



Metaverse Opportunities for Businesses

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ABSTRACT

The pandemic changed the world by accelerating the digitization and development of new technologies, which, until recently, only appeared in SF movies. Neal Stephenson, who in 1992 published the book "Snow Crash" whose action takes place partly in metaverse, introduces for the first time a new concept, namely metaverse, a concept that has remained only a term for a long time. Metaverse is being seriously discussed in 2022 as a new form of infrastructure, making captivating, personalized experiences possible. This paper aims to answer the question of what metaverse is and to identify some business opportunities that can be developed using Metaverse. If we look at the metaverse as a new way of doing business, it includes transitions between physical and virtual experiences but especially immersive virtual experiences, becoming its characteristic note.

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1. Introduction

If we do not consider Neal Stephenson's 1992 book, "Snow Crash", where the metaverse was first defined, the metaverse as a concept is a relatively new one, being defined by literature as a persistent environment, an online environment, an attribute of to combine several different virtual spaces, thus making it extremely attractive from the users' perspective but also a business opportunity, becoming the next iteration of the internet. Metaverse is now conceptualized as an environment that allows users to work, meet, play, and socialize in metaverse.

Facebook, recently renamed Meta, gave an unprecedented boost to the Metaverse project in 2021, namely, to create a single virtual world in which users, through their avatars, have similar experiences to real ones, being able to live, study or play in a dystopian world with the help of virtual reality devices, without being physically present in that place.

The metaverse in 2022 does not fully exist, but it has evolved from the concept level, being a bit more today because many platforms contain elements that have already been incorporated into the metaverse. Of all the existing types of interactions and platforms, video games are the ones that approach the experiences that metaverse can offer. Many game developers offer unique experiences to players, by hosting in-game events or by creating virtual savings.

Cryptocurrencies are not needed now, but they are considered in metaverse, because metaverse aims to be a business opportunity for many sectors, and the creation of a digital economy involves virtual goods and services, virtual currencies. It is estimated that Metaverse could use crypto wallets, such as Trust Wallet and MetaMask, or blockchain technologies as they provide transparent, appropriate, and reliable governance systems.

As Blockchain already exists and provides people with a living income, the metaverse can also become a source of income. Currently, games like Axie Infinity generate revenue for its users. SecondLive and Decentraland are examples of using virtual space as a virtual reality application, and implementation of blockchain technology.

The decentralized structure of the blockchain industry allows all companies, regardless of size, of capital to participate in the development of the metaverse, as there are opportunities with great potential for the future, but now huge IT companies like Meta, are able and interested.

2. What Is the Metaverse

The worlds of 2022 are increasingly interconnected by the transactions they make, whether it is the financial and the physical or the virtual with the physical. The connections between the financial world, virtual and physical today, are the easiest to create from any device connected to the Internet that is obviously used for many other daily activities, managing the various aspects of life thus becoming much easier, giving us thus accessing any type of interaction at the push of a button. These connections are obvious

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when we play or buy NFTs (A non-fungible token (NFT) is an English term meaning a single unit of data in a computerized accounting register called a blockchain. Through NFT we have a property right because it corresponds to a file of various formats: audio, video or photo, the format depending on the nature of the creative process.), we make payments with virtual currencies, becoming easy for anyone, not just specialists. Although they are accessible from a variety of environments, and through a variety of devices, the next step is to make them all readily available as part of a developing metaverse.

We can thus define Metaverse as an online virtual universe with 3D features that make it easy for users to connect to all aspects of their lives. The metaverse as it is currently conceptualized should connect multiple platforms, such as the Internet, with different websites accessible through a single browser.

Many augmented reality concepts are used in metaverse since each user should own and control a character named avatar. Through this avatar and obviously a VR headset you could go to a virtual meeting at the virtual office, from a virtual building in metaverse, and after the end of the program to go to a concert also in metaverse or to play a bass, to manage your cryptocurrency portfolio and finances in metaverse. You can already see some aspects of metaverse in the existing virtual video game worlds. Games like Second Life and Fortnite or various social media tools like Gather.town combine many elements of our lives in online worlds. Although these applications are not metaverse, they are somewhat similar. In addition to supporting social networks, metaverse games of different types of games will combine savings, digital identity, decentralized governance, and other applications. User creation and ownership of valuable items and coins helps to develop a unique and unique metaverse, offering through its features, the blockchain the potential to fuel this future technology.

3. Framework for the Metaverse

The full vision of a functional Metaverse is decades away. Such a version requires extraordinary technical progress, which we do not currently have we are far from being able to produce shared and persistent simulations that millions of users can synchronize in real time. Obviously, many regulations and rules of operation are required.

In addition, it will require revisions to business policies and changes in consumer behavior. An intense preoccupation exists at this moment compared to this concept because the term has become so popular, being more of a perception, because we feel it is starting. In this sense, two important companies have assumed the association with the metaverse Fortnite and Roblox.

Extrapolating from the iPhone that has made a major contribution to the mobile internet, as their device has incorporated many innovations that have made the mobile internet mainstream, Fortnite and Roblox bring together many different technologies and trends to produce an experience that is simultaneously tangible, and which feels different from everything that came before. But they do not constitute the Metaverse.

Metaverse is currently developing around eight basic categories:

- **Hardware Devices:** This category includes sales of PC devices, tablets and VR devices, and technical support in the use of various technologies and physical devices used to access or interact with or develop Metaverse. We include here not only the hardware used by users such as VR headsets or mobile phones but especially the entire hardware infrastructure of a company, from devices used to operate to those involved to create virtual environments, industrial systems, projection and tracking systems and scan sensors. Even if we are talking about a wide category, we cannot include the computing hardware that would have represented the chips and GPU servers, as well as the network-specific hardware, such as fiber optic cabling or wireless chipsets.
- **Computing power:** for the metaverse to exist and be supported, it must first be activated and given computing power for very diverse and demanding functions, such as: physical calculation, rendering, reconciliation and data synchronization, artificial intelligence, projection, capture, and translation of motion.
- **Network:** makes sense in these 8 basic categories as it refers to the provision of stable connections, in real time, with a high bandwidth, being persistent and having a decentralized data transmission provided by backbone providers, networks, exchange centers and services running between them. They are also the ones who manage consumer data. Of particular importance is cloud technology, which addresses the power of processing and storage to support extended reality and captivating interfaces. Connected networks using 5G are approaching maturity. AI helps create digital reflections that combine computer vision, speech, and deep learning to provide users with great experiences that look and feel real.
- **Virtual platforms:** an attractive user metaverse also involves thinking, developing, and then operating captivating digital simulations for the user. They should be three-dimensional, environments and worlds in which users and companies can explore, create, socialize, and participate in many different experiences for both relaxation and business, especially to support economic activities. Metaverse businesses are designed to run differently than traditional online

business experiences. Even multiplayer video games differ in experience from what the metaverse entails, the metaverse involves many developers and content creators who generate most of the content and can collect most of the revenue built on the virtual platform.

- **Tools and standards:** This category cover tools, services and protocols, which will become standards for the creation, operation, and continuous improvement of Metaverse, but which also refer to standards for interoperability between them and other platforms. Standardization is needed to support activities such as rendering, physics and AI, importing or exporting data, managing, and updating information.
- **Payments:** Digital payments are the support of all digital currency exchange processes and operations, carried out on digital platforms, for digital currencies and financial services in which we also include cryptocurrencies or other blockchain technologies. business.
- **Content:** In metaverse for the design of content, which can take the form of any digital asset, or for the creation, sale, management, storage, secure protection of all digital assets, such as, you should connect to the user's data and identity. Businesses built on the sale of digital goods and services in metaverse or that should serve Metaverse will not be vertically integrated into a virtual platform by the platform owner. It is recommended that the content, even if it is built specifically for Metaverse, not be dependent on a virtual platform.
- **User Behaviors:** refers to observable changes in consumer and business behavior such as spending and investment, decision making, or are directly associated with Metaverse, which should allow or reflect the user's principles and philosophy. Although these behaviors appear when trends initially appear, they later acquire a lasting global social significance.

Many companies are also changing their technology processes, flows and investments to support Metaverse. Construction operators, architecture firms and car companies also switch to tools such as Unreal or Unity, while specific vertical solutions, such as AutoCAD, switch to simulation. These changes mean that anything designed for the real world can be relatively easy and cost-effective to be transferred "to Metaverse" and reused and repeated indefinitely. Metaverses need to be populated with virtual content, but this content is expensive and will often miss an immediate short-term business case.

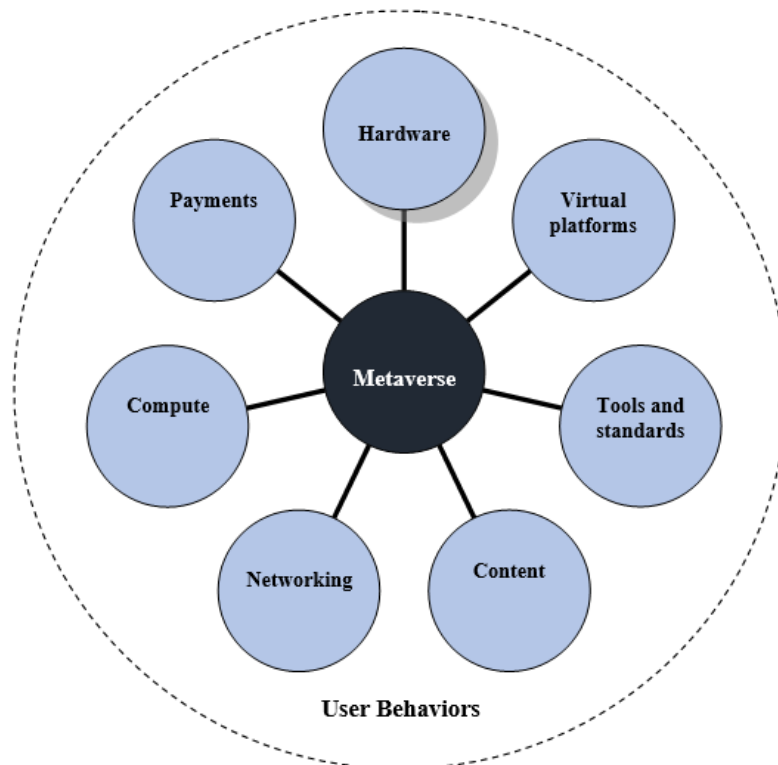


Figure 1. The eight layers of the Metaverse

4. What metaverse means for business

For business, the implications of a digital world, as described in Metaverse, could be enormous. Companies could use the metaverse to:

- Enrich the consumer experience
- Introduces virtual products, available only in metaverse

- Collect data about new customers
- Market physical and digital products and services
- To support payments
- Provide hardware and applications that support specific metaverse tasks
- All these opportunities exist, even if a real metaverse does not yet exist.

When asked what e-commerce looks like in metaverse, I suggest an exercise: imagine that we are drinking coffee with a friend in the park. He mentions a phone model he likes and suggests that you might like it too. In an instant, a selection of phones appears in your peripheral vision. As the digital images pass, it details the features, allowing your AI assistant to adjust your selection. See the recommended phone, but you don't like some features. The AI wizard copies them and opens your customization. With a simple swipe, you give your friend access and change some features together. With another gesture, you buy the phone. Will be delivered from the factory on request later in the week. You say goodbye to your friend and touch your smart glasses to leave the park. But in fact, you never left your couch.

The retail sector is one of the ones that can benefit the most from exploring metaverse-related business opportunities. E-commerce businesses could take advantage of the opportunity offered by metaverse, to create captivating shopping experiences for its users, but also to capture data on buyer behavior. The recommendations so used today, especially by Amazon, can have a much more natural presentation and easy to accept by users. Thus, the metaverse could also serve as a platform for the introduction of new and complex products, and the proof of purchase to be the most common process for a regular user with online shopping. Alibaba or Amazon are just a few companies that have already started experimenting with metaverse.

When asked if there are opportunities for metaverse business, the answer is yes and would focus on the unique experience of a buyer who would benefit from many advantages in purchasing digital services and products using the metaverse.

From this example, we can see the benefits of Metaverse for e-commerce, which is the ability to combine physical and digital products. This includes the creation of online stores and even entire malls, where people can walk with friends trying all sorts of virtual goods. The clothes and accessories will all be tried and worn by an avatar, so that the buyer can see how it feels to have a certain look. This way, shoppers will be able to get a 360-degree view of what these items will look like, instead of having to deal with the limitations of traditional e-commerce.

The enthusiasm around the metaverse is undoubtedly very high. Now, no other technology or technological trend has aroused so much interest. Obviously, the enthusiasm can also be due to the feasibility of the multitude of business opportunities in metaverse, as it is largely based on the activities currently performed in different scattered spaces, in a single common space. If we were to list some of the most important activities on metaverse that could support new business opportunities, they would be:

- making purchases of goods for digital avatars: from clothes, accessories, and various home deco items
- making digital art acquisitions as non-fungible token objects
- customer service would interact with users as digital avatars
- the interactions between users and employees in sales, assistance or other business communications through avatars, the communication being made regardless of space and time, being at a click away
- create and get involved in virtual social experiences
- shopping in real estate, digital real estate products such as virtual houses
- creating, participating in virtual classes using virtual spaces to lead immersive, space-independent learning experiences
- the metaverse being characterized by decentralization, collaboration and interoperability, these attributes can benefit businesses conducted in metaverse, becoming also collaborative, decentralized, and characterized by interoperability.

To make money from e-commerce with metaverse, the strategy of a business should consider that metaverse is a platform for aggressive marketing, because the main purpose of buying and selling is to make a profit. The metaverse promises more thanks to its high-tech feature and large audience.

Traditional advertising, of course, will not be effective in this situation, but techniques like those used in virtual reality advertising may apply:

- Using virtual reality to demonstrate all aspects of the product
- Virtual reality experiences are designed to arouse buyers' interest in goods.

Through the virtual store in metaverse people can visit your store to search for products and place orders. Then orders can be delivered to their real addresses. This business can bring a lot of money and you will never run out of customers. The most important aspect of metaverse marketing is how they can connect real stores with customers through the virtual world.

5. Conclusions

The overview of the different business ideas for metaverse is meant to demonstrate why this could be a profitable opportunity for any business. Although the paper focuses on the business sector, I believe that many sectors could capitalize on its unique features. The metaverse is an opportunity for all types of businesses to transform conventional business transactions. Metaverse business opportunities are largely based on how effectively these businesses can adapt to an open environment to their availability to use the metaverse environment which is a virtual open, shared, and persistent environment. Through the unique and captivating experiences offered to users, the metaverse can also facilitate the purchase, trading and holding of goods. There are many actions you can take today that will prepare you for metaverse:

- Master social involvement, which is essential for any business in the 21st century, because it will not be easy to escape by ignoring your followers.
- Understand NFTs: Learn how they work and how your business can benefit from them.
- Familiarize yourself with VR / AR: If you've never used a VR headset before, you should try one.
- Prioritize customer experience: Life-simulating games are proof that people want a digital world, but they won't stay if the experience isn't complete.

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