

Chapter 5

From Connectivity to Immersion: Unleashing the Potential of 5G for Seamless Virtual Event Experiences

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ABSTRACT

This chapter examines the capacity of 5G technology to transform virtual event experiences through improved connectivity and immersive interactions. The chapter explores the capabilities of 5G networks in terms of delivering faster data speeds, extremely low latency, and expanded network capacity. These advancements enable smooth streaming, real-time communication, and the use of virtual reality applications. Furthermore, it emphasises the influence of 5G on different industries including entertainment, education, and business, demonstrating the capacity to generate virtual environments that accurately simulate the experience of participating in a live event.

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INTRODUCTION TO 5G AND VIRTUAL EVENT EXPERIENCES:

As a result of COVID-19, events related to entrepreneurship and innovation are increasingly being held virtually, and even after the restrictions of the pandemic end, there is an expectation that they will remain a popular choice with above-mentioned features (Jauhiainen, 2021). It has become popular to use this sort of virtual event platform as a perfect substitute for real events, which have an easy and engaging platform for participants. These systems have made great use of 5G technologies to provide better platform connection, where participants can interact on an instant communication analytics and interactive analytics. Such innovations are made possible due to the features of 5G technologies including massive connection and smart bandwidth.

5G technologies grant opportunities for unusual innovations in the experience of online events. While these technologies are quickly emerging, they are becoming more commonplace and their benefits understood. As a result, they are already impacting dramatically on the experience of virtual event participants. An example of this is natural user interfaces and user experiences, many of which rely in part on 5G technology.

It could be said that virtual reality and augmented reality are leading the paradigm shift on these innovations. Elbamby et al. argue in the journal Arab Journal of Business and Management Review that virtual reality will be one of the major applications in the 5G network expected to change the experience of events.

‘It allows for participants to interact in an extremely realistic and immersive environment, virtually through the senses. The ability to transmit data via 5G networks due to its high speed and low transmission time will enhance properties of new technologies such as augmented reality and virtual reality.’

Onwuegbuzie (2022) suggests that 5G augments the potentials of various areas of application of AR/VR technologies. This suggests that AR/VR technologies depend on the characteristics of 5G networks, which include high transmission speed, high transmission bandwidth, high network signal quality, low network delay, the number of connections, and many more.

5G can satisfy real-time task requirements with low latency and high speed. The combination of 5G and AR/VR technologies enables a more realistic and diverse interactive experience during event activities.

5G's Role in Enhancing Virtual Event Experiences

The integration of features of 5G in virtual event platforms can be the answer to its development, as Salih et al suggest that 'future smart city as well as intelligent transportation systems are underpinned by the 5G technology'. Further, 'the smart

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