Whitepaper

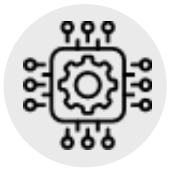
Decoding the Banking Metaverse

Connected World. Connected Experiences.

Abstract

The metaverse gives us a unique capability to bring to life an inanimate world – a world which we can experience, a world which we can interact with using our avatars and a world where we can create solutions for businesses and humanity.

As we stand today, there are different layers to the metaverse:



Infrastructure

Human experience interface

Software + IoT

Spatial computing

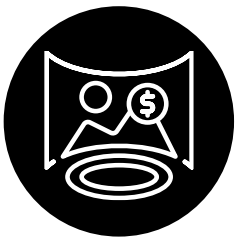
Content-creator economy

Monetization

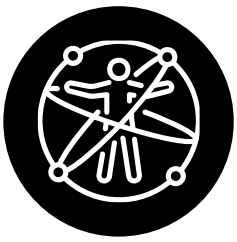
Experience

While we have seen banks improve customer experience in branches, internet banking and mobile banking, we believe that metaverse will help banks take CX a few notches higher by providing an interactive and immersive experience. As the metaverse evolves, customers will look forward to partner with solution providers who can present a comprehensive range of offerings covering all the seven layers.

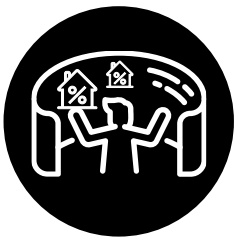
Some of the key use cases we are working with financial institutions are:



Metaverse as a retail banking channel



SME marketplace on the metaverse



Mortgage marketplace on the metaverse

Key Takeaways

Metaverse experience can be provided to customers without Web 3.0, cryptocurrencies and AR/VR being mandatory elements of the proposition.

Using TechM's comprehensive range of services across all the seven layers of the metaverse, banks can elevate customer experience in the banking sector

The next generation is already a resident of the virtual world – the metaverse. We see that businesses are gearing up to engage with this generation in the metaverse.

Human beings have an inherent need to animate the inanimate. Technology has always been an inanimate entity we couldn't feel and touch but could express in the abstract. We could talk about the bits and bytes and voltages of a transistor but could never showcase how they worked. Metaverse gives us that unique capability to bring to life an inanimate world – a world which we can experience, a world which we can interact with using our avatars and a world where we can create solutions for businesses and humanity."

– Nikhil Malhotra, Chief Innovation Officer, Tech Mahindra

A Brief Introduction to the Metaverse

The term metaverse was coined in Neal Stephenson's 1992 science fiction novel Snow Crash, where humans, as programmable avatars, interact with each other and software agents, in a three-dimensional virtual space that uses the metaphor of the real world.

GlobalData defines the metaverse as "a virtual world where users share experiences and interact in real-time within simulated scenarios."[1)]

Gartner® defined metaverse as "a collective virtual space, created by the convergence of virtually enhanced physical and digital reality. In other words, it is device-independent and is not owned by a single vendor. It is an independent virtual economy, enabled by digital currencies and nonfungible tokens (NFTs). [1)]

A simplistic view could be that "it is an environment that enables collaboration between the physical and the virtual world, and among people, who exist in this space as avatars"

Why the hype around metaverse?

Gartner expects that by 2026, 25% of people will spend at least one hour a day in the metaverse for work, shopping, education, social media and/or entertainment. [2)]

The sheer scale of the total addressable market has created significant excitement in the market which is also leading to a hype cycle as enterprises do not want to risk the chance of missing out. Despite the hype, the metaverse will take many years to reach to its full potential and evolve into a space which comes as a second nature to people.

The current hype is essentially focused on consumer-centered businesses in gaming and social media industry. However, with the impact of pandemic, digitization accelerated in many ways, the need for a safe, virtual environment that can provide a differentiated customer experience, also increased. This has also led to many enterprises taking notice of the opportunities provided by the metaverse which has propelled the technology further.

The Seven Layers of the Metaverse

Technological processes are integrated in the seven layers of the metaverse that further enhances the customer experience across platforms like retail, hospitality, banking, and entertainment.

1. **Infrastructure:** This includes the network and hardware along with recent advancements like 5G and edge computing. The advancement in hardware, affordable and easily accessible infrastructure, network availability, advent of 5G, and emergence of edge computing all are enabling the baseline needed for resource intensive applications like the metaverse.
2. **Human Experience Interface:** The user needs certain hardware to experience the metaverse- it may be the VR headsets, smart glasses, mobile phones, or desktop. The interface may be with haptics, voice or even neutral. This is an important aspect of the experience and hence forms the second layer of the metaverse.
3. **Software and IoT:** This layer is the core software which supports the metaverse. This may include AI, blockchain, and other baseline software. For example, certain use cases like connected digital twins of smart cities need a component of IoT to be connected, and this is the layer where this integration would happen.
4. **Spatial Computing:** The Web 3.0 components of spatial computing is enabled by various 3D engines like Unity and Unreal Engine which occupy this layer. This is the core software to enable AR/VR based experiences. The GIS aspects which may be needed in some of the use cases where digital and physical spaces need to be connected will also be a part of this layer.

The Seven Layers of the Metaverse cont.

5. **Content- Creator Economy:** One of the main aspects of Web 3.0 is the digital content, which enables artists to create imaginative spaces using design tools like Maya. This is the layer for this content, which is enabled through a creator economy. The marketplaces are already buzzing with reusable content created and commercialized by various digital artists. This also enables digital assets to be minted as NFTs and these are also becoming commonplace on NFT marketplaces.
6. **Monetization:** This is the layer which includes new ways of monetization in these digital worlds. The commercial spaces like stores with agents, marketplaces are enabled for enterprises. These may be on existing worlds like "Decentraland" or create worlds of their own. Newer avenues for monetization are possible, for example, advertising in the virtual space. This monetization may be enabled with crypto currency or fiat money as needed.
7. **Experience:** This is the layer which brings the entire customer experience together through user journeys, like, retail or gaming experience. Although metaverse includes new technologies, it rides on top of the existing solid base of infrastructure, combined with technologies like IoT, AI, and blockchain – all have contributed to make this technology much more feasible. These are also traditional services which enjoy a strong support system.

   Spatial computing and content have contributed to creation of better, user-friendly spaces at a time when the world was getting tired of too much content on websites, or chatbots which may not always give an answer. The distributed nature of the content creation industry has democratized and created new avenues for content creators.

Our TechMVerse, launched in Feb 2022, is well placed to support all these layers of the metaverse with traditional services in most of the layers. Additionally, Makers Lab™, which is the innovation hub of Tech Mahindra has been experimenting with these technologies for a few years and have done numerous use cases to ensure that we enable our clients to confidently venture in the metaverse.

Metaverse Banking

Banks are amongst the most regulated industries and therefore the adoption of metaverse in the realm of blockchain and virtual currencies has been significantly constrained as regulators haven't spelled out the guidelines around metaverse yet. However, banks have a significant opportunity to answer the growing demands of digitally native millennials in the metaverse.

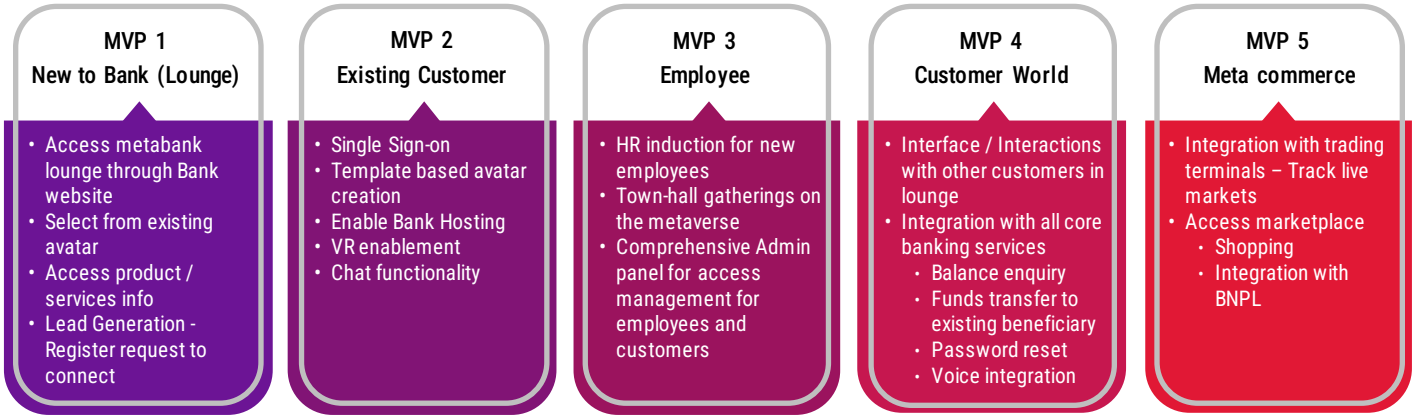
We believe that a metaverse experience can be provided to customers without Web 3.0, cryptocurrencies, and AR/VR being mandatory elements of the proposition.

TechM is amongst the first to get a banking customer on the metaverse with banking specific use cases. We believe that there is a business case to channel the millennials from the gaming metaverse to the banking metaverse. While we have seen banks improve customer experience in branches, internet banking and mobile banking, we believe that metaverse will help banks take CX a few notches up by providing an interactive and immersive experience.

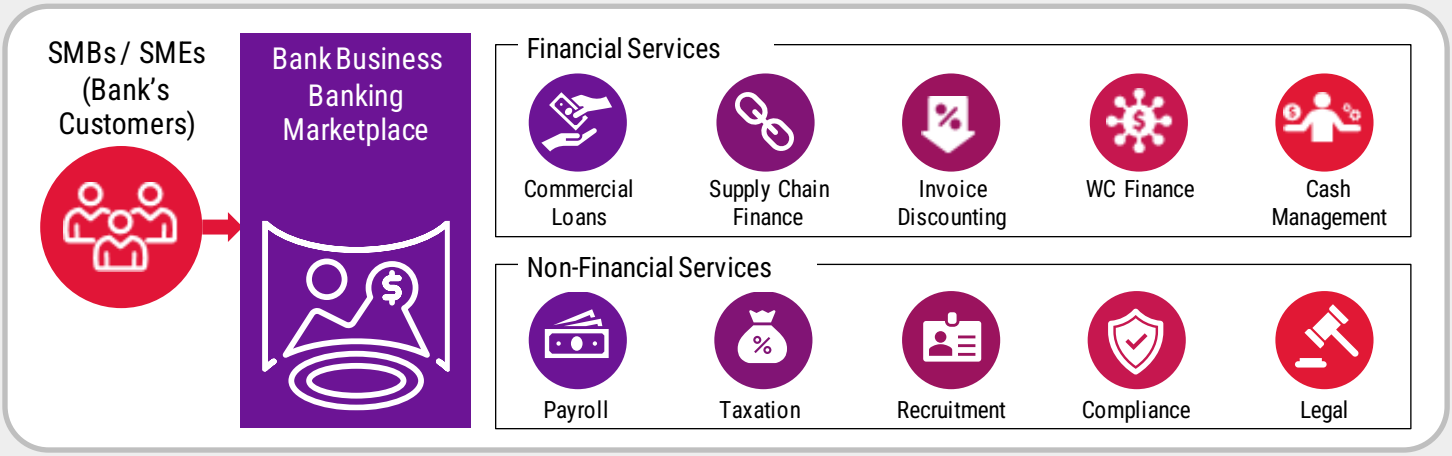
Some of the key propositions that we are working on, with our customers for banking metaverse are on the following page

1. **Metaverse as a retail banking channel** – A defined roadmap that helps the banks to start with meta lounges for customers, explore banking products and services, enable banking transactions, facilitate meta commerce, enable integration with ecommerce players and provide BNPL services to customers in the metaverse.

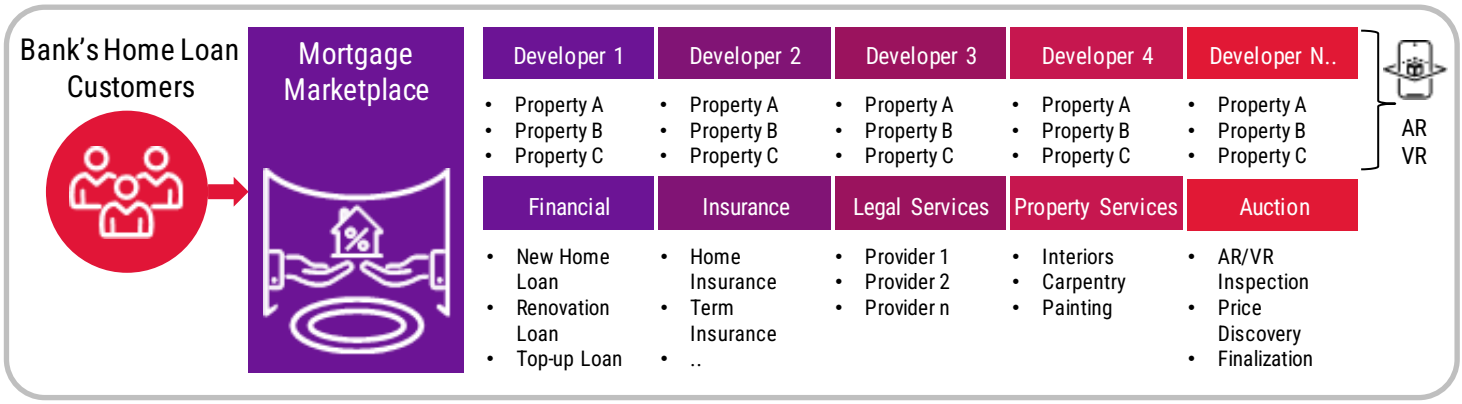
Metaverse Roadmap for Retail Banking



2. **SME marketplaces** – This can offer financial and non-financial services and help banks to provide all services under a single meta roof which will ensure stickiness of SME customers with the bank.



3. **Mortgage marketplaces** – This offers AR/VR led property inspection, home loans, insurance solutions, and home services which would help banks service the highly demanding digital customers and enable significant competitive differentiation.



Banks can expect the following benefits:

Enabling millennials to transition from gaming to banking metaverse seamlessly

Improved interactive and immersive customer experience in financial services industry

Enabling service expansion through lowest marginal cost of virtual space

Leveraging a platform approach for SME banking and mortgages

Enhanced hyper personalization to boost metaverse engagement with effective use of data

As the metaverse evolves, customers look forward to partner with solution providers that can provide a comprehensive range of offerings that could span across…

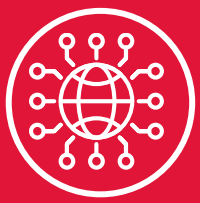
Avatar-as-a Service

Meta Environment Development

NFT Marketplace

Gaming Guilds

Meta Gaming Stadiums, 3D games



Web3 Services DeFI, IPFS Storage Services

Meta Content Management Services BPS Services

Tech Support Services BPS Services

Engineering and 5G Optimization Services

Finishing School Trained Resources for Unity, Unreal, Roblox, Maya, Autodesk etc

The Challenges within the Metaverse

While we are excited about the possibilities of the metaverse in banking domain, we need to be careful about the following areas as we enable our clients on to the metaverse.

Creating a Safe Space: We need to ensure that we build these spaces in such a way that any end user gets a balance between freedom to access the space at the same time feels safe from other users in this space. The user journey will need to be carefully crafted while we implement these solutions.

Value Addition: Businesses will surely try to come to the metaverse in small ways, but the real value add will come when we are able to enable meaningful functionality in the metaverse. This needs to become cost effective and provide real benefits in terms of cost saving or generating revenue. The feasibility will come with the use of a combination of technologies, for instance having virtual AI agent avatars instead of a person logging in to the space to serve a client. At Makers LabTM, we have already experimented on these areas and we are creating suitable solutions for our clients.

Overall Experience: Today, many of the common spaces available are using low quality imagery to ensure that they can make the space available in multiple platforms. But enterprises are pushing the boundaries and requesting for a better look and feel, and voice enablement. This is being enabled by multiple technologies working together and can be demonstrated in our solutions.

Gamification: We will need to make and keep the spaces interesting and useful for the end users, so an aspect of gamification will always be necessary while we build these spaces.

'Humanizing' the Experience: While the avatars can chat, speak to each other, what makes us "human" are our expressions. Soon a need will arise to "humanize" the avatars, and we believe we are all set to enable these for our clients.

The NXT in Metaverse

Metaverse can create a different world for us –one that the science fiction writers had dreamt of or it may fizzle out just like any other technology that didn't really materialize, only time can tell. But so far as we can see, the next generation is already a resident of the virtual world.

We are witnessing businesses gearing up to engage this generation and pull in the older generation to create a new experience – and we are well equipped, trained, and ready to help them transition into this new arena.

Banking and finance as a domain, has shown great interest in boldly leading the way for many other sectors with their use cases.

With a combination of our technical prowess and domain knowledge, we are best placed to consult with our clients to create use cases for them that leverages their core competencies and supplements the benefits of the metaverse. As an organization we are keen to ensure that our clients successfully migrate into this new world and grow their business multi-fold.

Endnotes

1. Metaverse – Thematic Research. (2022, May 24). Global Data. https://www.globaldata.com/store/report/metaverse-theme-analysis/
2. Gupta, A. (2022, January 8). What Is a Metaverse? https://www.gartner.com/en/articles/what-is-a-metaverse GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.

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Kanchan is the Product Strategy Head of Maker's Lab, a unique Thin-q-bator space within Tech Mahindra and has rich, hands- on experience in IT Delivery, Sales, and Innovation. She also heads the Metaverse Technology Practice and is passionate about Research, Innovation and Product development. Kanchan was honored with the Pune Women Leaders Award by the World Women Leadership Congress in 2021. Kanchan has been a Fellow with World Economic Forum, Center for 4th Industrial Revolution, and is a part of the "Artificial Intelligence for Agricultural Innovation" Program.

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