

Unleashing The Potential of The Metaverse in Healthcare Projects: Practical Applications for Operational Excellence and Medical Education Advancements

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Abstract

The metaverse, as a trend technology with virtual reality features, has ability to restructure and transform the way in which individuals connect as well as the activities that they carry out daily. The adoption of metaverse and virtual reality technology in organizations has its strengths as well as weaknesses. This paper explores the emergence of metaverse technology and its adoption influence on healthcare sector, especially at healthcare services delivery, medical training and simulation, and surgical procedures through secondary research. The paper also identifies certain strengths and weaknesses that are accompanied with the implementing and investing Metaverse technology in the governmental and private healthcare facilities, to be able to eliminate or minimize negative impacts and maximize positive impact through the exploitation of observed strengths. This paper investigates how metaverse adoption can enhance future healthcare opportunities in surgical operations, medical training, simulation and overall services delivery, as well as the critical challenges that could impedes the implementation of such innovative technology in the healthcare sector.

To answer our research question and reach its objectives, we agreed to investigate several global cases where metaverse has been adopted in the healthcare sector which relied on our secondary data. In addition, we used a qualitative research approach for gathering primary data related to cases reflecting the local implementation of this technology trend. Therefore, multiple structured interviews with participants from different healthcare entities were conducted.

The results indicate acceptance of our research hypotheses; a) Metaverse adoption is a trending technology that will serve future opportunities in the healthcare sector in surgical operations, training, and simulation, and services delivery, b) Metaverse adoption for healthcare industry has potential strengths and weaknesses.

This study limitations could be identified in terms of the study's sample size since seven local cases in the UAE were addressed. Limited number of relevant practitioners and organizations were taken into consideration for collecting primary data since the study topic is an emerging technology. Also, the qualitative research method could be susceptible to bias and personal interpretation, as well as the demographic area variation may influence the research results. Finally, recommend healthcare providers to invest in metaverse technologies. Also, to expand research by addressing more niche areas in healthcare services, educational training, and management that Metaverse would be adopted, in which it positively influences organizations and governments.

Keywords: Metaverse, adoption, medical training, simulation, healthcare services, surgical operations, opportunities