

How will the metaverse change our behavior as it reshapes experiences?

(PART 1)



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The potential impacts of the metaverse on human behavior are yet unknown, but behavioral economics can help us explore the possibilities.

In brief

- ▶ The metaverse will likely have sweeping consequences for human behavior.
- ▶ To understand these impacts, we can learn from behavioral economics and recent tech experience.
- ▶ The metaverse will create new opportunities for improving behavior and mental health, and interacting with consumers.

Through much of World War 2, the B-17 Flying Fortress was bedeviled with crashes, often as the planes came in to land. The incidents puzzled investigators and, with no signs of mechanical failure, were typically attributed to pilot error. But why were so many pilots in this one type of plane making similar mistakes? The mystery would finally be solved after the war, when two US Armed Forces psychologists realized that the switches controlling the wing flaps and the landing gear were identically shaped and located next to each other. This simple design decision had made it all too easy for a busy pilot in a darkened cockpit to lower the wing flaps instead of the landing gear – with disastrous, often fatal, results.

This finding is regarded as a watershed moment in the history of design. It is also evidence of a basic principle: the design of any human-facing technology can profoundly shape human behavior. This interaction has certainly been at play with several technologies in our more recent past, from people's fears about being surreptitiously recorded, to the ways in which the design of social media platforms and smartphones has helped make them devastatingly addictive.

The metaverse promises to be a profound reinvention of human-facing technology. It will spawn entirely new human-machine interfaces, sensory experiences, social dynamics and market constructs. The design of the metaverse will therefore have sweeping implications for human behavior. Much will depend on the choices made by executives, engineers and designers.

This article is part of the EY Metaverse series. In this third article, we investigate how the metaverse might impact human behavior. In considering the behavioral implications of the metaverse,

business leaders should consider several dimensions, which this article explores in four sections:

1. Avoiding the mistakes of the recent past
2. New tools for improving behaviors and health
3. Consumer behavior in the metaverse
4. Moving forward: some principles for leaders

Chapter 1

Avoiding the mistakes of the recent past

What lessons can we learn from the recent past, and how do we avoid making similar mistakes in the metaverse? Here are some aspects to consider:

Tech addictions

The design of smartphones and social media platforms has fueled an epidemic of screen addictions. These addictions have been linked to increased levels of depression, most worryingly among teenagers. The addictiveness of these platforms may not have been intentional, but it wasn't inevitable. It was the result of business models predicated on maximizing user engagement which, when combined with A/B testing, resulted in design features – from infinite scroll to push notifications – that produced addictions while trying to maximize engagement.

What impact will the business models and design decisions powering the metaverse have on tech addictions? While we are still in early days and there are many visions of the metaverse, a common thread through many of these visions is persistence. The stated goal is to design environments that are always on, and in which people spend substantially all of their time. Will the goal of an always-on metaverse, like the goal of maximizing engagement in the social media era, drive a new wave of user addictions?

Exercise and mental health

Next, consider another design choice: locomotion within metaverse platforms.

Physical exercise demonstrably lowers depression and stress while improving quality of sleep. So, experiences in which people spend lots of time while remaining sedentary will predictably worsen mental health outcomes. Unfortunately, designing metaverse experiences in which people get real exercise – for instance, by walking or running within the metaverse using their legs – isn't practical at the current time.

Our bodies still inhabit the physical world, with all its walls to walk into and furniture to trip over. Solutions such as omnidirectional treadmills are cumbersome and require significant user investment – making them unlikely to gain widespread adoption. Will designers and engineers crack the code of physical locomotion in the metaverse? Or will a new generation of immersive and sedentary experiences lead to negative health outcomes?

Polarization and disconnection

Social media has played a significant role in fueling political polarization and diminishing social trust. Behavioral economists have extensively documented the psychological underpinnings of our tribal behaviors. While technology did not create these behavioral instincts, it weaponized them. Social media platforms enabled echo chambers and filter bubbles where people only hear from like-minded individuals. Meanwhile, algorithms seeking to maximize engagement discovered by trial-and-error that an effective way of engaging people is by feeding them moral outrage about the opposing political camp.

Without careful consideration of design choices, the metaverse could supercharge polarization and filter bubbles. Imagine not just different metaverse platforms for different political persuasions, but infinitely personalized experiences within the same platform. A liberal and a conservative walking through the same metaverse neighborhood could be shown different retailers, avatars, bots, and experiences – all customized to their political persuasion.

If the metaverse becomes an environment in which people spend most of their waking hours, this also raises the prospect of people becoming increasingly disconnected from reality – especially if these spaces are designed to conform

to people's worldviews. If social media monetized outrage, the metaverse might evolve to monetize numbing – building spaces that are escapes from the real world at a time when increasingly urgent societal challenges (climate change, economic inequality, authoritarian political movements) demand more attention, not less.

Misinformation and critical thinking

It's no secret that social media has a misinformation problem. Despite increased efforts, misinformation has proven very difficult to effectively eradicate, because of two characteristics: social networks generate vast amounts of information, and decisions about what information to take down often involve nuanced judgement calls. As a result, while automated systems play a role (e.g., video hashing allows AI to instantly take down duplicates of a conspiracy theory video) content moderation remains a labor-intensive task that often delivers imprecise results. ■

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The metaverse could be poised to magnify the misinformation problem. For one, the move to the metaverse will lead to an unprecedented explosion in the volume of information generated. Imagine multiple online worlds in which information is communicated in real time via speech, video, text overlay, facial expressions, gestures and more.

Information shared on social media platforms was relatively static, including posts, images or videos, which do not change once created and can be inspected at any time. However, information generated in a metaverse will be much more fluid, dynamic and fleeting, for instance real-time conversations and interactions between individuals. This makes information generated in the metaverse much harder to track. Many design features of metaverse platforms could also encourage and enable anonymity, empowering adversaries to spread misinformation with greater ease.

Chapter 2

New tools for improving health and behaviors

If the previous section seemed a bit of a downer, here's some good news. The metaverse doesn't just pose behavioral challenges for companies – it also creates unprecedented opportunities to improve behavioral and health outcomes. Here are a few:

Reducing unconscious bias

Unconscious bias is an insidious challenge because, by definition, it is prejudice that people aren't even aware of. It can exist in ostensibly tolerant individuals, often driven by deeply rooted societal stereotypes about others based on characteristics such as their racial identity, gender, age or body weight.

The common thread through these characteristics is that they are typically based upon sensory cues: for instance, one's physical appearance or pitch of voice. This makes the metaverse potentially transformative, since it provides an unprecedented ability to strip away these sensory cues, via avatars that

allow users to change their appearance, gender, race and voice.

This could combat unconscious bias in hiring and recruitment. Hiding the race, gender and age of an applicant from an interviewer could eliminate the potential for unconscious bias. More proactively, companies and educational institutions could use this for sensitivity training. Metaverse experiences that allow individuals to inhabit alternate personas could enable them to experience the world from the perspective of another race or gender, increasing awareness and sensitivity.

Improving long-term behaviors

The metaverse could also help people with long-term behaviors. In this case, experiences would not be about allowing people to experience the world from someone else's perspective as much as from their own perspective at a later date.

To appreciate the potential opportunity, consider that some of the most stubborn and expensive challenges we face as a species are linked to long-term behaviors. Scientists have been warning us about climate change for decades, yet we have repeatedly failed to sufficiently curb our carbon emissions. For equally long, it has been apparent that simple changes in diet, exercise and other behaviors would put a serious dent in chronic disease, which accounts for the largest portion of global health care spending. Whether as consumers or politicians, we have an unhealthy relationship with debt because of our unwillingness to spend less and save more. If we don't change our ways, each of these challenges will impose global costs in the tens of trillions of dollars in years ahead.

The problem is not awareness or even motivation to change. Behavioral economists have found the issue instead lies in some universal biases in human behavior: we tend to excessively discount future outcomes as well as consequences that are invisible or intangible.

Conversely, this also means we are highly motivated by outcomes that are immediate and apparent – and this is where the metaverse could be very effective. Imagine avatars that put people in the shoes of their future selves based on their current health behaviors. Imagine experiences that let you walk through your neighborhood in a climate-ravaged

future. Making the future consequences of our actions tangible and immediate could motivate people to improve behaviors in their own long-term interests.

Mental health benefits

Lastly, the metaverse has huge potential in addressing some significant mental health challenges. Consider post-traumatic stress disorder (PTSD) – an often crippling affliction that will affect 1 in 13 people at some point in their lives. The US Department of Veterans Affairs has been successfully piloting virtual reality to treat PTSD. By reliving their traumatic experiences in a safe, controlled simulated environment, veterans are able to confront and tame their PTSD symptoms. While many associate PTSD with military combat, the affliction is quite common in the overall population and is on the rise. The COVID-19 pandemic, for instance, has fueled a silent epidemic of PTSD among frontline workers.

The metaverse is similarly useful in treating numerous other afflictions that are on the rise, from anxiety to phobias. Immersive environments could take exposure therapy – a common modality for treating phobias – to the next level. It could be game changing for amputees, where virtual reality has been shown to be effective in tackling issues such as phantom limb pain.

The metaverse has significant potential for improving health and behaviors. To achieve it, policymakers and companies will need to consider issues of accessibility. Otherwise, a metaverse that requires expensive hardware and high-speed connections could exacerbate the digital divide and prevent these benefits from reaching many people who need them most.

Chapter 3

Consumer behavior in the metaverse

The metaverse promises to be transformative for consumer behavior and marketing. To understand these implications, it's useful to turn to behavioral economics once again. Whether by intent or trial-and-error, marketers have historically converged

on many human behavioral biases and predilections to entice people to buy their wares. From the way subscriptions are priced in relation to each other to the placement of products on supermarket shelves, each decision is optimized to maximize effectiveness and can be tied back to underlying principles from behavioral economics.

The metaverse will be the same, but also different. Marketers will continue to leverage behavioral economics insights, but the unique characteristics of the metaverse mean that these will play out in somewhat different ways.

The priming effect

Consider the power of the priming effect, which occurs when an individual's exposure to stimuli or cues subconsciously influences their subsequent behavior and decisions. In one experiment, researchers found that simply raising the temperature in a room while people were taking a survey on global warming increased the importance respondents ascribed to tackling climate change. Another study found that the background of a web page can directly influence users' online shopping behaviors.■

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It's not hard to see how this principle could be much more potent in the metaverse than in any previous marketing channel. To an unprecedented degree, designers will have the ability to vary practically every visual and auditory cue that users encounter. Expect much experimentation on this front, with companies aiming to customize stimuli to maximize the effectiveness of their marketing pitches for each individual customer.

“Consumers increasingly expect experiences that are frictionless, anticipatory and relevant. This will be even truer in the metaverse, which is all about the experience.”

Janet Balis
EY Americas Marketing Practice Leader

The paradox of choice

Another well-known behavioral bias is the IKEA effect, named after the global retailer of assemble-it-yourself furniture. This effect leads individuals to disproportionately value objects they make or assemble themselves.

The IKEA effect has applications in scores of settings, from parents getting their children to eat their veggies by involving kids in the meal prep to sporting goods companies allowing customers to design their own sneakers. In theory, the metaverse could take this to a whole new level. A sneaker company can only allow so much customizability since each additional customizable feature of a physical product adds manufacturing complexity and cost. In a digital space, the marginal cost of adding more customizable features is essentially zero, so it might seem logical to allow users almost infinite flexibility in customizing their avatars, skins and habitats.

But here we run up against another behavioral bias: the paradox of choice. In his book by the same name, Psychologist Barry Schwartz finds that, beyond a certain point, having more choices actually reduces customer satisfaction by leading to anxiety and decision paralysis. For metaverse marketers the lesson is evident: empower people to customize

their metaverse personas – but don't overdo it.

The psychology of “artificial scarcity”

Today's metaverse gold rush is also conducting some fascinating experiments with another element of consumer behavior: the psychology of scarcity.

Scarcity is fundamental to the functioning of economies and markets. Scarcity gives things value – which is why OPEC was formed and why the value of an artist's works rises immediately after their death. Indeed, from the capital allocation decisions of companies to the consumption-and-savings decisions of households, a central function of markets is to optimally allocate scarce resources.

So, what happens to a market when scarcity disappears? This is a question that people are exploring in these early days of the metaverse. The answer many have gravitated to is an odd construct: artificial scarcity. To drive up the value of assets that could conceivably be limitless in a digital space (e.g., digital land or digital art) people are attempting to constrain supply through the use of mechanisms such as non-fungible tokens.

So far, it seems to be working, but the boom market for artificially scarce digital assets may be driven by a behavioral bias highlighted not by behavioral scientists, but rather by the Twitterati: fear of missing out, or “FOMO”. If the fundamentals of artificial scarcity are questionable, it's also worth questioning how sustainable the phenomenon is and what will drive value in the metaverse in the long-term.

In a market built around virtual experiences, perhaps the value driver won't be the “virtual” as much as the “experiences”. Instead of competing on commodifiable digital assets, shouldn't companies be competing on creating experiences that users find compelling, empowering and rewarding?

“Consumers increasingly expect experiences that are frictionless, anticipatory and relevant,” says Janet Balis, EY Americas Marketing Practice Leader. “This will be even truer in the metaverse, which is all about the experience.”

Chapter 4

Moving forward: some principles for leaders

Here are three principles for business leaders as they consider their metaverse strategies:

1. Think expansively

While many companies have seen immediate potential in marketing, the metaverse could be game-changing for every aspect of human behavior, from improving mental health to tackling climate change and enabling better teaming at work. This article just scratches the surface. Is your metaverse strategy considering the full spectrum of opportunities you could leverage?

Leveraging these opportunities requires asking the right questions in the right order and at the right time. Why do you need a metaverse strategy to serve your customer and business goals? When will you need it based on your customers' adoption of the metaverse? Where will you want to be in the metaverse based on customer adoption and scale? What experience do you want to build? How will you do it?

2. Experiment and learn

We are in early days. Much is still unknown. The insights in this article apply research from other domains to the metaverse. But the metaverse itself is unprecedented and largely unstudied. It could engender behavioral changes we haven't yet envisioned.

Perhaps the biggest lesson companies can draw from behavioral economics is to borrow its research methods. Behavioral researchers have often gained groundbreaking insights using experimental economics – ingenious and inexpensive studies designed to unearth the quirky, often counterintuitive ways in which people actually behave. What new insights could you derive about behavior in the metaverse, and what competitive edge might they give you?

3. Design for ethics

Seemingly small design decisions can have huge consequences – from airplanes

that fall out of the sky to devices that fuel devastating addictions. Consider the impact of every design decision. Don't leave those decisions to only engineers; bring behavioral scientists into the conversation early in the process.

Being deliberate and thoughtful about the behavioral implications of your design decisions requires process and structure. What governance frameworks do you need? Is it time to consider ethical review boards for metaverse products?

Lastly, this applies to more than tech companies. For too long, marketers have used behavioral economics principles to get people to spend more than they can afford on things they don't need. How will you use behavioral insights to empower, not exploit, your stakeholders in the metaverse?

Summary

Whether by intent or accident, the design of human-facing technologies influences human behavior. The metaverse promises to create new interfaces, sensory experiences, social networks and market dynamics. Companies should pay close attention to the design of each of these elements to empower their stakeholders and thrive. ■

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