

# WHAT THE FUTURE: REALITY

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**+** Experts from Meta, Warner Bros. Discovery, Lowe's Innovation Labs, the World Economic Forum and more share how they envision how people, brands and life will change in the immersive web age

**GAME CHANGERS**



# Imagine it's 2030.

How we define and experience reality is constantly evolving as technologies to shape and use it become more powerful. What will that mean for society, brands and business in the coming decades?

In the '80s, when pins were a thing people put on their denim jackets, I had one that read, "Reality is for people who lack imagination." That statement is only becoming truer. Increasingly, reality is what you make of it — and what others want your reality to be.

Augmented reality, virtual reality and immersive worlds galore have the potential to make any future discussion of social media "filter bubbles" seem quaint. There's also a potential future where discussions of headsets seem old-fashioned as we might all have a Star Trek "holodeck" in our homes.

There is nothing certain about the future. But it's certainly likely that mixed realities and virtual realities will become more a part of our lives. We already can create photoreal digital humans, like our cover model. What could that look like for us all, and for the platforms and governments and companies that will make it all happen?

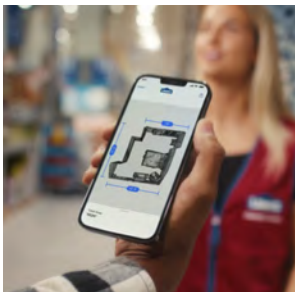
The future is out there. You just need to use your imagination.



# 38%

of Americans say they are very familiar or somewhat familiar with the metaverse, while 58% say the same for virtual reality.

# Contents



## 1. Territory map

The future of reality will be driven by forces coming from six directions. We map them out.

## 2. The lay of the land

For this double issue, we talk with authors Matthew Ball and Jonathan Stringfield and immersive media leaders from Meta, Warner Bros. Discovery, Lowe's Innovation Labs, the World Economic Forum and the Atlantic Council's Digital Forensic Research Lab. They discuss shifts taking place in AI, virtual reality, the metaverse and "real life" reality and how they will shape the ways people, society and brands interact and conduct commerce in the future.

## 3. Tensions

Will people feel more or less comfortable in virtual worlds than in real life? Will people welcome brands in the metaverse or not? How these opinions shift in the future will shape how quickly and widely people adopt immersive spaces.

## 4. Future destinations

Based on our data and interviews with experts, we plot out a potential future — a plausible port in our future journey. Then, thinking of our tensions, we consider what happens if one of them shifts. We use that as waypoint to ponder how that might send us to a different scenario, plausible port two. Finally, we outline the Future Jobs to Be Done, giving you a new way to think about the future.

## 5. Appendix

Want more? We show our work, including the full text of our expert interviews, our contributors and links to what we're reading today that has us thinking about tomorrow.

# Territory: What will drive the future of reality?

The future of reality will depend heavily on technology and what we do with it. Just as important will be how people leverage its potential for new experiences for the masses. Can we create new realities that will be more than digital twins of real life?





# The missing use case for virtual experiences



Jonathan Stringfield

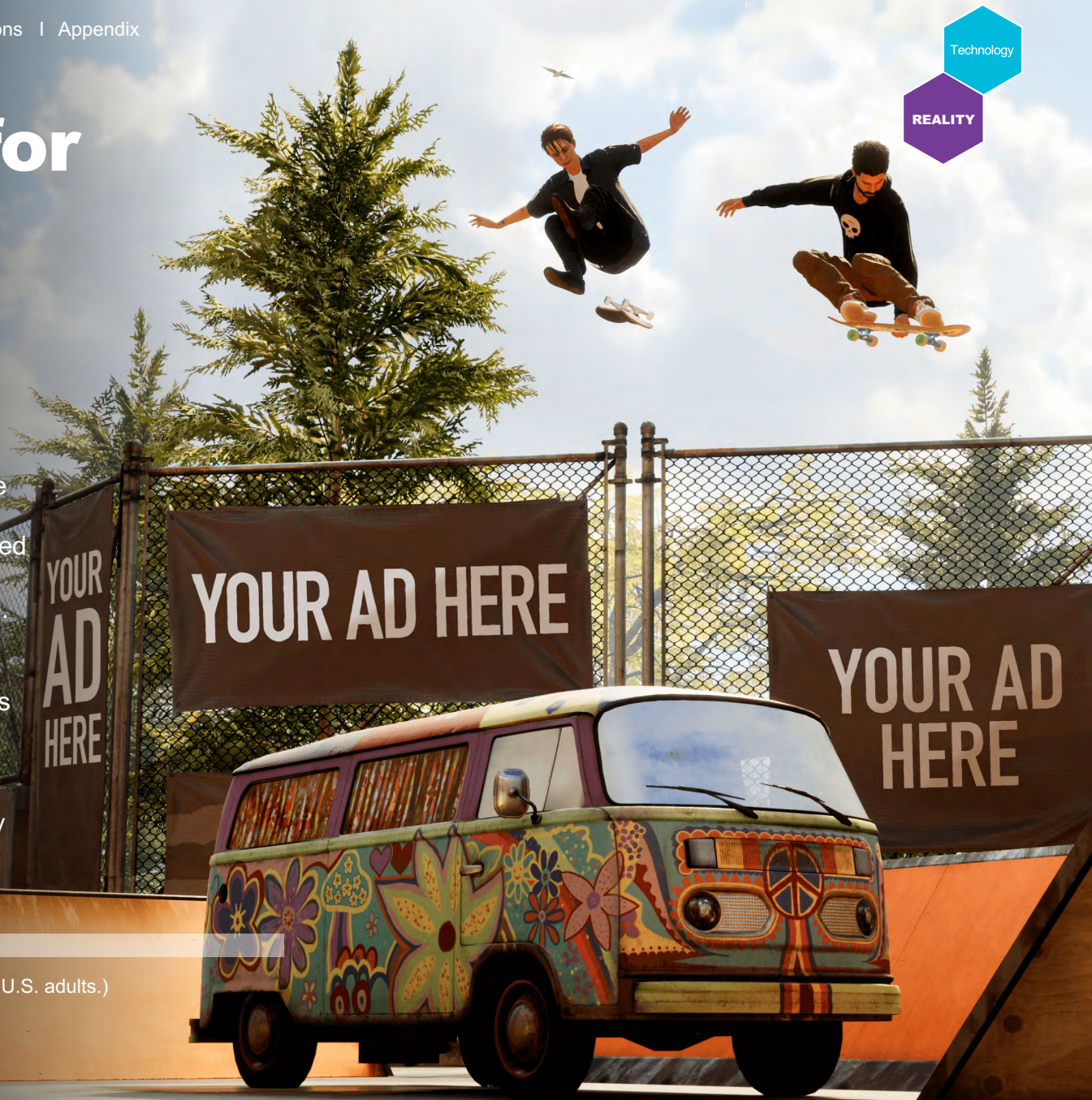
Author, "Get in the Game"

With more than 20 years of experience at some of the biggest platforms (Twitter, Facebook and currently Activision Blizzard), Jonathan Stringfield has participated in the rise of the online and gaming worlds. With a Ph.D in sociology, he also knows a lot about people. His book is about how brands can leverage these platforms — and how they can't. The metaverse intrigues him. He points out that gaming companies have a lot of experience making 2D pretty cool, too.

39%

of Americans say they are very familiar or somewhat familiar with the metaverse, while 58% say the same for virtual reality.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)





Stringfield thinks the future of reality is, well, mixed. 2D spaces are already immersive, as any gamer will attest. 3D virtual spaces might get there if the tech advances. There's a human problem, too. People need a reason to take part, he says.

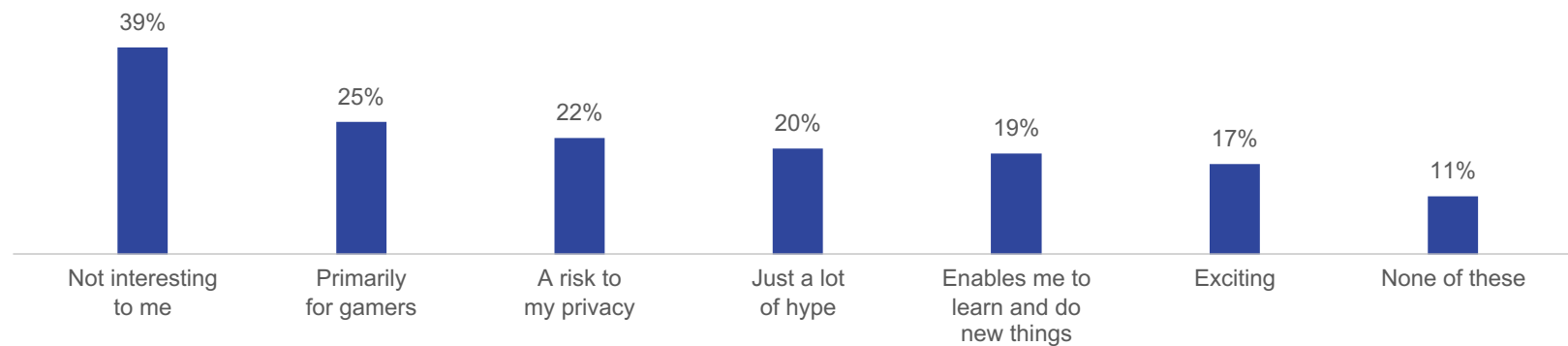
**“There’s a bit of ‘Field of Dreams,’ ‘If you build it, they will come,’ going on that’s fueling speculation. But if there’s no reason for people to be there, they’re not going to go. That’s why the game platforms are getting a lot of pickup ... because there’s stuff to do and large, established audiences. Other platforms are going to struggle for quite some time.”**

The other part of the context problem is that the brand experience has to match the world. His mantra: “Does it make sense?”

[Read the full Q&A on page 37.](#)

## Americans have mixed views about virtual worlds

Q. Which of these best describes your view of the metaverse? (% Selected)



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



# Here's who can expand the immersive web

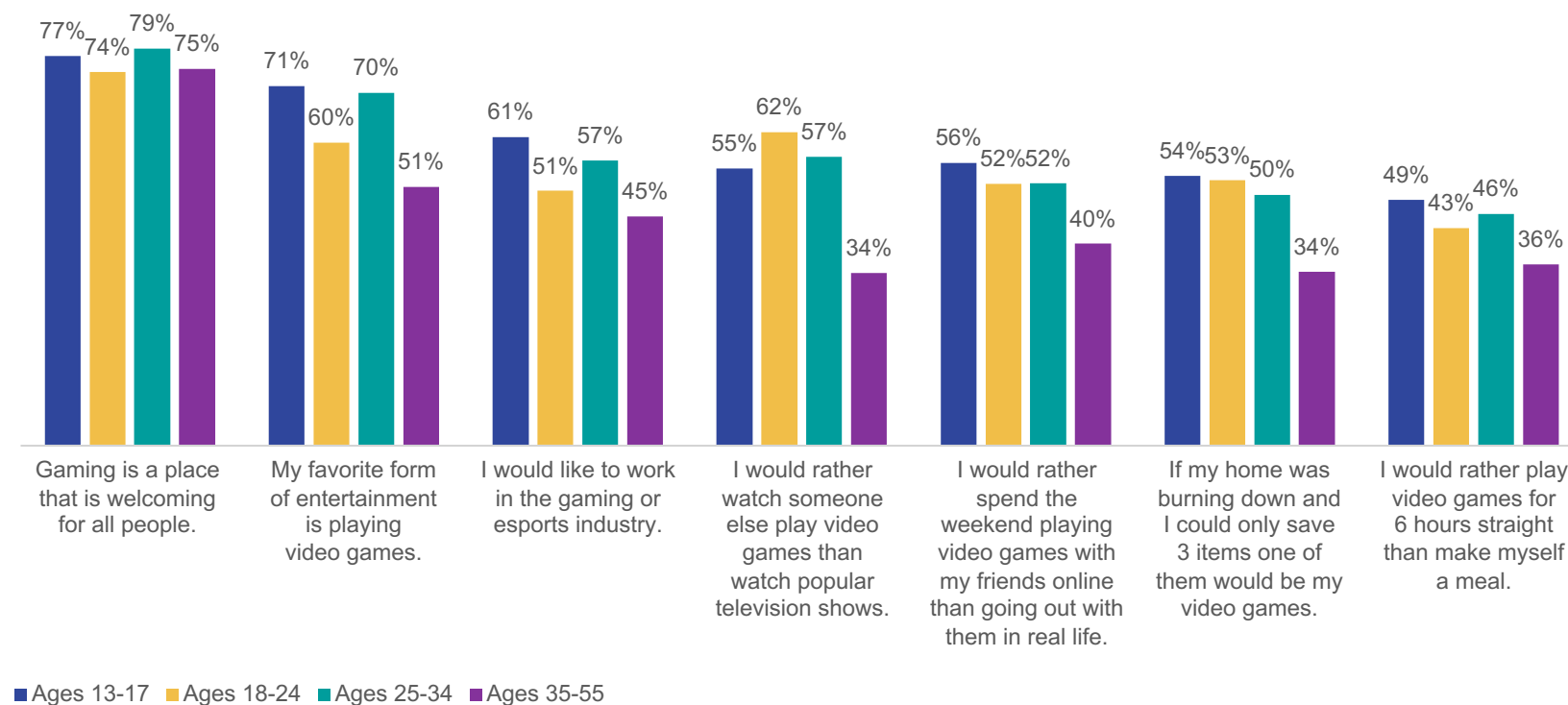
Virtual worlds in gaming make the most sense today, as Jonathan Stringfield says. Yet many factors influence interest in the immersive web that go beyond gaming, according to the new Ipsos Immersive3E Study.

People who describe themselves as creators or influencers are the most interested in immersive spaces. They're doubly likely to own cryptocurrency than the average person. Devices also matter: Those who own an Oculus headset are significantly more enthusiastic. They could hold the key to scaling Web3 and immersive worlds, says Nicole Massa, senior vice president and head of gaming strategy at Ipsos North America.

**“Brands need to tap engaged groups to be ambassadors to friends and family. And to move people from aware to active, we need to ensure the highest-quality user experiences.”**

## Gaming is where younger audiences are

Q. How much do you agree with each of the following statements? (% Agree)





# How brands can fit into new realities



Lindsey McInerney

Co-founder and CEO, Sixth Wall

She helped bring mega-brewer AB InBev into the metaverse with a Stella Artois project. She recently co-founded an entertainment company with actor Mila Kunis and other crypto/blockchain enthusiasts. In all her work, Lindsey McInerney thinks about new roles for brands in new spaces. She sees Web3 as a way to bring creators and audiences closer together and envisions a place for brands to play authentically.

25%

of Americans say the metaverse is primarily for gamers, and 39% say it's not interesting to them.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



Just as Jonathan Stringfield says that people need a reason to join new realities, McInerney thinks brands do, too. The timing of early adoption is tricky, she says.

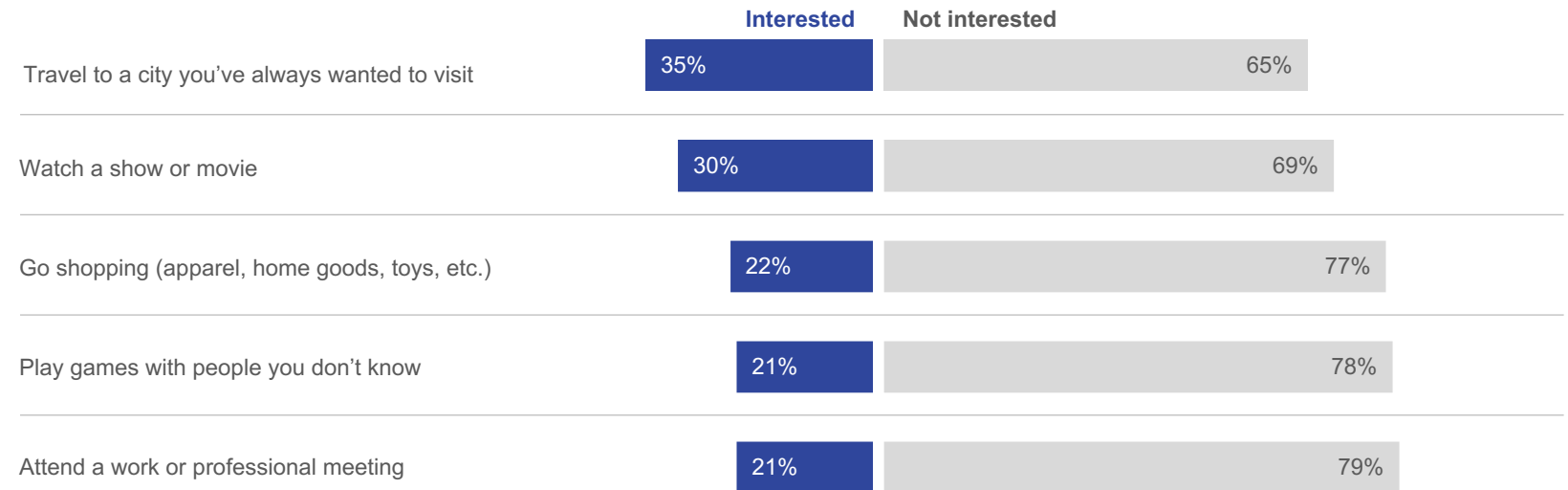
**“This is where brands are going to be stuck right now. Sometimes you are so early that you just miss a window. Either certain technologies weren’t there to support you through the end-to-end execution of your idea, or consumers weren’t there for you because you’re just too thoughtful and early. To be innovative is to just keep trying.”**

But say we get there. Say brands and people find their reasons to be in the metaverse. What does that world start to look like?

[Read the full Q&A on page 39.](#)

## Americans are ‘meh’ about the metaverse

Q. How interested would you be in doing each of the following in the metaverse? (% Selected)



(Source: Ipsos survey Feb. 4-6, 2022, among 1,023 U.S. adults.)

# Getting virtual commerce past ‘If you build it, they will come’



Josh Shabtai

Senior director, ecosystem, Lowe's Innovation Labs

Lowe's has an answer to the “If you build it, they will come” challenge of the virtual world: DIY. One side is about giving consumers new tools to accomplish their own projects. The other is a b-to-b approach. The home improvement chain recently launched Lowe's Open Builder, which provides virtual and AR creators free 3D assets of real-world home and décor products to use in their own worlds. Josh Shabtai, senior director at the Labs, discusses the challenges of developing for VR and AR, and how skill building could be the killer app that accelerates virtual commerce.

# 34%

of Millennials and 30% of Gen X adults would be interested in virtual worlds for learning personal skills.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)





To build immersive experiences that can scale, Shabtai believes that building skills and expertise across generations may be the thing that makes VR and AR palatable for mass audiences.

**“We’ve used immersive technologies to walk people through the experience of a home project and give them the muscle memory to complete it. You see this a lot in sports — muscle memory and visualization — and we think it can translate to everyday learning.”**

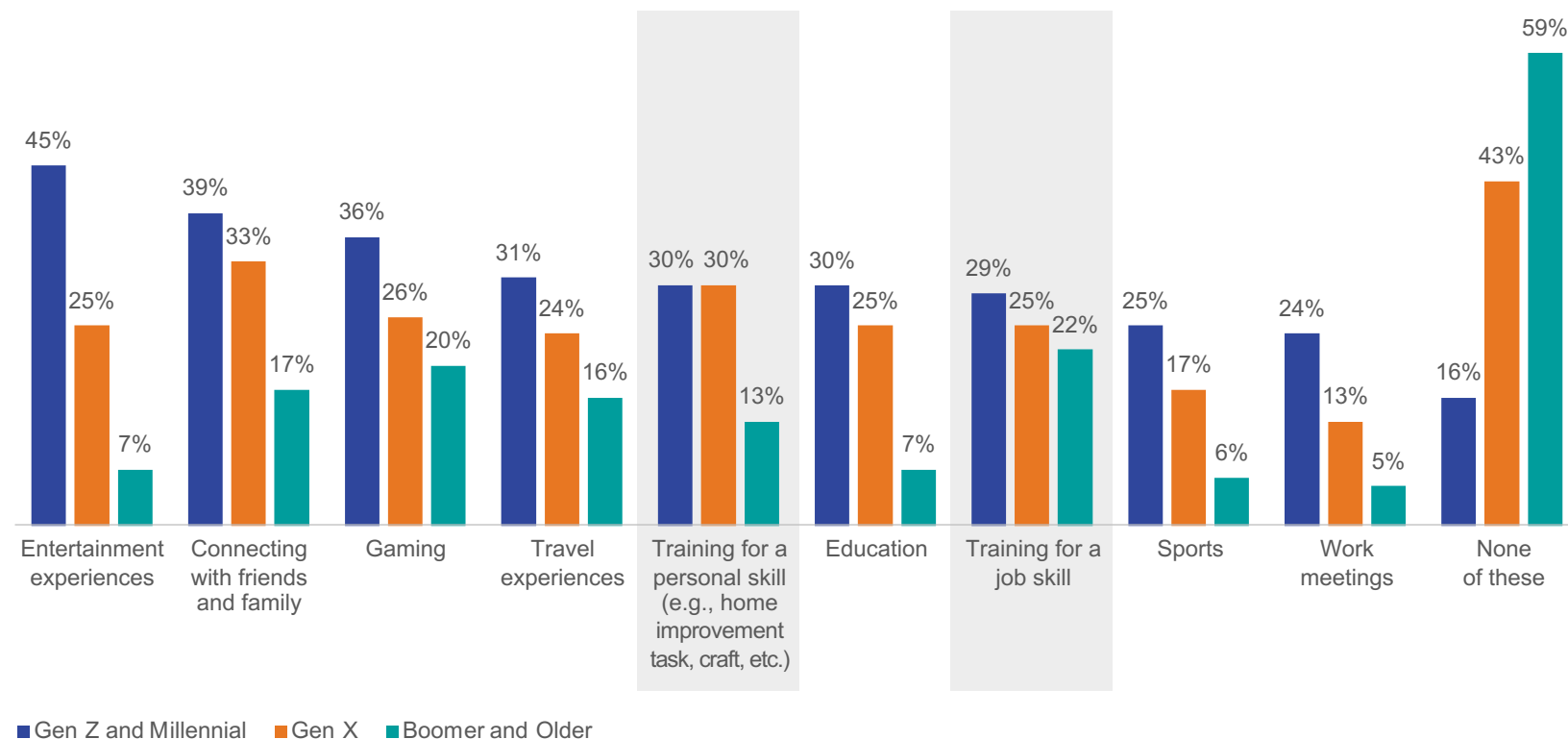
With competing visions on what that future world will look like, Shabtai sees a role for brands and retailers that are not inherently selling technology as a product or service to make that future more useful to a wider audience.

Lowe’s has tested some of these futures in the background, and some out in the open. Now shopper research is catching up to offer companies more options for both.

[Read the full Q&A on page 41.](#)

## For younger Americans, skill-building is an equal draw for the virtual web

Q. Which of the following activities, if any, would you be interested in participating in in a virtual world?



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)





# How brands can confidentially and safely test virtual commerce

Marketers are dabbling with shopping experiences in the virtual web. As with most early technology, there's an instinct in the digital world to test, learn and iterate content. But if the average American is skeptical, as Ipsos research finds, presence alone won't help scale immersive web commerce.

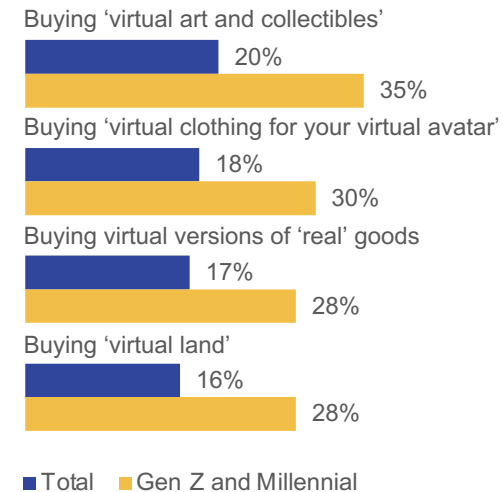
Despite having a first-mover advantage, companies experimenting in these spaces are opening themselves to a commercial world that they don't know will work, says Alison Chaltas, global president of omnichannel journey at Ipsos. In other words, it's too easy to be tech first, shopper second and totally miss the mark.

So how can brands develop engaging and effective immersive shopping experiences? How should they look to the shopper, and how do we get people to enter the shop and get guests to linger, enjoy and buy? How do we get them to spread the word to their real and virtual friends?

Ipsos will soon launch an immersive version of Simstore StoreView that evaluates shopping behavior in both physical and virtual environments, virtually. Brands and retailers will be able to test different concepts and programming in and beyond the virtual web in a closed, safe and confidential way.

## Younger Americans more likely see virtual worlds as brilliant

Q. How *brilliant* or *ridiculous* of an idea do you think each of the following is? (% Brilliant)



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



# Why immersive worlds shouldn't be virtual versions of real life



Asher Rapkin

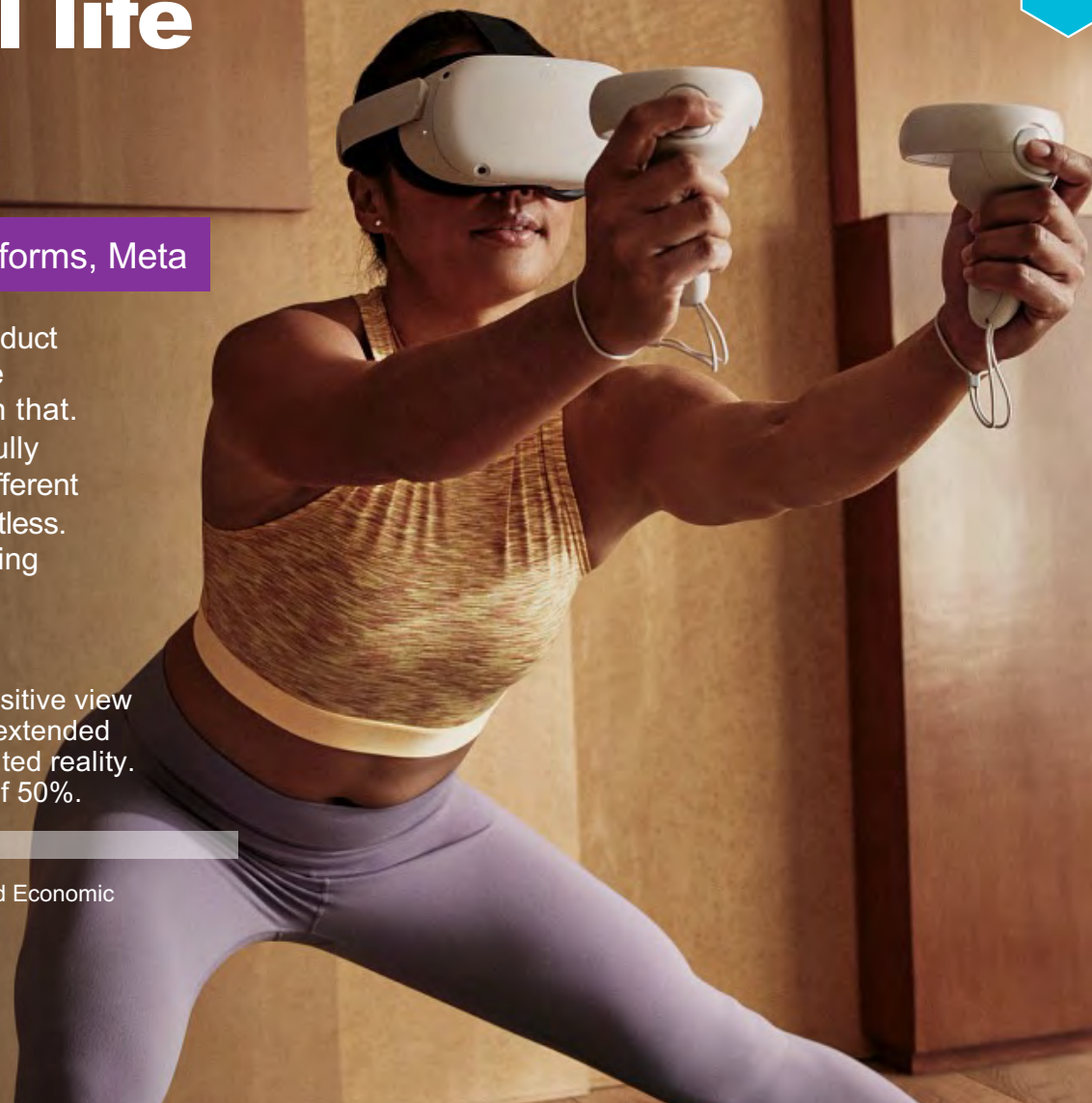
Director, global business marketing, emerging platforms, Meta

Metaverse is a term still finding its definition. Meta's chief product officer, Chris Cox, has said it's the next generation of the internet where it gets "less flat." Asher Rapkin expands on that. Moving through mixed reality, augmented reality and into fully immersive virtual reality, people can have both similar and different experiences with different levels of fidelity. The potential is limitless. So how do we get more people and brands playing and doing business in the space?

# 42%

of American adults say they have a positive view about the possibility of engaging with extended realities like virtual reality and augmented reality. That's lower than the global average of 50%.

(Source: Ipsos survey conducted Apr. 22-May 26, 2022, on behalf of the World Economic Forum, among 21,005 adults in 29 countries, including 1,000 U.S. adults.)





Whatever definition of the metaverse you understand today, Rapkin acknowledges it will evolve as it matures. For businesses, that means understanding that virtual experiences are going to require new ways of doing things, much like internet marketing has evolved since the early “brochureware” days of websites. He says brands should subscribe to the idea that good commerce follows good art. We can’t just create virtual analogs of things that exist. We have to introduce something new, he says.

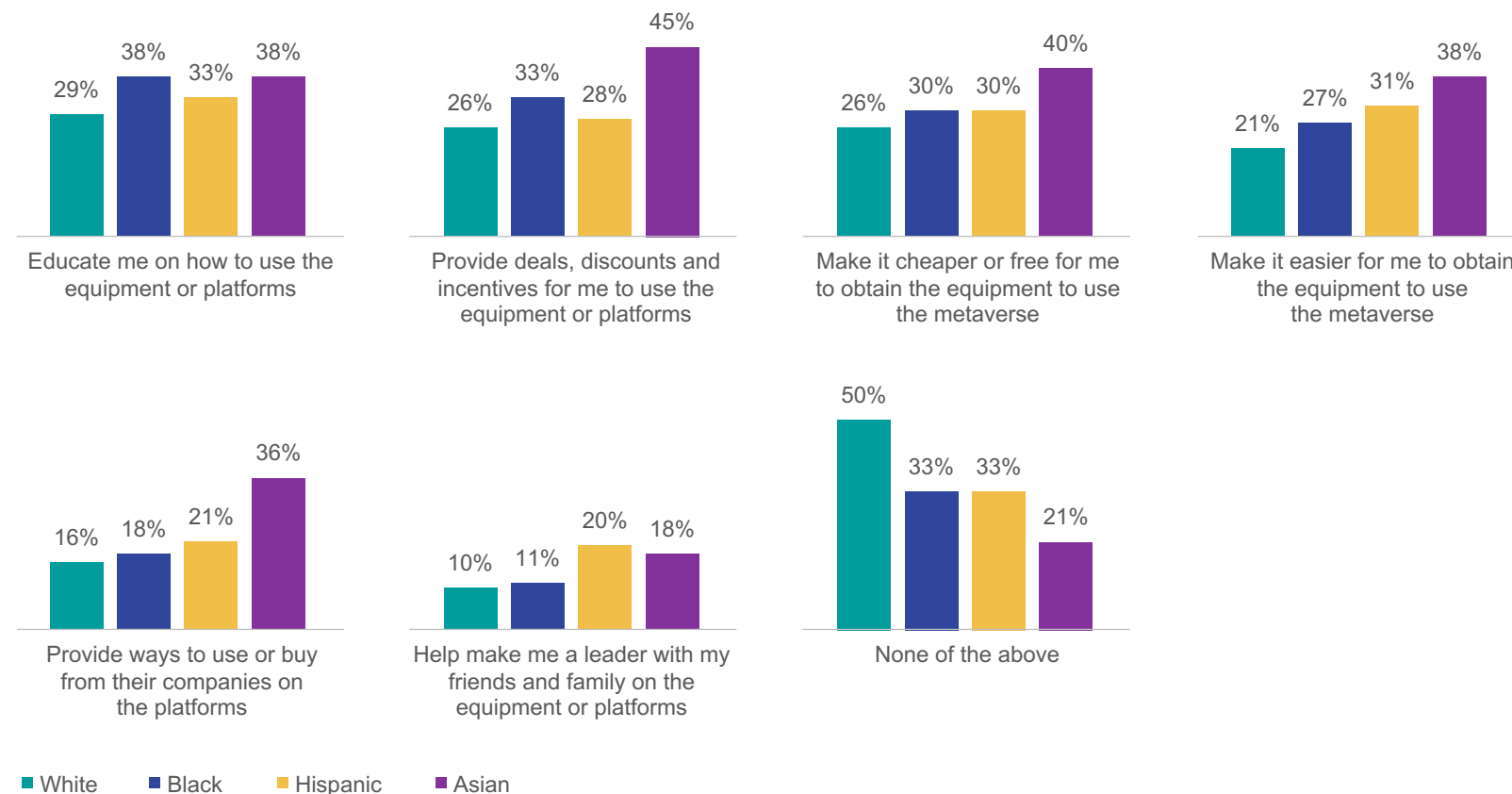
**“We ultimately have to present a use case for the metaverse that sits outside of what is currently possible. The goal is to give additional experiences that are simply impossible physically.”**

Then, he says, we need to watch and listen to the consumers and determine how to iterate from there. “We’ll figure it out,” he says.

[Read the full Q&A on page 43.](#)

## How Americans want brands to participate in the virtual web

Q. Which of the following roles, if any, do you want companies to play in virtual reality/augmented reality or the metaverse? (% Selected)



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



# Why representative avatars matter in immersive worlds



REALITY

Consumers

Two draws of the immersive web are anonymity and the ability to create a digital persona with an avatar.

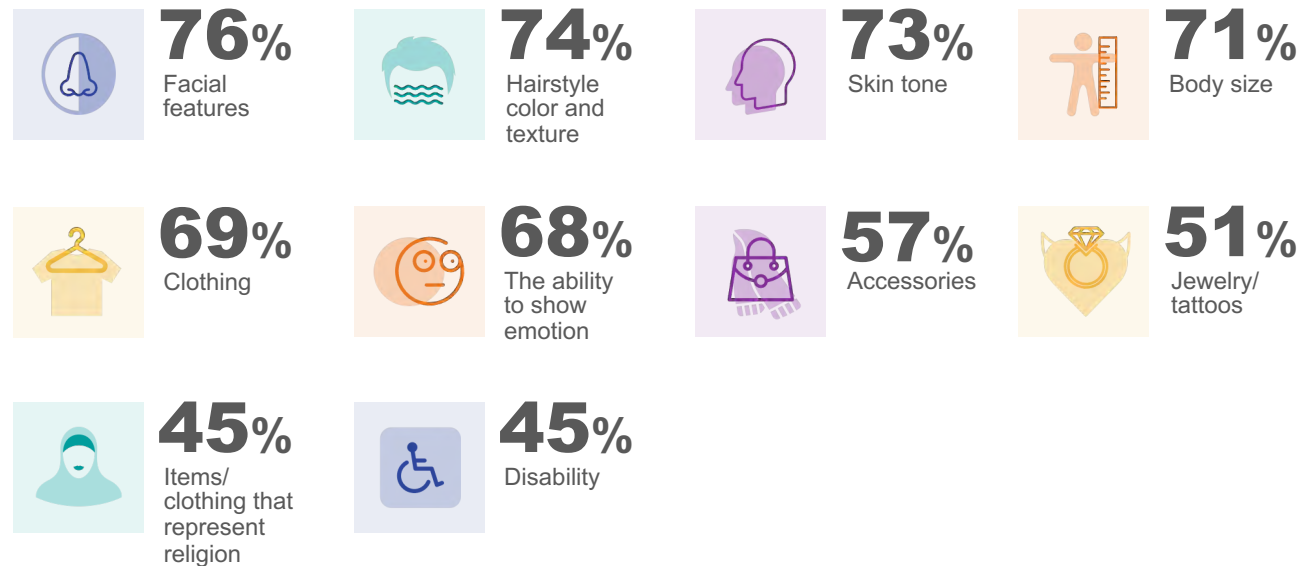
More than half of people ages 13 to 34 say they are more comfortable being themselves in a virtual world than in real life, according to the Ipsos Immersive3E Study. And 45% of Americans ages 13 to 55 have created an avatar. Most people want their avatars to closely mirror their appearance or look like them with a few tweaks, says Natalie Lacey, executive vice president of Ipsos' Media and Entertainment Platforms business.

**“Those who have an avatar are mostly satisfied with the ability to represent themselves, but men are more likely than women to be very satisfied with personal alignment to their avatar.”**

That comfort, and the ability to develop a meaningful virtual self, is a key step to onboarding more people into these spaces.

## What matters most to Americans in how their avatars represent them

Q. If you were to create an avatar, how important is it that the avatar can represent each of the following? (% Important)



(Ipsos survey conducted June 22-30, 2022, among 1,901 Americans ages 13-55.)

# Here's who should govern the virtual web



Matthew Ball

Author, "The Metaverse"

Investor Matthew Ball's essays on the metaverse are about as influential as any writing on the topic. As managing partner of EpyllionCo, he's invested in a lot of winners: Genvid Technologies, The Athletic, Dapper Labs, Dave's Hot Chicken, Pushkin Industries and more. His new book "The Metaverse" takes his thinking even further by asking how the virtual web will evolve, what players will shape that evolution, who will govern these spaces and how?

59%

of Americans say community managers are a good way to run online spaces.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



One type of governance that's evolving in the metaverse and crypto worlds is membership-driven decentralized autonomous organizations (DAOs). Ball points out that membership doesn't have to be bought. Members receive tokens based on whatever the group finds valuable: money, time, member referrals, etc. Ball sees arguments on both sides for how effective DAOs can be. One thing he's clear on: governments must be involved, too. He's hopeful they'll be helpful. "We are all smarter about the significance of change," he says. That's why there is so much interest in the investment community, as well as from regulators. But there's a caveat, he cautions:

**"It is a relatively modern phenomenon that governments find themselves struggling to catch up with new technology."**

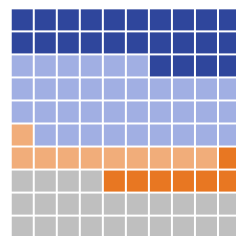
Another key question: Can we solve in virtual spaces the problems of equity and inclusion that persist in the real world?

[Read the full Q&A on page 45.](#)

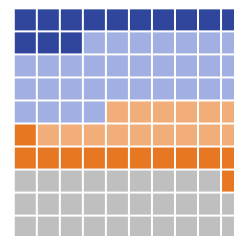
## How Americans rate management styles of online spaces

Q. Are the following good or bad ways to run online spaces like social media or the metaverse?

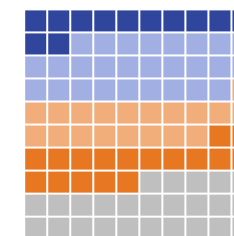
Have community management (i.e. moderators, ability to report content)



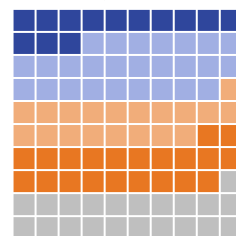
Have platforms (e.g., Meta, Roblox, Fortnite, etc.) set the rules



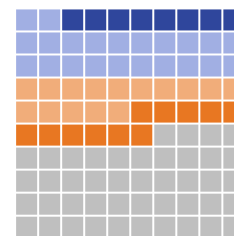
Government regulations



Let individuals do what they want



Decentralized\* autonomous organizations (DAOs) led by a collective of member-owners



■ Very Good   ■ Somewhat Good   ■ Somewhat Bad   ■ Very Bad   ■ Don't know

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)

\*The survey question used "distributed" in place of "decentralized."





# How inclusion can help immersive media scale



Cathy Li

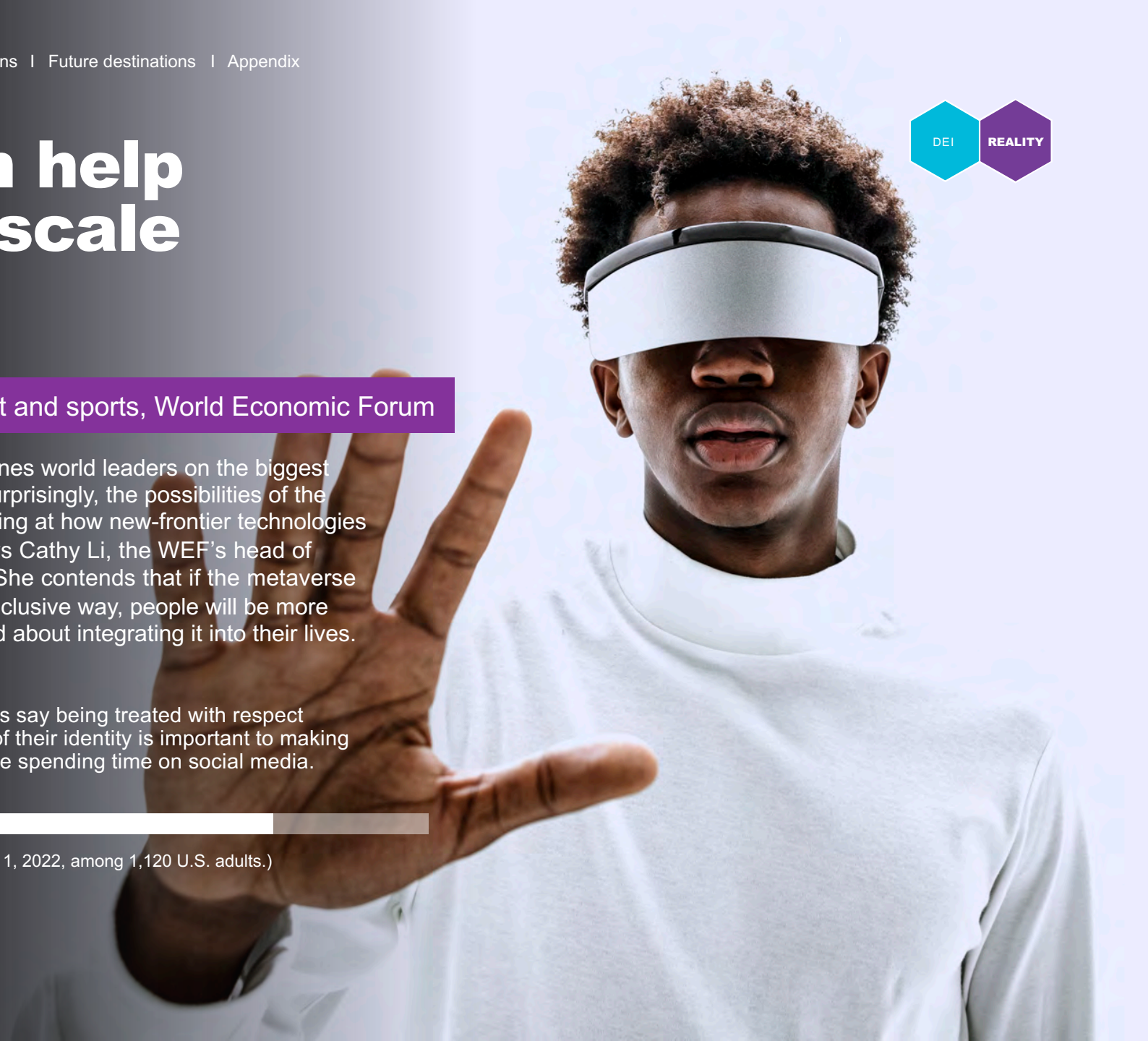
Head of media, entertainment and sports, World Economic Forum

The World Economic Forum convenes world leaders on the biggest economic and social issues. Not surprisingly, the possibilities of the metaverse fall into its realm of looking at how new-frontier technologies can transform society at large, says Cathy Li, the WEF's head of media, entertainment and sports. She contends that if the metaverse is developed in a more open and inclusive way, people will be more trusting of it and more open-minded about integrating it into their lives.

80%

of Americans say being treated with respect regardless of their identity is important to making them feel like spending time on social media.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)





Li says the WEF sees today's metaverse not as a destination but as a point in time in the ongoing digital transformation. It should be a fair representation of the real world. To that end, diversity, equity and inclusion is a powerful solution that should be included now. That includes accessibility, she says.

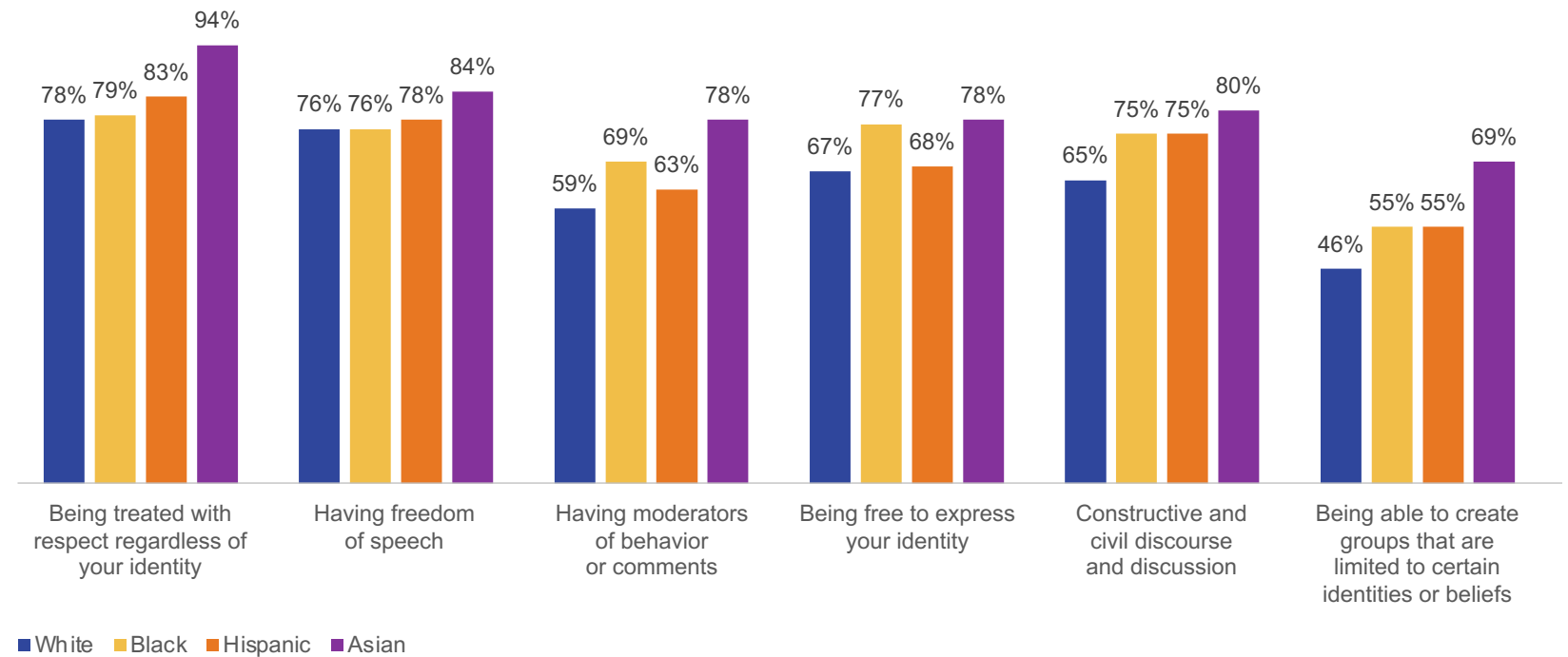
**“There’s an argument that a virtual world improves accessibility because many experiences that couldn’t be fully experienced by disabled users in the past, now can be accessed through AR/VR headsets in a way that makes sure people of all abilities have very similar experiences.”**

To get there though, she says, product design will need to take accessibility into account from the start.

[Read the full Q&A on page 47.](#)

## Most Americans want social spaces to be respectful, safe and open

Q. How important are the following to make you feel like spending time on social media? (% Important)



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



# What it means to build an ‘accessible’ metaverse

**This issue features many discussions about building safe and inclusive virtual spaces.**

**But what will that look like?**

**Ipsos researchers have interviewed hundreds of people who use VR regularly to access virtual worlds. Listening to people has led to insights for brands and retailers alike as they shape the future.**

First, people want to feel there is space for them to be who they are physically and emotionally. They want avatars to represent them accurately, including digitally displaying their tooth gap, their prosthetic arm, or gray patches in their hair, says Katelyn Faulks, a research director in Ipsos’ User Experience practice.

**“People also want to access virtual worlds like anyone else, with added system features to help them have an equitable experience that acknowledges and accepts their differences or limitations.”**

For example, those who have an auditory processing disorder or are hard of hearing may opt for features that allow them to control individual user volumes or display captions to ensure they can focus on conversations without feeling overwhelmed or left out.

Finally, as in the real world, accessibility also means people of all backgrounds are treated respectfully and can enjoy their experience without feeling targeted. These are hard problems to solve in the real world and will be a challenge to solve in virtual worlds populated by real-world people. But with intentional planning and testing, users and platforms alike hope we can get there.



17%

of Americans ages 13-55 consider themselves to be someone living with a disability.

(Ipsos survey conducted June 22-30, 2022, among 1,901 Americans ages 13-55.)



# Will viewers cross over to immersive content?



Vera Chien

Executive director, corporate research, data & insights, Warner Bros. Discovery

Entertainment media has been a relative laggard in engaging viewers through the metaverse. But that's primed to change, contends Vera Chien, who leads research for Warner Bros. Discovery on digital platforms such as HBO Max, as well as corporate strategy initiatives including non-fungible tokens (NFTs). She sees audiences are more than ready for interactive and viewer-driven content.

37%

of Gen Zers and Millennials are interested in watching a movie or TV show in the metaverse compared to 28% of Gen Xer and 19% of Baby Boomers and older.

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)

So far, many of Warner's metaverse activations have focused on audience engagement, promotion or NFTs. But Chien is excited by the demand she sees growing among younger audiences for merging the immersiveness of gaming into TV streaming and films. "This is something that audiences are craving," she says.

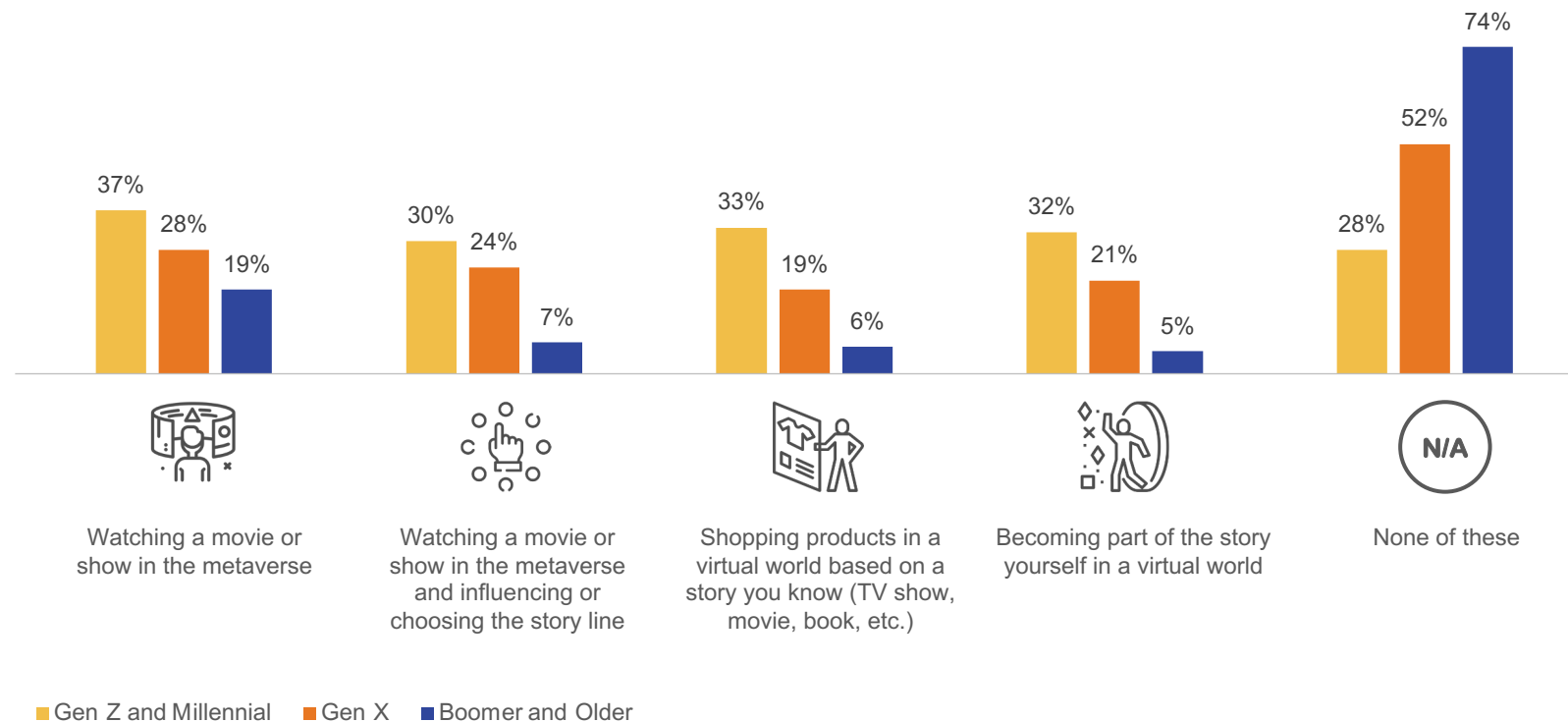
**"We are looking at Millennials, Gen Zers and Gen Alphas, and these are the types of experiences they've largely grown up with. If we think about fast-forwarding three, five, 10 years out, one can only imagine the levels of interaction and interactivity they'll crave from content."**

Not that older audiences will be left behind. "It's just cracking that nut for them," she adds.

[Read the full Q&A on page 49.](#)

## Of anyone, younger audiences are more interested in extending TV or film content into virtual worlds

Q. What, if anything, are you interested in doing with the metaverse? (% Interested)



(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



# How humans can hold back tech-enabled disinformation



Andy Carvin

Managing editor, Digital Forensic Research Lab, the Atlantic Council

It's easy to get caught up in discussion about virtual worlds and forget that they have impact in our real world as well. The intersection of reality and information is fraught today and could get worse in the future. Andy Carvin and his global team research the spread of disinformation in real time and trace its sources. Rampant disinformation is a problem that arguably is made worse by technology. Carvin thinks the solution, however, is human, and the window to solve it very well might be closing.

# 81%

of Americans are confident that something they saw with their own eyes is true. That's down from 92% in 2020.

(Source: Ipsos surveys conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults; and Aug. 25-26, 2020, among 1,003 U.S. adults.)



We're not in a good place today, Carvin says. "The problem is larger than I think any of us are able to get our heads around because there's really no barrier to entry." Fact-checking can help, but it's naturally a defensive pose. By that point, the false narrative is already circulating. One solution, he suggests, could parallel the deprogramming efforts used in addiction recovery and rehabilitation of former gang members.

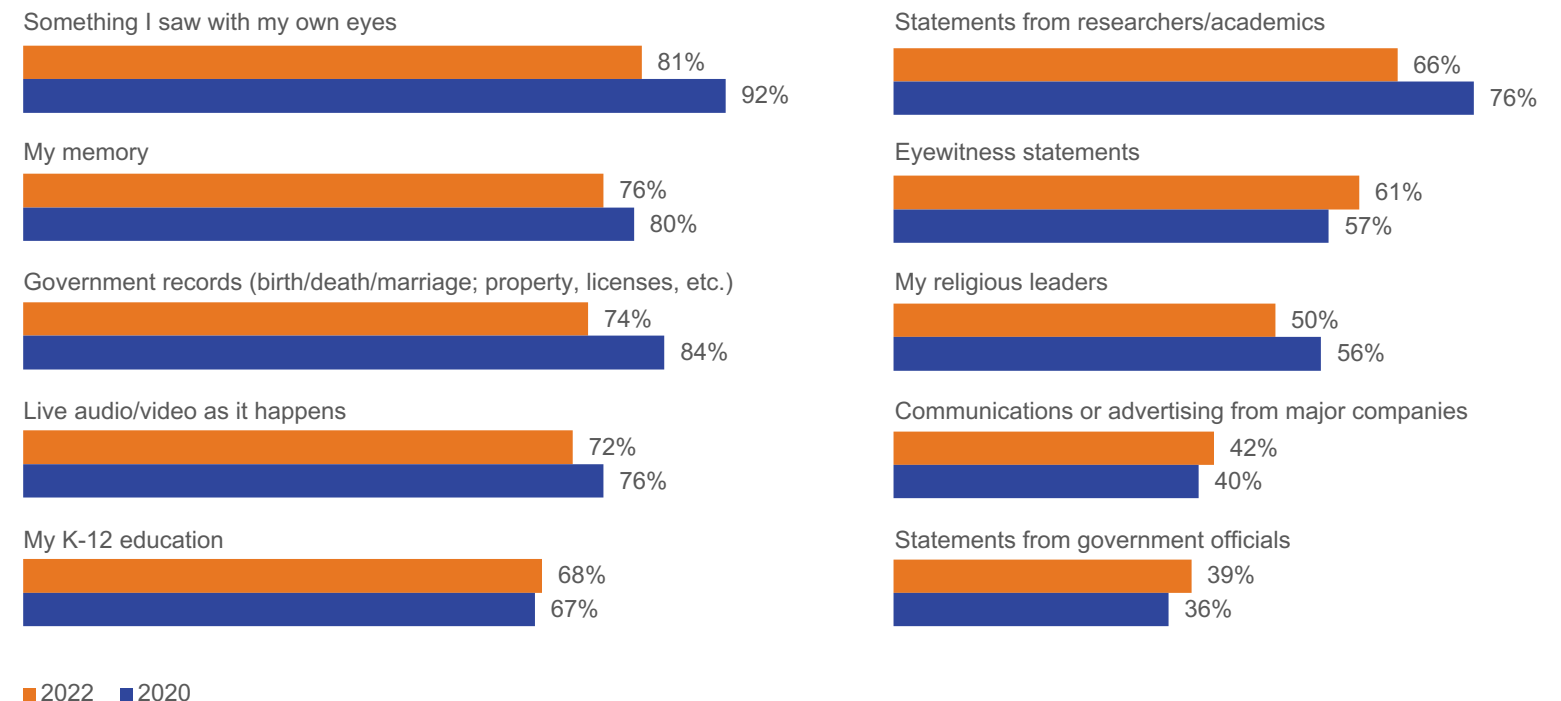
**“What can we do to rebuild trust and bonds within a community in which neighbors are more likely to give each other the benefit of the doubt?”**

But he worries that as we become more bubbled virtually and geographically, even that will be harder to pull off. Plus, it will be nearly impossible to scale the solution to fit the scale of the problem.

[Read the full Q&A on page 51.](#)

## People are less confident today about what is true

Q. How confident are you that the content or information you receive from each of the following sources is true? (% Confident)



(Source: Ipsos surveys conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults; and Aug. 25-26, 2020, among 1,003 U.S. adults.)

## Six tensions that will drive change:

# 1. Will they go or not?

Given that the genesis of the metaverse term is from dystopian sci-fi, maybe we should take it as a good sign that people told us they don't want to hang out there. Realistically, we will wind up spending more of our time in virtual spaces of some sort, likely shifting this tension line. What form that presence will take is up for grabs. Many of those interviewed in this issue see a near future with some sort of headset. More than one interviewee asked the "Field of Dreams" "If you build it will they come" question. Gaming expert and author Jonathan Stringfield reminds us that we might not need additional hardware, anyway: "Game developers have 60 years of experience being very good at initiating spatial presence on the flat screen."

### Very few people find 3D virtual spaces appealing for now

I want to spend more time in 3D virtual spaces like the metaverse

28%

72%

I do not want to spend more time in 3D virtual spaces like the metaverse

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)

Six tensions that will drive change:

## 2. Branded spaces or unbranded?

Most people say they don't want brand experiences in the metaverse. But it's hard to imagine a future where brands are absent — especially since they are there already. So, what does this tension tell us? It tells us that brands have to make the experience worthwhile for the consumer. To do that, they need to understand what the consumer wants from them and how to deliver it in a new reality. “The most important thing for a brand to do is become fundamentally literate in what is necessary to build,” says Meta's Asher Rapkin.

### Marketers need to create value for branded metaverse experiences

I want brand experiences in the metaverse

35%

65%

I do not want brand experiences in the metaverse

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



Six tensions that will drive change:

## 3. Government regulation or none?

This is a charged tension. Government regulation is a topic that is always fraught. In any context, “regulation” is a word that triggers. It’s even more tricky where technology is concerned, because, let’s face it, our elected leaders are not always savvy. If government places some guard rails on the development of virtual spaces, it could lead to one future. If the industries involved are left to their own devices, it could be a very different future. Matthew Ball, author of “The Metaverse,” thinks we need a heavy hand — at least at the outset. “I believe that the role of government and the state must be fairly strong, especially in these early years,” he says.

### People are split about who should regulate the metaverse

The government should help regulate the metaverse

54%

46%

The government should not regulate the metaverse

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)

## Six tensions that will drive change:

# 4. Augmented reality improves life or doesn't

People are most bearish on the uses of augmented reality today. We'll see how that unfolds, but if this tension remains where it is, look to see more app-based and hardware-based solutions adopted more quickly than some virtual alternatives. Augmented reality, like virtual reality, can be used for much more than entertainment, which is where it's now mostly centered. "We've explored the use of immersive technologies to walk people through the experience of a home project and give them the muscle memory to be able to complete it," says Josh Shabtai, senior director at Lowe's Innovation Labs.

### Few people think AR will help their daily lives

Augmented reality tools that visually layer information over the physical world will help my everyday life

37%

63%

Augmented reality tools that visually layer information over the physical world won't help my everyday life

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



## Six tensions that will drive change:

# 5. Can I be myself or not?

In the Identity issue of What the Future, 78% of people said they felt free to express their true identity in their daily life. Far fewer feel safe online. If this tension doesn't shift in a more positive direction, it will have grave implications for the adoption of these new technologies and habits. Many in this issue and beyond are skeptical that we can solve some of the human obstacles, such as bullying, in these new spaces. But others have hope, which we'll need to help guide us to a place where people feel welcome and respected. "There's a better chance for people to behave more civilized in the virtual world compared to the internet," says Cathy Li, head of media, entertainment and sports at the World Economic Forum.

### About as many people feel they can express themselves online as those who don't

I feel safe to express myself online

52%

48%

I do not feel safe to express myself online

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)



## Six tensions that will drive change:

# 6. What's true and what isn't?

Today, most people feel that it's already difficult to tell what's real and what's fake on the internet. Technology has the power to make that better — or much worse. It will forever be a game of Whac-A-Mole until the underlying causes are cured. Andy Carvin of the Digital Forensic Research Lab at the Atlantic Council says that we need human solutions to make disinformation less attractive to bad actors. “Disinformation is an enormous problem, but loss of trust within our culture and within our institutions is what's allowing that to happen,” he says.

### Few people can discern what's true in news and social media

It's easy to tell what's real and true in the news and social media

32%

68%

It's not easy to tell what's real and true in the news and social media

Q. For each of the pairs of statements, please select the statement that comes closest to your view, even if neither statement is exactly right. (% Total)

(Source: Ipsos survey conducted Jun. 30-Jul. 1, 2022, among 1,120 U.S. adults.)

A futuristic, dark city street at night. The street is wet and reflects the neon lights from the buildings and signs. There are crosswalks and some debris on the ground. The scene is illuminated by a mix of warm and cool tones, creating a moody atmosphere.

# Plausible port one:

## A slow launch to virtual worlds, because we can't be ourselves

Imagine it's 2032. Virtual reality is a place where more people are spending more time. But not as many as some would have hoped or expected. The problems caused by bubbles and bad behavior from Web2 (the social media era) carry over. The metaverse especially is a place where some find entertainment and others find discomfort.

The issue of comfort and identity is going to be either a barrier or a gateway toward onboarding people in a meaningful way into new realities. Getting to the latter requires a combination of the ability to craft an identity that feels right — and, for creators and influencers, is fully brandable and unique — and a set of social norms. Gaming and entertainment continue to be driving forces in the adoption of these technologies. Practical applications, like workplace training and meetings, learning and practicing new skills, have also grown.

So, we drift into these spaces. Most of us spend some time; many spend a lot of time. Partially we are following the dystopian origin story of the metaverse, that as the physical climate becomes less habitable, virtual spaces are an escape. Partially the tech advances and all this stuff is just *cool*. In some applications, it's fun, like virtual travel and connecting with friends we can't be with physically. In others, it's useful, like augmented navigation and shopping.

But it's still not for *everyone*. The metaverse especially is not the inclusive place everyone dreamed of in 2021. People are harassed. Some never feel comfortable or are drawn to smaller, niche immersive communities that don't become the mainstream draw that some Web2 platforms enjoyed. The metaverse hasn't yet reached its transformative potential, and many wonder if it will.



# Waypoints

## But what if we start to feel more comfortable in our virtual skins?

Let's say that people become more comfortable expressing themselves online. That the 52% who say they feel comfortable online starts to look more like the 78% who say they are comfortable in their daily life. That seems like a future worth working toward. It was a question we asked most, if not all, of the people interviewed in this issue. They all acknowledged the challenges. But they also said it was an important aspect to focus on, and they had concrete plans for bringing people together to create the technology ultimately needed to fix what is fundamentally a human problem. But if we're more comfortable in reality than in virtual spaces today, it seems like there's plenty of room for hope.





# Plausible port two:

## A metaverse for you, me and everyone

Now imagine it's 2032, and the tension has shifted, and more people feel comfortable expressing themselves in virtual spaces. How did that happen? Perhaps it was a broad group working together toward a needed solution. Perhaps it was strong regulation. Perhaps we all sorted into different metaverses that suited us and made us feel safe. Regardless, we're here now, making the most of it all.

In the early- to mid-'20s, the development of the metaverse in all its complexity kept creating safe and inclusive spaces at the forefront. And again, whether we're in one or several huge metaverses, or a constellation of metaverses, here we are. Similarly, we're using AR all the time in our lives — perhaps through a contact lens interface or projected from our phones.

Virtual spaces are places where we connect. Places where we are entertained. Places that enable workplace collaboration. Places that train us. Places that show us the world. Places where we enjoy spending time, but also that reinforce the value of real things in the physical world. We have brand experiences here. Not just shopping and not just reproductions of physical retail (but that, too). But new ways of forging relationships and communities around the brands we care about. The blockchain is part of it. Allowing for unique and customized experiences in our entertainment and the way we express our identity.

This all comes to pass because the technology stopped being a barrier, yes. But also, everyone involved acted with intention, toward a future where we all feel safe.

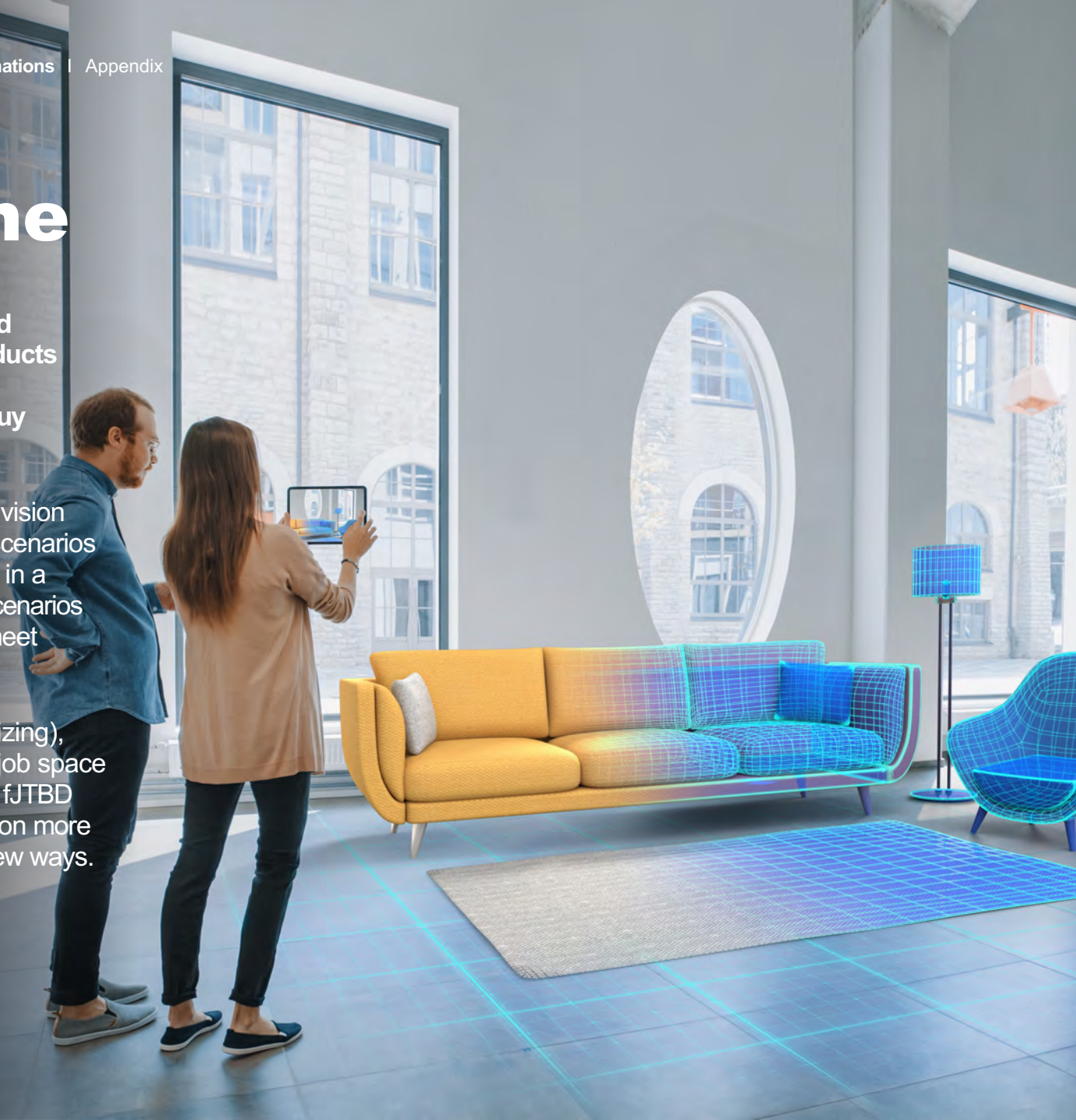
# Future Jobs to Be Done

The traditional “Jobs to Be Done” framework focuses on the tasks and outcomes that people are trying to accomplish and why they hire products and services to help them achieve that outcome. We don’t buy a VR headset; we hire one for entering virtual worlds and events. We don’t buy augmented reality apps; we hire them for learning and shopping.

Ipsos takes this theory forward with *future* Jobs to Be Done (fJTBD). We envision powerful and plausible future scenarios through strategic foresight. These scenarios help us define the circumstances in which people may find themselves, like in a virtual world. What will their new needs be? Then we use fJTBD to tie these scenarios to actions that organizations can take today and tomorrow to help people meet those future needs.

While many needs are enduring and do not change over time (e.g., socializing), the context of that job (e.g., immersive worlds or real life) will change that job space and the potential solutions and alternatives. Because of this, we often create fJTBD clusters that are higher-order and needs-driven. Within each, we can envision more granular fJTBD to illuminate opportunity spaces to meet human needs in new ways.

*Sophie Washington is a senior consultant with Ipsos Strategy3.*





# Potential Future Jobs to Be Done in new realities



1

## Help me find my people and communities

Web2 social media networks grew from real-world communities, and algorithms later connected strangers and widened networks. But the metaverse uses hyper-personal data collection to create niche communities *not* based on location, friends or life experience.

### Potential fJTBD:

- Help me to find people I relate to
- Help me to not be siloed in communities with a singular world outlook (e.g., political)
- Help me feel included and welcome

**Imagine a world where** ... you meet your best friend in a small-scale, virtual community of people seeking relief from climate-induced gut health issues.

2

## Help me live in the best of both worlds

We will never get rid of the Earthverse. For many, the task of navigating between their many immersive web and “real-world” environments (e.g., metaverse conference, going to sleep, making dinner), may cause additional lifestyle stress.

### Potential fJTBD:

- Help me seamlessly transition from a virtual-world activity and real-world activity
- Help me stay balanced and healthy so I don’t feel out of touch with either reality

**Imagine a world where** ... you book a day trip retreat to virtually hike the Andes mountains but realize you don’t have the space or terrain to physically hike in your small, urban apartment.

3

## Help me trust others

Digital environments have always posed some difficulty in discerning who others *really* are. In 3D virtual worlds, it’s even harder. With new blockchain capabilities for secure anonymity and government-issued ID tokens, it’s a whole new game.

### Potential fJTBD:

- Help me feel comfortable operating in my preferred immersive web environments
- Help me feel protected from people who don’t have good intentions

**Imagine a world where** ... tonight you’ve decided to go anonymous when binge-watching that new interactive and immersive reality show set in Fiji, but tomorrow you’ll log on as your official VerifiedSelf for work.”



# Appendix

**In this section,  
we show our work  
and our workers**

1. Full Q&As
2. Signals
3. Contributors



# The missing use case for virtual experiences



Jonathan Stringfield

Author, "Get in the Game"

**With more than 20 years of experience at some of the biggest platforms (Twitter, Facebook and currently Activision Blizzard), Stringfield has participated in the rise of the online and gaming worlds. With a Ph.D in sociology, he knows a lot about people, too. His book is about how brands can leverage these platforms — and how they can't. The metaverse intrigues him. He points out that gaming companies have a lot of experience making 2D pretty cool, too.**

**Matt Carmichael: When people talk about the metaverse today, they're mostly talking about gaming platforms, right?**

Jonathan Stringfield: Basically. All of the exemplars realistically exist as gaming platforms that came from massively popular games. They were structured around the games that really got a huge groundswell of players. The eyeballs are there, the attention is there.

**Carmichael: But that won't always be the case?**

Stringfield: Correct. The biggest effect that the conversation around the metaverse has had is that it broadened interest in the art and science of building virtual worlds *beyond* gaming. Gaming is still the exemplar, but certain gaming technologies and engines could become essentially the pipeworks building new things. Business decision-makers are trying to figure out what does "good" look like? What's a good execution?

**Carmichael: How is the psychology of gaming important and how will that carry over into Web3?**

Stringfield: My favorite example is something called "the magic circle" and the concept of establishing "spatial presence" — what psychologists call immersion. Video games tend to be very good at evoking folks to establish spatial presence. When people are engrossed in a game, they look dead-eyed with concentration because their brain is putting them into the game environment.

**Carmichael: Why do brands need to consider that?**

Stringfield: Things that don't fit within the context of the fiction — the magic circle — will break it. We say to advertisers, "If you're putting a message in that can potentially increase someone's capability to draw in the fiction of the world, that can have a positive effect. If you don't, it won't." You can put exogenous things into a virtual world so long as it fits with the mental model that people are making of it. You can't put a Lamborghini in World of Warcraft.

**Carmichael: What's a good litmus test for what will work?**

Stringfield: The phrase that I often say to folks is “Does it make sense?” Will it actually fit with that world?

**Carmichael: Do you think we'll see more free form, less narrative virtual worlds where “anything can go”?**

Stringfield: It all comes down to are you giving folks a reason to be there? If there's no reason for people to be there, they're not going to go. That's why the game platforms are getting a lot of pickup. There's stuff to do and an already large, established audiences. Other platforms are probably going to struggle for quite some time.

**Carmichael: What can we learn about the future of reality from gaming today?**

Stringfield: Folks often look at VR as the pinnacle. But am I getting any better of an experience than I would on a flat screen? Game developers have 60 years of experience being very good at initiating spatial presence on the flat screen. The seminal question is going to continue to be “Is the experience that I can get from any of these technologies better than the shard of glass that I carry in my pocket?”

**Carmichael: How is the future different for AR and VR or MR?**

Stringfield: AR largely exists as overlays in apps like Snapchat. On the VR side, the hardware is becoming more and more accessible. I think we're going to start to meet somewhere in that middle. Much of the content in the gaming world is moving to cloud computing. Phones are getting very powerful, and 5G will enable the speed to bring the data to these devices in a way that we could start to render these high-fidelity experiences. That's going to be the tipping point where stuff's going to get super interesting, super quick. We're looking at a horizon of maybe less than half a decade.

**Carmichael: How will companies succeed in these spaces?**

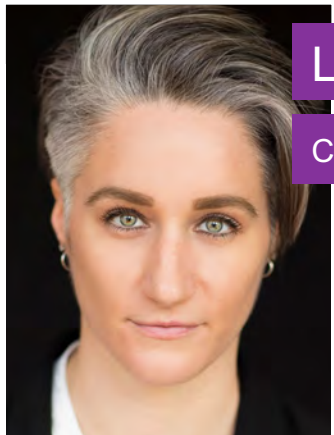
Stringfield: I emphasize the power of fandom and the effect that gaming has on folks because it's important to understand in near-term possibilities. People want to chase that next shiny thing, and I'm trying to reel them back. Let's breathe. The people who are going to be successful in the metaverse, in Web3 — which are different things, but are often tangled up — are the folks that understand gaming really well. They will have the knowledge and the capability to relate to humans in that world. Games do a wonderful job of filling all sorts of human needs.

*Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.*

**“The seminal question is going to continue to be ‘Is the experience that I can get from any of these technologies better than the shard of glass that I carry in my pocket?’”**



# How brands can fit into new realities



Lindsey McNerney

Co-founder and CEO, Sixth Wall

**She helped bring mega-brewer AB InBev into the metaverse with a Stella Artois project. She recently co-founded an entertainment company with actor Mila Kunis and other crypto/blockchain enthusiasts. In all her work, Lindsey McNerney thinks about new roles for brands in new spaces. She sees Web3 as a way to bring creators and audiences closer together and envisions a place for brands to play authentically.**

**Matt Carmichael: In your previous role, you brought a massive brewer into the metaverse. Why?**

Lindsey McNerney: If you abstract away the concept of beer from AB InBev, they're really good at bringing people together to be entertained as sponsors of sport, media and entertainment. Zed Run are a premium sporting platform in the metaverse that's a crypto horse-racing game. Stella [Artois'] consumers would feel like this was an interesting place for it to show up. It also felt like there would be value that we could inherently add to the community of Zed Run. The rest is history.

**Carmichael: How do you balance early adopting with too early adopting?**

McNerney: This is where brands are going to be stuck right now. Sometimes you are so early that you miss a window. Either certain technologies aren't there to support you through the execution of your idea, or consumers aren't there yet. To be innovative is to keep trying.

**Carmichael: Will virtual realities parallel reality?**

McNerney: That's where most of our minds are at. It's difficult to conceive outside of what you don't know. We're likely to design things that reflect and resemble what we know. Even if you create a whole new world of flora and fauna, you're still creating something that very much exists in reality. We will evolve to a point where a metaphor resembles nothing like reality. As we experience worlds that are less and less like the one we live in, that'll allow our minds to become a bit more elastic.

**Carmichael: And will marketing itself change?**

McNerney: A lot of what will happen in these worlds because of that parallel will actually be these old-hat marketing things. Because the metaverse will be the future of sponsorships, advertising, e-commerce, sports licensing — all these different things that marketers know how to do really, really well in reality.

**Carmichael: How will brands make their way in?**

McInerney: One of the big questions that marketers talk about, seem fearful of in some cases, is that all these technologies are so new. The good news is that while the technologies are new, you will do well if you hire people who know how to think in 3D. Bring in people who love video games, maybe even your own kids whom you've been yelling at to get off the Xbox for years. Those are the builders and creators of the future.

**Carmichael: How does the metaverse move beyond a gaming world?**

McInerney: Where it will start to diverge is where it leans into crypto and creates a digital economy that doesn't quite exist today. Your kids already get this. Young people care a lot about what they own digitally. As people spend more time in digital worlds and universes, they're going to care a lot.

**Carmichael: Does the metaverse just become a big ad-based mall?**

McInerney: This is one of my biggest fears: How do we not replicate some of the more terrible things that happened in Web2, where the business model was all advertising based. The tokenization of things presents a new business model that will be really interesting.

**Carmichael: How do we make these spaces safe for everyone?**

McInerney: What does this look like if we get it really right or really wrong? We need as many people at this table having these conversations. But there's a lot of jargon that is exclusive and used to gatekeep. A lot of people feel intimidated and aren't here having these conversations. And second, we need to not be cynics. The metaverse will or won't happen with or without you. If you think it's horrible or that you have a perspective that this could go wrong, rather than be cynical, let's talk, let's engage.

**Carmichael: Finally, tell me about "The Gimmicks," your current project.**

McInerney: "Gimmicks" is trying to bring creators closer to fans and fans closer to creators. If you think about the way traditional film and television is created, it's usually behind a closed door. With "The Gimmicks" we're allowing the audience to be part of the creation of the narrative. Every week at the end of the episode, the community who own gimmicks tokens and NFTs gets to vote on the outcome of the episode.

*Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab*

**“Bring in people who love video games, maybe even your own kids whom you’ve been yelling at to get off the Xbox for years. Those are the builders and creators of the future.”**

# Getting virtual commerce past ‘If you build it, they will come’



Josh Shabtai

Senior director, ecosystem, Lowe's Innovation Labs

**Lowe's has an answer to the “If you build it, they will come” challenge of the virtual world: DIY. One side is about giving consumers new tools to accomplish their own projects. The other is a b-to-b approach. The home improvement chain recently launched Lowe's Open Builder, which provides virtual and AR creators free 3D assets of real-world home and décor products to use in their own worlds. Josh Shabtai, senior director at the Labs, discusses the challenges of developing for VR and AR, and how skill building could be the killer app that accelerates virtual commerce.**

## Kate MacArthur: What are you aiming to do with Lowe's Open Builder?

Josh Shabtai: In the “real” world, Lowe's exists to help builders. When it came time to experiment in the metaverse, we thought it made sense to translate that value, and support builders of the virtual world. Labs developed an end-to-end 3D product pipeline, which powers Lowes.com's 3D viewer and AR features. We saw an opportunity to make these 3D products available free to virtual world builders – and see what they create.

## MacArthur: The average person today isn't excited by virtual worlds, and they don't see AR becoming a part of their everyday lives.

Shabtai: Labs has explored many different routes to identify what will make immersive tech palatable. We've explored use cases for both customers and associates: How can we help them access expertise in new ways? How can we help them learn in new ways?



Can we make our associates even more effective at helping customers? We're very much in test-and-learn mode on these fronts but believe the appetite for these technologies will increase as use cases are proven out.

## MacArthur: What do brands need to make virtual spaces where people want to be for in-store and virtual shopping?

Shabtai: Anything we can do to take the friction out of home improvement (i.e., you having to ask lots of questions) will make for a useful experience. We ran a project called Holoroom How-To, which was designed to teach you how to tile a bathroom. People who went through a VR experience, reinforced by a video at the end, had 40+% greater recall of all the steps needed to successfully tile their bathroom than people who just watched a video. You see this a lot in sports — muscle memory and visualization — and we think it can translate to everyday learning.



**MacArthur: How do you see skills training evolving in virtual worlds?**

Shabtai: I'm excited to see how skills training evolves. As hardware and software evolve, I expect to see new experiences that can make training more valuable, interesting and scalable. I love thinking about audio-only experiences that use our existing wireless headphones. For someone who's trying to repair a dishwasher, how could we transmit step-by-step audio instructions based on what you're actually seeing and the context of your home?

**MacArthur: Many virtual tools expect you to use only their hardware and software. How does that get solved?**

Shabtai: You're describing an interoperability problem that will likely be overcome by new universal file standards and protocols. There's a not-too-distant future where everyone can have a virtual replica of their home and can interact with the space in a new way. Shouldn't that be transportable?

**MacArthur: What has to happen for brands to integrate virtual spaces to get into that omnichannel experience?**

Shabtai: If you're going to integrate virtual spaces you must make sure they're part of the flow of the experiences your customers are already having and that they make your customers' lives less complicated. When we've deployed

"spatial commerce" experiences like Measure Your Space, we've baked them right into our mobile app and the purchase flows our customers are already comfortable with.

**MacArthur: How do you make spatial commerce easy and accessible for people?**

Shabtai: For us, spatial commerce is a future in which the devices we already own sense the world around us, and seamlessly put that data at our fingertips when we need it.

**MacArthur: What are the risks of experimenting out in the open for the whole world to see when you don't really know what you're going to get?**

Shabtai: There's an opportunity inherent in experimenting publicly: the ability to shape a human-centric view of how technology should integrate into our lives. Major tech companies currently drive much of the conversation around how they expect the world will use their products. There is an opportunity right now for retailers, for brands that are not inherently selling technology as a product or service to start shaping that vision in ways that start to make it more compelling and start to make it more useful and hopefully change the trajectory.

*Kate MacArthur is deputy editor of What the Future.*

**“If you’re going to integrate virtual spaces you must make sure they’re part of the flow of the experiences your customers are already having and that they make your customers’ lives less complicated.”**

# Why immersive worlds shouldn't be virtual versions of real life



Asher Rapkin

Director, global business marketing, emerging platforms, Meta

**Metaverse is a term still finding its definition. Meta's chief product officer, Chris Cox, has said it's the next generation of the internet where it gets "less flat." Asher Rapkin expands on that. Moving through mixed reality, augmented reality and into fully immersive virtual reality, people can have both similar and different experiences with different levels of fidelity. The potential is limitless. So how do we get more people and brands playing and doing business in the space?**

**Matt Carmichael: How is the development of the metaverse like the early days of the internet?**

Asher Rapkin: The early days of the internet were defined by a sense of excitement and wonder. There was always a feeling that you were welcomed, could build and were able to contribute. I remember the excitement of creating my own first website. It was an "X Files" fan site. I don't know that I've ever admitted that publicly but let's go ahead and do that.

**Carmichael: My first website was about Lou Reed.**

Rapkin: The metaverse offers a similar experience and opportunity to build no matter who you are, where you are and what you want to talk about. What is different is the maturity of the technology at the backend. If anything, we have the potential for more inclusiveness than less by virtue of the maturity of the technology.

**Carmichael: How does Meta define the metaverse?**

Rapkin: We often talk about it as essentially a container that can hold more 3D experiences, in which you can choose the level of fidelity. It can be full immersion through virtual reality, a mixture through mixed reality, or some layer of content augmented on the physical world through AR. We're developing for all three, but I think we will ultimately have to look and see where consumers land. Those are definitions that we use today, but I fully acknowledge that those will evolve over time.

**Carmichael: How is building a community different in the metaverse for individuals and for brands?**

Rapkin: I would argue that when we think about community building or marketing or any other element of the broader business/social landscape, nothing is different in the metaverse. What I do think is different is that the dynamic is evolved because you can choose the level of fidelity in which you're engaging with someone.



**Carmichael: So far, the audience of VR headset users is pretty small, especially outside gaming. How do you create more use cases to get people involved? Is it a little bit chicken-and-egg?**

Rapkin: We've said very clearly that this is the future of our company and something that we believe in. So, part of that does sit on our shoulders to demonstrate that it's not just about gaming and entertainment. It is about shortening the distance between individuals when they're physically apart.

**Carmichael: What are the different challenges for onboarding brands into this space?**

Rapkin: To create a good commercial experience in the metaverse, whether we're talking about augmented or virtual reality, we need to first understand what people's expectations of that space are. The advertising industry could probably ramrod advertising and commercial products into the metaverse, but that does a disservice to everybody, from creatives to consumers to brands. A better way to do this is to subscribe to the theory that good commerce follows good art.

**Carmichael: What do you mean by that?**

Rapkin: We're going to need to understand what artistic expression is in this space. The industry doesn't know what

that looks like yet. The most important thing for a brand to do is become fundamentally literate in what is necessary to build for augmented reality.

**Carmichael: What are you already seeing in terms of how people create their identities and develop their avatar personas on the platforms?**

Rapkin: I am just as curious about this as anybody else. If there's anything that I have learned in tech for the decade-plus I've worked in it, it's that you have to watch people and understand how they behave before you make grand assumptions about what they're ultimately going to do.

**Carmichael: So where do you see us netting out in the near-term future?**

Rapkin: In between augmented and virtual reality is mixed reality, which I think is a fascinating place that we don't spend a lot of time on, but I believe has a tremendous amount of creative potential. This idea of re-rendering the world around us to create something fundamentally distinct from both the physical and the virtual world is one of the areas of the metaverse that's the least understood but offers some of the most creative potential.

*Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.*

**“The most important thing for a brand to do is become fundamentally literate in what is necessary to build for augmented reality.”**



# Here's who should govern the virtual web



Matthew Ball

Author, "The Metaverse"

**Investor Matthew Ball's essays on the metaverse are about as influential as any writing on the topic. As managing partner of EpyllionCo, he's invested in a lot of winners: Genvid Technologies, The Athletic, Dapper Labs, Dave's Hot Chicken, Pushkin Industries and more. His new book "The Metaverse" takes his thinking even further by asking how will the virtual web evolve, what players will shape that evolution, who will govern these spaces and how?**

**Matt Carmichael: In the book you say it's important to track consumer trends and habits. Why?**

Matthew Ball: The timing for the metaverse is its cultural significance. The nature of its services is dependent upon, informed and causally impacted by consumers. In some regards, that's what they respond to and how; in other regards, it's about generational change. It's also about what they tell the leaders they do and do not want the next era to look like. This is a key intersection point for the decentralization and Web3 movement, which is partly a response to how consumers feel about the last 15 years.

**Carmichael: You also talk about the role of uncertainty in the evolution of the metaverse. Why is that so important to keep in mind?**

Ball: Uncertainty is a prerequisite for disruption. A certain and consensus future tends not to lead to much change. The uncertainty that we face today on all key metaverse

questions is what enables the future to be so different. The uncertainty is not just the prerequisite for products and companies, but for the future for society by the companies that lead us. It gives us agency.

**Carmichael: How much tech do people need to understand for the metaverse to take off?**

Ball: Arthur C. Clarke said that the best technology is indistinguishable from magic. It's usually at that point in which we see mass adoption. When you ask how important is it for the average person to know, the answer is: not very. But for those who are building the metaverse, the questions of what will be possible, when and why, are extraordinarily relevant. If the best technology is indistinguishable from magic, it doesn't magically appear. It just magically appears to have been solved. For those who want to positively affect the future, which is develop new products that come into place, understanding those technical considerations is going be key. They're the ones that will mainstream the metaverse.

**Carmichael: Which are the most important tech barriers for us to overcome?**

Ball: When you look towards the metaverse, the dominant theory is that improving the tools which enable creation is the foremost required. Why? Because yes, higher bandwidth speed enables more dynamic experiences; greater processing power enables, better graphics. Semantic recognition allows for more complex, real time translation. But at the end of the day, most of the virtual world has grown with creativity. Creativity is to some extent the number of inputs into the system. When you look at the success of a platform like Roblox, ostensibly created for children, but which now has over 150 million users over the age of 16 each month, or the focus of Epic Games and Unity, it's all on how we can allow people to create better, faster, easier, cheaper virtual experiences.

**Carmichael: What can we learn from the early days of the internet about regulation and the role of governments and NGOs and standards bodies?**

Ball: It's easy to take for granted how important the quirky origination of the internet was. Since the future is uncertain, there are relatively few things that we can say must be in place from a regulatory or legal perspective. The fact that we can't yet positively determine which devices, which technologies, when and for whom and why precludes

really specific legislation. But as a result, the only way to be prepared for that is to have as nuanced as possible an understanding of the particulars: which technologies, when, where, why and how they interconnect.

**Carmichael: Can we make a metaverse a place where everyone feels safe and comfortable, or is this another human issue?**

Ball: I think we can. If one believes in the premise of the metaverse, they believe that more of human existence in society is going to move into virtual spaces. As more of those occur more of the typical human problems that we encounter in the physical world will shift online. We don't have good answers for them in the real world, and we don't have great answers for them in the virtual or online world. I believe that the role of government and the state must be fairly strong, especially in these early years.

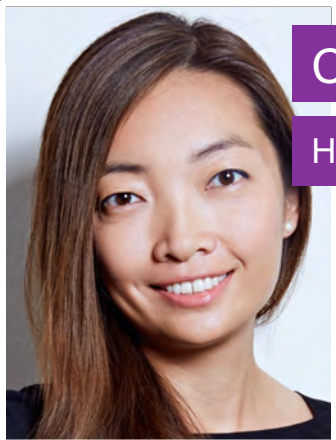
**Carmichael: You finished the book in January. What would you already update?**

Ball: Over the past six months, we've gotten a better appreciation for the slowness of macro changes.

*Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.*

**“Uncertainty is a prerequisite for disruption. A certain and consensus future tends not to lead to much change. The uncertainty that we face today on all key metaverse questions is what enables the future to be so different.”**

# How inclusion can help immersive media scale



Cathy Li

Head of media, entertainment and sports, World Economic Forum

**The World Economic Forum convenes global leaders on the biggest economic and social issues. Not surprisingly, the possibilities of the metaverse fall into its realm of looking at how new-frontier technologies can transform society at large, says Cathy Li, the WEF's head of media, entertainment and sports. She contends that if the metaverse is developed in a more open and inclusive way, people will be more trusting of it and more open-minded about integrating it into their lives.**

**Kate MacArthur: Our research shows that most Americans are disinterested in the metaverse. What could change that?**

Cathy Li: First is simply time. As the metaverse develops, new applications and use cases will emerge and both people and businesses will likely find value in them. Change also might depend on who builds the metaverse. If it's a small group of very powerful technology firms, and if these firms are unable to work with others in the ecosystem to address concerns about privacy, accessibility, security, then a lot of people might be hesitant to adopt the new media. But if the metaverse is developed in a more open and inclusive way, people will be more trusting of it and more open-minded about integrating it into their lives.

**MacArthur: Where would DEI fit?**

Li: It's both a solution and should be part of the design. There are concerns about DEI not being taken into

consideration into product design, as-is now. For example, certain headsets only fit well with men but not with women. That's a very typical example and many of those issues are being addressed. At the same time, virtual environments can also be used to reduce biases, build empathy and improve learning environments for both individuals and businesses. An interesting study shows that VR can be more effective than 2D environments at training bystanders to deal with sexual harassment because the increased sense of presence can better replicate real-life experiences.

Another important opportunity is the ability to build environments virtually and see how people use them before they get built in the physical world. If used properly, it could have a huge impact on how things like urban design, manufacturing and civic participation could be improved through A/B testing. The challenge is making sure that these tests are performed ethically. But there are very good social science practices for ensuring studies are free from bias.



**MacArthur: As people build and test these experiences, do they need considerations for specific identities?**

Li: Different virtual worlds may serve different purposes. Then it's up to the owner, the builder of the different experiences, to decide who that should be open to, rather than everything be open to all, at all times.

**MacArthur: How do we ensure virtual spaces are accessible to users who have disabilities?**

Li: There's an argument that a virtual world improves accessibility because many experiences that couldn't be fully experienced by disabled users in the past, now can be accessed through AR/VR headsets in a way that makes sure people of all abilities have very similar experiences. On the other hand, a lot of the product design will need to take all this into account from the very beginning.

**MacArthur: How can we avoid repeating the ills of real society in the metaverse through governance?**

Li: We are basically talking about regulating the internet, but with a new dimension because privacy and security in the metaverse are going to take on a different dimension. If you are an avatar and you want to preserve certain privacy, which also ensures safety, you may not want people to know that this avatar is you. But when it

comes to financial transactions, which is an important foundation when it comes to enabling a real circular economy, how does the party you transact with know that you are who you say you are? Therefore, identity will be one of the most important issues under governance to be tackled, and we don't have clear answers now.

**MacArthur: What can brands do to improve the virtual web's economic viability and meet WEF goals?**

Li: We did research with Ipsos and Nielsen. We built an index that measures representation in media. It shows that the greater diversity in representation is linked to higher trust scores for brands. This is probably going to be true of the metaverse as well in that the brands that speak to multiple audiences are likely to appeal to a broader base of consumers.

**MacArthur: What role does the consortium of software companies have in solving disinformation, especially in virtual worlds?**

Li: Prevention is going to be extremely important. How do we reward people for having proactive social behaviors? There's a better chance for people to behave more civilized in the virtual world compared to the internet.

*Kate MacArthur is deputy editor of What the Future.*

**“There’s a better chance for people to behave more civilized in the virtual world compared to the internet.”**

# Will viewers cross over to immersive content?



Vera Chien

Executive director, corporate research, data and insights, Warner Bros. Discovery

**Entertainment media has been a relative laggard in engaging viewers through the metaverse. But that's primed to change, contends Vera Chien, who leads research for Warner Bros. Discovery on digital platforms such as HBO Max, as well as corporate strategy initiatives including non-fungible tokens (NFTs). She sees audiences are more than ready for interactive and viewer-driven content.**

## Kate MacArthur: What potential do you see for the metaverse for TV, film and streaming audiences?

Vera Chien: We've been thinking about content like film, like shows, and looking at the metaverse in a couple of different ways, thinking about it as a low-hanging fruit, first to help us engage our fans or to market and/or advertise our properties and brands.

## MacArthur: What are some examples of that?

Chien: Using platforms like Fortnite or Decentraland or Roblox to really help engage fans of our properties, whether they are "Wonder Woman" or "Batman" or "Game of Thrones." We've also been dabbling in it to distribute content like our movies.

## MacArthur: How does that change the relationship with the audience, as opposed to passive watching?

Chien: There's an amazing spectrum that resides between video games and lean-back content, where

you're starting to get choose-your-own-adventure content. There are story-based games from the now-defunct Telltale Studios. I'm fascinated by exploring that white space in the middle. The viewer is going to be brought in more and more into the storytelling process, into the decision-making process. And the worlds of gaming and interactivity and lean-back content are going to just mung in the middle.

## MacArthur: How soon might we see that?

Chien: You've already seen some very successful shows like "Black Mirror: Bandersnatch" that are creeping toward the middle, coming from the game side. I view it as being in the next three to five years out. This is something that audiences are craving. We are looking at Millennials, Gen Zers and Gen Alphas, and these are the types of experiences they've largely grown up with. If we think about fast-forwarding three, five, 10 years out, one can only imagine the levels of interaction and interactivity they'll crave from content.

**MacArthur: Is there a way to engage older viewers?**

Chien: There is a portion of older audiences, at least in my previous research, that are also interested in interactivity and more immersive types of content. It is going to be a combination of creating compelling types of interactive content that resonate with perhaps older audiences.

Let's say Gen Z and older. It's just cracking that nut for them. We also know at the same time, life stage cuts across tastes and preferences when it comes to entertainment. It will be interesting to see Gen Zers who are entering the workforce, get older and cross other stages in their life, how interactive content will fit in their lives.

**MacArthur: We're still seeing very cartoon-y experiences, versus full animation and high-quality visuals in the metaverse. That feels like a long way off for broader entertainment media applications, right?**

Chien: That's a big barrier. Right now, latency and processing power and computing power are still limitations for us. To generate and rig an animated character — especially a more blocky, animated character — in some cases is much simpler than rigging a lifelike rendering of a human. That said, I don't necessarily want to suggest that a photoreal representation of a human is what everybody wants. Younger audiences sometimes want a more simplified version of their favorite influencer, actor, actress, singer.

**MacArthur: What are the biggest obstacles or hurdles to get people into that more mass audience?**

Chien: Price and business model. There will be types of content that will attract people to go over some of those hurdles. It's really become a chicken-and-egg, and I really do think content is a big part of what will attract people to these different kinds of software or hardware platforms.

**MacArthur: Thinking of the retail possibilities for brands in the metaverse, my personal fantasy is that you could either click onto the content or click into an app from a show, say, "And Just Like That," where you can buy that Peloton.**

Chien: That's something we've been exploring, too. What about opening Carrie's closet and looking through it, and then clicking and buying? I think that would be an amazing, incredible experience, and it would feel so organic to that property. And I think it would be very effective. We're still a ways to go from doing that.

*Kate MacArthur is deputy editor of What the Future.*

**“We are looking at Millennials, Gen Zers and Gen Alphas, and these are the types of experiences they’ve largely grown up with. If we think about fast-forwarding three, five, 10 years out, one can only imagine the levels of interaction and interactivity they’ll crave from content.”**



# How humans can hold back tech-enabled disinformation



Andy Carvin

Managing editor, Digital Forensic Research Lab, the Atlantic Council

**It's easy to get caught up in discussion about virtual worlds and forget that they have impact in our real world as well. The intersection of reality and information is fraught today and could get worse in the future. Andy Carvin and his global team research the spread of disinformation in real time and trace its sources. Rampant disinformation is a problem that arguably is made worse by technology. Carvin thinks the solution, however, is human, and the window to solve it very well might be closing.**

## Matt Carmichael: What does the DFR Lab do?

Andy Carvin: As we all learned in the 2016 election, there are governments willing to spend a lot of money to interfere with democratic processes around the world. Our team tries to track them down, catch them in the act, figure out the reasons why they're running these campaigns and, whenever possible, identify the institutions behind them and reverse engineer how they were put together.

## Carmichael: Is the lab mostly focused on political disinformation?

Carvin: COVID-19 was an enormous shift for us. We were already looking into public health as a disinformation space, but then ended up shifting gears for more than half the team for a good chunk of two years, trying to identify all the COVID disinformation.

## Carmichael: How big of a problem is this today?

Carvin: The problem is larger than I think any of us are able to get our heads around because there's really no barrier to entry in cost. But it's gotten more sophisticated where entire troll farms or call centers are running personas that have talking points with very clear influence goals, very clear persona histories that have been built up — sometimes over seven or eight years. It's in every corner of the globe and every country as best we can tell.

## Carmichael: Why is disinformation so effective?

Carvin: It's hard to be immune from disinformation when any given community or population has lost trust in government and public institutions. It's ripe for exploitation, whether you're trying to make a quick buck with some snake oil you're trying to sell during the pandemic, or if you're trying to change the course of history by planting excuses for engaging in war against a country that has not attacked you first.

**Carmichael: What will it take to make any of this better?**

Carvin: While fact checking is an enormously important role played by news organizations and other entities, it's fundamentally defensive because [the disinformation] is already circulated and quite likely the damage has been done.

**Carmichael: Is there any way to combat this?**

Carvin: Some of the most effective people I've ever seen talking with American veterans, for example, about disinformation are not only former veterans, but former veterans who've gone down their own rabbit holes and had to dig themselves out. Solving and mitigating the impact of disinformation ultimately is going to have to happen at a community level, driven by the idiosyncrasies of any given culture and by identifying people in those communities [who are] still trusted by those who've lost hope in everyone else.

**Carmichael: Technology is probably going to make this worse in a lot of ways in terms of synthetic media.**

Carvin: Yep.

**Carmichael: Will we eventually have AI assistants to tell us what's real and what's not — like a browser plugin?**

Carvin: I think tools like that are inevitable. But I think we're also in a cat-and-mouse game here in which bad actors who are creating new technologies or new methodologies for spreading disinformation read the latest research in journals that study information warfare. I once had a chance to interview someone employed by a company that engaged in disinformation for hire. And the very first thing he said was that he was a big fan of the DFR lab. It's flattering and maddening at the same time.

**Carmichael: So, it's back to trusting each other and our shared values?**

Carvin: Yeah, it goes to the issue of what can we be doing to rebuild trust and bonds within a community in which neighbors are more likely to give each other the benefit of the doubt and people are less likely to judge others based on slices of their demographics or their associations or affiliations. In some ways the reason why we have such a huge disinformation problem right now is because the internet and public discourse had already deteriorated to the point where too many people were already looking for an excuse to not trust someone. Disinformation is an enormous problem, but loss of trust within our culture and within our institutions is what's allowing that to happen.

*Matt Carmichael is editor of What the Future and head of the Ipsos Trends & Foresight Lab.*

**“I once had a chance to interview someone employed by a company that engaged in disinformation for hire. And the very first thing he said was that he was a big fan of the DFR lab. It's flattering and maddening at the same time.”**

# Signals

What we're reading today that has us thinking about tomorrow

**“The Metaverse: And How it Will Revolutionize Everything”** by [Matthew Ball](#). Ball outlines what the metaverse is and what it will take to bring it to its full potential in our lives, work, entertainment and economic impact.

**“Get in the Game”** by [Jonathan Stringfield](#). This book promises to deliver a roadmap for marketers to understand and navigate marketing and business integrations into the gaming ecosystem.

**“Navigating the Metaverse”** by [Cathy Hackl, Dirk Lueth and Tommaso di Bartolo](#). This book covers metaverse and Web3 basics, as well as NFTs, strategy and how to launch a metaverse project

**Is reality a hallucination? The neuroscientist Anil Seth thinks so** via [The New Statesman](#). The British academic has reached this radical conclusion — by way of meditation, surfing and a “DIY dream machine.”

**Benchmarking Diversity and Inclusion in Media and Entertainment** via [World Economic Forum](#). This collaborative study supported in part by Ipsos presents the first Audience Representation Index across media and sports.

**Beyond the Hype: Innovation predictions in the era of machine learning** via [Ipsos](#). This white paper focuses on the application of machine learning to forecast the success of new product innovations from 4 million consumers' responses across 60+ countries in seven mega-categories.

**Enthusiasm for the metaverse and extended reality is highest in emerging countries** via [Ipsos](#). This joint survey with the World Economic Forum finds about half of adults across 29 countries say they are familiar with the metaverse and have positive feelings about engaging with extended reality in daily life.

**A metaverse users want** via [Ipsos](#). Six takeaways from interviews with a diverse group of virtual reality users about their experiences with metaverse platforms, the shortcomings they've encountered, and the innovations they're most excited for.

**38% report familiarity with the metaverse, but less than one in five Americans (16%) can correctly define the term** via [Ipsos](#). This set of rapid pulse surveys shows that two in five (38%) of Americans say they are very or somewhat familiar with the metaverse, with significant differences by age and by the presence of children in the household.

Scanning for signals is a type of research that is foundational to foresight work. These signals were collected by the staff of What the Future and the Ipsos Trend Network, including Hannah Fitton and Natalie Novak.



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GAME CHANGERS

