



The emerging trends and applications of Metaverse Technology

By

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Abstract:

Metaverse is one of the advanced and upcoming technology which gives a virtual experience for interacting with one another on a virtual space and bring a real-world experience in front of them. It offers a 3D virtual reality space for various business opportunities. This technology provides the users to bring a visual effect in front of them. This upcoming technology has been used in the different sectors to develop a new innovative business model, where the customers get the experience of the virtual environment. The metaverse technology uses three important technologies like augmented reality (AR), virtual reality (VR), and blockchain. This technology also includes the concepts of social media marketing, to provide better buying experience to the customers by mimicking the real shopping experience to the customers. This research paper would focus on the literature review of the emerging trends with the advent of the metaverse technology.

Keywords: metaverse, business model, virtual reality, consumer buying behaviour.

Introduction:

Virtual reality is considered as one of the major advancements in the technological world with the world moving towards digitalisation. Virtual reality is used in multiple sectors like entertainment, advertisement, product design and display, construction of buildings and in tourism. The one more sector which have recently started adopting the technology is the online retail sector. They have started implementing the virtual augmented reality method in its business models to attract the customers through attractive digital features.

Metaverse is a complex virtual ecosystem that provides the people a varied range of digital experiences and a platform to connect and create a network with others.

Metaverse includes an extensive variety of different but interrelated digital ecosystem which provides a platform for entertainment, social meetings, online shopping and much more.

Metaverse is one of the recent technologies which helps in bringing huge renovations in the business operations and applications. It is helping the business world come up with great

innovative business models with different transformational developments in the business activities like selling and marketing of a product or service.

Metaverse technology provides various features like providing the platform, where people who are located at far off places can meet and interact with one another by sitting next to them through their Avatars in a virtual mode. Also, it provides the extended feature for the online buyers who wish to buy a product from one other country by having a physical touch and feel of the product before making the purchase decision.

Metaverse is developing as a splendid technology which would help in better human connectivity in the near future and lead to emergence of the new internet based virtual platforms. There are various organisations which are spending large amounts in designing different entertainment activities, games and hardware using metaverse technology. Nowadays, marriages are also conducted through the metaverse technology. This gives us a typical example about the usage of the technology.

An entrepreneur needs to understand the metaverse technology, in order to implement this happening technology in their business activities. The implementation of this technology would develop their business, increase in the revenue of the business and also help them to take their business to the next level with greater competitive advantage.

Background of the Study:

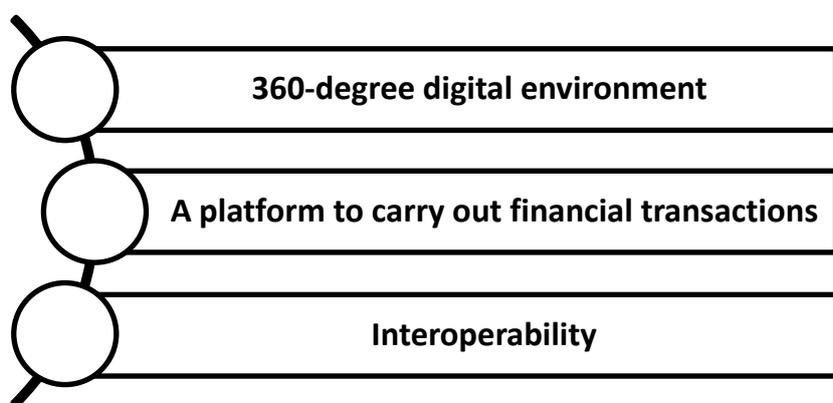
Metaverse: Past and Present

Metaverse can be defined as a technology which provides interconnectivity, intuitiveness and wide set of experiences to the end users. It is also a type of technology which provides a virtual reality experience in an augmented manner to the users in a virtual environment.

The term meta verse was first coined in the science fiction novel named Snow Crash which was published in the year 1992. This term was coined by combining the two words Meta & Universe and called as metaverse which meant live another life. This concept behind metaverse has been used in movies and games during the last two decades. This concept has been used by the online games where the players interact and play in the 2D environment.

Recently the renowned technology-oriented companies like Apple, Sony, Facebook, Google, Microsoft are investing billions of dollars to provide the updated version of internet by providing wider experiences to their end users. These organisations are developing an extensive virtual environment which would help them carry on their business activities online by providing the equivalent shopping experience to the customer when they make a physical store shopping experience.

Properties of Metaverse



The properties of Metaverse are as follows:

360 Degree Digital Environment: It is a digital environment which syndicates the physical and virtual environments.

Platform to carry out digital transactions: It provides a digital environment which helps in financial transactions to build a digital economy.

Interoperability: It provides the feature to shift from one metaverse environment to other without any complications and flaws.

These properties show the independent nature of the metaverse which can be created, managed and optimised by many organisations in a distributed manner based on the application and feature of the business. This characteristic feature makes the metaverse technology come up with more exciting features in different business applications.

Access to Metaverse:

Currently, the metaverse can be accessed through the Virtual Reality and Augmented Reality based electronic gadgets like smartphones, laptops, personal computers, play stations, gaming consoles or tablets. Further research is being conducted by various technology-based companies to develop different hardware-based devices through their innovative ideas.

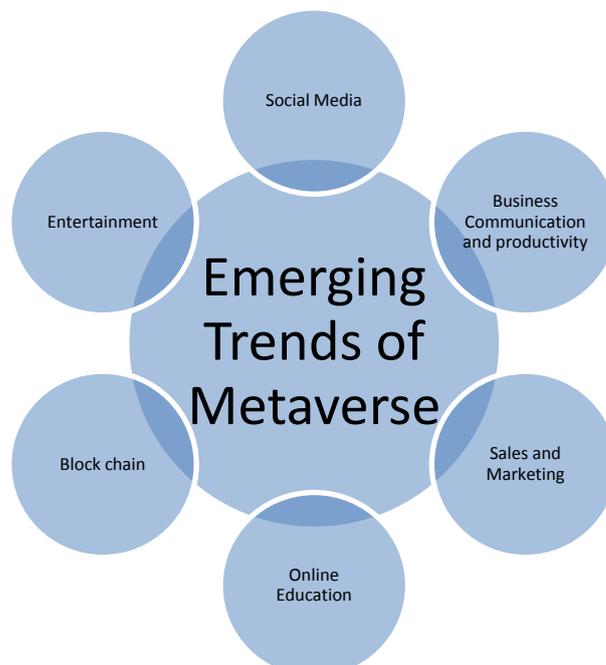
Review of Literature:

Bingqing Shen, WeimingTan , 2021, in their research paper on the title, “How to promote user purchase in Metaverse”, has discussed the significant factors which would help the businesses to promote their sale by shifting towards the 3D virtual technology with metaverse when compared to the 2D product catalogues and displays. They have also discussed about the consumer behaviour pattern of the consumers and the eminent factors which play a vital role in the consumer buying pattern using the virtual commerce platform.

Lik Hang Lee, 2021, in his research paper titled, “All One Needs to Know about Metaverse”, has discussed about the various technological features provided by the technology towards the virtual ecosystem. He has extensively studied about the various technologies which helps in enabling the metaverse technology. The important technologies which were extensively researched by him are Extended Reality, User Interaction (Human-Computer Interaction), Artificial Intelligence, Blockchain technology, Computer Vision, IoT and Robotics, Edge and Cloud computing, and Future Mobile Networks. He has also discussed about six user-centric factors -- Avatar, Content Creation, Virtual Economy, Social Acceptability, Security and Privacy, and Trust and Accountability.

Emerging Trends of Business using Metaverse

The emerging trends of Metaverse in Business are applied in various sectors and leads to greater innovative ideas and better buying options from the customer side. The various trends which have recently evolved due to the emergence of Metaverse are as follows:



Social Media

Currently the social media pioneers like Facebook, Instagram, Whatsapp are following a 2D Model which provides the features like 'Like', 'Comment', 'Share' which would be replaced with more enhanced features using the 3D view once the Metaverse is being used. With the specialised features of the Augmented and Virtual reality there may be more enhanced features where the users will have a real time interaction using the concept of Avatars. This technology would indeed gain popularity among the people because of the 3D feature which would attract the people when compared to the 2D view available on their mobile screens.

Business Communication & Productivity:

Metaverse technology would create breakthrough in the business world by providing better business communication opportunities thereby increasing the productivity of the business. Currently the most common business communication channels which are used as Zoom, Ms Teams and Google Meet which provides the feature of a 2D communication mode through the audio and video options.

This feature of the 2D technology would become obsolete with metaverse emerging as a superior technology. This technology provides a hologram enabled feature in the real time communication which resembles the real-life business meetings. For example, a fully hologram enabled system will provide a feature like a person who is located at a different place would appear to be sitting near and have communication on a real time manner like a person who is physically available next to the person. In other words, we can consider the example of a real estate business which provides a realistic view of the commercial and residential projects, which provides the customers to have a virtual tour of the project by having a touch and feel of the apartment or office and have an exact view of the dimensions and the space of the room without visiting the actual site of the project.

This technology will have a greater foot print in various sectors like manufacturing, wholesale, real estate, corporate business meetings and etc. In addition to this the covid induced work from home would have a commendable change with respect to business communication and productivity, as the business meetings can be made very real through the metaverse technology.

Sales and Marketing

With the advent of social media and enhanced business communication, the sales and marketing would experience a tremendous change and revolution thereby proliferating the growth of business around the world.

Through the metaverse technology, we can have the virtual hoardings and billboards on the virtual highways and expressways which would be viewed by millions of users who are using the virtual space on a real time basis. This is no more an imagination or a hypothetical situation as the business investors have already initiated the deployment of this new feature in their business to strengthen their business on a virtual forum too.

The metaverse technology will bring a greater change in the marketing content development and delivery. With the usage of avatars, the customers will have a great experience through the virtual experience before making the buying decisions. With various information available with the seller and the specifications from the buyer, It also provides a better customisation of the products and services and obtain customer satisfaction.

Different brands can set up their metaverse stores and create a platform where they can summon buyers globally at one place by giving them a virtual experience before making the buying decision in an online purchase.

Online Education:

The COVID-19 induced pandemic has brought in a dramatic change in the medium of teaching in the education system. Even though we have various video conferencing platforms for the teaching learning process, it is found to lesser user friendly and less productive.

With the advent of the Metaverse, students can make their own digital avatars and attend their classes similar to the real world. They can get in depth knowledge about the subject by getting the doubts clarified from the faculty members in a deeper sense. It also provides a deep learning experience with graphic intensive virtual and digital platform which helps the students to interact, collaborate and engage with their fellow classmates in real time. It also helps the student to learn the concepts and theories in a more practical sense which would be far better than the real-life classroom experience.

With the help of the 3D learning tools, visual learning aids and well qualified teachers and professors, the online education would attain a phenomenal revolution with metaverse.

Blockchain Applications:

The basic technology behind Block chain and Metaverse follow the same principle of the building of the blocks for its applications. Block chain technology is generally used in the digital currency and in block chain gaming. This technology has led the foundation for the creation of the metaverse blocks which helped to develop a more practical, scalable and a highly sustainable virtual economy which would replace the concept of fiat money where the currency wouldn't be required for the transactions.

A well-developed technology using the advanced concepts of barter system with block chain-based technology can become a catalyst for expansion and empowerment of the metaverse taking it to greater heights.

Entertainment:

With the application of metaverse technology in entertainment industry, we can have more fun and enjoyment with a newer and better experiences using avatars. People can attend virtual live concerts by paying an entry fee for the live performances of the famous celebrities from all over the world by sitting at remote places.

Virtual reality theme parks can be one more application of the metaverse in the entertainment industry. People can enjoy exclusive and fun rides without even moving out of their homes.

Going still further the sports competitions can also be played using the metaverse technology.

Conclusion:

Metaverse is an embraced technology which would provide seamless and consumer engaging experiences through the virtual platform that would enable a better shopping journey for the consumers and lead to customer loyalty. There are various advantages which one can enjoy by employing the metaverse technology in their business applications like remote work challenges, virtual tour opportunities and better gaming features. If the organisations efficiently use these features efficiently would achieve competitive advantage among the competitors. In spite of these benefits and applications of metaverse in the business, there are certain drawbacks which arises like hardships in identifying the identity of the person in the virtual world because of problems in avatar identification, problems arising due to the scammers and bots who try to destroy the fame of a person by spreading violating content about a person and one more major issue would be the privacy issue of the person. If the organisation manages the technology in a well-defined manner, it would definitely lead to the success of the organisation.

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