

## Metaverse as the Future of Pakistan's Tourism Industry

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### Abstract

**Background:** *The Metaverse is a post-reality universe that merges physical reality with digital virtuality, creating a perpetual and persistent multiuser environment. There have been many studies covering the subject of metaverse. However, there are not many studies about the implications of the metaverse in Pakistan's tourism industry which reveals a significant research gap in this area.*

**Aim:** *The main purpose of the study is to adopt a review design to explore the subject of the metaverse and how it has assisted the tourism industry of different nations and discuss how it can benefit the tourism industry of Pakistan.*

**Results:** *The discussion has highlighted the evolution of the Metaverse, its application in tourism, and the transformative potential it holds for the industry. Moreover, it underscores the importance of technological advancements in enhancing tourism experiences and fostering global connectivity.*

**Conclusion:** *Overall, the exploration of the Metaverse's potential in revolutionizing global tourism, including its implications for Pakistan, underscores the imperative for stakeholders to embrace technological advancements for fostering sustainable growth, enhancing visitor experiences, and promoting cultural understanding.*

**Keywords:** *Metaverse, Virtual Reality, Virtual Tourism, Tourism Industry, Pakistan*

## Introduction

The COVID-19 pandemic has had a profound impact on the world, affecting the economy, society, technology, and people's way of life. One of the most significant changes we have experienced is technological disruption, which will have lasting effects in the post-pandemic era. This disruption has given rise to digital transformation, including virtual commerce, online education, and social networking (Kraus et al., 2021). These changes will lead to further exploration of future technology and innovation in various industries, using technology as a tool to create value and gain a competitive advantage (Betz, 2003). Despite the Metaverse being in its early stages, many public and private organizations are already exploring how they can restructure their management models (Allam et al., 2022). There have been several recent studies on the potential impact of the Metaverse on the healthcare sector (Bansal et al., 2022; Garavand & Aslani, 2022; Lee, 2022). These studies argue that virtual reality technologies and applications, such as immersion and interactivity, could benefit both patients and healthcare providers, particularly in the public sector (Garavand & Aslani, 2022; Lee, 2022). They describe the Metaverse as a space where 'virtual hospitals' can be built, where remote consultations, care, physiotherapy, disease monitoring, and even surgical operations can be conducted (Imran, et al., 2022; Chengoden et al., 2023).

The tourism industry is one of the world's largest economic sectors, and it was significantly impacted by the pandemic (Gössling et al., 2020). Information technology has been used to increase efficiency in tourism management, and virtual tourism experiences have become increasingly popular (Buhalis, 1998). The trend of tourism in the post-COVID era shows that tourists would pay more attention to a 'virtual tour' before travelling to the actual destination (Akhtar et al., 2021). The tourism sector has also adapted to using information technology to operate the business, such as smart tourism. Computer science innovations play a vital role in everyday life, changing and enriching human interaction, communication, and social transactions

(S. Mystakidis, 2022). Three significant technological innovation waves have been recorded, centred around the introduction of personal computers, the Internet, and mobile devices, respectively (Zheng & Ni, 2010). The fourth wave of computing innovation is unfolding, centred around spatial and immersive technologies like Virtual and Augmented Reality (Govindarajan et al., 2018; S. M. Mystakidis, 2022). This wave is expected to form the next ubiquitous computing paradigm, which has the potential to transform online education, business, remote work, and entertainment (Conti et al., 2017). This new paradigm is known as the Metaverse. The Metaverse is a post-reality universe that merges physical reality with digital virtuality, creating a perpetual and persistent multiuser environment (Visconti, 2022). There have been many studies covering the subject of metaverse. However, there are not many studies about the implications of the metaverse in Pakistan's tourism industry. Thus, the main purpose of the study is to adopt a review design to explore the subject of the metaverse and how it has assisted the tourism industry of different nations and discuss how it can benefit the tourism industry of Pakistan (Ahmed, Ahmed & Buriro, 2023).

## Discussion

### *Metaverse*

The Metaverse is a universe that exists beyond reality, where digital and physical worlds merge into a perpetual and persistent multiuser environment. It is made possible by a convergence of technologies, such as virtual reality (VR) and augmented reality (AR), which enable multisensory interactions with virtual environments, digital objects, and people (S. Mystakidis, 2022). The Metaverse is essentially a web of social, networked immersive environments that reside on persistent multiuser platforms. It allows for seamless embodied user communication and dynamic interactions with digital artefacts in real-time (Flavián et al., 2019). The first iteration of the Metaverse was a web of virtual worlds where avatars could teleport among them. Today's Metaverse features social, immersive VR platforms that are compatible with massively multiplayer online video games, open game worlds, and AR collaborative spaces (Moro-Visconti & Cesaretti, 2023; S. M. Mystakidis, 2022). As an evolving paradigm of the next-generation internet, the Metaverse aims to build a fully immersive, hyper spatiotemporal, and self-sustaining virtual shared space for humans to play, work, and socialize (Mourtzis et al., 2022; Murala & Panda, 2023). It is driven by recent advances in emerging technologies such as extended reality, artificial intelligence, and blockchain, and is quickly transitioning from science fiction to an upcoming reality (Wang et

al., 2022). The Metaverse is a paradoxical concept, being both an inhabited and enacted space, as well as an impermanent interface between the digital and physical realms. This expression is called 'phygital' in the contemporary investigation into experience design (Bibri, 2022). The Metaverse is often described as a "placeless place," but this is not entirely accurate (Hafeez, Iqbal, & Imran, 2021). These temporary and transitional locales are sometimes referred to as "non-spaces," but even this is an oversimplification (Rant, 2021). The defining hallmarks of non-places are their generic flavour and lack of personal identity imprinted by their inhabitants. In contrast, the Metaverse is a unique and evolving space that reflects the people who inhabit it (Scavuzzo, 2022). The Metaverse has recently gained explosive attention in the tourism industry, as physical movement and human touch are restricted during the COVID-19 pandemic (Van der Merwe, 2021). Though the Metaverse was commercialized as Second Life, a social virtual world game in 2003, it was virtually impossible for individuals and companies to actively engage in it due to limitations in ICT and a lack of public interest (Duan et al., 2021; Um et al., 2022). Only today, with the aid of smartphones and WIFI, is active engagement in the Metaverse feasible and accessible to everyone (Allam et al., 2022; Lewis, 2008; Park & Kim, 2022; Sedore, 2012).

### ***Virtual Tourism***

In today's world, where technology and the digital environment are integral aspects of human life, virtual tourism has emerged as a popular and fascinating form of tourism (Krug, 2006). For over two decades, virtual tourism has enabled people to explore and experience different cultures and places without leaving the comfort of their homes. Virtual tourism provides an immersive experience through audio, text, and visual information about different destinations, including natural attractions, ancient sites, museums, and more (Brumana et al., 2018; Dogan & KAN, 2020). The internet has made it possible for people to access different places worldwide with just a click of a button. Virtual tourism systems provide people with an opportunity to experience the history of different cultures and times (Mura et al., 2017). Urban camera systems enable people to explore different cities and landmarks, providing a more realistic and immersive experience (Scorpio et al., 2020; Zhang et al., 2021). Efforts are being made by researchers to develop more efficient virtual tourism systems. Tourism has undergone a massive digital transformation, giving rise to new forms such as e-tourism, digital tourism, smart tourism, and virtual tourism (Kazandzhieva & Santana, 2019). These new forms of tourism rely heavily on Information and Communication Technologies (ICT) to provide tourists with an enhanced and unforgettable experience (Yoo &

Gretzel, 2016). E-tourism is all about electronic excursions that are empowered by the latest ICT tools. Smart tourism, on the other hand, incorporates cutting-edge technologies like the Internet of Things, cloud computing, virtual reality, GIS, and mobile internet to deliver a sustainable and unparalleled tourist experience (Bibri & Jagatheesaperumal, 2023; Moustaka et al., 2019; Verma et al., 2022). Digital tourism is the perfect blend of the physical and digital world that provides tourists with an immersive experience (Baran & Baran, 2022). Virtual tourism, the most fascinating of all, merges virtual reality and tourism to offer an unparalleled experience to individuals (Buhalis et al., 2019; Lu et al., 2022). With virtual tourism, people can experience tourism without having to travel physically. The simplest form of virtual tourism involves watching a video of the tourist destination on a smartphone, tablet, or desktop, using sight and hearing senses (Jenny, 2017). Virtual tourism has gained immense popularity as people can visit any place in the world in real-time using their smartphones (Hussain, et al., 2022). Virtual tourism is a form of contemporary tourism that allows individuals to experience destinations through virtual environments (Ruiz-Alba et al., 2019). By using segment-specific marketing strategies, virtual tourism offers a unique opportunity for tourists to indulge their hedonistic desires and emotional experiences (Leask et al., 2013). Virtual reality (VR) technology has proved to be an invaluable tool in tourism planning. It can create authentic and navigable virtual environments that offer new opportunities for the tourism sector to create an immersive experience for tourists (Ercan, 2020). The immersive technologies used in virtual tourism simulate real-life surroundings and situations, resulting in favourable attitudes, enjoyment, and higher levels of revisit intentions from tourists (Melo et al., 2022). This is because virtual tourism enables individuals to experience multifaceted real-life situations in a way that feels authentic (Atzeni et al., 2022). The popularity of virtual tourism has been on the rise for some time, and the COVID-19 pandemic in 2020 has further accentuated its importance (Lim & To, 2022). During the pandemic, virtual tourism offered people a way to escape isolation and satisfy their curiosity about the world around them. For instance, Juelu and Tingting (2020), have created a cultural virtual tourism system that uses three-dimensional technology to provide users with a more interactive experience. They have used fusion technology to improve the human-machine interaction of the system (Juelu & Tingting, 2020). Guo and Wang (2021), have also been working on developing virtual tourism systems that support cultural and natural tourism. Their research is a great example of how technology can be used to promote the development of cultural tourism resources (Guo & Wang, 2021).

## Conclusion

In conclusion, the exploration of the Metaverse and its intersection with the tourism industry illuminates a transformative landscape rich with possibilities for both global tourism and the specific context of Pakistan. The Metaverse, as a digital realm beyond reality, offers unprecedented opportunities for immersive and interactive experiences, bridging physical distances and cultural divides. Virtual tourism, a prominent manifestation of this paradigm shift, enables individuals to explore destinations remotely, fostering cultural exchange and expanding access to diverse experiences. The COVID-19 pandemic has underscored the importance of such virtual platforms in sustaining tourism during times of physical restriction. As technology continues to advance and the Metaverse evolves, it is imperative for stakeholders in the tourism industry, including policymakers, businesses, and researchers, to embrace and harness its potential for fostering sustainable growth, enhancing visitor experiences, and promoting cultural understanding. Through strategic investment and collaboration, Pakistan stands poised to leverage the Metaverse to showcase its rich cultural heritage, attract global visitors, and drive economic development in the tourism sector.

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