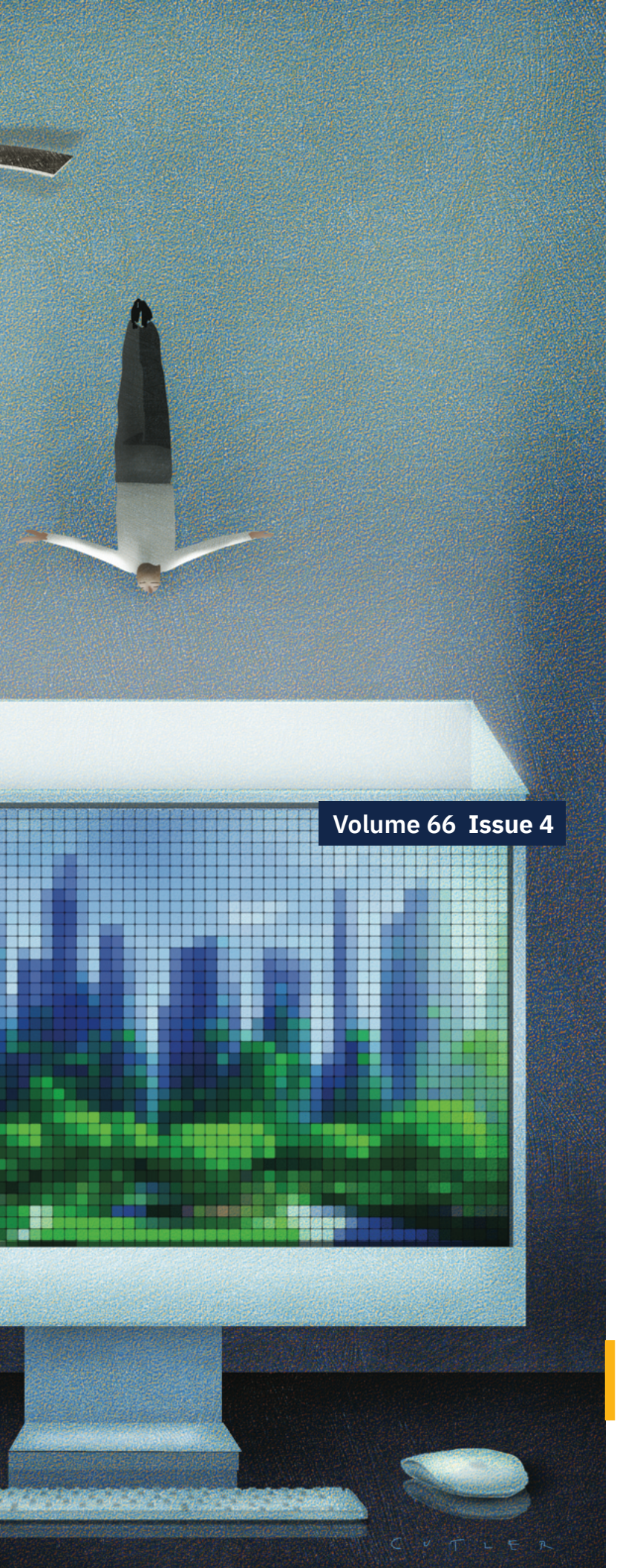

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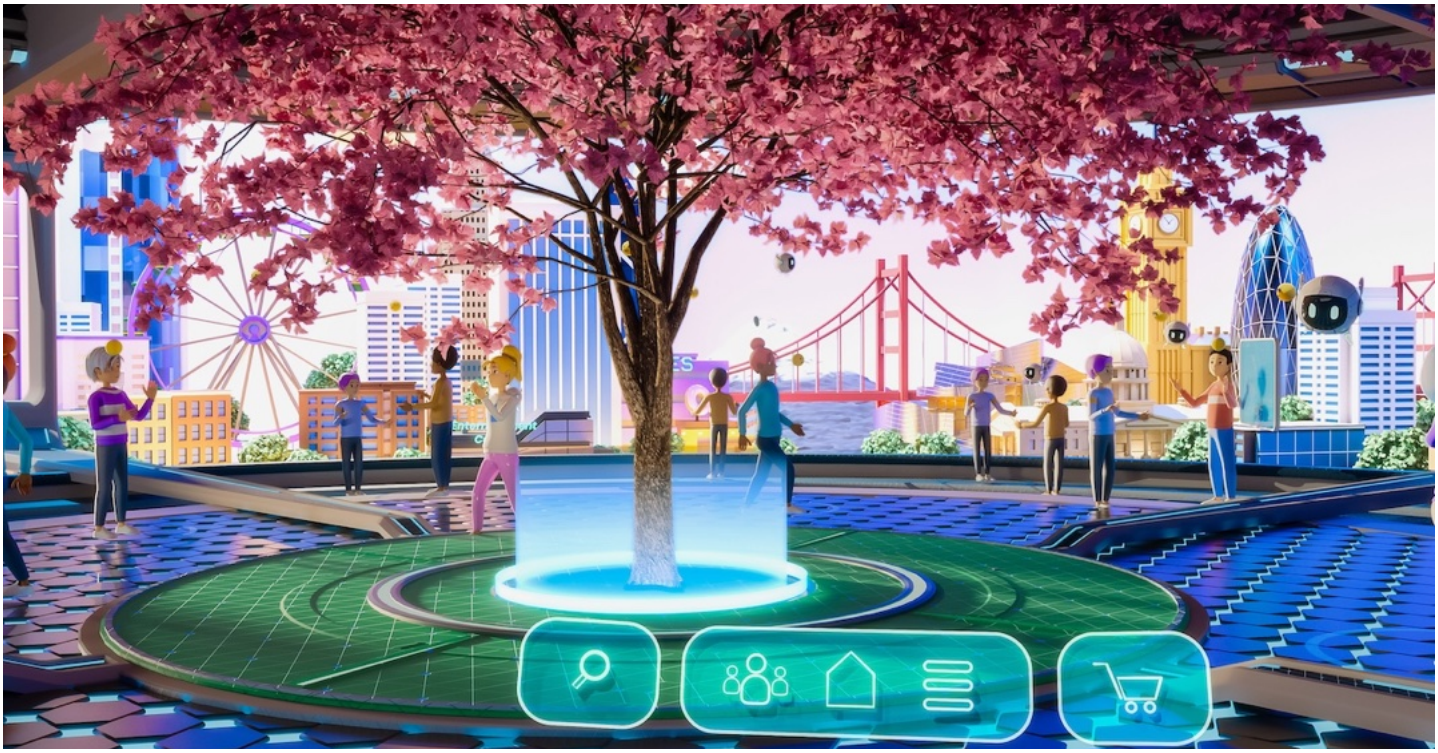

To Be or Not to Be: Will Virtual Worlds and the Metaverse Gain Lasting Traction?

by Andreas Kaplan and Michael Haenlein

Virtual worlds have experienced two major media hypes in their short lifetime. This article analyzes the reasons behind current caution expressed by companies and offers insights into the future trajectory of the Metaverse.

INSIGHT | EXECUTIVE SUMMARY

Virtual worlds have undergone two significant media hype cycles in their relatively short existence: first in the 2000s following the launch of Second Life, and then again two decades later in 2021, following the announcement of Facebook CEO Mark Zuckerberg of his metaverse strategy, defined simply as a three-dimensional, immersive, and unified virtual world.

The most recent wave of enthusiasm surrounding the metaverse was marked by Mark Zuckerberg's Meta rebranding in 2021, where he predicted that the metaverse would evolve into "the future of the internet."

On both occasions, work on virtual worlds (including ours) began amid the excitement, only to be published after the hype subsided.

This article delves into the enduring value of researching virtual worlds, examines the similarities and differences between the two waves of heightened interest, and offers insights into the reasons behind the second decline in enthusiasm for virtual worlds. We analyze current technological advancements in virtual environments and specifically explore methods for translating virtual stimuli into real-life human senses—encompassing sight, hearing, touch, smell, and taste—and techniques for translating human movements into avatar actions.

Additionally, we present various use cases and best practice examples demonstrating how companies can effectively leverage virtual worlds and the metaverse in areas such as online meetings, new product design, customer experience management, and sustainability initiatives.

Finally, we provide insights into regulations, avatar rights and duties, and address questions regarding data security and privacy. Our article offers a perspective on the future of the metaverse and discusses the necessary developments for virtual worlds to gain lasting traction. Importantly, we advocate for the business sector to develop expertise in virtual environments and worlds, regardless of their current significance, as preparing for tomorrow's landscape is undoubtedly prudent for such environments. Better to be safe than sorry.

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The Diffusion of the Metaverse

How YouTube Influencers Shape Mass Adoption

by Fabian Tingelhoff, Sebastian Klug, and Edona Elshan

This article describes the opinions of users who influence the metaverse's mass adoption, clarifying their perception of what already works well, holds high potential, and presents challenges.

INSIGHT | EXECUTIVE SUMMARY

Although the metaverse is yet to be fully realized, it offers a compelling vision: a scalable and interoperable ecosystem of virtual worlds simultaneously accessible by multiple users through continuous, user-generated avatars. As in every digital ecosystem, realizing the metaverse's potential hinges on its widespread adoption, which is inextricably tied to how it is perceived and embraced by its earliest users. Essentially, their reception—be it positive or negative—can shape its trajectory. To ensure mass adoption, the metaverse and its offerings must align with the aspirations and concerns of these influential groups. Consequently, organizations must anticipate user needs and establish targeted offerings in the evolving landscape of the metaverse.

However, organizations lack the understanding of why people use the metaverse, or in other words, what value they perceive to receive from their usage.

Five Dimensions of Value Generation

Our analysis shows that users perceive the metaverse to generate value along five dimensions, spanning functional, social, emotional, epistemic, and conditional values. The metaverse's ability to provide a platform for collaboration, creativity, and economic opportunities, allowing users to derive both personal and professional value from their virtual experiences, regards functionality. Forming communities, diverse social interactions, self-expression, and integrating the metaverse with users' social lives contribute to creating social value. Entertainment, experiences, social activities, self-determination, psychological safety, and the realism of virtual experiences drive the emotional value dimension.

Digital influencers accelerate technology adoption. Applying the Diffusion of Innovation Theory to the emerging metaverse, we analyzed how YouTubers, as innovators and early adopters, shape perceptions and adoption of metaverse technologies.

While conditional, epistemic, and emotional values draw users to the metaverse, functional and social values are essential for its continuous adoption. Simultaneously, users perceive lasting offerings and experiences as much more valuable than short-time or conditional offerings. Additionally, decentralized ledger technology is a major facilitator of all value dimensions and, hence, a central aspect of metaverses. Ultimately, our findings emphasize the importance of creating immersive and engaging experiences that cater to users' diverse needs and preferences.

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Exploring the Metaverse from a Legacy Company Perspective

A Capabilities-Based View

by Mario Benassi and Riccardo Rialti

This article examines how and why legacy companies explore the metaverse — a process that is both purpose-driven and largely incremental.

INSIGHT | EXECUTIVE SUMMARY

Legacy companies are fundamental pillars of economic systems. They are normally associated with established firms relying on well-known internal processes, stable business models, and the use of familiar technologies. Existing research acknowledges legacy companies' exploration as critical to their ability to maintain habitual competitive spots.

Capabilities Co-Specialization

Due to their characteristics, legacy companies frequently risk to miss emerging opportunities related to disruptive innovations modifying the business arena, and the latest technological paradigm to do this is The Metaverse. Although the combination of technologies that work together to create a set of virtual worlds (metaverses) are still in a state of flux, The Metaverse promises to offer new business opportunities in the form of new products, new services, and an unprecedented customer experience.

... Managers could also favor co-specialization, acting as a bridge between internal and external capabilities, before setting specific targets in new technological areas.

Capabilities co-specialization facilitates the use of complementary resources for new purposes, shedding light on how legacy companies explore metaverses by deploying resources a fit-to-purpose fashion. Capabilities co-specialization explains how a company benefits from internally complementary capabilities whether it confronts a phenomenon with a technological core that is difficult to identify, such as the Metaverse. This micro-foundation thus explains how firms patterns that could lead to different strategic fit configurations.

Adopting the aforementioned theoretical lens, the authors analyze why and how legacy companies explore The Metaverse through the evaluation of specific metaverses. We argue that different capabilities and their co-specialization patterns could pave the way to different strategic fit configurations.

The results show four evolutionary levels of strategic fit: functional, organizational, product, and identarian. Two misfit possibilities were identified as well.

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This article examines how and why legacy companies explore the metaverse — a process that is both purpose-driven and largely incremental.

The Metaverse Flywheel: Creating Value across Physical and Virtual Worlds

by Paavo Ritala, Mika Ruokonen, and Angelos Kostis

This study presents a metaverse flywheel model providing insights into how the emerging layered modular architecture of the metaverse can enable new types of value-creation opportunities for organizations.

INSIGHT | EXECUTIVE SUMMARY

This study explores the concept of the metaverse, a rapidly evolving digital universe comprising interconnected 3D virtual worlds. It presents a unique metaverse flywheel model to help organizations understand and leverage the metaverse for value creation. The research is grounded in interviews with 25 early adopters and innovators in the metaverse space.

The metaverse is seen as the next evolution of the internet, blending virtual and physical realities, primarily recognized in gaming and entertainment but expanding into various sectors. Significant investment is flowing into this area, as evidenced by the $13 billion invested in 2021. Key to the metaverse are interfaces like virtual reality (VR), augmented reality (AR), and extended reality (XR), and platforms such as Unity and Unreal by Epic Games. These technologies enable experiences ranging from gaming to virtual events, training, and branded virtual worlds by companies like Nike and Gucci.

... [This] study moves beyond a technology-centric view of the metaverse to study the value-creating organizational processes, practices, and strategies enabled by the emerging technology affordances of the metaverse. We identify three key metaverse affordances—prospection, persistence, and integration—and the metaverse flywheel to depict the interrelations among them.

However, there's still uncertainty about how firms can effectively use the metaverse for improving their internal processes and achieving strategic advantages. Companies like Meta (formerly Facebook) and Disney have faced challenges in scaling their metaverse projects. This uncertainty is partly due to the nascent state of metaverse technology, with no established standards or business models.

Metaverse Affordances

The study introduces the concept of "metaverse affordances," which are the unique opportunities and possibilities that the metaverse environment offers.

We identify three particular affordances:

1. Prospection: The ability to explore and imagine future possibilities in the metaverse.

2. Persistence: The creation and evolution of virtual spaces, objects, and identities that can be continuously modified.

3. Integration: Bridging experiences and insights between virtual and physical worlds.

The study's metaverse flywheel model consists of two layers: the infrastructure (the technological foundation) and the metaverse affordances (the opportunities arising from incorporating this technology in existing processes and relationships). This model helps managers and professionals focus on new organizational logics, crucial for tapping into emerging strategic opportunities in the metaverse.

Implications

As a concrete take away, we provide recommendations regarding the core business benefits, technological bottlenecks, and managerial best practices for each dimension of the metaverse flywheel.

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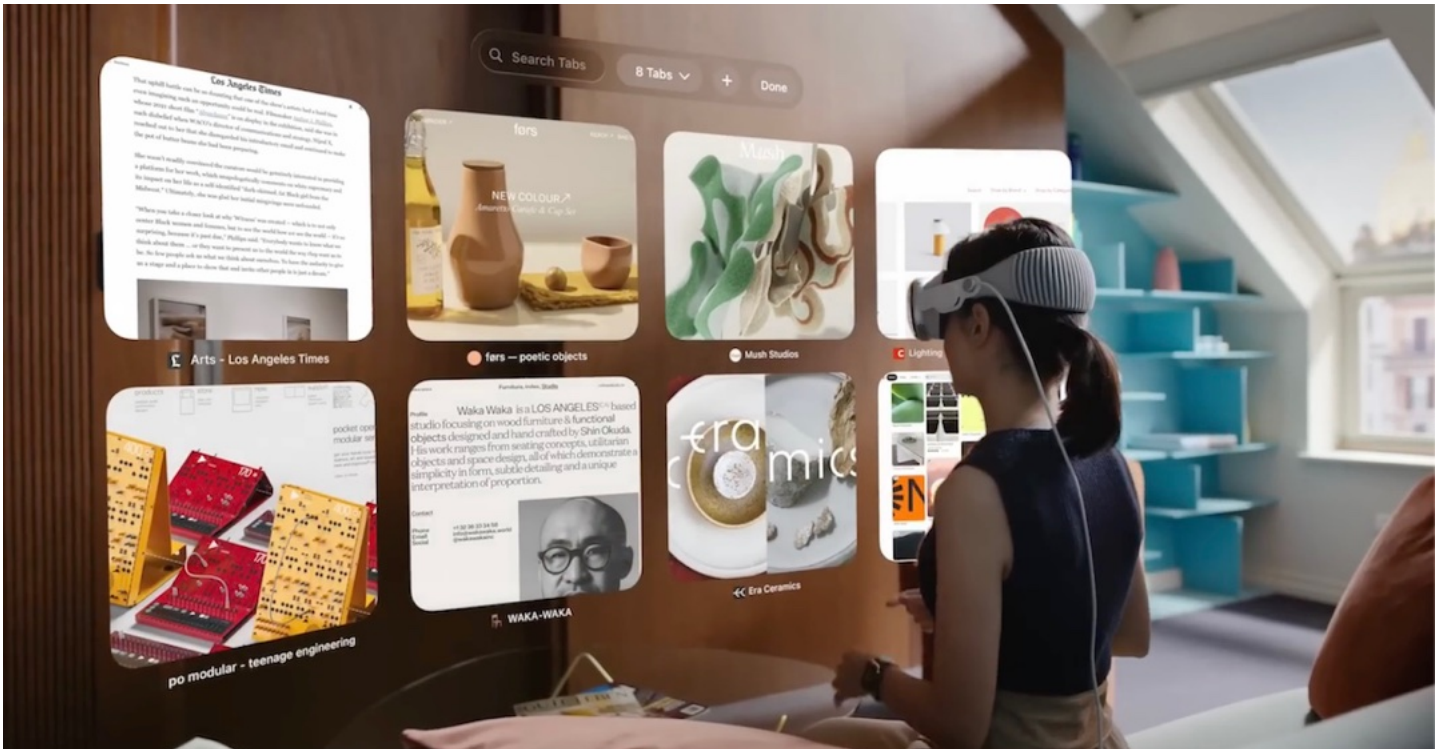

Exploring the Potential of Virtual Immersive Workspaces

Benefits, Limitations, and Implications

by Mahdieh Darvish, Markus Bick, and Laura Keresztyen

This article examines the phenomenon of virtual immersive workspaces and their impacts on organizations.

INSIGHT | EXECUTIVE SUMMARY

Exploring the realm of virtual immersive workplaces reveals a plethora of benefits, success metrics, and current trends. Key advantages include heightened business agility, enriched communication channels, and notable cost reductions. Moreover, the integration of virtual reality (VR) into organizational settings nurtures empathy, amplifies productivity, and aids in environmental sustainability by curbing travel demands. Success in deploying VR environments is assessed through metrics such as knowledge transfer efficacy and the sustenance of long-term competitive advantages.

Hardware Improvements

Recent technological advancements, compounded by the COVID-19 pandemic's impact, have accelerated the adoption of VR technologies. Experts anticipate a forthcoming tipping point akin to the widespread adoption of smartphones, envisioning full-scale enterprise saturation within the next decade. Surveys underscore the paramount importance of user experience, prompting major providers like Apple, Meta (Oculus), HTC, and Lenovo to prioritize hardware enhancements.

A notable improvement in communication quality and connection depth is evident in VR sessions, offering participants a personalized onboarding experience.

Users value the immersive nature of these interactions, citing heightened focus and enriched collaboration as notable benefits. These findings carry significant implications for both providers and organizations.

The COVID-19 pandemic has expedited the shift to remote work, establishing a 'new normal' that relies heavily on technologies like videoconferencing and cloud computing. As the internet evolves from a static platform (Web 1.0) to an immersive collaborative space (Web 3.0), the demand increases for innovative interfaces to facilitate effective remote work environments.

Implications

For VR providers, the study advocates a strategic emphasis on bolstering user experience and technological capabilities while aligning with evolving workplace needs. Crucial strategies include addressing discomfort associated with VR headsets and ensuring seamless integration with existing software ecosystems. For organizations, embracing virtual immersive workplaces promises to cultivate agility, refine communication channels, and optimize work-life balance. Leveraging VR for training and skill development endeavors holds promise for further enhancing productivity and fostering effective teamwork. Overall, the findings highlight the transformative potential of VR technology in reshaping the contemporary workplace landscape.

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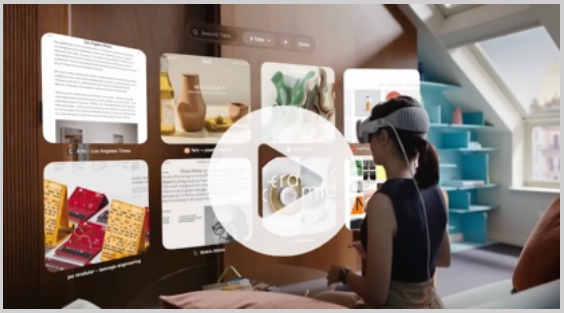

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Metaverse Management as Urban Planning

Lessons from Paradise (Nevada)

by David Clough and Andy Wu

This article presents an analogy between the metaverse and the Las Vegas Strip in the unincorporated town of Paradise, NV, which arose in the mid-twentieth century as a focal destination for immersive entertainment.

INSIGHT | EXECUTIVE SUMMARY

The concept of the metaverse first arose in science fiction, where it is conceptualized as a single, consensus, virtual space in which people can meet, converse, play, and do business. In contrast to this vision of a unified and open metaverse, today there are many different projects that each embody differing ideas for the metaverse could be. In this article, we address the question of how the stakeholders behind these projects—whom we refer to as metaverse architects—can build momentum for their vision and move closer to a common set of standards for metaverse development.

Developing Las Vegas

To help understand how the metaverse might emerge, we develop an analogy between the metaverse and the Las Vegas Strip which is situated in Paradise Nevada. What's now the Las Vegas strip started as barren desert, and across multiple decades it emerged as a world-renowned destination for entertainment and commerce. In a similar way, metaverse architects are taking some empty virtual space and turning it into a vibrant go-to destination for their users.

Viewing the metaverse as an urban setting draws attention to the value creation that arises from user interactions that are highly concentrated in time and space.

Two Types of Coordination

In the article we analyze two types of coordination that will be needed to make the metaverse work. The first is coordination amongst end users of the metaverse. Much like the value received by a visitor to a vibrant city, the potential value in the metaverse derives from interactions among users. New users will therefore be attracted to the

project with the most momentum. In a similar way, visitors go to Las Vegas because of the hustle and bustle, the bright lights and energy of the city. The Las Vegas strip provides some ideas for how the metaverse could generate that sense of focused social energy. The linear geometry of the Strip keeps activity focused in a limited area, and the Strip draws focuses attention temporally by hosting high profile events, such as the Consumer Electronics Show, Formula 1, and the Superbowl.

The other main type of coordination that will be needed is coordination among the different metaverse projects. If a metaverse architect can find common ground with other competing projects, they could help bring a dominant coalition into being. The case study of Las Vegas is also illustrative here. The casino resorts compete fiercely for gaming revenues and hotel guests. But they share a joint interest in making the Strip as a whole an attractive destination. As a result, you see some bilateral cooperation around things like constructing bridges that allow guests to move between resorts. The resort owners also participate in the broader governance of Paradise through institutions such as the Las Vegas Convention and Visitors Authority.

Implications

In summary, we think there is a lot to be learned from city planning that could help metaverse architects design the spaces and the interfaces that will unleash the potential of the metaverse.

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