BW BOOKS

# MARKETING WHITEBOOK

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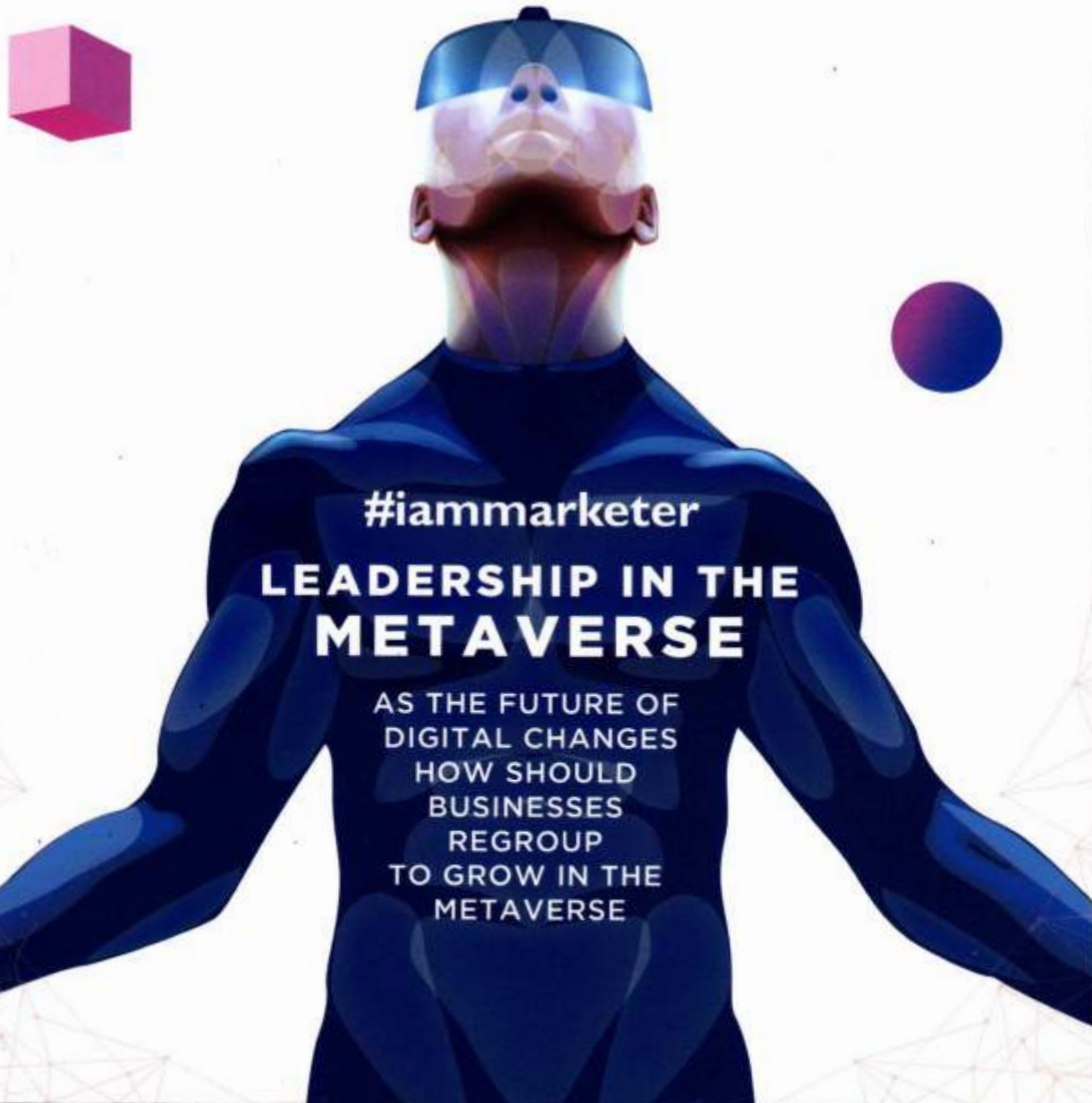

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## LEADERSHIP IN THE METAVERSE

AS THE FUTURE OF DIGITAL CHANGES HOW SHOULD BUSINESSES REGROUP TO GROW IN THE METAVERSE

# HOW METAVERSE WILL TRANSFORM EDUCATION

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Education across the world has seen speedy digitalisation in the wake of the outbreak of the Covid-19 pandemic. Online classes, synchronous lessons, asynchronous learning, virtual exams, and cloud-based assessments have been the norm, off and on, for about 1.5 billion learners during the last two years. Now, with the schools and colleges reopening, the education sector, on the whole, has made a transition to the hybrid modes of learning with tech immersion. The entry of the Metaverse in education may be the next big leap.

Learning in the Metaverse can connect teachers and learners from all over the world and empower them to collaborate and interact in meaningful ways while providing unprecedented access to learning resources. The education sector may witness disruption in which real-time engines

such as Unity and Unreal Engine, Augmented Reality, Multi-access Edge Computing, Blockchain, AI etc. can swiftly transition the ongoing pedagogical innovation.

The question, however, needs to be asked -- how will education evolve and adapt in the hyper-immersive virtual world of the Metaverse? A deeper study and analysis of the purported benefits and challenges of the Metaverse for the education sector shall provide the answer.

## Metaverse makes learning experiential

Experience is said to be the best teacher, and the Metaverse has an abundance of it to proffer. Using VR technology, learners can be virtually transported into simulated spaces for an experience that has a bearing on both IQ and EQ. Students can virtually visit global museums, historical monuments, corporate boardrooms, and industrial plants and even engage in immersive games or contests in the metaverse. Such kind of deep experiential learning leads to better knowledge retention and a clearer understanding of concepts.

## Metaverse boosts creativity and exploration

The extended reality immersion can present real-life problems in the virtual format to engender in learners critical thinking, problem-solving and creativity. Given the simulated nature of reality in the Metaverse, a wide range of new tools may be leveraged to explore new forms of arts, architecture, and designs to boost creativity and exploration in learners.

## Metaverse ensures access to a galaxy of content

Education is traditionally known to encompass literacy, numeracy, sciences, social studies and arts. However, educators are increasingly recognising the importance of 'learning to learn'. This has brought to the fore the executive function

skills that include working memory and attention to support a student's academic progress. Select higher educational institutions are already using the metaverse and related technologies to curate the best of the content. In June 2021, a set of 250 students at Stanford University were able to access 3500 hours of learning content using the metaverse.

## Metaverse a boon for skill development

Immersive platforms on the Metaverse may provide ample scope for skill development through technology that uses 3D graphics, hypersensitive audio-visual sensors and even cutting-edge haptic touch gloves, being developed by Meta, for a realistic sensory and tactile experience. This creates an authentic spatial environment that is apt for skill and competency development. Students can learn and develop skills related to a vast array of jobs in the safe virtual setting of the metaverse.

## CHALLENGES OF METAVERSE FOR THE EDUCATION SECTOR

Metaverse depends upon technologies such as artificial intelligence, machine learning, the Internet of Things, blockchain, graphics and holography. Active adoption of these on school and college campuses requires the high broadband 5G technology which is being introduced in India. However, the digital divide that exists because of digital illiteracy, inadequate digital infrastructure or poor ICT competencies poses a real challenge for the metaverse to make a substantive change in the education sector in a short time.

Even the metaverse infrastructure is in nascent stages at present. Interoperability platforms on the metaverse raise concerns about privacy, online safety, security and transparency. But far greater than all worries are the possible psychological-social-emotional implications among learners of living and experiencing a virtual life.

Metaverse may not be conducive for special needs children. A hearing-impaired child from India may not be able to attend a Metaverse class hosted by a school in Australia if both schools don't have adequate tools and technologies.

## METAVERSE IN THE CONTEXT OF INDIAN EDUCATION

Bloomberg Intelligence and various other research reports estimate that the global metaverse market size opportunity will reach $800 billion in 2024, up from roughly $500 billion in 2020. India is expected to be a key market and enormous potential is seen in the education sector. A start has been made by the All India Council for Technical Education (AICTE), which has become the first accreditation agency to build its own office in the metaverse. Recently, Information Data Systems (IDS) launched Bharat Blockchain Network and Polyversity which is currently India's largest educational metaverse.

The National Education Policy 2020 envisions education that is multi-disciplinary, holistic, integrated, engaging, immersive, and inclusive. It emphasises as much academic rigour as vocational learning, skill development, teacher upskilling, and tech integration. The Metaverse, with its potential for immersive experiential learning and training, can be a viable platform to achieve that vision. National Educational Technology Forum (NETF) – proposed in NEP – shall facilitate deeper tech integration involving AI, ML, blockchain, and even the Metaverse into the school and college ecosystem.

Furthermore, Metaverse architects should partner with educators, academics, and scientists to incorporate best educational practices. New-age instructional systems, active learning, ludic learning, adaptive learning and crossover learning should be extrapolated to the virtual world. The challenge shall be to create a robust digital infrastructure that facilitates the adoption of the Metaverse in the educational ecosystem across the country. Metaverse in education in India also requires a pragmatic approach of adaptability, especially for school children, because as of now gaming and entertainment industries are only present as used cases.

On the infrastructure front, the Indian Government's BharatNet program is directed towards bringing high-speed broadband connectivity to rural India. The government has promised to roll out 5G, enhance broadband services in rural areas, and boost local digital innovation and manufacturing under the productivity-linked incentive scheme in the Union Budget for 2022-23. Going forward, the regulatory framework in the education sector must be overhauled to incentivise private investment into institutions so that state-of-the-art tech infra can be created on campuses. A cohesive ecosystem to promote public-private partnerships shall also be developed. Government, in collaboration with active industry associations like FICCI ARISE, shall also consider setting up 'Metaverse Working Groups' for the education sector. The key mandate of such groups shall be to conduct periodic research and suggest policy-level recommendations to the government.

The potential is huge for the metaverse to transform education and usher in a new paradigm. What's needed is a progressive vision, forward-looking policy reforms, scalable adoption of digital culture, and evolution in VR tech to cater to the best education principles to truly transform and enrich the teaching and learning experiences in the 21st century. ■