



## MORTGAGES IN METAVERSE

### WILL IT DAZZLE LENDERS TO ENGAGE THEIR CUSTOMERS INNOVATIVELY?

#### Abstract

Metaverse empowers mortgage institutions with newer ways to connect their customers and create an opportunity for introducing new products and personalised services with humanised touch. This paper discusses on topics around specific use cases of metaverse real estates, how metaverse banking is taking its shape and augmenting customer services in virtual world. It also explores how the nuts and bolts of AI and ML are fine-tuned to drive lending business run like a well-oiled machine in the longer run to preserve, sustain, and harness business with better outcome and profitability.

## The future of mortgages in metaverse

Mortgage industry has come a long way. The rush to digital has become a core of a fiber and the technology evolution has been a skin in the game whilst growing customer expectations. First two evolution of technology allowed borrowers to explore or find real estates through Https search and social media. The 3rd generation of technology leap called "metaverse", offers simulated digital environment for end users with immersive technologies like AR, VR and blockchain for rich interaction mimicking real world.

Using VR (Virtual Reality), AR (Augmented Reality) & Avatars, metaverse erase the boundaries between virtual and real-world scenarios. Metaverse empower mortgage institutions with newer ways to connect their customers and create potential opportunities for introducing new products and personalised services. From customer perspective, metaverse offers potential to buy, sell and rent properties in digital world. From lenders perspective, metaverse equips institutions to digitally engage and deliver personalised financial services with seamless immersive experience.



## Blooming properties in metaverse

Gartner predicts over 25% individuals will spend at-least one hour every day in metaverse by 2026 for activities including business, social networking, and leisure.<sup>1</sup> It is anticipated that, more organisations will join metaverse, and its market size can grow up to 800 billion by 2024. Industry experts observe there is a strong demand amongst millennials purchasing metaverse properties in the form of digital currencies and non-fungible tokens (NFTs) – digital

tokens used to represent ownership of unique items. Through NFTs, end users can verify asset ownership and can trade their assets (transfer NFTs ownership) through blockchain eco-system.

This prompts the perfect sign for metaverse properties, where it is currently seen as good as gold. Reason being, the average price of smallest plot was under \$1,000 less than a year ago, whereas the

current value of virtual land in popular platforms getting sold in the range of \$10,000-\$15,000.<sup>2</sup> These spikes on margin attract larger interests for the reasons of making passive income through “digital home”, “business use”, “rental and commercial” purposes. Much like the real world, metaverse properties at prime locations not only inflates over time, but also allows landlords to experience or customise their digital assets of choice.



Fig 1: Metaverse – Real estate use cases

## Evolution of metaverse banking

Metaverse users can transact, own, or lease digital or real estates. As a result of this, need for financial services also emerges in virtual world in the form of “metaverse banking”. It comes into play with potential opportunities for banks through various use cases. Typical use cases of metaverse banking includes:

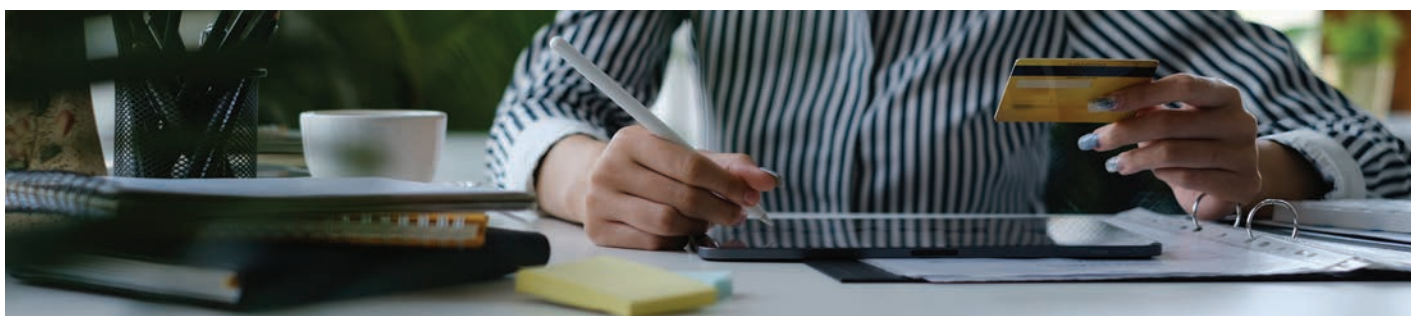
- **Self-service:** Customers will have their self-serve abilities such as check

balances, pay bills etc. through AR/VR channels

- **Lending/ credit services:** Banks can provide digital loans in lieu of NFTs/ virtual assets to customers and deliver services through digitally represented avatars
- **Personalised engagement:** Banks can provide personalised services (such

as address/ mobile number change requests) or product recommendations, financial service planning through digitally represented Avatars

- **Digital payments and assets:** Banks to host secured wallets services for crypto currencies to manage, transact and own digital assets/ real estates in the form of NFTs



## Endless innovation with limitless opportunities

Metaverse anchors physical interactions and real-world use cases driven by AI/ML based solutions. The journey of virtual world starts with an avatar creation by scanning their 2D images and subsequent rendering of 3D models added with realistic facial expressions and emotions. Metaverse further extend the concept of “Digital humans” which is a 3D version of chatbots to carry out intelligent conversations to react and respond to end user needs.

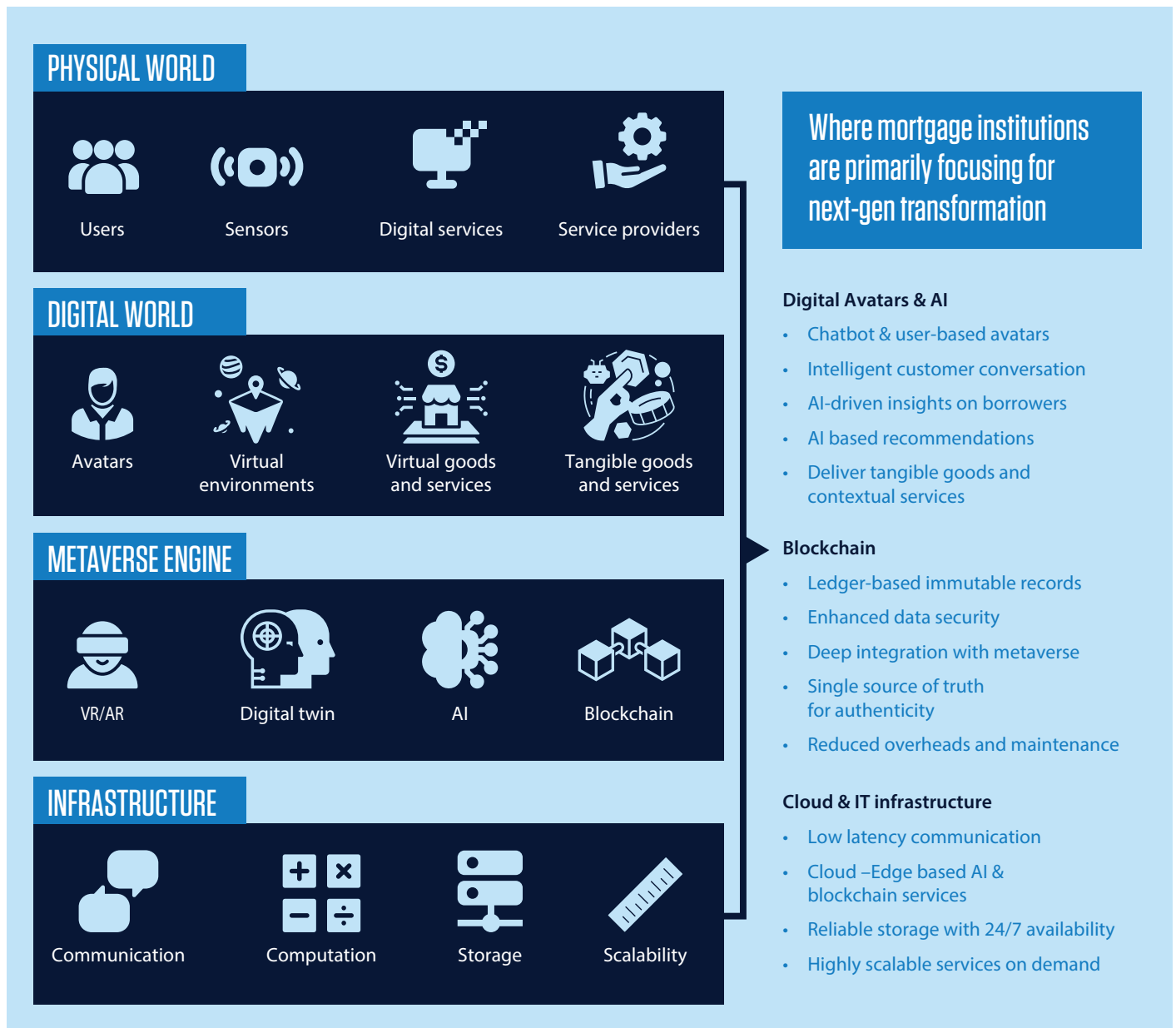


Fig 2: Simplified view of metaverse architecture

## Myriad opportunities for transformation

This game changing technology could eventually change the way of daily businesses, especially on lending and mortgage services. Banks can engage face to face conversation with customers through digital avatars and extend needful services with better understanding of their needs and preferences. With tightly coupled AI services in metaverse, it brings self-learning capabilities resulting more sensible and contextual insights about customers for effective business outcome. Despite the “humanised touch”, metaverse also covers blockchain and cloud-based solutions which bring “Speed”, “transparency” and “trust” into the table.

## Shaping Mortgage customers' journey

Next generation of banking customers (millennials or gen-Y or gen-Z) may not prefer to have 'frequent visits' to branch, but still like to have engaging experience with service executive or advisors rather through chat or email conversations.

A sample use case has been laid below, where a customer having personalised chats with bank agents in metaverse and access all his information at one place, in real time, to all his service needs. This scenario by sample used to indicate how a whole new experience has been provided without letting the customer set his foot in a physical bank.



Lifecycle Stage	Borrower	Mortgage Executive	Potential Opportunity for IT Firms with Metaverse
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Business initiation

Log in to metaverse world	Log in to metaverse world	IT vendor opportunities
Hi!	Hello! (Bank Agent / Chatbot / Robo advisors)	Facilitate Mortgage firms' avatars assigned with AI-driven chatbots to engage customers
I need a home loan with better interest rate. Would you be able to assist?	Navigate to Smart view 360 Insights!	Help Mortgage firms with smart view profiles using AI/ML techniques to gain a closer look to customer psychographic and behavioral characteristics in real time
	Sure! You are a valuable customer to us! You are eligible for a 15-year fixed mortgage loan with APR 4.8%. Would you be interested?	Help mortgage institutions to deploy pre-trained models (such as propensity to default/ early pay) in the cloud with real-time recommendations.
Sure! But I would need directions.	Sure! Do not worry sir! We are available to help you. Our loan specialist will be attending you in a minute.	IT vendors can help Mortgage institutions to deploy blockchain solutions for immutable records on transaction and interactions.
	Before I take leave, we see that you have a good credit score. Would you be interested in a "platinum credit card" which runs with attractive offers at moment?	Facilitate deploying pre-trained models (next best products/ offers) in the cloud to carry out cross sell/ upsell with real-time recommendations.
Oh, yes! Sure!	Would be interested to give your feedback on our services?	Facilitate deploying pre-trained models (customer sentiment / topic analysis) in the cloud to take cognizance of customer sentiments and satisfaction with the bank

Application stage	Backend-processing details	Potential opportunity for IT firms with metaverse
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Application processing and verification	<ul style="list-style-type: none"> <li>Profile recognition (social media)</li> <li>Demographic data extraction</li> <li>Consent management</li> <li>E-KYC through sophisticated blockchain networks</li> </ul>	Facilitate end-to-end processing of client verification in metaverse world
Underwriting	<ul style="list-style-type: none"> <li>Blockchain – smart contracts</li> <li>AI/ML driven automated underwriting</li> <li>Manual override capabilities</li> </ul>	Facilitate with AI-driven solutions to reduce processing time
Account booking and closing	<ul style="list-style-type: none"> <li>Blockchain – smart contracts</li> <li>Generate contracts and amortization schedules</li> <li>Establish standing order/ direct debit instructions automated alerts and communication in metaverse/ real world</li> </ul>	Facilitate with AI-driven solutions to reduce processing time.

Legend: Conversation in metaverse world, Opportunity in Technology space, Opportunity in AI & ML space

## Challenges

While industry experts recognise metaverse as a technology storm for mortgage firms, it also carries technology constraints which cannot be ignored. Especially across areas such as:



Fig 4: Snapshot of metaverse challenges and constraints

Metaverse is still in un-regulated zone and it yet to be fully exposed with traditional laws and regulations. Lack of interoperability between metaverse platforms is another critical challenge, as the standards and protocols are still in early stage of development for broader consumption.

## Conclusion

Metaverse undoubtedly brings larger spectrum of innovative use cases with immersive experience on top of delighting customers with humanised touch. Recent advancements in 5G, blockchain, Cloud has yielded larger hopes to metaverse community by bringing various levers of efficiency in ecosystem, which can

truly disrupt industries with endless opportunities.

While the banking industry look forward to virtual realm, metaverse yet to tie its shoelace in the race for regulation and yet to have well-matured standards on safety, and security protocols. For many lending institutions, metaverse implementation will

be a science-fiction story. As it soon turns out to be a ground reality in competitive market space, it's time for lending institutions to explore and delve early into era of virtual world, to get their business going like well-oiled machine in the longer run to preserve, sustain, and harness with better outcome and profitability.

## References

1. <https://www.raconteur.net/finance/why-fintechs-are-banking-on-the-metaverse/>
2. <https://timesofindia.indiatimes.com/blogs/voices/how-metaverse-is-reshaping-the-future-of-banking-industry/>
3. <https://www.sundayguardianlive.com/business/future-banking-metaverse#:~:text=Through%20Metaverse%2C%20banks%20can%20lend,cash%20transactions%20from%20virtual%20ATMs.>
4. <https://www.businessworld.in/article/Closely-Knowing-Metaverse-Banking-Vs-Online-Banking/10-08-2022-441492/>
5. <https://www.sundayguardianlive.com/business/future-banking-metaverse#:~:text=Through%20Metaverse%2C%20banks%20can%20lend,cash%20transactions%20from%20virtual%20ATMs>
6. <https://www.forbes.com/sites/forbestechcouncil/2022/03/15/banking-on-the-metaverse/?sh=56838c546068>
7. <https://www.housingwire.com/articles/what-metaverse-real-estate-means-for-mortgage-professionals/>



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