

MINDSHARE FUTURES

LAYERED

THE FUTURE OF
AUGMENTED REALITY

STEP 1
Download
the App



STEP 2
Aim at the
page and
scan the
zäppcode



STEP 3
ZAP
Watch it
come to life



In partnership with
 Zappar



After several years of steady development, Augmented Reality (AR) is on the cusp of truly taking off.

Apple and Google's developer kits are acting as catalysts to the marketplace; AR experiences can be accessed in increasingly seamless ways; and consumer expectations of AR content are growing fast.

The time is right for the world to become *Layered*...

Undertaken in partnership with AR technology company Zappar, *Layered* is a Mindshare Futures study which explores user behaviour, identifies four key trends shaping the future of AR and discusses implications for brands.

Throughout the report you'll find AR experiences which can be triggered through Zap codes. Download the Zappar app and give them a try.

As ever, if you want to discuss what the rise of AR means for your brand please get in touch. Enjoy!

Jeremy Pounder
Futures Director, Mindshare UK
April 2018



This book includes AR experiences.
Please download the Zappar app for an enhanced experience.





ABOUT THIS REPORT

***Layered* is a trends and insight report carried out by Mindshare Futures in association with Zappar that explores Augmented Reality (AR) technology and its implications for brands. Our research comprised several methodologies covering the period from January to April 2018.**

NEUROSCIENCE EXPERIMENT

In partnership with Neuro-Insight, we used Steady State Topography (SST) brain-imaging technology to measure how the brain responds to augmented reality across a series of AR activities versus equivalent but 'non-AR' alternatives. Over 150 smartphone users aged between 18 and 65 took part.

QUALITATIVE

Thirty UK smartphone users took part in a two week online self-ethnography project capturing their own behaviours and attitudes in a series of augmented reality experiences and tasks.

We then ran a co-creation workshop with ten of these participants to further explore how augmented reality can address consumer needs.

EXPERT INTERVIEWS

We conducted in-depth interviews with experts in augmented reality across sectors and around the globe, including developers, marketers, journalists and influencers from Sydney to San Francisco.

QUANTITATIVE

We carried out an online quantitative study, surveying 1,000 UK smartphone owners aged 18+.

SECONDARY RESEARCH

We carried out extensive desk research that synthesised international cross-category case studies.



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Layered project film



**Scan with Zappar
to watch the film**



AUGMENTED REALITY TODAY

WHAT IS AR?

We are entering a new era of immersive computing.

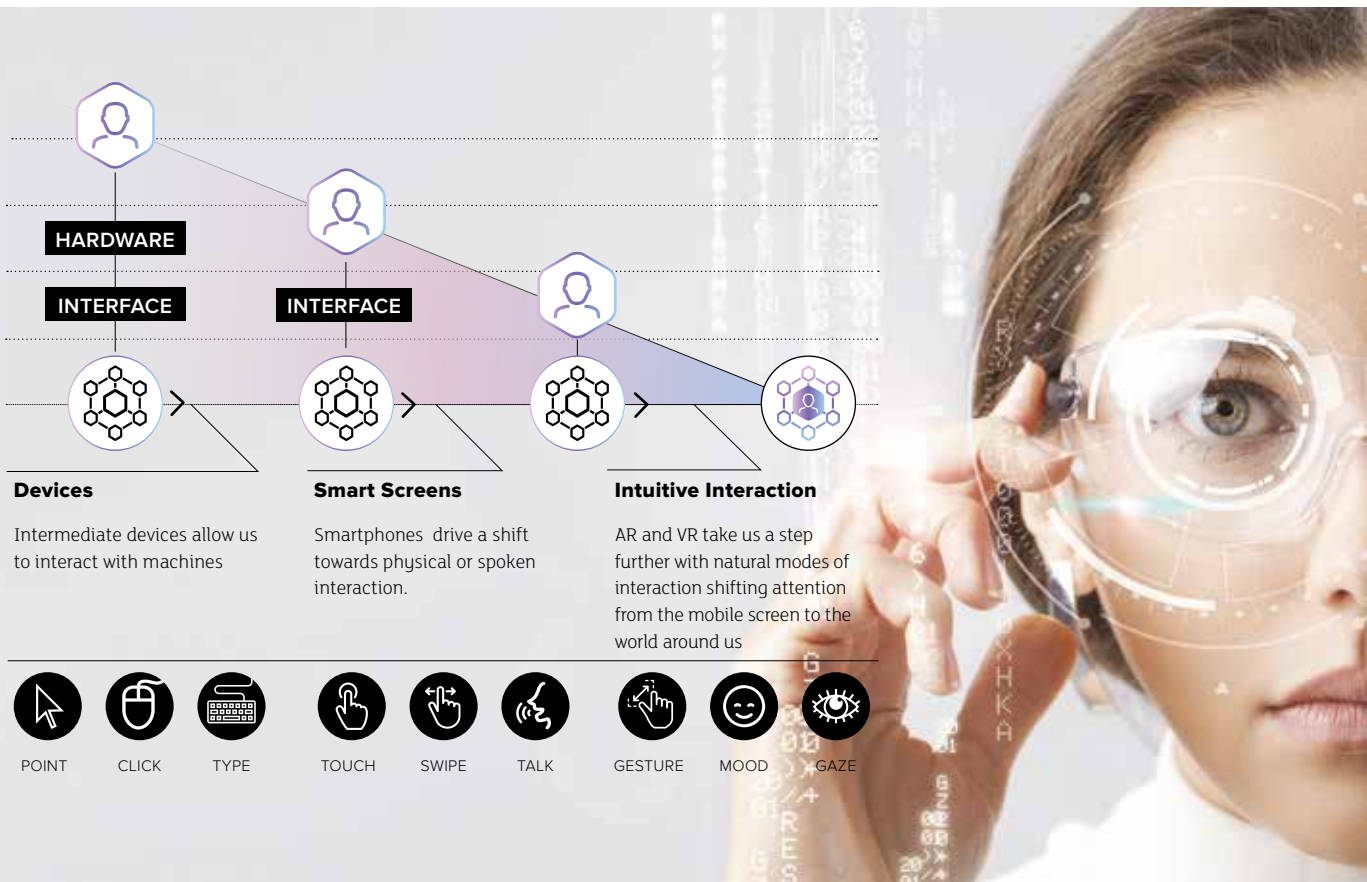
Over the past 30 years we have been on a journey that has simplified the way in which we interact with technology, as we have begun to break down the barriers between reality and the virtual world.

For many years we relied on intermediate devices, such as the keyboard and mouse, to interact with machines; the advent of the smartphone ushered in an era of smart screens which we could tap, swipe and (more recently) talk to.

AR and Virtual Reality (VR) take this a step further by offering experiences built around natural modes of interaction, such as gesture and gaze, thus shifting attention from the mobile screen to the real or simulated world around us (see Fig. 01).

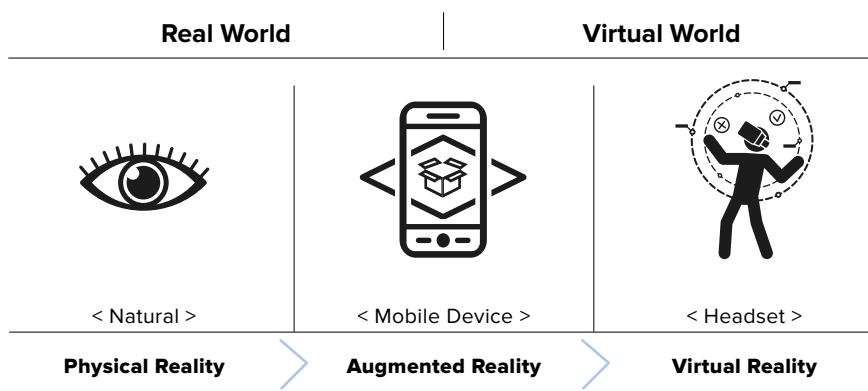
Fig. 01

The evolution of interaction



Both AR and VR can be thought of as existing along a sliding scale of immersion (see **Fig. 02**). At one end we have the real, analogue world as we know it. At the other extreme we have virtual reality, where we are fully immersed in simulated surroundings depicting actual places or entirely imaginary environments. AR sits somewhere in between, augmenting the physical world in our field of vision by overlaying virtual objects. Although there is no agreed definition, a further category of Mixed Reality (MR) is often referred to as a mixture of both AR and VR, allowing for interaction with virtual objects in larger scale world tracked experiences.

Fig. 02
The sliding scale of immersion



In short, AR (and MR) can bring anything in the world to you, VR can take you anywhere in the world.

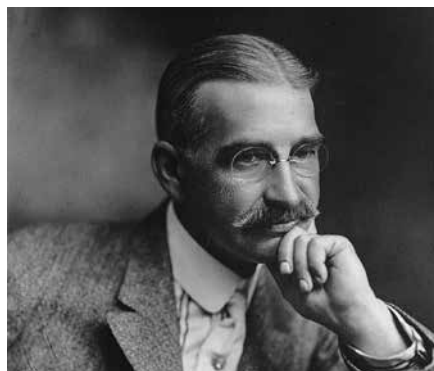
WHY NOW?

The concept of AR was first articulated as long ago as 1901 when L. Frank Baum described AR glasses (or 'character markers') that overlay letters on people's foreheads in his novel *The Master Key: An Electrical Fairy Tale*. Some 90 years later, technology caught up with Baum's vision as Boeing researcher Thomas Caudell coined the term 'augmented reality' in 1990¹.

"It consists of this pair of spectacles. While you wear them every one you meet will be marked upon the forehead with a letter indicating his or her character ... Thus you may determine by a single look the true natures of all those you encounter."

L. Frank Baum,

The Master Key: An Electrical Fairy Tale, Founded Upon the Mysteries of Electricity and the Optimism of its Devotees



1. Caudell, Thomas P; Mizell, David W (1992). "Augmented Reality: An Application of heads-up display technology to manual manufacturing processes". System Sciences, 1992. Proceedings of the Twenty-Fifth Hawaii International Conference on. Presence: Teleoperators and Virtual Environments.

The arrival of the smartphone in 2007 spurred on a wave of experimentation, typically focussed on gaming, culminating in the global phenomenon that was Pokémon Go in 2016. Yet, in comparison to the wider smartphone explosion, AR has been relatively slow to take off. So why will 2018 and beyond be different?

Firstly, the tech giants are preparing for the next platform shift. The 2017 launches of Apple's ARKit and Google's ARCore (AR toolkits for app developers) are intended to be catalysts for development within the wider AR ecosystem. Alongside wider access to other AR developer tools, such as Snap's Lens Studio and ZapWorks, (the AR development platform from our partner Zappar), we are set to see a wave of AR innovation.

Secondly, it is getting easier to access AR experiences as the technology is embedded in a range of apps and platforms. People will be able to choose different access paths to suit different needs, which in turn will stimulate wider uptake and deployment of AR as a facilitating technology.

Lastly, people are ready and waiting for an additional layer of content to enhance their world. Having had a certain amount of time to experience AR to some degree (whether they are aware that the experience was powered by AR or not), people are becoming more comfortable with the technology and starting to expect the ability to unlock content through their smartphones.



Apple's ARKit



"There was this initial round of apps, and people looked at them and said 'this isn't anything....' And then step by step things start to move... and now you can't imagine your life without apps. AR is like that. It will be dramatic."

Tim Cook,
CEO Apple



Snapchat



Google Lens

THE AR LANDSCAPE

The AR landscape is extremely diverse, and AR experiences can currently be delivered in a wide range of ways:

Social platforms

Acknowledged as the first social platform to unleash the potential of AR, Snap's introduction of free face filters on Snapchat introduced AR to a new scaled audience. With 250 million AR snaps shared daily² and familiarity high amongst younger generations, Snap is pushing ahead in delivering 'world tracked' experiences through the introduction of World Lens. This tool enables creative assets to be placed into real world environments, encouraging users to interact with the world around them through AR. To close the gap, Facebook gave third party developers access to their toolkit, AR Studio, in December 2017.

Image recognition

Tech companies are also using image recognition to trigger AR experiences. In October 2017 Google released Google Lens, integrated into their Pixel phones and more recently their native apps (Google Photos and Assistant) across iOS and Android. Lens uses image recognition to identify objects in the viewfinder or photo, serving relevant information in real time via an AR overlay. Blippar has also launched numerous applications powered by image recognition to deliver AR experiences.

AR platform apps

AR experiences can also be delivered through AR platform apps, which act as a connection point between brands and end users. Zappar's flagship app (and software development kit integrated into third party apps) is an interactive delivery channel, serving AR content on behalf of brand partners. Shazam, with over 1 billion app downloads and 300 million users³ worldwide, offers a scaled AR platform using Zappar's technology embedded into their app allowing its users to access AR content by scanning unique Shazam codes and images, or through audio triggers.



**Left: Tillys app with Zappar tech embedded.
Top: Shazam AR**

2. Snap Inc. Data Q3 2017

3. Shazam Data 2017

Native branded apps

With access to developer kits increasing, brands are building native apps specifically for AR experiences. IKEA's dedicated app, IKEA Place, is an example of this that allows users to place the brand's furniture within the room they are in. Other brands leverage their existing apps to serve AR functions through software updates. Word Lens, a feature in the Google Translate app, translates words and characters between languages in real time. In the advertising space, Oath has launched full-screen AR ad units to run across all of their mobile apps in select international markets.



Ikea Place app

Web-based AR

AR experiences are beginning to be accessed through web browsers, bypassing the requirement for users to download a mobile app. In January 2018, Google's Daydream WebXR team announced a prototype of their 3D model viewer, Article, which integrates AR elements into everyday web browsing. However, web-based AR is in its early days of development and does not currently deliver the same level of experience as native apps.



Google Article Web app

AR eyewear

As growth in mobile (especially iPhone) sales becomes harder to achieve, AR headsets are seen as the next computing platform beyond the mobile phone. In 2016, Citibank forecast that AR headset sales would begin to replace those of smartphones from 2025 onwards⁴, with this vision driven by the long-term investment in AR from Apple and Google in particular. There are many versions of AR (or MR) eyewear available now or in the near future, from the Microsoft HoloLens and Magic Leap Lightwear to the Intel Vaunt. The major tech players are all expected to launch glasses in coming years with Apple's the most eagerly anticipated. However technical barriers such as processing power, battery life and network connectivity, in addition to issues around social acceptance, are likely to keep this technology from going mainstream for at least the next 5 years.



**Microsoft
HoloLens**

4. <https://www.citibank.com/commercialbank/insights/assets/docs/virtual-and-augmented-reality.pdf>

“From our perspective, it’s all about reducing friction. Everyone’s talking about the technology, the construction, 3D tracking. What we tried to do is hide the complexity from our community.”

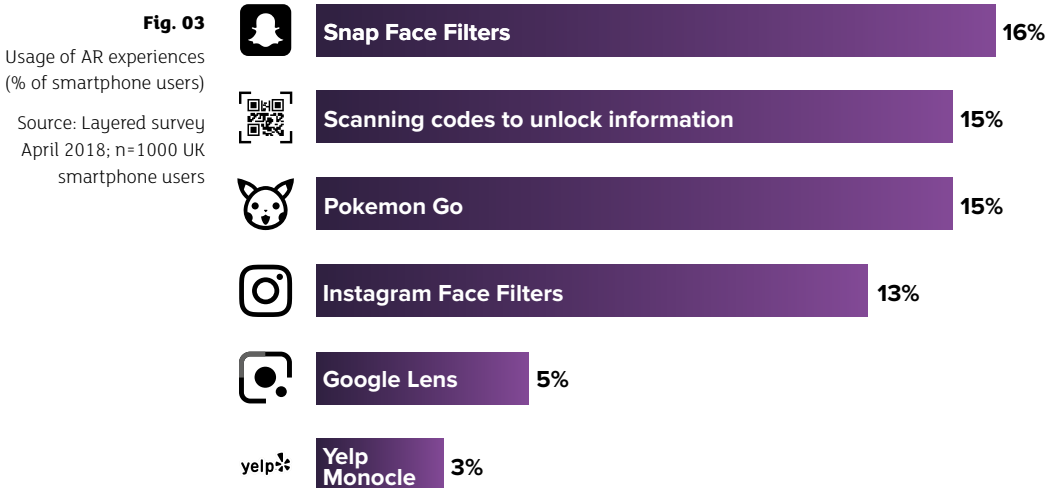
Eitan Pilipksi,
Vice President Snap

CURRENT USAGE & ATTITUDES

Despite the tech world’s excitement around AR, the term ‘augmented reality’ has relatively low awareness. Our primary research amongst UK smartphone users indicates that 51% are aware of the term (compared to 83% who are aware of VR), but only 25% can pick out the correct definition from a list. Just 11% believe they have experienced AR.

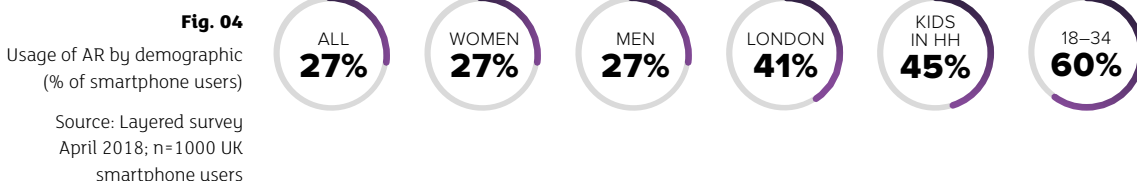
Despite of using and discussing AR experiences over the course of two weeks, at least one of our qualitative project participants continued to refer to everything as virtual reality. The distinction is not particularly meaningful for most people.

However, many more people have used AR without knowing (or indeed caring about) the term for the technology. When asked about usage of a range of AR-powered experiences, 27% had used at least one of them, with Snap face filters (16%) and Pokémon Go (15%) having the highest usage levels (see Fig. 03).



USER PROFILE

People who have experienced AR are significantly more likely to be young, with kids in the household and living in London; 60% of 18–34 year olds, 45% of parents and 41% of people living in London have experienced AR (although are not necessarily able to identify it as being AR) versus the population average of 27%. Interestingly, there is no difference in usage between men and women.



‘SURPRISE & DELIGHT’

Figure 05 below shows a range of AR experiences mapped according to people’s perceptions of usage frequency (one-off vs multi-use) and what the experiences deliver (information vs entertainment). The size of each bubble reflects usage penetration (whether they have ever used).

This shows that the applications of AR with the greatest usage penetration have tended to focus on entertainment based ‘surprise & delight’ experiences – face filters, games or simply fun activations from print ads.

While AR has been used in a number of different ways to deliver contextual information in relation to a physical object (e.g. product visualisation, translation), these do not seem to have been implemented by brands on a regular basis and so have less scale.

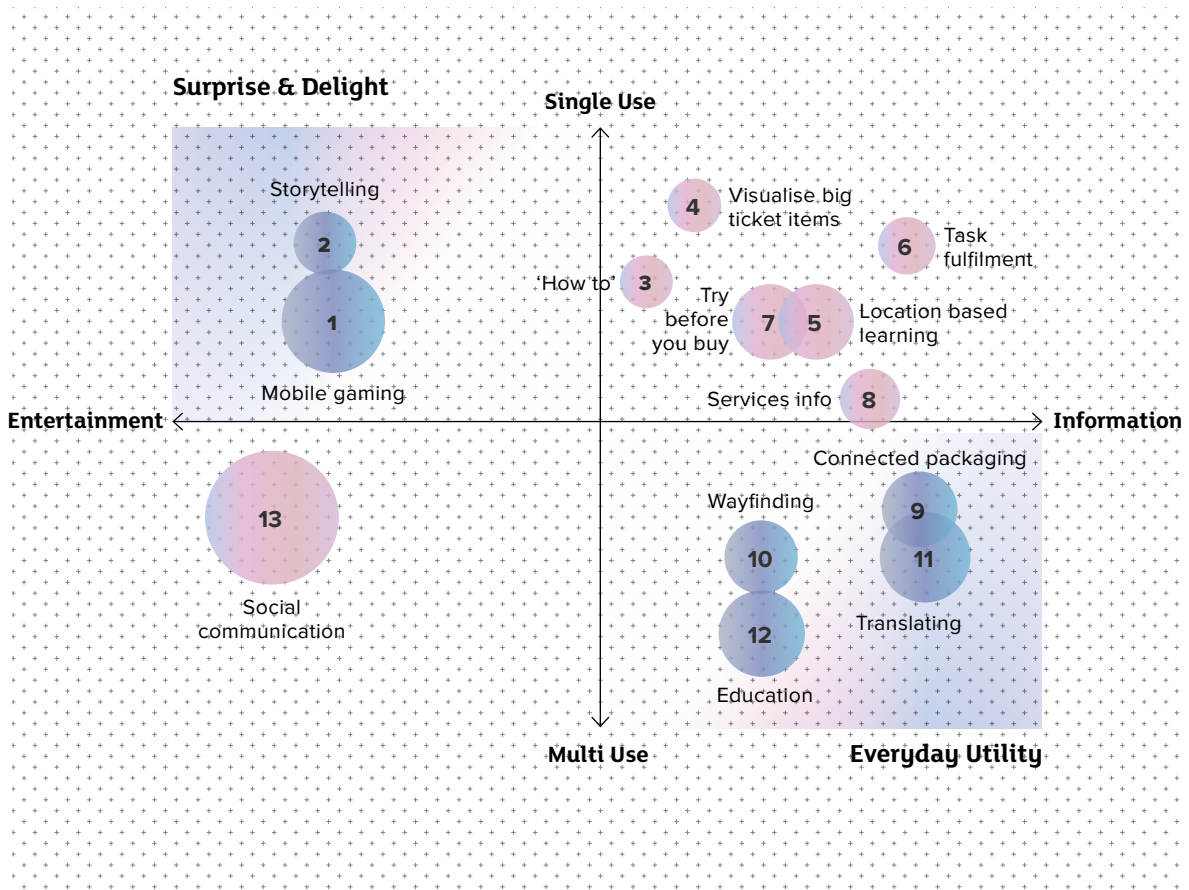
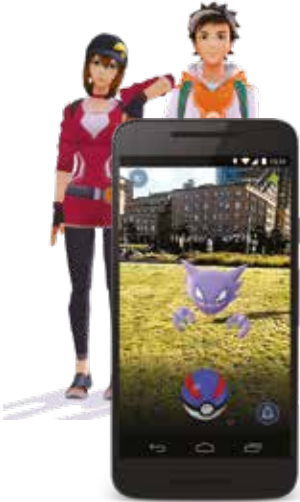


Fig. 05

AR experiences mapped by penetration, perceived usage frequency and experience type.

Source: Layered survey April 2018; n=1000 UK smartphone users



1 Mobile gaming

Overlaying objects from mobile games onto the real world through a phone camera.

2 Storytelling

Enriching news stories by bringing the subject matter to life through a phone camera.

3 'How to'

Using your phone camera to visualise instructions or techniques (e.g. make up tutorials, recipes, building furniture).

4 Visualise big ticket items

Visualise and engage with luxury items (e.g. visualising a car on a driveway, luxury watch on your wrist).

5 Location based learning

Look at objects of interest through a phone camera to unlock additional content and information.



6 Task fulfilment

AR effects to assist with basic tasks (e.g. working out the best box for shipping items).

7 Try before you try

Online shopping tools to help visualise items before purchase.



10 Wayfinding

Superimposing navigation pathways onto the physical world to follow to a final destination.

8 Services info

Overlaying useful information about a surrounding area when looking through a phone camera (e.g. menus and reviews for restaurants in the vicinity).

9 Connected packaging

Scanning objects to create an interaction with consumers (e.g. brand story, instructions, provenance).



11 Translating

Translating text in another language through a phone camera.

12 Education

Using 3D models for a more engaging way to understand new concepts.

13 Social communication

AR effects such as face filters and gifs to enhance communications with friends and family.



THE FUTURE AR CONSUMER

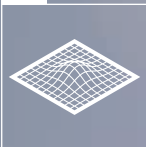
With a more accessible developer infrastructure and increasing focus from Google and Apple, we fully expect AR to become much more mainstream over the next two to three years. We've identified four themes that will shape the future AR experience.

1

From surprise & delight, to everyday utility

2

Layering

3

Surfacing

4

Flowing



1



FROM SURPRISE & DELIGHT, TO EVERYDAY UTILITY

AR applications will evolve from one-off fun to include multi-use utility.

To date, AR has largely been used to give people a small dose of in-the-moment fun. Two of the biggest AR manifestations epitomise this – Snap’s dancing hotdog and Pokémon catching. We expect AR to broaden its role beyond this in the years to come.

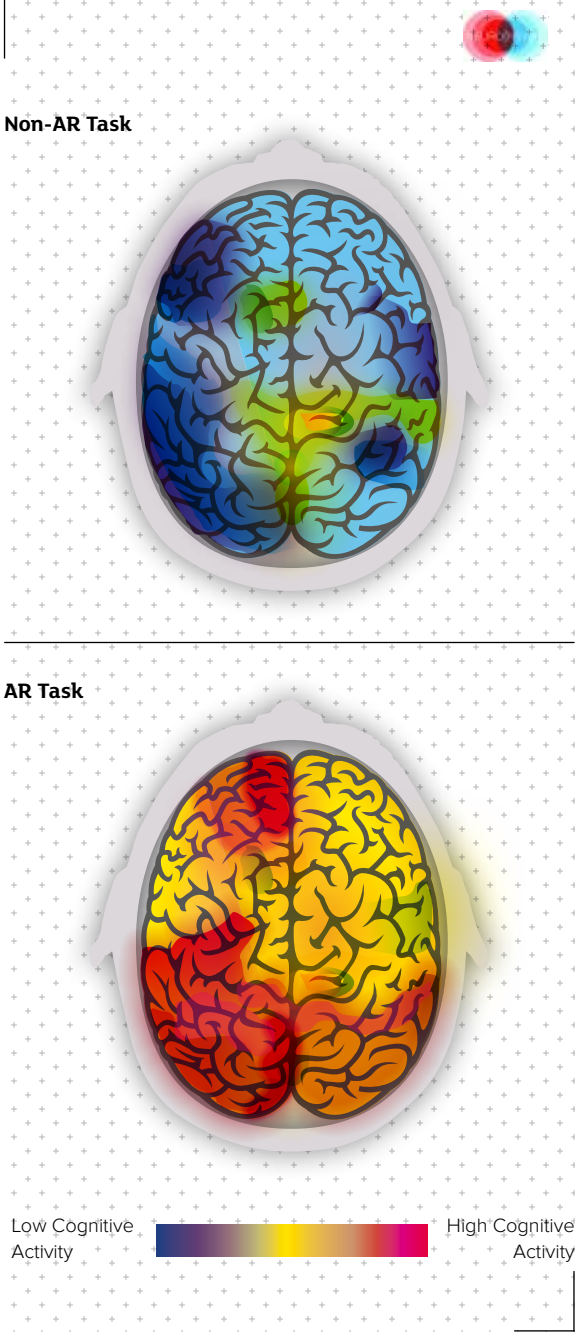
To understand more fully AR’s capacity to ‘surprise & delight’, we worked with leading neuroscience researchers Neuro-Insight to measure the brain’s response to AR experiences. We recruited over 150 respondents to carry out six different tasks, with half using an AR version and half an equivalent ‘non-AR’ version – for example, half used Google Translate Word Lens to translate a foreign-language phrase and half typed the phrase into the Google Translate App. The sites in the brain measured are long-term memory encoding, attention, engagement, emotional intensity and approach / withdrawal. To our knowledge, this is the first research to measure the neurological effect of AR as a medium.

We found that, across the series of cognitive function measures, the AR experiences delivered almost double (1.9 times) the levels of engagement compared to their non-AR equivalent (see Fig. 07). This is a clear sign of AR’s ability to generate a more powerful response than equivalent ‘non-AR’ experiences.

“At Neuro-Insight we’ve researched brain response to many different media, and this study has shown that AR delivers exceptionally high attention levels - 45% higher than the average we see for TV viewing or general online browsing.”

Heather Andrew,
CEO Neuro-Insight UK

Fig. 07
Cognitive activity during tasks.



Source: Neuro-Insight study. Mar 2018; n=151 UK smartphone users. Brain activity measured using SST headsets; unit of measurement is radians, which equates to strength of brain response.



Scan to view the brains in 3D

The only measure for which the AR experience was lower was ‘approach / withdrawal’ (which captures the extent to which the user wants to move towards or away from a stimulus). The lower score here may indicate the sense of surprise that occurs when people start an AR experience (see Fig. 08).

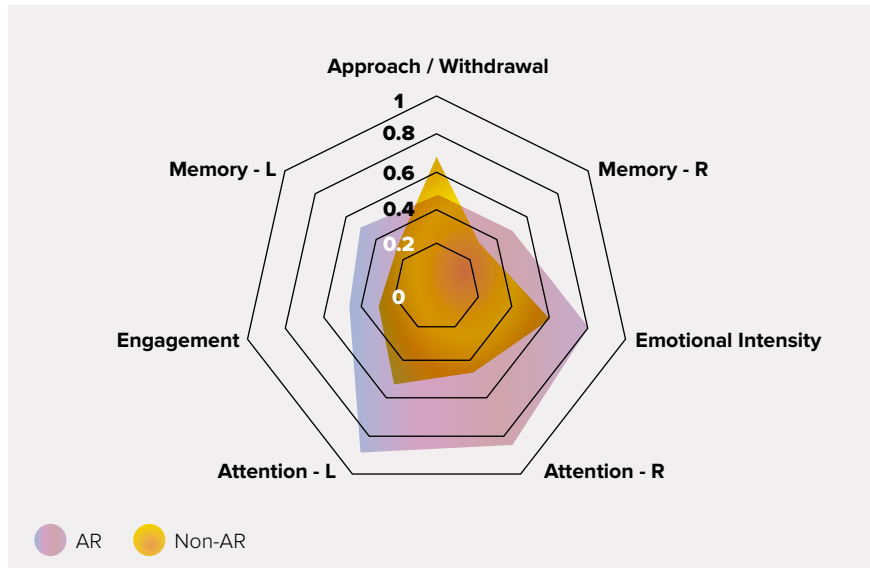


Fig. 08

Average levels of brain response during tasks.

Source: Neuro-Insight study, Mar 2018; n=151 UK smartphone users.

Brain activity measured using SST headsets; unit of measurement is radians, which equates to strength of brain response.

While people will no doubt grow more accustomed to AR experiences, we expect this capacity of AR to ‘surprise & delight’ to endure as the boundaries of AR are continually pushed through innovation.

Wider utility

But there is untapped potential for AR to fulfil wider needs. Our qualitative research involved people testing a range of AR experiences in their own environment over the course of a week. Once accustomed to the ways in which AR is currently used, they kept a diary to identify moments or occasions in their day to day lives where they felt AR could successfully be applied to meet a need.

“I don’t think it will be a fad, because why would we stop using something that’s actually adding to our lives?”

Workshop and online community participant

STATUS	FUN	AFFILIATION	SECURITY	CONTROL	PERFORMANCE
A cut above, individuality, self-expression	Freedom, play, enjoyment	Acceptance, warmth, connection	Belonging, safety, comfort	Information, discernment, order	Potency, energy, vitality
EXISTING AR EXPERIENCES					
<ul style="list-style-type: none"> Luxury brand try-ons Visualisation feature 	<ul style="list-style-type: none"> Mobile games Connected packaging Entertainment content Competitions Promotions 	<ul style="list-style-type: none"> Social platform filters gifs and lenses 	<ul style="list-style-type: none"> Translation Services information 	<ul style="list-style-type: none"> Try before you buy Product sizing and placement Feature news articles Connected Packaging 	
CONSUMER SUGGESTED AR MOMENTS					
	<ul style="list-style-type: none"> Engaging content for moments of boredom (e.g. during commute) 	<ul style="list-style-type: none"> Personalising OOH advertising 3D overlays of friends and family Celebrity gossip & fashion 	<ul style="list-style-type: none"> Wayfinding (e.g. public transport) How to (e.g. recipes) Task fulfilment (e.g. building furniture) Hair and makeup 	<ul style="list-style-type: none"> Real estate Food & diet (e.g. nutritional information, dietary requirements) Banking & finance 	<ul style="list-style-type: none"> Gym/exercise routines Sports techniques Cooking techniques Education & learning Gambling & betting



Fig. 09

Current AR experiences and unfulfilled consumer suggested moments mapped against a model of consumer needs.

Source: Layered Online Self-Ethnography and Co-Creation Workshop Mar 2018

We have mapped these moments alongside current AR applications against a classic model of consumer needs (see Fig. 09). This illustrates the current focus of many AR experiences on *Fun* or *Affiliation*, and shows how other needs are currently unfulfilled. For example, people saw AR's potential to meet the need for:

Performance – by delivering high performance instructions on gym machines.

“I would love it at the gym, imagine a large mirror with AR tech that would show you what exercises to do and correct your form.”

Workshop and online community participant

Control – by giving information on properties' sale prices while walking up the street.

“What about Estate Agents? It would be great if I had the ability to hold up my phone in front of a house to get prices, information and view the rooms inside. That would save so much time!”

Online community participant

Security – by providing 'how to' instructions while carrying out DIY or cooking.

“You'd just hold your phone above the food in your cupboard, it would recognise the ingredients, tell you what dish you can make out of it and then show you how to do it.”

Online community participant

In the coming years, we expect AR to be used to fulfil a wider range of needs. While AR will still be used for puppy dog filters and the like, it will diversify into more everyday applications delivering utility. A key driver of this will be a growing expectation from people that physical objects will have extra layers to access.



LAYERING

Consumers will come to expect all of the surfaces around them to be embedded with additional layers of content.

Although awareness and usage of AR is currently low, over half (55%) of the people we surveyed agreed that 'it would be a good thing if you could point your phone at any object and get additional information'. Despite the current AR landscape predominantly delivering one-off experiences, over a third (36%), rising to half (50%) of 18 – 34 year olds agreed that they can 'think of many ways that AR could fit into their lives'.

Our neuroscience research indicates that current AR experiences deliver high readings of 'withdrawal' as people are surprised by initial AR interactions. However, we anticipate this effect to lessen as people start to expect the surfaces around them to have content overlaid onto them and we see new layers begin to develop around our physical environment.

Soon brands will start thinking differently about the space around us, as everything from objects and buildings, to everyday products and even our bodies becomes a potential trigger for content. We believe connected packaging in particular will lead the way as billions of household items begin to offer deeper layers of communication, such as provenance, instructions, recipes, promotions or discounts in an interactive way. The response to the AR-enabled packaging concept W-in-a-Box created by Zappar for SIG was conclusive in demonstrating the ability of augmented packaging to increase levels of engagement, emotional intensity and attention (see Fig. 10).

"Things like grocery shopping or, going to the gym, or everyday travelling around, why wouldn't you download an app that gives you information and makes things easier?"

Workshop and online community participant

Examples of AR-enabled connected packaging

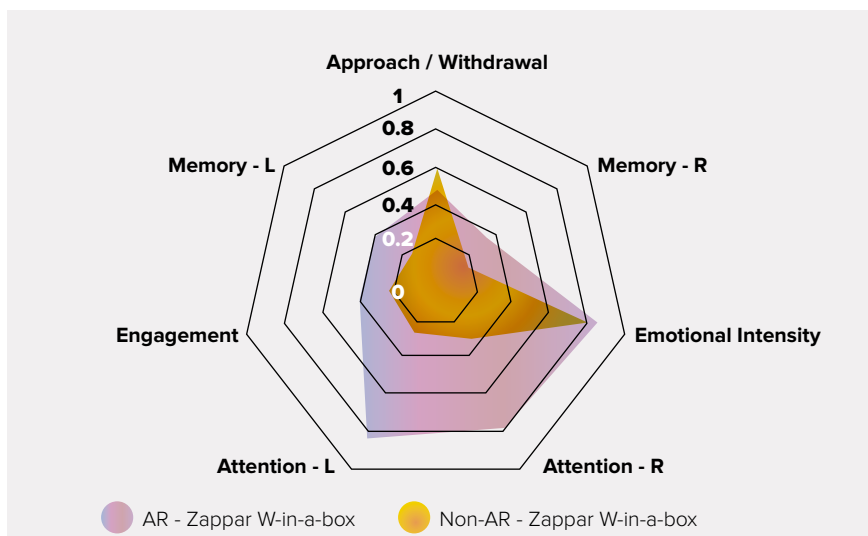
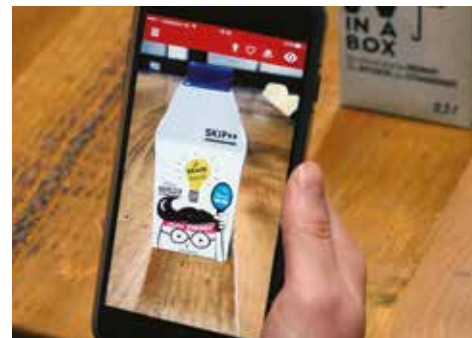


Fig. 10

Average levels of brain response when experiencing Zappar's AR-enabled packaging concept W-in-a-Box

Source: Neuro-Insight study Mar 2018; n=151 UK smartphone users. Brain activity measured using SST headsets; unit of measurement is radians, which equates to strength of brain response

“Essentially we need to start thinking that every cereal box is a TV. A TV that can launch personalised experiences – a game for kids, or interactive nutritional information for an adult.”

Adam Hammonds,
AR/VR
Commercialisation
Strategy Manager
Google

As brands develop their footprint in this space, people will not only start to be on the lookout for these additional layers of content, they will come to expect them.

But as we start creating a world where every surface we encounter can trigger an additional layer of information, it will bring about a new set of challenges around ownership rights and regulations. Given that this layer of content is imperceptible without some form of technology, we will need to consider who has the right to modify public spaces and whether it is acceptable for every surface of our physical environment to trigger AR experiences.

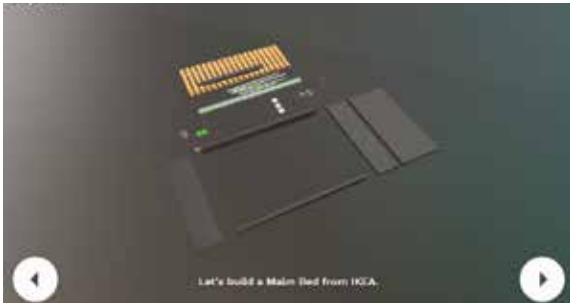
These questions must be carefully considered as it is not just brands that will dictate what happens in this space; people will also collaborate and contribute to its development.

A great example of people creating their own AR experiences is the success of one dancing hotdog. As one of Snapchat’s first World Lenses, this hotdog taught millions to start thinking about AR in the world around them and the possibilities of self-expression beyond face filters. With the launch of 3D bitmoji lenses followed by Lens Studio, Snap’s user-friendly DIY AR creation platform, we will see consumer generated contributions to the world of AR continue to increase.



Snap Lens Studio

From a more practical perspective, start-ups like JigSpace (which, amongst other things, creates AR guides to assembling Ikea furniture) are already building platforms to allow AR beginners to piece basic shapes together into AR objects.



“There’s a whole dimension of knowledge that we’re missing when we use only 2D surfaces”

Zac Duff, JigSpace Cofounder

JigSpace Ikea Assembly app

In the extreme, public creations of AR layers may be much more controversial. In March 2018, internet artist collective MoMAR launched an AR exhibition overlaid onto the Jackson Pollock collection at the NYC Museum of Modern Art – without permission. The unauthorised gallery of work was created in protest against elitism and exclusivity in the art world. It aimed to “democratise physical exhibition spaces, museums and the curation of art within them”⁵ and could be viewed by anyone with the MoMAR app.

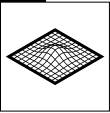
While there are endless possibilities with this technology, the AR layers that people come to expect will not always be rich animation, and all-singing, all-dancing experiences. In many instances, the value of this technology will be in surfacing access to personally relevant contextual information in the shortest time possible.



MoMAR AR Protest

5. <http://momar.gallery/about.html>

3



SURFACING

AR will increasingly enable the proactive surfacing of personalised, contextual content without the user initiating it.

Our trend of *Layering* explores the growth in consumers' expectations that objects and surfaces will have additional layers of content that they can access of their own volition. While there will always be a place for AR experiences that involve a call to action or prompt of some kind, the next development in AR will be the right content being proactively suggested or surfaced to people in the right moment. AR will become a means to deliver information that is relevant both contextually and personally to the end user.

In our neuroscience experiment we found that the part of the brain responsible for memory encoding sees almost three times (2.9) the level of activity when experiencing the AR version of an activity compared to the non-AR version. This indicates that AR can be a particularly powerful way to deliver information that is subsequently retained.

The surfacing of contextual content through AR could encompass a range of applications, for example:

Overlays pointing out restaurants serving your favourite foods while you hold up your phone to the street.



Automatic translation of foreign language text detected in the field of vision.



Wayfinding services which provides the user with additional location-based information of interest.



"I can picture it. When you're on the bus and it pings up, 'you need to get off here' or 'there's a supermarket here'. It would be so useful if it showed helpful things"
Workshop and online community participant



68% of AR users believe AR would be most useful if it 'can figure out the right information to show me at the right time all by itself'

The drivers for the emergence of surfacing will be twofold:

Firstly, computer vision (with machine learning-based image recognition) will develop to such an extent that phones or other devices with cameras are capable of identifying almost any object by image alone. This is certainly the aspiration of Google with Lens which is being integrated into Photos and Assistant. This will enable the environment to be 'read' and decisions made about bringing different content to the attention of the user.

Secondly, a new form factor of AR glasses will emerge which will enable an always-on scanning of the environment for the identification of objects and, subsequently, the overlaying of related content in that particular moment. While the phone will be the primary AR device over the next five to ten years, the small, handheld 'window' to AR that a smartphone provides is a fundamentally limiting factor for the experience. AR glasses will allow the concept of content surfacing to fully develop.

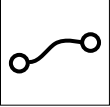
One of the key challenges will be managing the type and frequency of the overlays proactively surfaced by AR glasses. The short film *Hyper-Reality*⁶ by Japanese filmmaker and designer Keiichi Matsuda presents a compelling, if somewhat disturbing, vision of what a world with AR content being constantly surfaced could feel like. Users will need to be given highly sophisticated controls to manage the overlays generated to avoid it becoming an annoyance and ensure it acts to help life flow.

"As much as I can see some benefits such as shopping reminders, a constant flow of updates and advertising would quickly start to feel too invasive."
Online community participant

Snapshot from the short film 'Hyper-Reality' by Keiichi Matsuda



6. <https://vimeo.com/166807261>



FLOWING

AR will be a key tool for assistance, helping life to flow by removing everyday friction.

Advances in Artificial Intelligence are ushering in an 'age of assistance' where intelligent digital assistants become capable of responding to our commands and, increasingly, pre-empting our needs. We can see this in the rise of chatbots, voice assistants and computer vision.

The underlying consumer proposition behind the rise of assistance is that technology can iron out some of the inconveniences of everyday life, making life flow a little more smoothly.

AR is likely to become a key tool for this, helping to reduce friction while achieving everyday goals. As AR becomes integrated into more surfaces (such as mirrors, heads-up displays, windscreens and, particularly, glasses) it will be able to take on a more assistive role in specific moments.

How do people feel about AR glasses?

Over half (56%) of people we surveyed are aware of AR (or smart) glasses; rising to 66% of 18–34 year olds and over 90% of people who have already experienced AR. While still at least five to ten years away from becoming a mainstream consumer product, people are already anticipating that AR glasses will make their lives easier for specific tasks. Over a third of 18–34 year olds would prefer to experience AR hands-free through smart glasses than through their mobile phone.



“If the glasses can prove themselves to be that helpful, and change our interaction with things, then it would definitely become commonplace.”
Workshop and online community participant

Fig. 11



Source: Layered survey April 2018; n=1000 UK smartphone users

Q: Would each of the following examples be better experienced through mobile phone or smart glasses?

Already over 25% of people would prefer AR glasses rather than a mobile phone screen for wayfinding, 'how-to' and 'try before you buy' experiences. **(See Fig. 11)** This preference is even stronger amongst people who have already experienced AR.

Despite appreciating the potential of AR glasses, over a third (35%) of people believe they would be concerned about what others would think of them if they were to wear smart glasses. People are 53% more likely to consider wearing AR glasses if they look like normal sunglasses or reading glasses, like the Intel Vaunt or Snap Spectacles, than if they look like Magic Leap Lightwear or the Bose AR sunglasses.

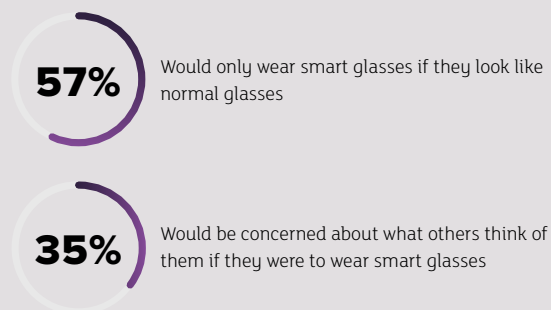


Fig. 12

Consideration levels for smart glasses by style

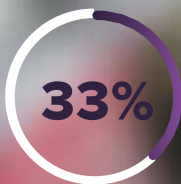
Source: Layered survey April 2018; n=1000 UK smartphone users

People's concerns about how these glasses look are a key obstacle for the industry to overcome if AR glasses are to truly take off.



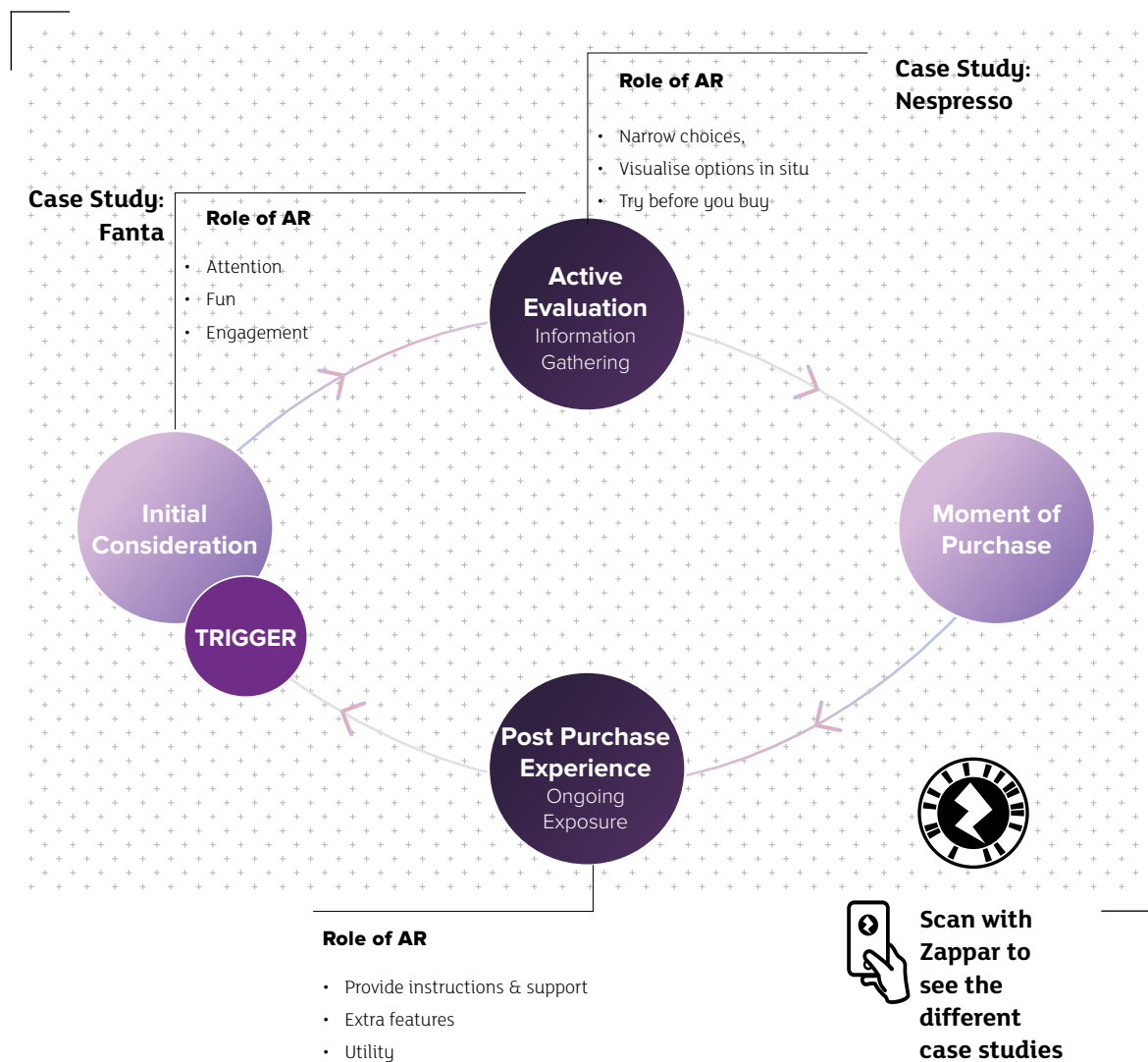
"I would wear them if they were sunglasses, for sure. If I could just have them like my Ray-Bans, I would definitely wear them, but only if nobody could tell."

Workshop and online community participant



of people believe AR would help to narrow down choices when shopping

Irrespective of how quickly AR glasses develop, AR will play a wider role in the consumer journey helping nudge people towards purchases (see Fig. 13)



To date, AR has mostly been deployed at the 'evaluation' or 'post purchase' stages. Evaluation has been enabled either through a fun engagement mechanic improving disposition to the brand, or by helping people to actively evaluate purchase options with 'try before you buy' applications. The standout example here is Ikea Place, which enables people to visualise products in their own homes.

Fig. 13
The role for AR throughout the consumer journey

Post purchase, there is a strong opportunity to use connected packaging or the product itself as the surface to deliver additional utility to people. This could be 'how to' guides for product usage, assembly instructions or recipe information for food and drink products.

As AR evolves, we expect to see the actual purchase capabilities develop further. Where AR works well now in helping to narrow choices, we can expect to see it facilitate direct purchase from within the experience. Where AR can help you get more out of a product by showing how to use it properly, we can expect repeat purchases to be enabled directly from the AR activation itself.

Flowing will also be a key theme in how users experience AR itself as more native app integration and computer vision developments make the user journey in accessing AR much smoother.



Sephora Virtual Artist app

IMPLICATIONS FOR BRANDS

IMPLICATION 1

MAXIMISE THE POWER OF IMMERSION FOR YOUR BRAND

Our neuroscience work has shown how powerful an experience AR continues to be for people, in terms of both brand engagement and memory encoding. As AR tools evolve, the ability of AR to deliver these immersive moments of 'surprise & delight' will only develop further. Think how you can use AR to create an immersive brand experience that truly delights your consumers and leaves a lasting brand memory.

IMPLICATION 2

FOCUS ON IDENTIFYING THE DIFFERENT NEEDS AR CAN SERVE ACROSS THE CONSUMER JOURNEY

Whilst providing consumers with moments of engagement will always be valuable to brands, there's a great opportunity to utilise AR content across the consumer journey, particularly in nudging towards purchase.

It's critical to identify the underlying need in a particular moment on the journey, and assess how an immersive, visual medium such as AR can address that need. This could be through helping people weigh up choices by allowing them to visualise products in their home environment and then enabling direct purchase. Or, once a product has been bought, providing reassurance about how to use it through visualisations triggered from the packaging.

As assistive technologies continue to develop, think how AR could enable your brand to deliver service and utility in different moments across the consumer journey.

IMPLICATION 3
**ADD EXTRA
LAYERS TO
YOUR 'OWNED'
ASSETS**

There's a growing expectation that brands will be able to provide extra layers of content and information through their owned assets, as well as their paid media.

If brands already have an app with a substantial user base, thinking about how this can be used as a gateway to AR experiences is an excellent start.

Brands should consider how they can change a passive touchpoint with huge reach, such as product packaging, into a fully immersive experience that can even be tailored to the individual consumer.

For bricks and mortar retailers, the in-store environment provides a varied canvas for both engagement experiences and customer service: highlighting product locations within store; creating virtual shelves for product discovery; reimagining loyalty schemes; and much more.

IMPLICATION 4
**OPTIMISE YOUR
CONTENT
FOR COMPUTER
VISION**

As Google's influence in the AR field increases through adoption of Lens, PPC and SEO strategies will play an increasing role. Google Lens technology typically surfaces relevant information about objects scanned and provides a 'jump off point' into the Google search engine or YouTube. As a result, it is important for brands to ensure that the content surfaced around their brands is the most relevant for the consumer. Optimising content for computer vision will be a new consideration within wider SEO strategies

IMPLICATION 5
**PREPARE YOUR
INTERNAL
CAPABILITIES
FOR ALWAYS-ON
AR DELIVERY**

As consumer expectations of additional layers of content grow, brands will need to review their own internal infrastructure and capabilities in delivering always-on, adaptive AR content across multiple products and touchpoints. This requires investment in AR knowledge and skill sets as well as the development of workflows, templates and tech assets. The perception of AR needs to change from being a one-off campaign tactic to a continuous and flexible content touchpoint. We're already seeing a consolidation of AR solutions from global brands and a move away from fragmented local implementations as this becomes a C-suite consideration.

THANK YOU

Thank you to all of the experts who have contributed to this report through subject matter interviews.



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With a background in marketing and communication, Heather has held marketing director roles at Nestle and a television channel, as well as working as a consultant at PWC and OxfordSM. She is CEO of Neuro-Insight UK, working alongside the neuroscientists to run the client-facing part of the business.



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Caspar is CEO at Zappar which he co-founded in 2011 with the mission of democratising augmented reality and getting it in the hands of as many people as possible: for brands, the next generation of digital creators and consumers. In previous lives he was a Board Director at AMV BBDO, helped found creative agency CDD and was COO at the PR firm freuds.



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ABOUT US

MINDSHARE FUTURES

Mindshare Futures is Mindshare's emerging media and technology research programme. It focusses on the underlying consumer behaviour behind future trends and advises marketers on the implications for communications. It produces annual trends publications, deep dive reports on specific tech trends and offers consultancy services.



Founded in 2011, Zappar have been trailblazing and setting best practice in the AR space for over seven years. They are a creative business and an augmented reality software platform, rolled into one. ZapWorks is an award-winning suite of tools for creating AR experiences, built for designers and developers. Zappar's in-house team use these tools to produce AR content for some of the world's biggest brands.

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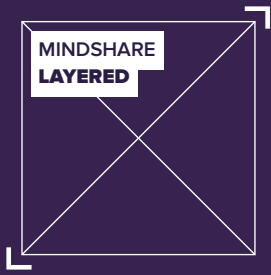
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