

Leveraging Generative Artificial Intelligence in the Age of the Metaverse: Opportunities in Social Media Advertising

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Introduction

"The [metaverse](#) is here, and it's not only transforming how we see the world but how we participate in it – from the factory floor to the meeting room." Satya Nadella, Microsoft Chief Executive Officer (CEO).

Technological developments in the age of the metaverse have significantly changed the social media advertising landscape. Researchers, [Ali and Khan \(2023\)](#), assert that traditional marketing approaches have been extensively revised with the advent of the metaverse. Businesses can now interact with consumers in a multitude of modalities. The metaverse has particularly enhanced audience segmentation, optimising advertisement placements and allowing consumers to experience a [fully immersive](#) 3D digital environment. The user experience has been dramatically improved through the integration of augmented reality (AR) and virtual reality (VR) into social media advertising. These reality technologies provide interactive and immersive components that significantly boost [brand visibility](#). In the age of the metaverse, comprehending the evolution of advertising strategies, such as by maximising the unrealised potential of AR and VR technologies, promises excellent opportunities for marketers to succeed in social media advertising. In this article, we explore integrating generative artificial intelligence (GenAI) with AR and VR technologies in the age of the metaverse, which could fundamentally further change the traditional approach to social media advertising and offer businesses even more opportunities.

Metaverse and GenAI

In 1992, [Neal Stephenson](#) coined the term "metaverse" in his book *Snow Crash*, which originated from two Greek words, meta (meaning 'across') and verse (representing 'the Universe'). The metaverse, in this initial stage, was associated with a VR environment where users could communicate by means of digital representations known as avatars. The definition of the metaverse has significantly changed since then. More recently, [Weinberger \(2022\)](#) asserts that it currently symbolises an extensive, interconnected online universe that combines many virtual locations, transforming it into a persistent 3D cosmos.

This immersiveness of the metaverse has been enhanced through artificial intelligence (AI) and GenAI. [Lv \(2023\)](#) highlighted GenAI is a specific variant of AI that aims to produce content. Text, images, audio and videos are the common forms that could be produced through GenAI. Both AI and GenAI use machine learning algorithms to generate outcomes. However, GenAI is intended to create new content. GenAI has now become essential in the contemporary digital landscape.

Studies conducted by [Yassin \(2022\)](#) and [Parker et al. \(2023\)](#) underscore the potential of GenAI to offer tailored advertising solutions that are not only immersive, but cost-effective and efficient. [Khatri \(2023\)](#) further highlighted the point that this unique amalgamation of reality technologies, such as AR and VR in the age of the metaverse, further expands the potential of social media advertising. It not only enhances businesses' competencies in social media advertising but also redefines social media advertising by enhancing businesses' and consumers' experiences and interactions through avatars, virtual maps and simulations.

Social Media Advertising

Social media has evolved from a digital playground for social interaction into an essential marketing tool for organisations. Early hints of the change were the appearance of websites like Friendster and MySpace in the early 2000s. Social media became [a dominant force](#) with the emergence of Facebook in 2004 and Twitter in 2006. During the early phase, rudimentary platforms were developed for users to share updates and engage in interactions with one another.

At present, social media is a significant force as users, primarily businesses, employ social media as a critical digital marketing strategy to engage existing and potential customers. Social media marketing's ability to adapt is demonstrated by embracing state-of-the-art technologies, such as those involving [AR and VR](#). This new frontier in social media customer interaction can create immersive experiences, enabling customers to virtually discover, evaluate and interact with their products and services.

Opportunities for Social Media Advertising

In creating engaging and tailored user experiences, AR has proven to be a game-changer. This AR revolution has been spearheaded by platforms like Snapchat and Instagram, resulting in a significant transformation in the way users interact with digital information. These prominent platforms offer [immersive experiences](#) beyond simple photo upgrades. The utilisation of sophisticated filters and lenses in VR enhances user engagement, offering experiences that closely simulate real-world environments. The significance of this phenomenon is particularly evident in sectors such as [tourism and hospitality](#). For instance, in 2021, the Singapore Tourism Board launched Tcube as part of its [AR strategy](#) to allow businesses to refine their ideas, using 3D to connect with possible stakeholders, and actualise their offerings.

Assimilation of AR and VR components in the context of GenAI goes one step further and creates experiences that are even more dynamic and compelling. The "virtual try-on" function with the use of [mixed realities](#) (MR) in this age of the metaverse integrates online and in-store shopping experiences and enables customers to "consume" products virtually before making a purchase choice. For instance, in 2022, Nissan updated its social media users with the first [VR test drive](#), allowing users to test their new vehicles in this virtual mode.

In the age of the metaverse, businesses aiming to improve customer engagement and reimagine brand experiences have a plethora of options at their disposal thanks to the synergy of AR and VR that has been leveraged through GenAI. The GenAI element provides diverse interactive experiences, encompassing basic filters to fully-fledged virtual environments, broadening the possibilities for customer involvement and social media advertising.

Conclusion

The advent of rapid technical advancements, particularly leveraging GenAI in the age of the metaverse, have precipitated a dramatic shift in social media advertising. This innovative AR and VR offers businesses unparalleled opportunities to enhance customer engagement, customise social media advertising and develop profoundly immersive brand experiences. The fusion of these technologies promises to be transformational as the metaverse age progresses. In the age of the metaverse, leveraging GenAI is paving the way for a brand-new era of social media marketing that will offer limitless options for creativity and user interaction. A subsequent conversation should focus on a question like: What will the challenges in social media advertising be if the current scale of leveraging GenAI continues in the age of the metaverse?

Article written by the authors (with some editorial support from generative artificial intelligence and the editorial team of the *AIB Review*).



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