



Role of Metaverse Technology in Sustainable Business Learning Process

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Abstract: The process of learning begins with external and internal psychological development. This process completes when the application of the concepts learned during external and internal interaction are observed in the real world. The Metaverse technology has the ability to provide the digital experience as an alternative to the real world. It is a platform where external and internal psychological process can co-exist. This technology can be helpful in sustainable learning through virtual environment. This technology has zero carbon foot print that can help in achieving sustainable development goals. However, the question here is will brick and mortar model survive once this technology is introduced into the business industry? Also how much investment is required to give a complete Metaverse environment for employees and businesses learning process?

Keywords: Metaverse, Sustainable virtual businesses, Sustainable development goals

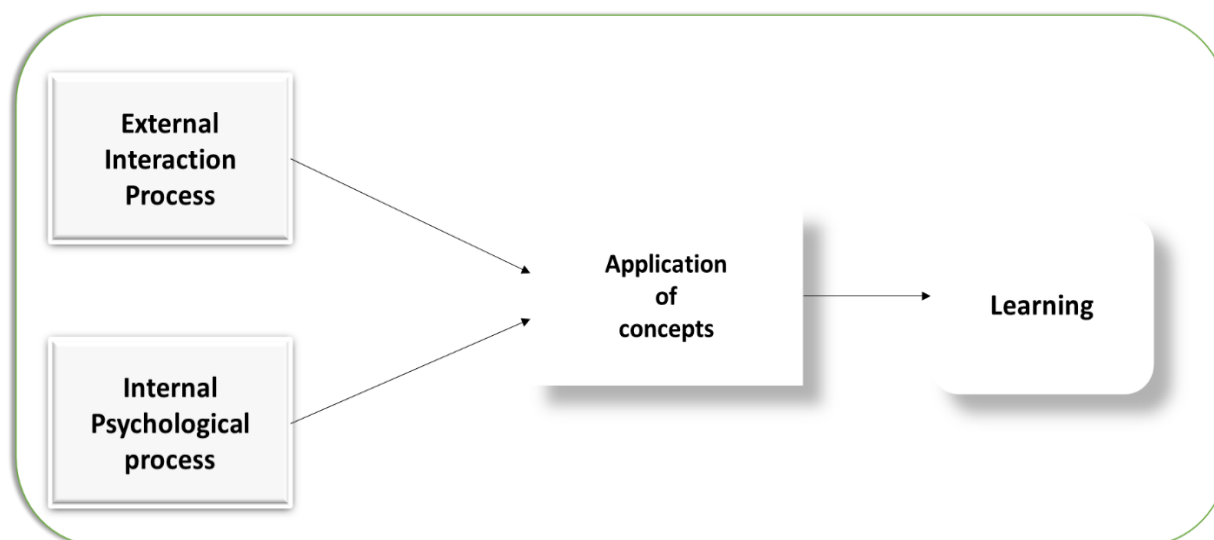
1. Introduction

1.1 Process of Learning

Learning comes from either external interaction process or internal psychological process. External interaction process begins when the learner interacts with his or her environment, society, material or culture and internal psychological process is the explanation and acquisition of that concept. Internal psychological process of learning emphasizes on understanding of concepts and theories and application of those concepts and theories learned in planning, reasoning, problems solving and comprehending language (Greeno et al., 2013). At the top of learning process is the biological, psychological and social conditions. These elements play an important part in any learning process and from this point the process of learning starts (Illeris, 2003). The process of learning results from inferences, expectations and making connections. In problem based situation, the starting point for learning is problem itself that learner wishes to solve along resources and human interaction for accomplishing learning process (Hartley, 2008).

There are three dimensions of learning i.e content, incentive and interaction with the surrounding. The content dimension includes knowledge opinions, insights, skills, meaning, attitudes, values, and strategies etc. The incentive dimension includes feelings, emotions, volition and motivation. The interaction dimension initiates the

learning process. All these factors create meaning and ability to deal with the challenges of practical life. This may be due to the perception, experience, activity, or participation, etc. It serves the personal *integration* in communities and society and thereby also builds up the *sociality* of the learner (Illeris, 2003).



Sustainable development means preserving natural resources, eliminating poverty, promoting equity and reducing population growth (Seiffert & Loch, 2005). From socio-biological perspective, this approach stress upon maintain cultural and social system of interaction with ecosystem (Gheorghita, 1987). Moreover, sustainable learning organizations are those organizations that have sustainability knowledge and acts accordingly (Velazquez et al., 2011).

Metaverse technology give an opportunity for the businesses and Universities to create sustainable learning organizations. This technology fulfills all the conditions of sustainability and sustainable learning process.

1.2 MetaVerse Technology

In the Metaverse, a platform for spatial computing, users may have digital experiences that are either an exact copy of or an alternative to the actual world. This includes all the essential features of a civilization, such as its social interactions, money, commerce, economy, and property ownership (De Felice et al., 2023) The term "Metaverse" refers to a shared, interactive virtual world that has been constructed by merging all existing virtual worlds into one expansive cosmos. Avatars allow users to take on different personas while interacting with virtual environments (Davis et al., 2009).

Due of its apparently limitless potential and goals, the Metaverse is now trending in the online world. Here, the real and virtual may coexist, with profound effects on many aspects of people's lives (Dwivedi et al., 2022). Metaverse technology is characterized by the use of avatars, which serve to protect users' virtual possessions and provide digital evidence of ownership. Virtual and real-world realities collide in these fully immersive experiences made possible by cutting-edge AR/VR technology (Papadopoulos et al., 2021).

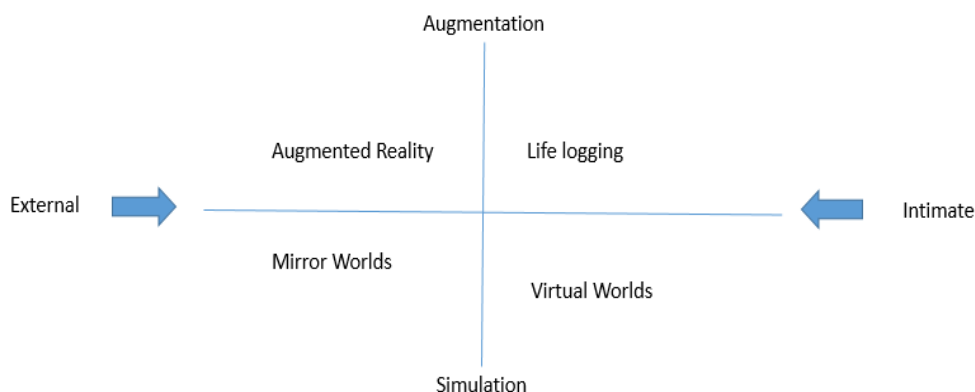


Figure 1: Metaverse technology by (Won, 2008)

1.3 Study Purpose

The purpose of this research is to discuss avenues for businesses with Metaverse technology. Also to emphasize on the use of this technology in businesses and business studies for better customers and students learning process.

2. Methodology and Study Structure

In the following section (i.e debate) a review and synthesis of previous research on the topic of meta verse and businesses will serve as the methodology. The primary objective is to demonstrate knowledge of the pertinent literature and to highlight the positive and negative impacts of MetaVerse technology in businesses and business education. Throughout this debate, the application of this technology in business learning context is examined in greater depth which is missing in previous studies. Previous literature rarely discussed the MetaVerse from the perspective of business learning and growth.

3. Business Learning with Meta Verse

Social awareness comes with personal *integration* in communities and society and thereby also building a culture of learning. When people in organization interact with each other they share their knowledge, skills, opinions, insights, meaning, attitudes, values and ways of behavior. All these factors increase learning capacity of people and ability to deal with the challenges of practical life. With this AI-Powered tool, people can interact by creating lifelike avatars which can be employed for different purposes including sales, marketing and customer support (BasuMallick and Chiradeep, 2022). This will allow businesses to open virtual offices which will allow personal integration and can entertain a large number of employees on one location without renting that space, ultimately increase the capacity of offices virtually.

This technology facilitates the idea by integrating virtual and real world. Human being can interact and communicate with each other through their avatars. Due to this the gap between the two world can be narrowed or even eliminated. This is important especially in business learning environment (Kye et al., 2021). With the help of this technology, business can train their new employees locally and globally with low orientation, training and development cost through virtual integration.

In business context, information is better understood and remembered if employees and customers have an opportunity to elaborate the information practically (Norman & Schmidt, 2000; Schmidt et al., 1989). Therefore, the implication of the concepts becomes easy and convenient by using this technology. It can also help in making informed and organized business decisions (Illeris, 2003) . Employees can make better decision if previous information is virtually available for them. Businesses can teach their employees by allowing their virtual interactions in different situations through step-by-step decision making process in every department through this

technology.

3.1 Product Learning

Customers can be involved with this technology by allowing them to see and feel the multimodal digital products in virtual settings. Products benefits can be easily communicated to the actual and potential customer with this tool. This AI-powered tool has the ability to show products attributes in 3D angles, resulting into more favourability and profitability for the firms. Also by creating customer's avatar, their opinions and knowledge about the product can be improved. Potential customers can feel the product into their surroundings. Therefore, creating less pollution and more efficiency. People would be less reluctant to try a new technology and will be more participative towards adopting a new one. With this technology, businesses can attract new customers, retain existing customers, improve firm operations, and streamline business processes (Firmansyah & Umar, 2023).

3.2 Services Learning

For the business customers, it can create a new and different experience level with a variety of entertainment options. This will facilitate psychological behavioral learning process in which business will come to know about the expected responses of people about locations, functions and events. Thanks to the ability to capture 360-degree panoramic photo and volumetric spherical video, the Metaverse enable people to explore events and locations in remote locations (de la Peña et al., 2010). This will open opportunities for virtual events especially in case of tourism industry. Moreover, this technology can help in creating more positive attitude towards entertainment options and create richer experiences. It has the ability to create virtual fun and entertainment space. However, clients would have a high level of expectations from the businesses after this trail.

Sustainable tourism may make advantage of this technology. Infrastructure, multi-sensory data, and metaverse technology may come together to generate what is essentially a hybrid physical-virtual experience for visitors. Also, when real-world and virtual worlds collide, what we get are the metaverse environments. Attractions, amenities, and ancillary technology equipment all make up the physical environment. Communities based on user-created material, in-game currency, and artificial intelligence make up the virtual world (Go & Kang, 2023).

3.3 Virtual Workstation Learning

Virtual workstations through this technology can assist businesses in online meetings and distance teamwork. In addition to reading each other's emotions and body language, this technology may keep an emotional connection going all at once. As the process of learning needs biological, psychological and social conditions, this technology enable people to involve, tolerate and determine other people economic, health and family conditions. This technology can also enable to arrange big conferences and workshops in virtual space with zero cost, no burden on natural resources and new people-venue experience.

3.4 Digital Transaction Learning

Digital wallets are also supported by Metaverse technology. This allows businesses not only to do online credit or debit card transactions but also virtual business transactions. The technology is teaching people the concept of adaptability with the advancement in technology. On a broader scale, this technology is expected to coordinate with other technologies such as wireless broadband networks, cloud computing, robotics and AI (Salmon, 2019). Moreover, more research is required on how this technology can be integrated with e-banking for carrying out ecommerce transactions.

3.5 Business Studies Learning

Role of MetaVerse technology in business studies can't be ignored. This tool has been used in different business functions like marketing, information system, human resource, operations, strategic management and finance. Within these subjects, this technology is found most useful in marketing (Firmansyah & Umar, 2023). Therefore, it is a high time to teach business subjects through this technology in Universities. This will enhance students learning experience. Moreover, MetaVerse-business studies and its impact on the business performance should also be explored.

One further benefit of this technology is the ability to create virtual classrooms with instructors. Achieving universal access to high-quality, egalitarian education—the fourth sustainable development goal—will be a reality with the help of this technology. All kids, no matter where they live, will have access to quality education thanks to this technological advancement. Due to its interactive nature, the technology might be helpful for the employees with ADHA problems and it can be future topic of research.

3.6 Virtual Space Learning

Businesses can sell their products and services at a common virtual market spaces with the help of this technology. This space will be exactly like an actual mall where businesses can display their items that are present globally. This will enable people to shop any brand globally by virtually visiting the location. It will help the companies understanding the needs and wants to people globally and will target people without actually visiting the location. Ultimately increasing business reputation, profit and performance. This will also help in increasing peoples biological and social learning about the product, business and environment.

Another feature of this technology is that people who want to try any product or service before actually buying it can have those in their own digital spaces. Moreover, people can have a conversation about the product and services with employees, management or even the owner of the company. Companies can arrange launching parties or functions in these virtual spaces where people can interact and enjoy.

5. Conclusion

To summarize, there is a strong likelihood that Metaverse technology might revolutionize business industry however, the question here is at what cost? This tool might inspire the employees and customers however, what standards will be followed for its sustainable development and growth? Also what quality standards will be used for products and services assessment virtually?

Although, MetaVerse technology is developing quite fast and businesses have started moving towards this technology, but what costs businesses will have to pay for their growth and sustainability in this virtual environment? How much investment is required to give a complete MetaVerse environment for employees and businesses? Also after this technology will brick and mortar model will survive?

All these questions don't deny the importance of this technology in changing world dynamics.

5.1 Theoretical Contributions

The following is a synopsis of the theoretical contribution made by the discussed study on MetaVerse technology and its impact on sustainable business learning process. First, this study contributes to the existing corpus of knowledge by explaining how the learning process in humans takes place. Then it highlighted how MetaVerse technology help in sustainable business learning process. This contributes to the expansion of the knowledge which was not previously discussed in the literature.

Secondly, the study findings suggest that metaverse technology based on integration of augmented reality and virtual reality technology has the ability to create virtual working space that is more engaging, with zero carbon footprint and therefore more effective in sustainable business learning process that might help the people to understand business concepts easily. This tool has the ability to understand human emotions and social skills which are essential for business career and personal growth.

Sustainable development is the need of time. Businesses needs to take sustainability initiatives for sustainable development. By providing the solutions to customers through 3D effect, this tool has the potential to effectively attract and engage a large number of customers through sustainable initiatives. Business learning requires mechanical aids and rules with ethical consideration to promote sustainable learning. This technology ensures sustainable educational activities. However, there is a need for additional research to gain a deeper comprehension of the long-term effects of MetaVerse in repeatable, substantive Learning Patterns.

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