Future Aspect of AR Technology in Metaverse and Retail Trade

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Abstract
The following research contains the new version of augmented reality and metaverse together.by merging these two terms with the help of AR glasses, the massive change in marketing industry can be seen. Metaverse is very newly concept in which people are exploring but in short people are just isolating themselves like any other game. In order to reduce this isolation, the research is about how we can merge two worlds that is virtual world and real world through AR glasses but in real world. The brief explanation about this concept will be discussed in the following research paper.ALSO, it will be discussing the changes which might be happening in retail industry with the help of AR technology and how it will change the look of Retail stores in future. The analytics and statistics have also been put through in the following research.
Objectives
1.   How AR glasses will help to reduce isolation while exploring metaverse.
2.   Figuring out the marketing opportunities through AR + metaverse.
3.   Studying consumer behaviour to understand the demand for this technology.
Keywords: Augmented reality, Metaverse, Virtual world, Marketing, Retail stores

I.   INTRODUCTION

Augmented reality
        The merging of virtual world and real world is basically augmented reality. It is a technology which is trending in digital marketing. Augmented reality basically focuses on the real-world highlights and it adds the features of the platform which are using augmented reality technology. Snapchat, Ikea, lenskart, etc. these are some basic apps which are earning profit and attracting customers by using AR technology.
        Augmented reality is very powerful technology In terms of digital marketing. It attracts customers and give them enhancing experience which cannot be seen experience in every store. Retail stores are now started using this technology for example, trying the clothes without actually trying them which can be done on big screen in a particular store. It can be costly for stores and hard to adapt for some retailers. It is quite easy to access for customers on virtual platform like Instagram, snapchat filters etc.

Metaverse
        Metaverse is the virtual concept which combines social media, virtual reality and augmented reality, cryptocurrencies, etc. metaverse is virtual platform where people can access to communicate with each other through virtual reality. Basically, metaverse can be defined as the Digital word which can be seen through your computer screen or VR glasses. And in this digital world you can interact with the totally computer-generated world.
        Metaverse is the technology which combines the different technologies like Social media, Virtual reality, augmented Reality, cryptocurrency and NFTs. Metaverse is a technology where anyone can create his own new second life, but the main difference is the second life of the person will be virtual. In that world man can hangout, work, play, learn, Shop. But all this can be done digitally or on computer screen not in real world.
        Metaverse is the concept which come in highlight recently. But the Word Metaverse is first used by sci-fi Writer named Neal Stephenson in 1992 to describe a 3d virtual world. Neal Stephenson uses Metaverse word in the novel name Snow Crash. In that it has explain as a Meta And Universe. But at that metaverse is just fiction. Then Fast forward to 2003, in 2003 virtual reality or the virtual word introduced. At that time the

concept of virtual word or virtual reality was mostly used by the computer gaming companies where they used this technology in the games. In today's date we can see this technology in games like Minecraft & Fortnite.

HOW AR GLASSES WILL HELP TO REDUCE ISOLATION WHILE EXPLORING METAVERSE
Augmented reality glasses

Imagine the possibilities of being able to work on a project with your team and seeing the result in real time without having to print anything. You're scaling a wall and need some help? Imagine virtual assistants helping you to find the best way up. All of this is possible with augmented reality glasses. The future is now. Augmented Reality Glasses are the next generation in wearable technology. With a wide variety of apps, AR glasses give you immersive experiences with anyone, anywhere. Put on your sunglasses and become a 4D person with our AR glasses.

With augmented reality glasses, you can see the world in a whole new light. Explore the infinite possibilities of the world around you through our AR transmission system. The things that you can't even think of are just waiting for you to find them and experience them yourself! "AR glasses, the next generation of wearable technology.""With augmented reality glasses, explore the infinite possibilities of the world around you." AR glasses, the next generation of wearable technology. With augmented reality glasses, explore the infinite possibilities of the world around you. Add AR glasses to your life and see what's possible in a whole new way.

Augmented reality glasses are being used more and more to enhance people's lives. They are being used for many different purposes, such as to help people with their work, to have fun, and to stay connected with the world. People are finding that augmented reality glasses are a great way to improve their lives in many ways.

With the development of technology, the world has become more and more virtual. And augmented reality glasses are becoming more and more popular. People use them not only for entertainment but also for work and study.

What are augmented reality glasses? Augmented reality glasses are a type of wearable computer. They have a display that shows digital information in your field of view. This information can be anything from a text message to a virtual world.

The glasses can also track your eye movements and head movements. This lets you interact with the digital content. For example, you can select an object and move it around.
There are many different types of augmented reality glasses. Some are designed for general use. Others are made for specific tasks, such as gaming or industrial applications.
Augmented reality glasses have many potential applications. For example, you could use them to:
• Play games in a virtual world
• Enhance your view of the real world
• Get information about your surroundings
• Connect with other people in a virtual meeting
• Improve your productivity at work
• Learn new skills

The possibilities are endless. Augmented reality glasses are still in the early stages of development. But it's clear that they have the potential to revolutionize the way we live and work.

If we merge the metaverse's maps in real world and start exploring metaverse and real world together with the help of AR glasses, it will definitely help to reduce the isolation which metaverse users are facing right now. Isolation is one of the cons of using metaverse.

The marketing area in this situation will have the biggest impact. As marketing in Metaverse in the Trendiestpart of this situation. Digital marketing in metaverse is getting famous as brands are opening their shops there. It is having huge demand and users are actually buying into this but this just the one side or beginning of the virtual reality. With the help of AR glasses, we can actually run the metaverse in real world. A person using AR glasses will actually see the metaverse and real world together so we will be one character in both the world. There are some features this AR glass will contain which are

FEATURES OF METAVERSE + AR

Maps system
　　　　In AR glasses we will insert the map system of metaverse. we will update the maps of metaverse according to the real-world maps. The shops will be arranged in that way. People will just walk on normal road wearing AR glasses and will be exploring metaverse together. maps will be arranged in that way where we are not only just seeing road but also if there is a retail shop, we will be able to find his entire info through these glasses just like how google shows it but we don't have to go on google.

Phone notifications
　　　　It would be easy to access the phone notification as it will appear on AR glasses immediately. With the help of AR glasses, we would be able to pick up the calls, notifications will appear on the screens and we can decide if we want to open it or not on the phone. It sounds like apple watch but it would get more specific.

Weather reports
we would be accessing to weather reports easily. AR glasses would just be phone screen but it would be easily accessible.

3D construct
Can we use this technology for the technology. As we see in the films how without any computers screens just appear in front of us and you can actually tap the screen too. This can be revolutionary technology with the help of AR as it would great in medical, military fields, etc.

II.　REATAIL STORE AND AUGMENTED REALITY
　　　　Retail stores are the oldest and the most traditional method people do shopping and buy the things they need. Retail is on that point now where it needs to enhance its services. Customer requires innovation and creativity which is possible because of augmented reality technology in retail store.

Benefits of augmented reality + metaverse in retail
1.　　　Personalization of user content
Retailers often customize content to meet the best expectations of the customer. You might've seen retailing stores filtering out content for you so that you look for relatable items without wasting time. This has been done in numerous ways. Another technology called VR or Virtual Reality is also rendered for enhancement. Together they provide comprehensive AR VR retail solutions.

2.　　　Ease of trials/try-outs
Waiting for your turn outside the trial rooms can be highly boring and time-consuming. Therefore, there are virtual mirrors where you can simply find out the size of the dresses you like and in a digital screen in front of you, you can see how that apparel is looking and fitting your body.
This is an amazing role of augmented reality in retail. You can also do this in online shopping too. Suppose while shoppingfor a pair of glasses, the app will scan your face to place the pair on your digital reflection. These types of gamification techniques play a huge role in driving retail sales.

3.　　　Combines traditional retailing and online shopping
Shopping is considered a fun activity. Now with so many retail stores and a huge population, it becomes jarring at times to shop for the right things. One of the key benefits of AR in Ecommerce is that it replicates the same 'fun' feeling of traditional shopping methods minus inventory costs and never-ending lines.

4.　　　Increasing brand presence and awareness
AR is an amazing tool to enhance a company's brand awareness to wider audiences. Mobile apps with state-of-the-art AR features will help a brand provide unique experiences to users. The use of AR for retailer marketing strategies gives a lot of leverage to brands to find ingenious ways for interactions creating a tunnel for instant feedback.

5.　　　Increasing customer engagement
It is important for any business to keep their customers engaged within products. In retail stores, they might lack in varieties compared to online shopping apps.　The virtual experience that augmented reality in retail offers ignites customers' interest in products while providing all the additional product details they might need. Informed customers tend to come back and shop for more products whenever they get the chance.

6. Live reviews

Imagine you are walking on the street and suddenly you see a shop which you find fascinating but what happens most of the time that we do not go for retail as we do not know how it is exactly and what are the Customer's feedback. So basically, AR glasses will help us to see the reviews of the particular retail store. It is definitely as easy as we go on google and see the reviews. This will help in decision making process for the customer.

7. Building customer loyalty

Customer loyalty plays very vital role while doing any business as it helps business to grow. Better customer experience enhanced the customer loyalty which leads to achieve awareness in the market about the brand. Augmented reality is definitely one of the eye-catchingpoints which customer gets to experience.

8. Staffing expenses gets reduced

As AR is quite handy for customers , they do not need any help to access this technology and try it out in retails. Hence customers can explore as much as they want without the staff help. Here it becomes extremely beneficial for firm to not spend any money on extra staff.

 As we go in shopping malls, there are number of paid employees who works their just to help the customers to find what they want or to assist them for trying the products. Hence with the help of AR technology, people can perform trying without buying without any employees help. Maybe there will also a day come when people will become so used to this technology that we will see this tech in every other retail store.

STATISTICS RELATED TO RETAIL, METAVERSE AND CONSUMER BEHAVIOUR.
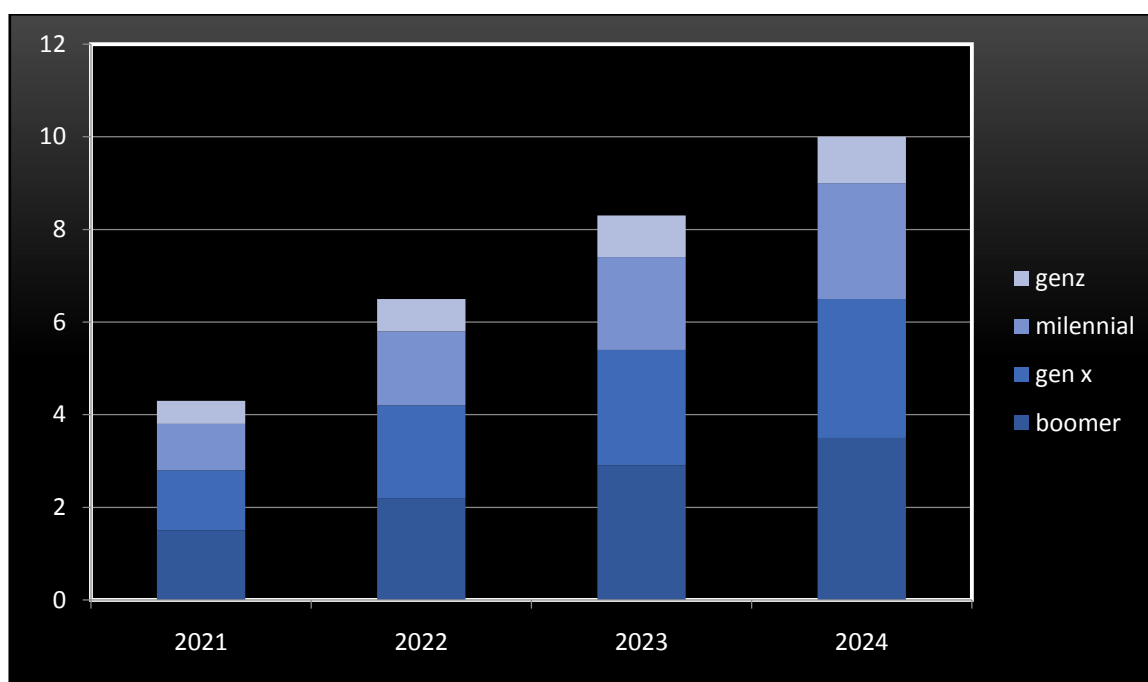

(Fig. 1.0)

In the given figure (fig. 1.0), numbers have been presented in the billions. The graph shows how AR has been consumed by different generation and how it might increase in upcoming years. It is not hard to predict that this technology will grow tremendously. It can be the future of many sectors in the market.
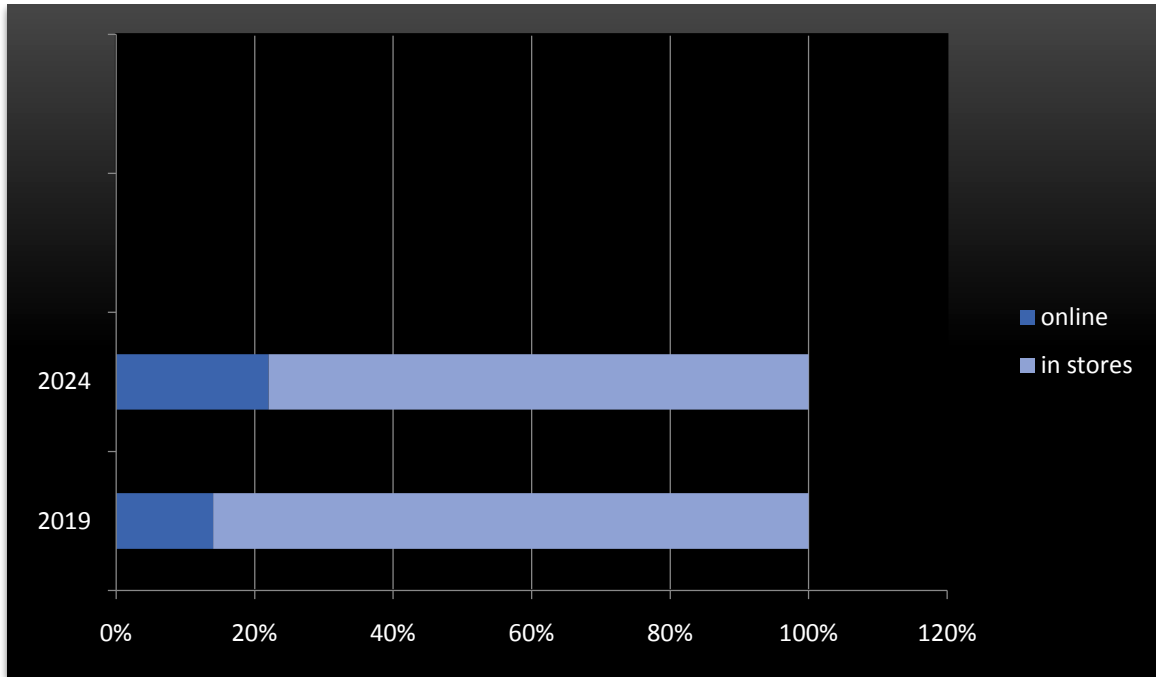
(Fig. 1.1)

Consumer behaviours difference online and offline channels regarding retail Many people prefer these days to shop online than offline hence there is increase in data of online stores in 2024 than in 2019. Even though it seems like consumer preference is more towards offline stores, but the rising rate definitely shows the growth in online shopping.

(Fig. 1.2)
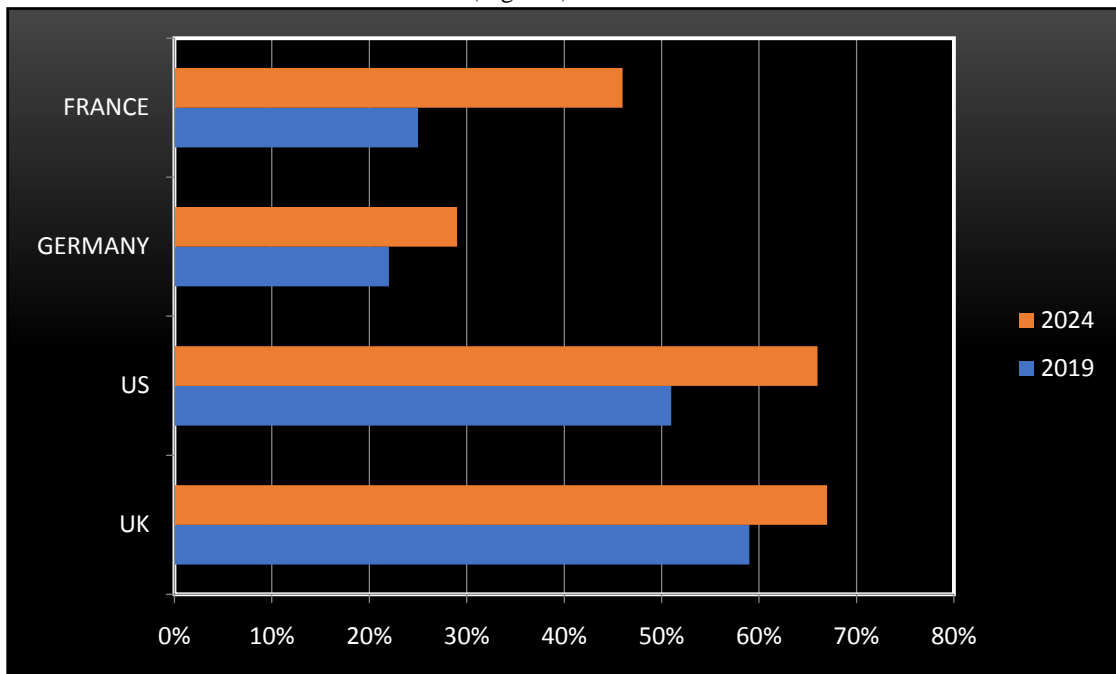
Country wise data related to retail customers using AR and how it has been increased through years.
Data regarding France is showing That, there is increased rate from 24% to 46% from 2019 to 2024.
Data regarding Germany is showing That, there is increased rate from 22% to 29% from 2019 to 2024.
Data regarding US is showing That, there is increased rate from 51% to 66% from 2019 to 2024.
Data regarding UK is showing That, there is increased rate from 59% to 67% from 2019 to 2024.

III. CONCLUSION

Evolution is indeed important in every field. In digital world augmented reality is definitely working best as a trend in retail. In our research we definitely discussed about the possibilities regarding merging of AR technology and metaverse. Metaverse is isolating for most of the users. By using AR Tech, we can definitely remove the isolation and can bring the massive change in day-to-day life through AR Glasses. Augmented reality is not only limited up to metaverse or digital marketing but also retail industry. Metaverse in retail is profitable for any retail store and it can bring massive change in consumer behaviour.

Customers need change and innovation. With the help of Augmented reality, it is possible bring those expectations to the reality. AR technology is indeed evolutionary as it is helping in many sectors like business, marketing, health care, day to day activities, etc.

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