AN IN-DEPTH ANALYSIS OF THE CHALLENGES OF USING VIRTUAL REALITY AND ARTIFICIAL INTELLIGENCE TOOLS AND TECHNIQUES IN THE ENHANCING OF THE CUSTOMER CHURN IN CONTEMPORARY TECHNIQUES

Ariz Abbas Naqvi

Department of Liberal Arts, Aligarh Muslim University, Aligarh, India

ABSTRACT

A new virtual reality (VR) technology is causing havoc in various business sectors. Combining them with Artificial Intelligence (AI) gives the business a new dimension and influences crucial decisions that determine the company's future success. Since not all businesses require AI rather than VR, the role of AI is more prominent than that of virtual reality.

One of the issues stakeholders are interested in is figuring out where VR/AI can affect the business. The integration of virtual reality and artificial intelligence, which is still in its infancy, opens up brand-new possibilities and will provide brand-new experiences.

As a result, this paper focuses on addressing a few of those problems and looking at a case study that needs to take into account recent developments and the problems that need to be solved.

INTRODUCTION

There will be a significant shift in business operations. One of the emerging technologies that are affecting business operations and infiltrating businesses is virtual reality (VR). Virtual reality (VR) is utilized in numerous fields, including games and educational settings. Design and technology, product development, social media, security, image processing, medical (operations, education, patient pre- and post-care, rehabilitation), sports technology, entertainment, retail, and other related fields. Since 1956, artificial intelligence (AI) has been working toward creating intelligent computer programs and machines capable of learning and eventually surpassing human intelligence. AI is currently utilized in numerous games, automation software, etc. Learning relies heavily on training and historical and current data. Fig 1.1).
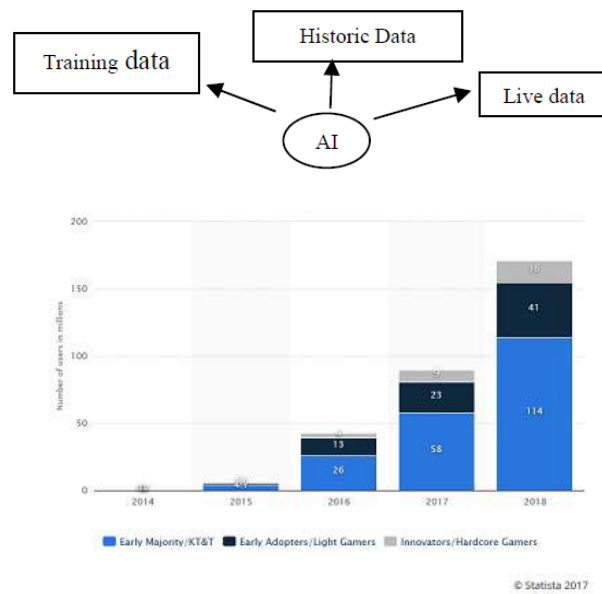
Fig 1.1 AI Learning Journey.

VR AND AI IN BUSINESS

Figure 2.1 lists the potential areas in which VR and AI could enter a business. Complex coding and interconnectivity have been added to various systems due to their adaptability to carry out various tasks and their capacity to connect to various departments and devices [14]. The constant push-pull-search-learn-store procedure must be tailored to the particular features of each company.
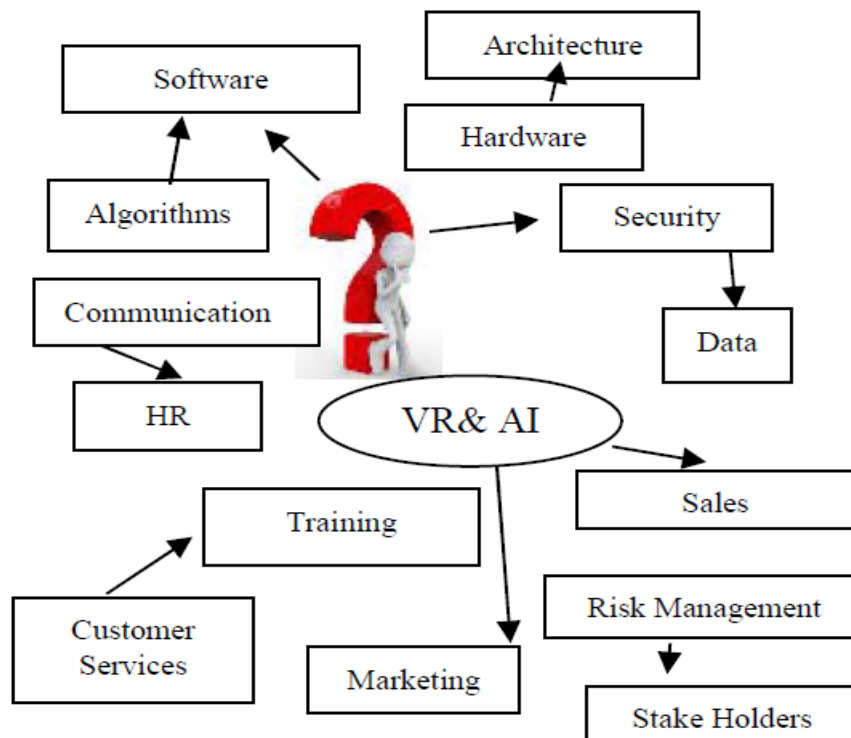
Figure 2.1. Areas of impact of VR and AI

Such systems can learn more quickly, and the training data becomes more pronounced when there are more human interactions [12]. Because virtual reality (VR) simulates reality and is used in "training" areas of a business, it can also be referred to as a mixed reality environment. Because it is interactive [13], it can be utilized in marketing events for behavioural analysis of clients to gauge the responses of potential customers. The design teams can simulate the product in virtual reality (VR) in three dimensions so stakeholders can see the product in action. The crucial semantics can be worked out between production and stakeholders. A teaser session of the new products in VR with AI combined will reveal pre-interest in such products so that any necessary changes can be easily incorporated before production, thereby saving costs. The sales department can use such tools to promote product sales. AI feedback will be a good way to learn about users, which can be used to personalize them and store their behaviour as training data.

To stay ahead of the competition and improve product design, departments can be linked by displaying reports with various dimensions of gathered data. This paves the way for businesses to plan and release funds.

CASE STUDY

An Example Scenario, A web company, is considering using virtual reality and artificial intelligence (AI) for their core business functions for research purposes. For a 360-degree view of the products, the website should have a virtual reality product view. VR headsets allow interested customers to view the products, and artificial intelligence can learn the customers' shopping habits. It can use the stored data to suggest products the customer will likely buy. A significant amount of data must be stored in its internal storage to improve accuracy. However, the process will be easier if such large data is used in a query on devices that cannot store it. Cloud services are a great way to store massive amounts of data and can easily process and convert such data into microservices.

Existing customers can be invited to a pilot session to enhance the services and pique interest in using them. The marketing department can organize events and collect training data for the AI algorithms to comprehend user behaviour. This might involve processing images to obtain real-time data on the participants' progress toward particular focal points or goalposts.

This can be used to train AI and lower human error rates. The user's interest in the product or its features can be gauged using AI and gesture-based communication techniques; for instance, by attaching the controller to one of the goods.'

Features can show how these parts and subcomponents are used and maintained. A brief video of its subcomponents, their function, design, and model can also be included. It can also offer links to buy additional features that work with the current product and its features, piquing the user's interest in related products.

The products can be displayed or viewed in a VR 3D simulated environment to engage users. Users will be transported into a virtual world that can be enhanced by sharing mixed realities. The customer service department can use this to personalize and elevate the target audience by improving user experiences.

40

CONCLUSION

In the coming years, industries will benefit greatly from utilizing such technologies. However, industries must develop and adapt to new technologies to avoid reaching a saturation point. It needs to use the most recent technology to revamp its existing products. The overhead costs will price small businesses out, and those who need more preparation will have to pay the price. Big data will be generated by the user information collected as many customers shop for their goods online.

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