EY Center for Board Matters

How boards can prepare for a future in the metaverse

It is crucial for boards to understand the strategic opportunities and risks associated with the metaverse and underlying technologies so they can provide effective oversight.

Billed as the next stage of the World Wide Web, the metaverse is a shared immersive virtual world that leverages a variety of innovations and technical advances – from extended reality (XR) to artificial intelligence (AI) – to foster new digital experiences. As interest in the metaverse grows, so too do claims about the extent to which it will transform our personal and professional lives. In the face of such claims, many companies are beginning to address how to enable trust in the metaverse.

Digital governance, a key enabler of trust, is becoming increasingly important to companies across their broader technology stacks, with considerable attention already placed on how to responsibly govern data, AI and even quantum technologies. Likewise, effective board oversight will be crucial in the future of the metaverse and serve as a key differentiator between organizations that thrive and those that stagnate.

By taking stock of what the metaverse is, understanding its high-level technical foundation and considering a balanced view of its risks and opportunities, boards will have the knowledge to provide effective oversight as companies navigate value creation in the metaverse.

In brief

▸ The metaverse brings exciting new ways to live and work in an immersive virtual world that may present strategic opportunities for organizations.

▸ The metaverse also raises new or exacerbates existing risks that boards should be aware of, including new privacy and security concerns.

▸ Boards should prioritize oversight of metaverse activities according to potential risk exposure and stay informed of relevant regulations and ethical norms.

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What is the metaverse and how does it work?

At its very simplest, the metaverse could be described as the internet in 3D. Conceptually, it is a series of connected worlds where we can work, play, go to school, receive health care, be entertained and otherwise live in immersive 3D. Just as there is only one internet and it has multiple websites, so, too, there is only one metaverse and it has multiple worlds.

As organizations begin to build, participate and transact in the metaverse, boards must recognize their important role in influencing metaverse investment decisions and, increasingly, in helping organizations evaluate the ethical, commercial and legal risks associated with emerging technologies.

The metaverse is accessed not via a single technology, but through multiple technologies, including laptops and smartphones. Additionally, new technologies such as XR — an umbrella term comprising virtual reality (VR), augmented reality (AR) and mixed reality (MR) — are on the horizon and expected to augment metaverse experiences. These technologies can be used to extend or enhance our perception of reality to create lifelike and captivating experiences for users. For example, consider an app that leverages your smartphone camera to lead you on an AR treasure hunt around your city, unlocking coins or collectibles as you venture to new areas.

Reports place potential value creation in the metaverse as between $5 trillion and $13 trillion by 2030.[1] Understanding how commerce functions in the metaverse will be key for boards to differentiate between fact and fiction. For example, let's consider blockchain. Blockchain technology — characterized by its ability to enable a trusted decentralized ledger of exchanges across a network — and

the related notion of cryptocurrencies — decentralized digital currencies — are often mentioned concurrently with the metaverse. However, this can falsely portray that blockchain is required to conduct financial transactions in the metaverse. Standard e-commerce foundations and regular fiat currencies (i.e., government-issued currencies) can and will also be used in the metaverse to support commercial activities.

AI will also play a defined role in the growth and proliferation of metaverse worlds in areas ranging from content moderation to world building and user support. Consider a busy metaverse mall filled with shoppers going about their day. We can expect that many of the "people" may, in fact, be AI bots capable of interacting with users in a highly realistic manner.
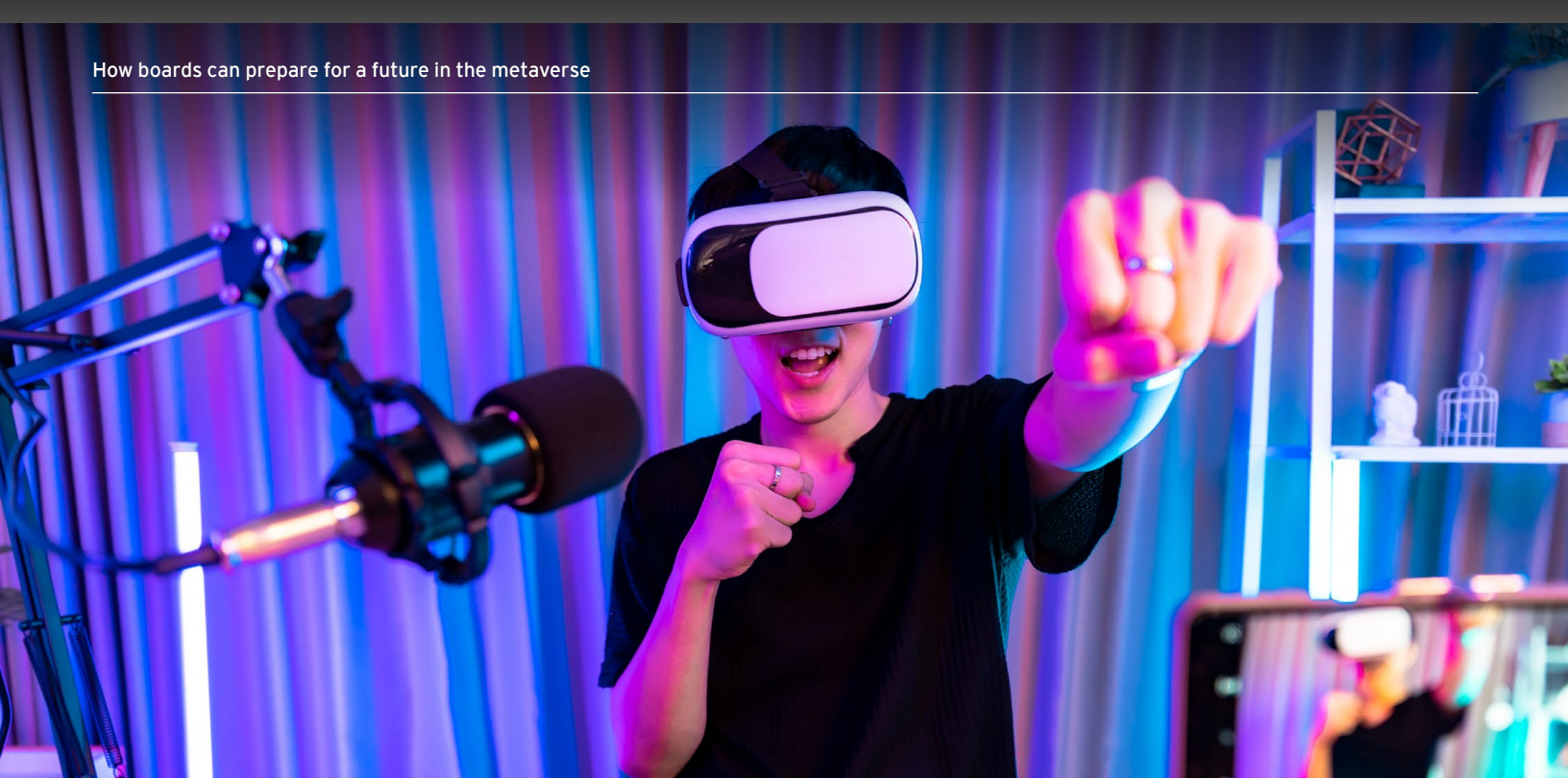
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> Reports place potential value creation in the metaverse as between $5 trillion and $13 trillion by 2030. Understanding how commerce functions in the metaverse will be key for boards to differentiate between fact and fiction.

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[1] *Metaverse and Money: Decrypting the Future* | Citigroup
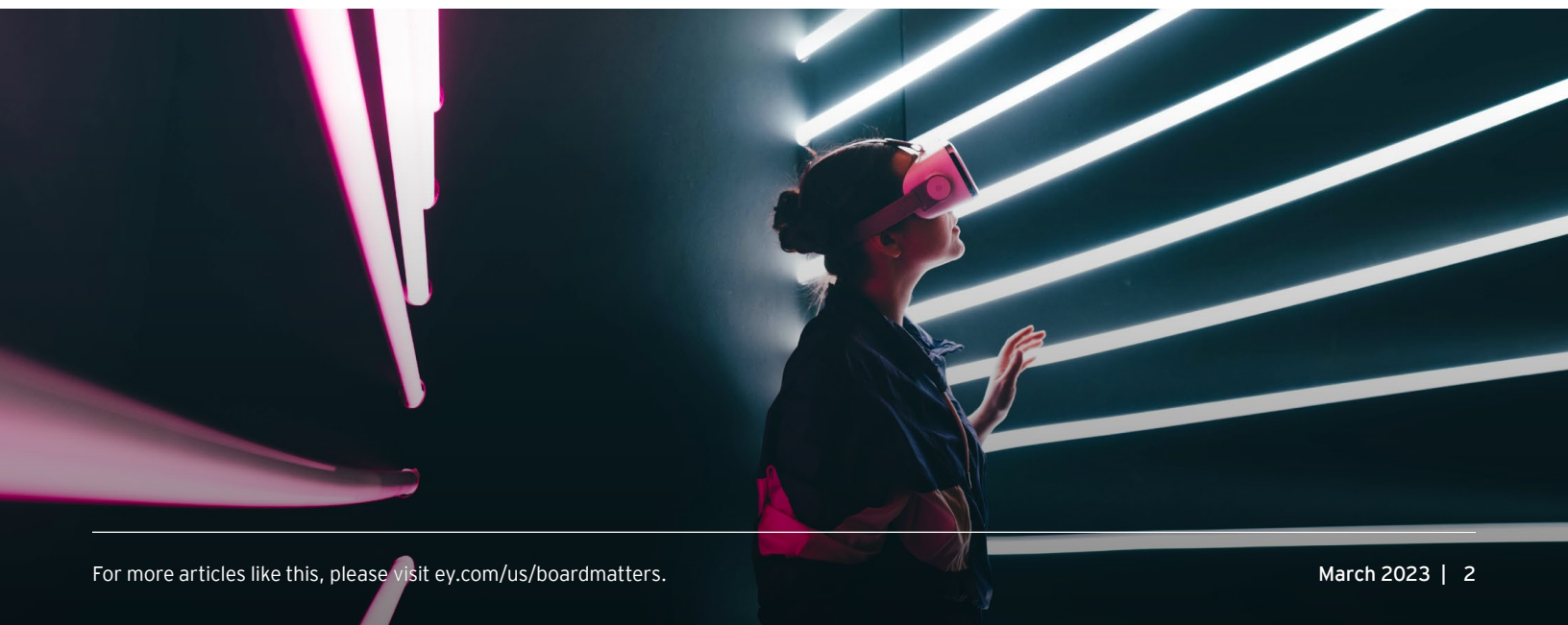
Tying these technologies together are three core values inherent to the metaverse as a paradigm: interoperability, immersion and creativity. For boards to govern well, they will need a base understanding of these concepts.

▸ **Interoperability** speaks to the importance of having a seamless digital user experience regardless of medium by, for example, enabling interactions between users engaging in a metaverse community from across different platforms. This is difficult today and the technology sector is working to solve interoperability problems. As users of the internet, we expect to be able to jump from one website to another easily. The same is true of the metaverse: We expect to be able to easily move from one platform to another, and we want to take our digital assets with us.

▸ Also key to the user experience in the metaverse is the idea of **immersion**. This relates to the importance of enabling hyperrealistic environments and interactions, such as those that can be facilitated by XR technologies. The metaverse should feel like "we are really there" and not just "watching" as outsiders like we do with our laptops, phones or televisions today. And this extends beyond our visual and auditory senses. Some companies have emerged that sell haptic gloves – gloves that "use actuators and motors to attempt to replicate the resistance you feel when gripping an object."[2] Others in the digital scent space have been trying to incorporate our olfactory sense into the metaverse for richer virtual experiences.[3]

▸ Finally, and perhaps most important, is **creativity**. The metaverse promotes the creation of shared spaces where users can express themselves, create and explore. Given extensive interest in generative AI (i.e., AI methods used to create new content such as text, music or art), there's also applicability of such techniques in the metaverse. What if you could generate your own virtual world based upon your imagination (and, of course, the limitations of training data sets).

The criticality of building a high-level understanding of the technical and philosophical foundations of the metaverse is paramount as boards strive to offer sound advice and counsel regarding business model opportunities and risk mitigation.

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> The metaverse should feel like 'we are really there' and not just 'watching' as outsiders like we do with our laptops, phones or televisions today.

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[2] *This haptic glove lets you feel the virtual reality metaverse* | TechRadar

[3] *Meet the companies trying to bring smell to the metaverse* | Fast Company

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What are key opportunities presented by the metaverse?

The metaverse is likely to be applicable to a variety of use cases — from entertainment to education, commerce, and even virtual prototyping. When it comes to entertainment, we can expect more immersive extensions of what is already occurring in virtual worlds on gaming platforms such as Fortnite and Roblox. The demand for such experiences is already palpable — a Lil Nas X concert held on Roblox, for example, was "visited nearly 37 million times."[4]

From the perspective of training and education, one could imagine the value of the metaverse to a medical student to better simulate the conditions of an emergency room or surgery during their classes. Or perhaps an elementary school could virtually visit United Nations World Heritage Sites and interact with digitally generated versions of historical figures without ever leaving the classroom. Engaging in immersive virtual public spaces will also enable cross-cultural experiences that will be more accessible to a greater number of people. In addition to external customer/user engagement, boards can help their companies understand the power of using these platforms for their own internal learning needs, especially for Gen Z and younger front-line workers.

Finally, in the working world, there is a fascinating intersection between digital twins and the metaverse. Digital twins are, in effect, a digital replica of a physical object such as a city, an office or even Earth itself. They can be used to virtually test new policies or business decisions before making changes in the physical world. When combined with the immersion of the metaverse, one can imagine "being" in the digital twin to help with tasks such as product development, urban design and even customer experience design. Imagine how much more immersive virtual onboarding could be if new employees could take a tour of their office before joining. This will be particularly valuable for new joiners with accessibility needs and in our hyper flexible working environments.

Of course, these are just a snapshot of the possibilities. As the metaverse comes further into the mainstream, additional use cases are likely to emerge. However, as we shall see, these opportunities are not without their risks.

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[4] *Roblox wants to build the Metaverse. Can it? | WIRED UK*

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What are the potential risks associated with the metaverse?

The internet as we know it today is the lifeblood of commerce and community. With it comes creative ways to engage with our peers and conduct business that metaverse technologies will expand and evolve in novel ways. At the same time, the web has introduced many concerns, ranging from online harms to data privacy, that are likely to be magnified by the widespread adoption and commercialization of the metaverse.

Boards are essential to ensuring that an organization's strategy and direction are not at odds with its purpose, values, and obligations to shareholders and broader stakeholder communities, including society and the environment. To fulfill this responsibility, it is key for boards to understand the risks exacerbated by the metaverse and to add the corresponding technical and social risk topics to the enterprise risk management process.

First, there are concerns surrounding privacy. Due to the suite of fine-grain biometric and emotional data likely to be collected through metaverse hardware, there are concerns regarding how this type of information will be used – particularly in combination with advanced analytics tools powered by AI.[5] Given the distinct focus on algorithmic manipulation and nudging in impending AI regulations, such as the EU AI Act, and broader ethical concerns regarding the use of technologies to alter human behavior, this is an area that companies and their boards should pay special attention to. Boards must focus on the privacy of customer and employee data, depending on the applications at hand in the metaverse.

When it comes to security, boards also need to recognize risks across three core areas: devices, fraud and identity. One can imagine targeted attacks on metaverse hardware, such as VR headsets, that could be used to steal private information from unknowing users. The metaverse is also likely to enable more advanced or novel phishing and counterfeiting attacks, such as plagiarized non-fungible tokens (NFTs) and scams to obtain wallet credentials. Finally, there are concerns surrounding digital identity in the metaverse, whereby user accounts may

be compromised and precipitate digital identity theft, after which users may incur reputational damage or financial losses.

Online harms should also be top of mind for boards when governing the metaverse. Social media companies today struggle with content moderation at scale to limit content that may be derogatory, hateful, misinformative, immoral or unlawful. Now imagine the challenge of moderating the real-time conversations and haptic interactions of thousands or millions of people occurring simultaneously in a virtual space. For users who will participate in virtual storefronts or attend metaverse conferences and concerts, organizations operating and building metaverse communities will need to think through how they can ensure safety in these experiences. This will be particularly true in cases involving users who are more likely to experience online harms, including children, women, racial minorities, and members of the LGBTQ+ community – all priority oversight areas for boards as called out by various stakeholders and especially investors.

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[5] *Mind control: The metaverse may be the ultimate tool of persuasion* | VentureBeat

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Considerations for future-proofed boards

With a balanced view of risks and opportunities of the metaverse in hand, there are three things that boards can do today to enhance oversight and add value

1 **See through the hype cycle**. Despite growing interest in the metaverse, experts remain quite mixed on the extent to which a robust system of metaverse communities will be realized and, further, whether such a future would be beneficial to society. To take a critical and measured approach toward the metaverse and its applicability to the organization, boards should ask: Are we engaging with the metaverse due to its buzzword status, or does it pose a specific benefit to our business that enables long-term value without compromising our core principles?

2 **Prioritize oversight according to purpose and potential risk**. Boards have essential responsibilities to support corporate investments in new technologies that boost the company's strategy, purpose and values. Board oversight is necessary if the metaverse is critical to achieving the organization's strategic long-term objectives. For example, in the gaming sector, investments in the metaverse may be central to an organization's products, services, and business model, which makes attentive oversight valuable. However, when the metaverse's value is ancillary to the business or purely for marketing purposes, oversight priorities and focus areas may be different and not worth the effort. Similarly, more substantial oversight is required when metaverse investments may threaten a company's reputation or legal standing. Where risks are limited to financial or operational vulnerabilities, board oversight may be more limited.

3 **Understand regulations and ethical norms**. Boards also help oversee compliance with laws and regulations. As activities in the metaverse can rely on the use of digital currencies and other assets such as NFTs, transactions could also trigger involvement from financial regulators, including the SEC or Commodity Futures Trading Commission (CFTC) in the US and the Financial Conduct Authority (FCA) in the UK. Likewise, privacy regulators, including the Federal Trade Commission (FTC) in the US and the Information Commissioners Office (ICO) in the UK, may also share jurisdiction over metaverse activities. Boards play a key role in ensuring that companies understand and address all legal and compliance issues in support of management delivering on its metaverse strategy. Beyond legal and compliance issues, companies have an opportunity to shape the ongoing policy debate. Boards can explore how companies work with policymakers to formulate practical rules and regulations that promote innovation while respecting human rights, as well as delivering value to multiple stakeholders.

Questions for the board to consider

In addition to seeing through the hype, prioritizing oversight and keeping up with regulations and ethical norms, consider the following questions to kick-start your engagement with the metaverse:

- Is the metaverse strategic for our business or just all hype? If the former, do we have the right skills to govern the risks inherent in such platforms? Should the company's metaverse strategy become an essential element of the corporate strategy?

- Has there been adequate due diligence of metaverse investments, and are opportunities aligned to corporate strategy, purpose, values and long-term value proposition? What challenges might require investments in data privacy, compliance, and fraud prevention?

- Does the board understand possible legal and accounting issues arising from metaverse activities, including the purchase and sale of digital assets to enable metaverse engagement?

- Is the company's enterprise risk management program forward-looking and focused on delivering strategic goals and performance objectives from metaverse investments? Is management deploying risk quantification tools to identify and quantify metaverse risk scenarios?

- What "code of conduct" will ensure healthy cooperative engagement in the company's metaverse?

- What existing governance and ethics policies and procedures can be used to support successful engagement in the metaverse?

- Does the company have sufficiently diverse teams — in age, identity, experience and cognition — to understand the technical, commercial, ethical and legal dimensions of the metaverse and its use cases?

- What new governance models are emerging from metaverse activities, and what can the board learn from how they are organized?

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