It looks like it has more useful purposes like shopping for furniture or finding different places. I was under the impression that augmented reality is mainly used in games or social purposes.

Female

Age 20, Less Aware

“

This is close to my perception of augmented reality, but I was unaware that a virtual object is placed over an actual object. I thought it was all actual objects (like seeing a 3D video) or all virtual objects (like a video game).

Female

Age 49, More Aware

Current Relevance

Currently, AR isn't highly relevant to daily lives but it still garners interest and shows potential

Many respondents feel AR tools don't currently fulfill a daily need; therefore, they feel it's not yet relevant to them.

Almost all respondents feel AR isn't currently relevant to their lives because they either don't have experience with it or they haven't encountered an AR tool that is impactful enough.

- A few who are less aware of AR still feel AR will never be a need in their life because they tend to avoid more complex technology.

Some who have used an AR tool before say it's not as applicable to daily life since it's usually in the form of a game or entertainment, but they look forward to using AR more.

- Many feel existing AR tools in the market are only meant to be for fun or entertainment purposes and not used for practical uses.



“

I don't think I fully agree with the technology. I am extremely fascinated by it and its potential, but for the moment I still don't know how well it fits into my life and patterns. I look forward to seeing it evolve though...

Male
Age 30, More Aware

Purpose

AR can be used for a variety of reasons, but above all it resolves reservations, saves time, and is fun



Most find that AR is meant to provide a means to trial something, such as a product or experience. For example, they feel this can help address hesitations about a product and assuage anxieties before purchasing it.



AR could also be used to save time as it's a more convenient option that could replace other solutions (i.e., browsing online versus seeing it on your phone). Respondents are also hopeful that more AR tools will be used to help people.



Currently, most respondents see AR as something that makes an experience more fun, enjoyable, and entertaining.

Describing An AR User

Respondents described AR users as young individuals who already have a vested interest in new technology

Due to the fact that many young men are into gaming, some respondents describe them as the most likely to use AR—at least for now. While many recognize anyone can use AR tools, they still feel those who are more interested in new technologies will find it more applicable.

The qualities used by many to describe an AR user include:

- Young or youthful
- Tech savvy
- Open-minded
- Into new experiences

A few respondents also note that those who have a higher income are more likely to adopt AR, as some tools may become expensive.



“

I think augmented reality would mainly be used by males in their 20's who are passionate about gaming and technology.

Female
Age 19, More Aware

“

Someone who has to own the latest technology with no fear of it, someone who loves gaming with the highest-quality graphics. I think it would be someone youthful and open-minded who likes to try new things before anyone else.

Female

Age 27, Less Aware



Detailed Findings

Understanding Use Cases

Respondent Provided Examples

While gaming and technology are still the most top-of-mind industries for AR, some respondents get creative in the potential industry use

After gaining a better understanding of AR, respondents provide a variety of examples and use cases they've seen in the market, mostly related to gaming and technology.

- Top of mind examples include Pokémon Go and the Microsoft HoloLens.

The technology and gaming industries are most applicable for the adoption of AR in consumers' minds due to their already innovative positioning.

But several others mention seeing AR technology in the medical and educational fields. And other industries mentioned include healthcare, auto, shopping, retail, and travel.

“

I cannot really think of anything else. It reminds me of Pokémon Go in the way that it sounds like it can put a computer-generated image in a realistic scene.

Female
Age 19, Less Aware

“

Health, Technology, Travel. I think that it could also be used to help sell products remotely. Imagine getting to feel what it is like to sit in a car and see what the dash and controls would look like while sitting in your living room and not having to go to a showroom.

Male
Age 30, More Aware

Brand Fit

Brands in the tech, home improvement, and retailer space are the most mentioned examples of those who fit with an AR tool best



Many respondents again noted brands already known for their technology like Microsoft, Google, Apple, Sony, and gaming companies as almost having to adopt AR. A few even noted Facebook. Because these companies are already innovating in their respective industries, respondents feel they have much to gain from developing AR tools.



Home improvement stores like Lowes, Home Depot, and Sherwin Williams, including home appliance brands like Siemens and General Electric, were recognized as other brands that would be likely to use an AR tool. This shows respondents are already aware of the practical application AR could have in designing a home.



Retailers like Amazon, Ikea, and Nike were also mentioned as likely to use AR (Ikea already is), but respondents are less clear in how these varying retailers may use it.

“

Apple, Google, Facebook, maybe Amazon, because they are really innovative technology brands that offer the latest technology products.

Female
Age 27, Less Aware

“

Brands like Home Depot, Lowes, IKEA, Sherwin Williams, and other retailers are using it to allow customers to see how their products like paint and furniture will look in their own homes when deciding what to buy. I know brands that manufacture or sell eyeglasses use it to allow customers to see how different frames look on their face without actually going to the store.

Female
Age 44, More Aware

“

I think most technology brands would use augmented reality, but I can also see applications in many brands such as General Electric, Siemens, Storz, etc. These brands could provide augmented reality to be used in specific industries.

Female
Age 49, More Aware

Use Case: Retail

An AR tool for retail that adds to the online shopping experience will likely make sense to consumers

Many would be interested in AR tools related to shopping and retail, specifically online shopping, in order to save time, money, and the hassle of having to go to a store.

Respondents like the thought of trying something out or seeing it before having to go anywhere to do so—or at least before going to a store to purchase it.

A few feel that this could only add to the experience of shopping, but couldn't *replace* their need to personally try things on or touch a product.

- Many feel an AR tool is something that should already be a part of their online shopping experience.
- Some respondents are split between using an AR tool while in-store shopping, or just for online purposes.

“

I would like to use it for grocery shopping and shopping for clothes as it would save me time and money.

Male

Age 54, Less Aware

“

I would definitely use augmented reality to try on clothes or other purchases online. This would be an ideal add on to the online buying experience.

Female

Age 46, More Aware

Use Case: Lifestyle

AR is an easy tool to use to improve the process of searching and choosing furniture, home décor, or other home improvements

Respondents are already more aware of AR offerings related to home improvement and décor as more of these exist in the market already. Not only would AR improve the process of shopping for new furniture, décor, or other design aspects, but also ensure more confidence in the choice.

This tool also appeals to some as it would help:

- Avoid the hassle of measuring
- Provide a more creative and fun way to interact with potential designs than those offered by going to a store

A few respondents note concerns over the quality of a tool for a use like this, as it would have to look real enough and appropriately sized to be accurate and of value to them.



“

I would love this tool, I love home decorating but it's such a pain measuring and seeing where and how furniture would fit, so I usually shy away from big items, but seeing how furniture would fit in a room and paint on a wall, that would be so cool, I would definitely use this and tell others about it.

Female
Age 29, More Aware

“

My wife loves decorating and she loves technology so I can see her using an AR app to accomplish these things. I can see AR being used to get a glimpse of what a remodel would look like before starting the arduous task of remodeling.

Male

Age 46, Less Aware

Use Case: Gaming

Gaming could offer an initial opportunity to react with and try out an AR tool or experience for some

Gaming is where most AR exists currently, and therefore many find the appeal in using it to try out AR but wouldn't necessarily use it regularly.

As most respondents became aware of AR through gaming, they are more open and understanding of it being used in this way.

- However, because some do not qualify themselves as "gamers," they don't think they'd use it themselves.

Those who are less aware of AR tend to have more reservations of AR in gaming and are confused about how it would add to the experience.

- A few find that though they may be interested in AR, they think it would overcomplicate gaming.

“

I'm not a gamer, But for those people who love games like this it takes gaming to a whole other level of fun and excitement for games.

Female

Age 46, Less Aware

“

I do not play online games, but I can definitely see how AR would be popular for gaming. You could insert yourself right into the action.

Female

Age 49, More Aware

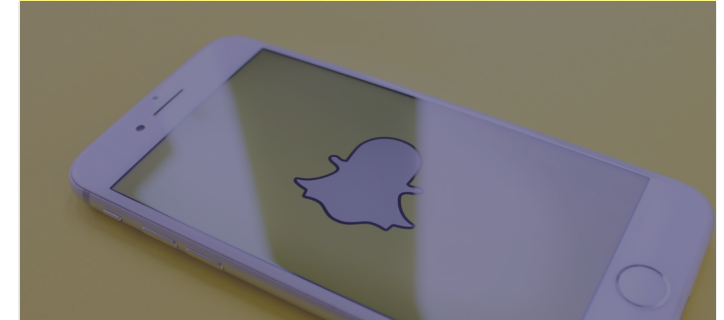
Use Case: Entertainment & Social Media

Respondents are open to using an AR tool for entertainment purposes and already see its use in social media

While AR can be used for a variety of entertainment purposes, many would think about trying out a tool like this to learn more about the world or objects around them.

Some are split between wanting to incorporate AR into their social media activity or not.

- Most like the idea of its impact on video and picture.
- A few think it's going too far for social media to add more AR when there's already a lot.



Some respondents provide examples of Facebook and Snapchat where AR is already being used, but they fail to see how additional AR experiences could be incorporated.

“

I don't use snapchat but I know many people who use the sticker filter and I don't really get it. The google lens seems like a cool feature to use because if I did not know what an object was then I would use it to know what it is.

Female
Age 46, Less Aware

Use Case: Travel & Tourism

Travel, while not relevant to everyone, does make sense with AR, if it can properly compete with existing tools

While not everyone travels on a regular basis, they can see how AR could be used for purposes such as navigation (GPS) and translations or communicating.

Some respondents also think the idea of AR acting as a tour guide that helps show landmarks, what to do, or more information about specific topics would be nice to have. A few even come up with more creative ideas for AR, such as help with packing or experiencing hotel rooms.

Some feel this overcomplicates travel or isn't something they think can replace their current tools when traveling (i.e., Maps, Garmin GPS, Google Translate, etc.).



“

I would definitely use this tool if I was traveling to a different country. I don't see myself using it anytime soon, since I don't travel all that much. However, I do see myself using the GPS tool since I commute quite a lot.

Female
Age 20, Less Aware

“

I would probably only use AR for the virtual guide.
All the other reasons listed can already be done by
apps like Google Map or Google Translate, you wouldn't
necessarily need AR for those features.

Female

Age 24, More Aware

Use Case: Beauty

The beauty industry has an opportunity to allow consumers to try out looks more easily through AR

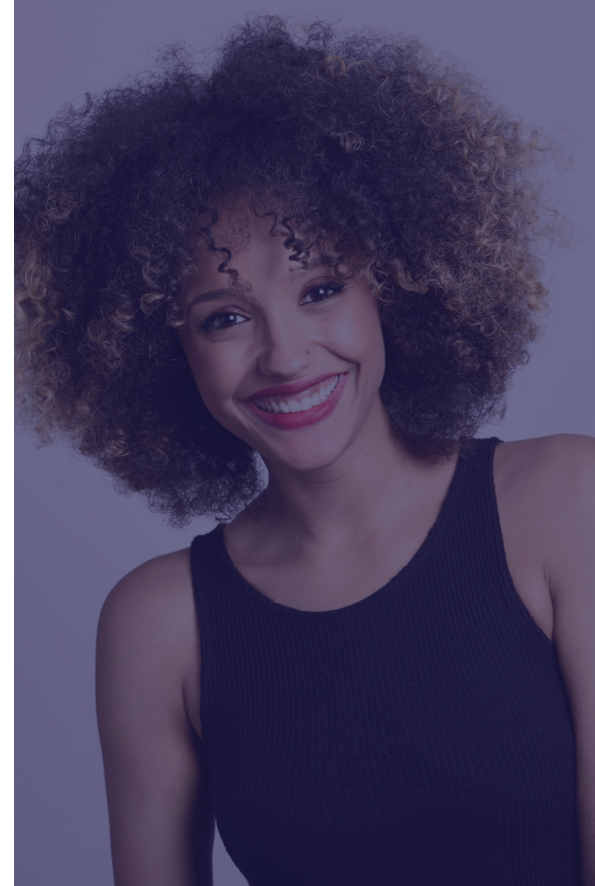
Many respondents found that AR for beauty could be a fun way to interact with different styles before making any decisions.

When it comes to beauty and getting ready, respondents find AR could potentially have something to offer.

- However, there is a little concern over how accurate or appealing it would actually look to try on virtual makeup.

As a result, more find AR applicable in the hair category.

- Some note it would be a great way to try on new hairstyles before deciding to follow through with them.



“

This is a cool thing, I remember using the hair style online tool to upload a picture of myself and try on hairstyles, it wasn't very accurate but if it was in an augmented reality and you could actually see it on yourself then I could see it working, only I don't see it really going very far. Also with the makeup, I feel like that would be mostly just like a Photoshop thing, so I don't feel I would benefit from this type of AR tool.

Female
Age 29, More Aware

Other Ideas

Ideas for other AR tools outside of the use cases discussed are inventive and provide a lot of insight into the possibilities of AR

While respondents were less clear in understanding AR in the beginning, they do provide interesting ideas of the different tools that would appeal to them specifically.

Some still focus on gaming and entertainment ideas, but many also mention an ideal AR tool would incorporate some form of learning or education.

A few mention they'd make an AR tool for sporting events or commercial / business purposes.



“

I would create an app that would be for businesses, products, clothing, even apartment communities, realtors it would help people when purchasing.

Female
Age 47, Less Aware

“

I would like to have AR pets! It would be so much fun to experience having an exotic pet or a pet that I don't currently have like a sugar glider.

Female
Age 31, More Aware



Detailed Findings

Messaging & Communication

Addressing Concerns

Security, personal health and safety, and cost are the three areas of concerns for AR usage



Like many applications to do with smartphones or other smart devices, security and privacy when it comes to access to the camera, microphone, and GPS make some respondents feel wary of the technology.

- Others recognize many apps take personally identifying information and therefore don't feel it's as much of a concern.



When it comes to the personal health and safety when using an AR tool, some respondents are worried.

- For example, when walking around and using an AR tool, the personal safety of the user and those around them can come into play.
- Others note the impact on your eyes, mind, and society.



Since respondents are aware of the cost of virtual reality tools like headsets or glasses, they also wonder if the cost of an AR tool will be expensive as well; especially if it's not in the form of an app.

“

The same concerns I have about using other kinds of technology. I would be worried about identity theft or other personal stuff being hacked.

Female
Age 47, Less Aware

“

I worry about young people walking into traffic, walking off cliffs, like you saw on the news related to using Pokémon Go. Other than that, I guess eye strain and not living in the real world is concerning.

Female
Age 31, More Aware

“

My main concerns are what health effects would it have on vision and sensory since it is an intense experience. Would they cause seizures? Also what security issues would they carry?

Male
Age 40, More Aware



Determining Tactics

Messaging and communication tactics that exhibit how the AR tool works will help garner interest in the product

Specific to how it works, respondents want to understand how it can be used in their daily lives and the benefits it provides.

Respondents just want to know how an AR tool will work. Many provided recommendations on how to show that:

- Demonstration videos or tutorials of the tool in action and how to use it
- Free trial or downloads
- List of benefits and uses

A few want to see how they can personalize it as well.

Some respondents also stress the importance of having a detailed description that not only outlines what the AR tool is and how it works, but one that also addresses any safety concerns.

Finally, having access to reviews and recommendations will also provide insight into the tool.

“

I think seeing a video review online, especially on YouTube where I often seek out user reviews, that shows detailed examples of how to use it, what features it is capable of, and showing proof that it really makes a beneficial difference to use. Otherwise, I do not feel very compelled to try it.

Female
Age 27, Less Aware

“

I think free is key. I am not looking to buy something of this sort right now. If there were AR apps that were actually somewhat useful and not strictly game related that could be integrated into my daily life I would totally try them out.

Male

Age 36, More Aware

Capturing & Changing Sentiments

Sentiments towards AR are generally positive, but brands have an opportunity to shift some questionable feelings

AR is seen as unique and exciting, as most respondents use more positive words to capture their feelings towards it.

- The experience of AR garners descriptions like fun and entertaining.

However, like with many new technologies, some (especially those less familiar with AR) still feel skeptical, unsure, or cautious of AR; they still don't feel they know enough about it or they are concerned with the impact it will have on society and those around them.

Lastly, a few respondents who feel AR is just unnecessary prove to be the only potential rejecters of AR and will likely need more convincing of the value of AR compared to others.



“

Cautious because the more technology we use the less social we become. Curious, I am interested in the possibilities that this could offer. Optimistic that it will be used in a good way .

Female
Age 18, Alexa/Amazon Echo

Future Relevance & Impact

Many anticipate that AR is here to stay and they feel the outlook is positive; thus they feel it will be more relevant in the future

Most adjusted their perspective on AR as being highly relevant for the future. Specifically, some felt that AR would most influence the way they shop.

- A few still feel it will only provide a means to escape or entertain people.

Those less aware of AR think it will become more relevant but still not have a huge impact on them, personally.

A few mention negative impacts of AR in the future includes an increase in cell-phone usage.

“

I think it will come in great for online shopping, browsing, social sites, etc., it's the future, tech advancement.

Male

Age 45, Less Aware

“

I think AR has a lot of applications and will have so many ways to be useful. It is such a flexible tool that it will help with a variety of things that will appeal to a diverse population.

Female

Age 39, More Aware



Appendix

Appendix: Sample Demographics More Aware

Gender	
Male	10
Female	9

Marital Status	
Never Married	8
Married	10
Divorced	0
Widower	0
Separated	0
Living with Partner	1

Age	
18–24	2
25–34	10
35–44	5
45–54	2
55–64	-
65+	-

Smart Phone	
Feature phone (no internet access)	-
Blackberry	-
iPhone	9
Android	10
Windows phone	0
Other smartphone	0
I don't own a cell phone	-

Household Income	
\$0 to \$19,999	1
\$20,000 to \$29,999	2
\$30,000 to \$39,999	3
\$40,000 to \$49,999	1
\$50,000 to \$59,999	2
\$70,000 to \$79,999	1
\$80,000 to \$89,999	0
\$90,000 to \$99,999	0
\$100,000 to \$109,999	2
\$120,000 to \$129,999	0
\$130,000 to \$139,999	1
\$140,000 to \$149,999	2
\$150,000+	1

Children	
Yes	7
No	12

Smart Device Use	
Augmented Reality App	9
Virtual Reality Headset	5
Smart Assistant	11
Smart Home Device	7
None of the above	3

Appendix: Sample Demographics Less Aware

Gender	
Male	8
Female	13

Marital Status	
Never Married	10
Married	7
Divorced	2
Widower	0
Separated	0
Living with Partner	2

Age	
18–24	2
25–34	5
35–44	3
45–54	11
55–64	-
65+	-

Smart Phone	
Feature phone (no internet access)	-
Blackberry	-
iPhone	5
Android	15
Windows phone	0
Other smartphone	1
I don't own a cell phone	-

Household Income	
\$0 to \$19,999	3
\$20,000 to \$29,999	3
\$30,000 to \$39,999	6
\$40,000 to \$49,999	1
\$50,000 to \$59,999	1
\$70,000 to \$79,999	2
\$80,000 to \$89,999	2
\$90,000 to \$99,999	1
\$100,000 to \$109,999	1
\$120,000 to \$129,999	0
\$130,000 to \$139,999	0
\$140,000 to \$149,999	0
\$150,000+	1

Children	
Yes	6
No	15

Smart Device Use	
Augmented Reality App	1
Virtual Reality Headset	0
Smart Assistant	7
Smart Home Device	2
None of the above	14