Quick Answer: What Are the Five Essential Attributes of an Emerging Metaverse?

Published 12 October 2022 - ID G00774012 - 7 min read

By Analyst(s): Pedro Pacheco, Marty Resnick

Initiatives: Technology Innovation

The metaverse's current embryonic phase creates a lack of clarity around what defines an authentic metaverse use case. Technology innovation leaders can use this research as guidance to determine the five essential attributes that must be present in a mature metaverse instance.

Additional Perspectives

- Summary Translation: Quick Answer: What Are the Five Essential Attributes of an Emerging Metaverse?
  (11 November 2022)

Quick Answer

What are the attributes of the emerging metaverse?

- **Interaction** — Focuses on engaging with other people, digital assets and the world around us.
- **Creator economy** — Provides participating stakeholders with the ability to build digital assets and derive financial benefit within the emerging metaverse solution.
- **Interoperability** — Ensures that the metaverse is accessible and device-independent. Today's metaverse experience consists of walled gardens within their own ecosystem. To establish "the" metaverse, these ecosystems need to interoperate with others (for example, shared avatars or currency).
- **Immersive** — The metaverse experiences should convey presence — or the feeling of "being there" — and agency — the user's ability to control the environment and items around them. This could be accomplished through technologies like virtual reality/augmented reality/mixed reality (VR/AR/MR), but are not limited to these.

- **Identity** — Ensures the ability to validate who an individual or organization is, regardless of their variation in appearance and other characteristics between the metaverse and the physical world.

More Detail

Despite the expectations surrounding the metaverse, this combinatorial innovation is still nascent. Therefore, many stakeholders are unsure of what defines an emerging metaverse and whether a particular application or case study is a valid demonstration. With this challenge in mind, this research supports technology innovation leaders in identifying or creating true, full-fledged metaverse use cases and applications.

Three Classes of Metaverse Experiences

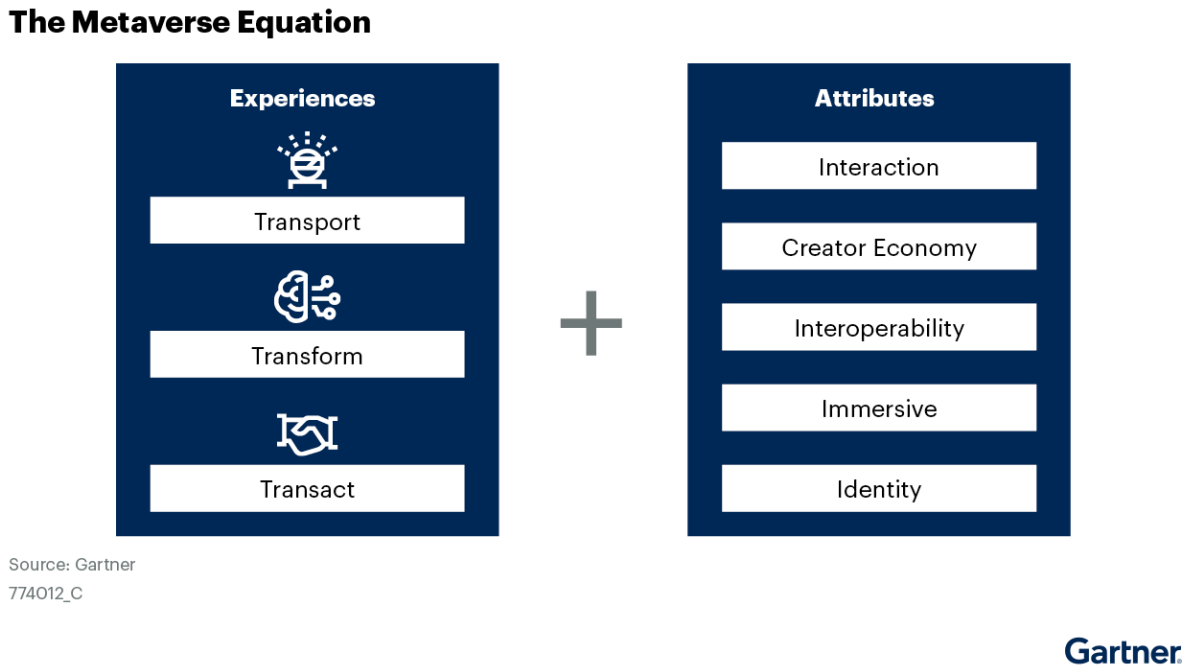
The emerging metaverse can be characterized by the three types of experiences it provides. The first experience type is the ability to **transport** to, or "go and immerse oneself" in, a virtual world. That world may be a 3D simulation and/or VR. This offers new opportunities for increased collaboration, connection and engagement with prospective and current customers, employees and citizens through immersive meetings, virtual events and enhanced collaboration tools.

Soon, the metaverse will **transform** the physical world by bringing the digital to it in a more immersive and interactive way. This allows users to have access to real-time information, collaboration and experiences in the physical world.

The metaverse also brings new capabilities to **transact** by providing an economic foundation through the use of Web 3 technologies, such as cryptocurrency, non-fungible tokens (NFTs) and blockchain (see Building a Digital Future: The Metaverse).

Figure 1 provides a visual representation of the emerging classes of metaverse experiences, along with the attributes a mature metaverse use case or application should contain.

Figure 1: The Metaverse Equation



Source: Gartner (October 2022)

As shown in Figure 1, these three types of experiences combine with five different types of attributes to define the characteristics of the mature metaverse.

Five Attributes of Metaverse Use Cases

Use cases of the emerging metaverse build from the three types of experiences outlined above and can be defined by the following list of attributes:

Interaction — It's clear that people going to an emerging metaverse, or bringing the virtual elements of a metaverse to the physical world, will want to interact with them. A metaverse space must allow a remote interaction between different users of the platform. The quality of interactions must be incremental, novel and beyond what we would encounter on existing alternatives. For instance, on a normal video call, the technology used will allow not only for easy exchange of voice and content, but will also enable virtual objects that users can easily interact with. One example is the use case presented by Hyundai at the Consumer Electronics Show (CES) 2022, where autonomous things were used as a way to enhance the interaction between the metaverse and the physical world — what they called "Metamobility." [1]

Creator economy — An emerging metaverse encourages participants to create and sell, or share, digital assets — like NFTs — also encouraging other users to buy them. Beyond that, an emerging metaverse should also provide opportunity for economic benefit by allowing different parties to easily co-create digital assets and transact securely in real time. This attribute can be expressed differently for both NFT developers and consumers (end users of the same). For instance, an artist with the name of Beeple managed to sell an NFT for $69.3 million in 2021, the highest price ever paid for one so far. [2]

Interoperability — The metaverse must be device-independent to allow a large number of users to effortlessly connect and interact. Moreover, access to a metaverse must not forcefully require the use of expensive equipment, such as top-of-the-range VR gear. These would obviously improve the experience, but the metaverse's concept of interoperability must allow users to easily access and interact within the platform.

The other component is interoperability between different miniverses — the individual spaces that we know today, like HyperVerse [3] or Epic Games. Today, there are several emerging metaverse spaces working completely independently from each other. Such a situation won't be sustainable in the long run, as scale is crucial to the success of a mature metaverse. This means, for instance, that a user will be able to easily jump from a miniverse to another using the same profile, avatar and associated data, like digital assets. The digital currency in these different metaverses must be similar. Without interoperability, the different miniverses will be just separate spaces or digital environments. This will lead users to experience unnecessary friction as they attempt to move themselves, or their assets, from one metaverse to another. This friction could drive users to abandon metaverse opportunities altogether. For instance, the Metaverse Standards Forum — consisting of several big names in tech — intends to drive forward metaverse interoperability. [4]

Immersive — The concept of an emerging metaverse must be inherently immersive. This immediately builds an association with the usage of AR and VR. However, the most important aspect is not the technology and devices, but rather what they can viably deliver via the existing infrastructure layer — referring to connectivity and computing power. An emerging metaverse must deliver to its users a strong feeling of presence through spatial mapping, haptic input, photorealism and/or high-fidelity 3D representations of objects. Their experience must feel as though they are actually there in the virtual world, or the virtual objects are actually there with them in the physical one. The sense of agency is also crucial for an emerging metaverse experience. The user must feel they have true control over the surrounding digital world, similar to what would happen in real life.

Identity — This attribute is essential to build trust around an emerging metaverse. This trust will be crucial to its growth and widespread. Each user can create their own avatar — an identity and appearance they use across all metaverse spaces. This must be true both for individuals and organizations. However, there needs to be a solid correspondence between the user's metaverse identity and their real-world identity. This must not happen at the expense of privacy, but in a way that allows authorities to prosecute criminal action.

Users in the Metaverse will own assets and take important actions — this means they need to be able to prove who they are in real life. This is essential to enable the attribute of a "creator economy" and to build trust and greater safety across the community of users. For instance, when you are approached by a certain person in an emerging metaverse, you want to make sure this person really is who they claim to be.

A large number of emerging metaverse use cases currently announced fulfill some, but not all, of these attributes, mainly due to limitations in terms of interoperability and identity. However, this must not be a showstopper for IT leaders and other stakeholders. These attributes must be consistently factored in the design of new metaverse use cases and the development of future applications.

Recommended by the Authors

Emerging Technologies: The Future of the Metaverse

Emerging Technologies: Critical Insights on Metaverse

Infographic: Impact Map of the Metaverse

Quick Answer: What Is a Metaverse?

Maverick Research: Metaverse Will Kill the Transit Company, but Will Grant You Eternal Life

Evidence

[1] Hyundai Motor Shares Vision of New Metamobility Concept, 'Expanding Human Reach' through Robotics & Metaverse at CES 2022, Hyundai.

[2] The 20 Most Expensive NFT Sales of All Time, NFT Now.

[3] HyperVerse.

[4] Metaverse Giants Form New Standards to Address Lack of Interoperability, Digital Trends.