



Metaverse: Identity, Origin And Development

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Abstract

This scientific study dealt with the conceptual framework of the Metaversespace under smart digital environments according to the cultural, social, economic and scientific contexts of numerous researchers, as the term's views diversity was the reason for its prominence at the real level. The latter is what prompted many tech giants in developed countries to try to adopt this modern digital space by investing in it through the development of technical pillars that will be a locomotive for Metaverse and future generations. This study also discussed the main roots that led to its evolution and emergence at the material level by presenting the most important stages of this new-born (Metaverse). Moreover, significant developments in the evolution of Metaverse according to the perception of various scientific studies under the highly developed digital environments were presented. On the other hand, we dived into the essential components of Metaverse, which are the technical segment and the fertile digital environment in which they are active. It concluded by showcasing the main improvements and disadvantages that it possesses in the context of accelerating technological accumulation and the multiplicity of digital environments with extraordinary specifications.

Keywords: Metaverse, New Version of Internet, Digital Environment, Digital Media.

1- Introduction-

Modern digital media has played an important role in changing the behaviours of contemporary societies in various areas of life, whether political, economic, cultural..., etc. The members of these societies have their own thinking pattern in the nature of their lives. This has also been reflected in giant companies active in new information and communication technologies. The members of these communities have their way of thinking about the nature of living. With the wide spread of the Internet that has managed to make the world a small village, says Canadian researcher (**Marshall McLuhan**), with multiple social applications currently allowing the individual to undertake various ambitious projects away from geographical, legal and other barriers and obstacles, through the weaving of intercontinental complex relationships, whether it be on a personal or institutional level.

Accordingly, these stations of technological development that are currently taking place in society have made different actions at different levels that were not long ago considered

themselves to be the engine and influence in guiding and managing the process of controlling the course and movement of societies, to reframe its outlook in light of the huge flow of information generated by modern technologies, which has allowed every member of society, including companies investing in the field, to provide many opportunities for success and excellence in their respective competencies.

Therefore, the qualitative transition of modern societies due to the emergence of high digital media has prompted many giant companies in the field of digital to try to optimize their exploitation and work on the experience of the so-called digital space, which has become a fertile soil for investment in the field of emerging enterprises based on the knowledge economy. As the world today is completely different from before, especially with the terrible development of the internet version that moved from Web 1.0 to 2.0 and then Web 3.0, which has become reliable in modern economies that have entered the process of embodiment and based on digital currencies, where it was launched at the end of 2012 and the beginning of 2013, and it is considered as a real birth of it.

The advent of the new version of Web 3.0, which is a new chapter of modern Internet that differs in terms of specifications and opportunities from its predecessor, in terms of the quality of the ultra-sophisticated virtual worlds that resulted in so-called Metaverse and is one of the virtual worlds on which giant companies rely in the field of new technology such as Facebook, whose name has become Meta, Microsoft, Nvidia and others, is a future to invest in through the use of the so-called digital currency in contemporary economics based on avatars and knowledge economics.

On the other hand, the world of Metaverse is one of the essential pillars for these future companies that seek to rely on it to make money, hence striving to create their personalized virtual worlds across floors that are in line with this modern world. It was just an idea that was addressed through a novel called "Snowcrash" by the author: **(Neal Stevenson)**, so that these companies can market their products and brands across so-called Metaverse.

Since the world of Metaverse is becoming increasingly interested in it by tech giants in view of its fictional financial gains compared to traditional physical space, many decided to undertake this new investment experience based on modes and digital environments different from what exists at the realistic level, in order to control the reins of these virtual worlds to make them serve the economic patterns based on the knowledge economy. Today's societies are experiencing accelerating developments that outweigh their predecessors on the impact of technological mobility in the various areas that have emerged with Web 3.0. This has changed the nature of an individual's contemporary life and his view of the future gradually towards the so-called Metaverse.

Consequently, it requires reaching out to understand this new virtual world and embody it at the level of different life spheres. The following questions were raised:

- What does Metaverse mean?
- What are the first preoccupations that helped the emergence of Metaverse?
- How has Metaverse evolved?
- What are the components on which Metaverse are based?

- What are the pros and cons of Metaverse on society in today's digital environment?

I - What is Metaverse?

Several names have been launched for the term Metaverse based on researchers' cultural and scientific backgrounds. The utmost relevant are as follows;

- **Collective space in virtuality** (Burns, March 2018), **Lifeloggging** (Bruun & Stentoft, 2019), **spatial internet** (Chayka, Aug 2021), **a mirror world** (ALL One Needs to. Know about Metaverse : A Complete Survey on Technological Singularity and Research Agenda, SEPTEMBER 2021), **an Omniverse**, It is a place for simulation and cooperation. (Nvidia Omniverse platform, Aug2021)

Specialized research studies consider that Metaverse can be seen as a virtual environment that blends digital and reality. It facilitates convergence between Internet and Web technologies and extended reality.

According to the researchers (**Paul Milgram and Fumio Kishino**), the continuity in virtual reality is based on the varying degrees of integration between the digital and physical world, as the case with augmented reality, mixed reality and the virtual world (Milgram, Kishino, Takemura, & Utsumi, 1995). Thus, researchers and specialists in the field of digital media define Metaverse as a three-dimensional virtual world that connects all these contributors in several walks of life socially, at work and in entertainment.

The General Director of Facebook in France, **Mr.(Laurant Solly)**, defines it as: In fact, the new chapter of the Internet, which is the future of technology, especially social technology, is the creation of a digital virtual environment, in which you can move or move like in the press on the ground or in physical space. It is through this space that you can create your own free character called Avatar, as well as doing all the activities and social interactions that we live in the physical world (Solly, 2021). He further states that Metaverse are the new frontier or the new chapter of the Internet because we are able to do this through experience. For example, today we are on the phone through all the activities that we do, and that is what can be imagined to happen at the level of Metaverse. Proof of this is what we have experienced during the coronavirus pandemic to reflect this virtual reality of telecommuting by organizing meetings with colleagues in several regions of the world; Australia, Japan, Europe, the United States of America and Latin America (Solly, 2021).

In addition, Metaverse brings together our company's task forces, both in France and Europe, in the form of a hybrid model. In order to combine the sense of work in the office with home, in this case the Metaverse are re-establishing a new space, because it serves as something new to technology techniques as the unique sense of the present and that is what today's digital media has not provided us. With the invention of Avatar and the use of virtual truth, you can find everything you want, namely work, and you cannot think either of amusement, or of attending an art ceremony in any part of the world by going beyond the time limits that may be in New York, Los Angeles... etc. or simplistically create family interactions that may be between parents and grandchildren who are far between time and space.

In this context, it can be said that Metaverse can turn the balance and change the world. It is very exciting and that is what will bring us together in a public ecosystem and that is what Facebook is especially working hard to embody.

On the other hand, Metaverse can be regarded as an immersive environment that constitutes a passage or presentation of real life but without physical boundaries. Any user can actually access this virtual world via a virtual character called avatar through which other users who also have contact via this virtual space can interact provided that they are in avatar form. The process of interaction between them is simultaneous, in other words, the method of virtual interaction between users of the Internet exceeds the geographical and temporal boundaries of the parties. This will facilitate the process of linguistic immersion as well as communication with people who do not speak the same language (Baynat, E., & López, 2020). This communication process takes place through a microphone or the so-called (oral speech), is based on the chat process (written text), and according to the peculiarities associated with each avatar (physical appearance, dress and gestures (movements, gestures) (Baynat, E., & López, 2020).

According to **(Julien Pillot)**, a professor specializing in economics and the markets of new media and communication technologies, Metaverse is a fusion of the virtual world with specifications rooted in reality (Bich-Carriere, 2013). He considers it simply as a world through which our daily life passes into a single reality that also includes virtual reality. Over time, these experiments have come to include virtual reality experiments, augmented reality initiatives, and other digital simulations that have become the current currency in the modern era. As such, Metaverse is often presented as the next internet version. Subsequently it is a shared virtual space that is across the web in a continuous and active way (Maire, 2021). Regarding this three-dimensional space, the user is presented via a symbolic image called **(Avatar)** or in the form of a three-dimensional image called **(Hologramme)** which is sophisticated and interactive with his or her virtual environment as well as other users, as if they were present in real reality.

According to the American novelist **(Neal Stephenson)**, the author of the novel **(Snow Crash)** published in 1992 and used for the first time the term Metaverse defines it as; a super universe based on a technological base with an economic purpose due to the use of a local currency, through which users are presented in the form of an interactive called **Avatar interactive** (Picard, 2021). He further considers it as a holistic virtual environment parallel to the physical world where users interact via a virtual avatar (Lee L. H., et al., 2021), which leads us to say that Metaverse is a new parallel world through which our reality will be conquered. Consequently, the companies specialized in the field of digital, including; (Meta), (Microsoft), (Epic Games) have been working for months to do their best to build a huge parallel virtual world of their own by using so-called avatars, where through this new world it is possible to chat, travel, entertain and learn.. Etc. Moreover, Metaverse is quite simply an absolute social network, a kind of three-dimensional internet that is restricted to time limit in the world of science fiction at the level of our reality (Krygowski, 2021).

II - First preoccupations of the appearance of Metaverse

The term Metaverse was derived from Neal Stephenson's famous novel in 1992, entitled *Snow Crash*, a novel whose author tries to embody the virtual reality space used by the Internet and reality together, in which users' personality is drawn through the narrator in a manageable Avatar, they can interact with other humans and software owners, in this case being a computer software that works for the user (Amar, 2021).

In this context, Metaverse is a modern term compounded by two words, the Greek word (**Meta**), which means beyond and the word **Univers**. Thus, the term paired between the two words to become: **Metaverse**. However, this term was used for the first time through the novel (*Snow Crash*) by Technology Pioneers to virtual worlds, especially with the prominence of the internet and new media and communication technologies that allowed using Metaverse as a new tool for navigating across the line.

With the beginnings of the (2.0Web), Metaverse has been a success. It is used as (social networks similar to other web 2.0 application that are still to this day. As these modern media have been popular in many areas, there are many initiatives in this regard, including efforts by the educational family to apply this technology in the field of education in order to improve educational curricula and programmes and bring the outputs of new information and communication technologies into line with the basics of scientific research, which relies on such modern pillars to keep pace with developments in the field of fluidity of different scientific knowledge among researchers around the world (Guinaud, Chapon, Kislin, Osswlad, & Cruz-Lara, 2009).

In parallel, the experience of this new world was played in its first start by gaming enthusiasts (**Gamers**) several years ago through popular games that had a great resonance in the community. The most important of these games are **the Sims, Roblox, Fortnite** and others along with films such as **Matrix, Ready Player One...** etc, which have worked to insert Avatar-based 3D technology. Hence, this term is no longer surprising, since the democratization of Metaverse to the wider public is, on the other hand, a novelty. That's what companies have to get used to (Lucas, 2021).

Certainly in this case, the term Metaverse inspired by a virtual world of science fiction novels dating back to the early 1990s, shortly after the invention of the World Wide Web. Despite recent technological advances in mobile computing and artificial intelligence, this still requires a decade or more, according to experts. Within this framework, it is expected that the royal versions currently under development and over time will be integrated into a single Metaverse based on common standards, through which users can move freely from one virtual experience to another while taking their digital assets.

Based on what we have mentioned, it can be said that the first novels that dealt with science fiction, such as the novel *Snow Crash* by (Neal Stephenson), published in 1992, as well as the novel, *Ready Player one* by Ernest Cline, released in 2011, have provided a generation of engineers with inspiration to invent technologies that, in turn, are now coming with a full results (Thompson, 2021).

Furthermore, many in-depth academic studies have tried to find out the prominence of the term Metaverse by researching several relevant studies that directly or indirectly

addressed it. In other words, trying to collect the cognitive accumulations that led to access to this contemporary virtual world. Therefore, many researchers in the modern field of digital as well as various tech giants have sought to focus on various different primary sources associated with high-quality scientific studies that have touched on such digital environments. In this context, some specialized scientific studies have been undertaken to revise the literature related to this newborn called Metaverse from 2012 to 2020 (Kyle, 2021). These include; virtual reality, augmented reality, as well as international forums on the role of human factors in computing systems, Virtual Reality programs and technology.

In this context, two effective outcomes have been reached from two initial databases: **(ACM Library and IEEE Xplorer)**, the first being the emergence of synthetic ethical factor design in **(CHI)** and the second relating to multi-user collaborative action for scientists in preferred environments. Thus, the research process in several scientific articles in the first attempt found that only a few of them had direct or indirect relevance to the new concept of Metaverse. In **the second attempt**, research criteria were relaxed in the research articles with the use of the matching search word for Metaverse, regardless of where they were published. Returning to the two previously mentioned databases **(ACM Library and IEEE Xplore)**, they resulted in a total of 67 entities in a consecutive manner. On the other hand, some studies in this area have been able to identify a number of solutions for the system, as well as structures to solve problems of scalability associated with Metaverse, the most important of which are: (Lee L.-H. , et al., 2021)

- Balancing workload to reduce response time in modern online multiplayer games widely.
- Do not censor the conversation in the 3D model between Metaverse and real-world environments.
- High performance computing kits for virtual environments widely.
- Analysis of secret forums for criminal acts such as the circulation of stolen elements and data sets in the virtual world.
- Exploit new configurations and spaces in 3D virtual spaces in the context of multiplayer modes.
- Control the creation of contents by the user in games.
- Promote integration and (Interoperability) in virtual environments to varying degrees within Metaverse.
- Redistribution of network flow in the virtual world to improve user experiences via avatars in virtual environments.

III - Trends in the development of Metaverse

A thorough study conducted by **John David N. Dionisio** and a number of researchers tackled the need to take into account four major aspects of Metaverse development: **Realism, Ubiquity, Interoperability, and Scalability** (Dionisio, Iii, & Gilbert, 2013). Other studies have linked its evolution to current applications and virtual reality

headphones for user interaction in virtual environments, besides various technical methods to build artwork in virtual reality (Kelley & Tornatzky, 2019).

On the other hand, a researcher called ("**Johanna Ylipulli**") with his colleagues, call for the need to work on designing Metaverse-level frameworks for future hybrid cities and interrelationships between 3D virtual ones and their real-life counterparts. Another theoretical framework classifies the types of cases in Metavers by making use of **classical Vitruvian Principles** for **Utilitas, Firmitas, Venustas** (Ib'ñez & Naya, 2012). Additionally, Metaverse serve as a public space with a collective and communal character in virtual environments. In this context, user privacy was discussed as a concern in such emerging spaces (Falchuk, Loeb, & Neff, 2018).

Moreover, some sources of information indicate that the first beginnings of the evolution of the metaphysical chronological trajectory began from **1974 to 2020** (Duan, et al., 2021), and consequently the Metaverse witnessed a decisive trend by presenting a state of evolution of their concept once new technological structures were included in this modern virtual world; new media texts (graphic) and virtual three-dimensional worlds. What is more, with the impressive advances in the field of augmented reality applications, immersive digital overlays have been displayed in the world of Metaverse, including: (**Pokémon GO**) and (**Super Mario**) (**Augmented reality**). In contrast, virtual reality applications such as: (**VR Chat**) allowed users to dive completely through virtual worlds in social congregation.

In general, the characteristic Metaverse possess under modern media, the main link in their prominence is sustainable mobility. This is more reflected in **Crypto assets**, for example; **Crypto Kitties** has appeared in the gaming trade, while, alien worlds encouraged users to earn non-replaceable assets called **non-fungible tokens (NFT)** that could turn into real-world currencies (Pairet, et al., 2019). In the meantime, when returning to the chronological evolution of the metaverse world, four transitional phases are encountered namely; **starting from text-based interactive games, open virtual worlds, smart wearable and smartphones in immersive virtual environments, a multiplayer game in the Internet** (Massively Multiplayer Online Game (MMOG)) to the current mode of Metaverse. Here, it has to be said that each of these transitional passages lead to the manifestation of new technologies from the birth of the Internet, the 3D graphic, the widespread use of the Internet to the **hyperbook**. Thus, modern technologies can be seen as the catalysts that have led us to such qualitative transfers from cyberspace. Accordingly, these modern technologies that currently underpin Metaverse and steered to their emergence can provide additional features of their orientation towards virtual environments to reach the virtual universe.

Consequently, the mainstay of Metaverse in the electronic game can provide several unexpected new open opportunities that may be an essential building block for embodying digital environments by creating a parallel community that is unique to physical reality. It is noted that the design of schemes for metaverse ecosystems is based on the community of the physical world.

Today's remarkable development of Metaverse is due to the efforts of technology experts, research engineers, computers and scientists to understand the latest new technologies in the media and communications sector as well as the challenges and opportunities of research to make them serve it in the future.

This leads us to point out that the above-mentioned six mass, on structures are essential to the creation of Metaverse ecosystems, but this can only be done by understanding them through sociologists, economists, avatars, content industry, digital policy for markets and governors, as well as knowing whether emerging technologies can bring effects that are reflected in both the physical and virtual world.

Since Metaverse has recently received great attention, it has prompted the so-called stakeholders or technology giants of the developed world to embark on investment in this contemporary space by focusing on the development of targeted electronic games, as well as the implications of the technological factor and its role in the emission of Metaverse, which could lead to a major digital explosion (Lee L.-H. , et al., All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda, 2021).

In this context, researchers in the new media and telecommunications sector have been working on an attempt to develop a general scheme by which they identify the stages that the Metaverse has gone through. Namely:

- **The first stage**

Called Digital Twins: which widely

refer to high-resolution models and refined entities in virtual environments. Thus, the digital twins we find reflect the physical characteristics of their counterparts, including the movements of the object or body, its heat, as well as its employment. Therefore, the communication process between these physical and hypothetical twins is linked by their data.

Moreover, today's applications are multifunctional, for example: computer-assisted design for design production, architecture for buildings, intelligent urban planning and all done through so-called assisted industrial systems, while dangerous processes are also addressed by robotics assistance (Lee L.-H. , et al., All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda, 2021).

Basically, the digital twinning phase represents the establishment phase of the digital version of physical reality (Bauer, Antonino, & Kuhn, 2019).

- **The second stage**

It is called (**the Digital Natives**) which focuses on the creation of original content, where creators or creators of content are presented in the form of avatars that contribute to digital creations within the digital world. For example, digital creations can be connected to their physical counterparts or even can exist only in the digital world. While

environmental communication systems are interconnected, this also includes disciplines of culture, economics, law and regulations such as **(data ownership)** and social norms that can enhance digital creations (Lee L.-H. , et al., All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda, 2021).

Thus, the systems of ecological communication are in this case similar to the existing norms and laws of the real-world society that are carriers of the production of material goods and immaterial contents (Viljoen, 2021).

However, the search for applications, for example, is still in its infancy, where the focus was in the early beginnings of communication with users regarding technical outputs, innovation system or creation in order to produce content exclusively (Jiang, et al., 2021).

•The third stage

It is called the coexistence stage between physical and virtual reality **(co-existence of physical-virtual)** or so-called **(surreality)**, in which Metaverse can become self-contained and continuous in the virtual world in order to exist and interact with the physical world with a high level of autonomy.

Avatars represent human users in the physical world, where it is possible to experiment with heterogeneous real-time activities characterized by theoretically unlimited numbers of simultaneous users with multiple virtual worlds (Grieves & Vickers, 2017).

Remarkably, Metaverse can allow interoperability between platforms representing different virtual worlds, enabling users to create content and distribute it widely across virtual spaces.

For example, the user can create innovative content through any game that might be (minecraft, 2023): **Minecraft** and convert it into an electronic platform or another game such as **Roblox** (roblox, 2023) with continuous identity and experience.

Apart from that, the platform can communicate and interact with our physical world through various channels to access user information via screens that are worn and fixed on the head or through portable headphones such as: (Microsofthololens, 2023)

Moreover, the process of interaction between the contents, avatars and computer agents inside the Metaverse takes place with smart devices and robots just to name a few.

Based on the variety of concepts of Metaverse given to it by specialists, it can be said then: we exist in the Metaverse space via the computer. Therefore, this third stage is considered to be a roadmap for the development of Metaverse.

On the other hand, this last stage of duplication (bilateralism) has seen a number of criticisms or questions regarding the touches on Metaverse, where a series of models have been presented. One of the most important is the 3D Earth map (earth3dmap, 2022) model through which the photo frames of the real world are displayed. However, it lacked other physical features of **GPS** information. While social networks allow users to make content limited by text, photos and videos with limited options of user obligations such as: (another link) **Liking of post**.

On the other hand, electronic games are becoming more and more realistic and impressive, where the user can experiment with distinctive graphics with games that exist in reality. Among the examples we find:

Call of duty: Blacks Ops cold War This film conveyed a sense of reality that resembles the real world in great detail.

In this context, the virtual world of Second life, 18 years since its creation, is considered to be the user's largest 3D space. In this case, users can build and shape their three-dimensional environments and live in an absolute way in such a virtual world (VRchat, 2022).

Nevertheless, electronic games still lack **Interoperability** between each other. In contrast, the emergence of so-called platforms that have benefited from virtual environments such as **VRChat** (VRchat, 2022) and **Microsoft Mesh** (Mesh, 2022) has enriched these environments that mimic the virtual spaces of social gatherings and meetings on the line.

Nevertheless, these virtual spaces are not permanent as they disappear immediately after the end of gatherings and meetings. For example, virtual objects in (**Augmented Reality**) electronic games are also attached or linked to physical reality without reflecting any principles of digital twins.

As a reminder, in order to build Metaverse, we must take into account a variety of technologies that must be available in the same way as the Internet, social networks, video games, and digital environments.

Even worse, with the advent of (Augmented reality) and high-speed networks, modern computing, artificial intelligence and (**hyperledgers**), an open-source platform tasked with developing (**blockchain**). These aforementioned elements are the building blocks for the creation of Metaverse. Thus, it can be said in this case that the Metaverse has been able to be characterized by its technological uniqueness and its underlying fundamentals (Lee L.-H. , et al., All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda, 2021).

IV-components of the Metaverse:

Talking about Metaverse brings us to the entrance of its constituent components:

Technology segment: (User Interactivity) ,(Extended Reality), (Computer Vision),(Artificial Intelligence), (Blockchain), (Robotics), (Internet of Things IOT), (Edge/Cloud), (Network), (Hardware Infrastructure).

The above-mentioned columns are therefore considered as ways in which the user can access the Metaverse through the so-called extended truth. As well as user interaction techniques such as: the treatment of virtual objects, and other columns are also one of the ways in which you can work with the user to address various activities within the Metaverse via user interaction and extended fact.

In the same context, **(Edge computing)** aims to improve the performance of applications that defer feeling **(DeLay-sensitive)** and the desire for **(Bandwidth-hungry)** through local data source management such as data processing available in sophisticated devices, whereas if we use **(cloud computing)** Cloud computing we find its computing power to be highly scalable **(Its High scalable computational power)** as well as its storage capability.

Thus, the use of **(cloud-based)** and **(edge-based)** services both enables collaboration, for example: the **(maximizing the application performance)** and **(Hence user experiences)**.

Hence, both sophisticated devices and cloud services coupled with the progress of the mobile network, can become the pillar of both computer vision, internet objects and robots in the preferred infrastructure of appropriate devices.

2. Ecosystem Segment:

It includes the following:

(Social Acceptability), (Security), (Privacy) , (Accountability), (Content creation), (Virtual Economy), (Avatar).

On the other hand, the Metaverse ecosystem demonstrates the autonomy, scale, conformity and homogeneity of the virtual world. Users in the physical world are able to monitor their Avatars through **the extended reality** and user interaction technique of different collective activities, such as in **the content creator**.

Therefore, the virtual economy is regarded as an automatic consequence of those activities in Metaverse. For example, production in the virtual economy should be protected through so-called production ownership rights, and production outputs should therefore be accepted by other avatars at the level of Metaverse. We also find users wishing to predict that their activities have not been exposed to privacy risks and security threats (Lee L.-H. , et al., All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda, 2021).

V-The advantages and disadvantages

1. Advantages

This modern virtual reality has now become the central pillar of its enormous potential, especially when it comes to so-called telecommuting. Its role has effectively emerged with the health crisis of the COVID- 19 pandemic, which has disrupted the interests of individuals and nations that have become hostage to the epidemic, costing them heavy material losses.

In order to overcome this difficult pandemic, many economic and other institutions have hindered and accelerated the use of telecommuting as an alternative to what they used to be, using collaborative tools and video experience for workers.

With this global health crisis, many international and regional organizations have succeeded in accelerating today's day-to-day issues. In contrast, however, these

organizations recognize the constraints that stand as barriers and obstacles when employing telecommuting methods to work on substantive topics such as cooperation and the spirit of belonging.

On the other hand, the emergence of Metaverses in digital environments has led specialists in modern technologies as a contemporary phenomenon at present to analyse the user's activities in order to attract the attention of some members of the research family to such modern entities, which may be able to provide a range of recognized approaches that contribute to understanding the behaviours of the Avatars in virtual environments, as well as the text content production process in different virtual worlds (Orgaz, R-Moreno, Camacho, & Barrero, 2012).

According to a study by researcher (**Amirreza Brian**) and others Metaverse can be a bridge for users to communicate with other non-human (Barin, Dolgov, & Toups, 2017) mobile entities. This study presented a model in which the importance of Metaverse is highlighted by highlighting a drone crash in a virtual race by showing the first person on the virtual reality headphones.

This study concluded through this model that physical limitations, for example, would not be a concern in the unmanned user's interaction through virtual environments. While, the design of user interfaces can limit users' reaction times, which can lead to critical causes of crashes.

On the other hand, the digital environments that embrace Metaverse can be considered to contain largely diverse scenes. These include: virtual museums (Beer, 2015), ancient Chinese cities (Wei, et al., 2014), virtual classrooms (Chishiro, Tsuchiya, Chubachi, Abu Bakar, & De Silva, 2017), or research laboratories (Tarouco, Gorziza, Corrêa, Amaral, & Müller, 2013).

Thus, specialists in the modern technology sector consider that today's digital environments are generally regarded as a collaborative learning space, so that the user can finish some virtual tasks together under different positions such as: **Internet of Things/IoT** (Chishiro, Tsuchiya, Chubachi, Abu Bakar, & De Silva, 2017), **Teaching Calculus** (Tarouco, Gorziza, Corrêa, Amaral, & Müller, 2013), Avatar and Printing Arts Designs in Virtual Environments (Ayiter, 2012), Promoting Awareness about the Environmental Impact of Farming and Presenting Diverse Chinese Cultures (Wei, et al., 2014).

2-Disadvantages

It does not mean that this newborn of Metaverse, which is being raced by companies specializing in new ICTs to embrace it as a registered sign that it does not have deficiencies during its early beginnings. The success of this modern born as a new space for action, linked to the quality of the collaborators' experience, who can accelerate or stall the level of adaptation. So that there are many fears that justify this approach (Vincent, 2021):

A: physical effects on time.

B: There are also many technical constraints: the development of metaphysical infrastructure requires decades, as well as billions of dollars to reflect on a realistic level.

Other material constraints are equally important. Are we ready to acquire VR masks to start working in this virtual and augmented space?

Let's go further, such virtual and augmented reality has repercussions on individuals' private lives and property rights, as well as environmental damage caused by the enormous computing power required to support alternative virtual worlds that must be addressed.

Although the challenges remain multifaceted, Metaverse undoubtedly consists of one of the seminars linked to the future of work. What is more, it is not possible to mainstream Metaverse without providing the right climate for the integration of collaborators, taking into account the quality of their expertise.

Conclusion

It seems that the world of Metaverse in the horrific and accelerating development of new communication media technologies will make human life make an unparalleled quantum leap in the near and long term, because the great efforts of digital companies such as: Facebook, Microsoft and others through the huge multibillion-dollar financial envelopes dedicated to investing in the Metaverse world is a precedent in the history of today's global economy that over time will become built on smart digital media and environments. In this context, it considers that digital specialists (**Metaverse**) can change the behaviours of individuals and societies to accept this new space based on Avatars operating in digital environments different from real reality, as well as adapt to its outputs that cannot be underestimated.

Moreover, the new orientation of these aforementioned companies by harnessing all their material and human potential to undertake this experiment is in itself to provide a universal service that goes beyond geographical and temporal boundaries in exchange for the collection of fictional funds that enhance their position in the information industry and the future sale of products of various kinds. But via smart media based on so-called Virtual Reality goggles that have been in operation since 2014 along with other pillars of ultra-precise and redundant virtual environments. Because today's human being to adapt to such spaces requires his initiative and sincere resolve in accepting such new worlds to keep pace with the advances of the technology on which (Metaverse) depend. Humankind is now called upon to transform and harmonize, either spontaneously or compulsorily, in such a young project (Metaverse), which has come to rely on either individually or institutionally to embody at a realistic level, as it represents the locomotive of progress and an inevitable need for a transition to a purely digital life, as believed in by the world's digital companies seeking to lead this unprecedented new virtual world.

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