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Metaverse and Banking Industry – 2023 The Year of Metaverse Adoption

Mr. Vivek Dubey – Account Innovation Leader, Insight and Data Practice, Capgemini

Mr. Azher Mokashi – Vice President, Barclays

Mr. Saumya Ranjan Pradhan, Senior Director, Applied Innovation Exchange, Capgemini

Mr. Paresh Gupta, Senior Manager, Applied Innovation Exchange, Capgemini

Mr. Rohit Walimbe, Senior Manager, Digital Engineering Excellence Practice, Capgemini

Abstract

This whitepaper discusses the potential of Metaverse to revolutionize the banking industry. It highlights the various ways in which banks can leverage Metaverse to improve their operations, including through the use of NFTs, blockchain technology, and smart contracts. The paper is aimed to explore the possibilities of Metaverse in the Banking Industry and understand its practical implementation radius. This paper navigates to various topics from the definition of Metaverse to business aspects in banking and financial services. Explores the various business opportunities in the customer communication domain, cross-border transactions, mortgages, digital assets, green loans, and achieving carbon net zero through Metaverse. The role of Innovation Leaders is discussed in detail assisting readers to understand and appreciate the value of innovation in today's rapidly changing technology times. The paper argues that banks must take a proactive role in driving the adoption of Metaverse, support circular economy, and reduce waste by enabling web3.0 technology in the banking sector.

Keywords: Metaverse, blockchain, banking, NFTs, smart contracts, digital identities, innovation

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1. Introduction

Metaverse is a platform that has the potential to revolutionize the banking industry. With its ability to facilitate seamless and secure transactions, improve customer communication, and help achieve carbon net zero goals, Metaverse presents a unique opportunity for banks to enhance their operations and stay ahead of the competition (Allam et al., 2022). Whether it be through the use of NFTs to replace traditional payment methods, leveraging blockchain technology for cross-border account opening, or creating new business models using smart contracts and digital identities, banks have much to gain from tapping into the power of Metaverse (Plechatá, Makransky & Böhm, 2022). As innovation leaders in this space, banks must actively explore opportunities within Metaverse and work together with other stakeholders to drive its adoption in the banking industry. With continued investment and commitment, we believe that Metaverse has the potential to transform banking as we know it and pave the way to accelerate circular economy adoption in the field of technology for a more sustainable future.

2. What is Metaverse?

The Metaverse is a broad term used to refer to the various simulated worlds and the Internet developed by Chinese billionaire Wang Xing (Plechatá, Makransky & Böhm, 2022). The Metaverse can be thought of as an interconnected virtual world, similar to the internet but consisting of three-dimensional virtual spaces instead of pages on websites. It includes social media sites and other applications that allow users to create their digital avatars and participate in real-time interactions with each other. As more people use these platforms, it is becoming increasingly difficult for governments around the world to regulate or control what occurs in the Metaverse (Mystakidis, 2022). Many experts believe this could lead to major changes in our political and economic systems over time, as well as raising significant questions about how we define individual rights and privacy online.

We have entered a world where most of your daily life is online, we work in the hybrid model so work is online, higher education online, interviews and global seminars online, initial healthcare appointments online, and opening a bank account, reading statements, and discussing disputes online. With Web3.0, digital banking needs to upgrade the game plan by introducing an immersive experience, Metaverse is inevitable.

3. Can we use Metaverse in the Banking Industry?

There is a growing interest in using the Metaverse for banking applications, as it offers a variety of benefits to banks and financial institutions, including improved customer communication, streamlined transactions, reduced costs, and enhanced security. For one thing, the Metaverse provides an easy way to store, access, and manage data related to customer accounts. This can help banks better understand their customers' needs and preferences, which can lead to improved services and more personalized offerings (Seth, Gupta, & Singh, 2022). In addition, the Metaverse allows banks to easily integrate with other financial systems and applications, reducing costs while improving efficiency (Allam et al., 2022). Overall, these benefits make the Metaverse a compelling choice for use in the banking industry, from making account transactions to facilitating cross-border payments and digital identity verification.

Another point of view is - we can buy and sell goods and services to users on Metaverse - whether that is NFTs (music, pictures, video, or any other artwork content), avatars, virtual meetings or concert passes, or banking services. When so much of buying and selling happens online with digital assets then the mode of payment will be a digital currency (banks around the world are working on it). Therefore, Central Bank Digital Currency and Metaverse may marry and bring a whole new world in front of us.

4. Metaverse in Customer Communication?

The metaverse is a key component in customer communication. To effectively connect with customers, businesses must create a virtual space that encourages interaction and engagement. This can be done through social media platforms, online forums, and other digital tools that allow users to share information and interact with one another (Golf-Papez et al., 2022). There are several benefits of incorporating the metaverse into customer communication strategies. For one, it allows businesses to collect valuable data about their customer’s preferences and behavior patterns. By understanding what drives your target audience, you can more effectively tailor your messaging and marketing tactics to meet their needs (Plechatá, Makransky & Böhm, 2022). Additionally, the metaverse provides an opportunity for businesses to build stronger relationships with their customers by fostering meaningful interactions and creating a sense of community around shared interests and values. Whether it's through brand-sponsored contests and promotions or a dedicated customer support forum, the metaverse can help your business deepen its connections with customers in meaningful ways (Buhalis, Lin & Leung, 2022). One of the major benefits of incorporating the metaverse into customer communication strategies is that it allows businesses to collect valuable data about their target audience (Allam et al., 2022). By

analyzing this data, companies are better able to tailor their messaging and marketing tactics to meet the needs and preferences of their customers.

5. Can we replace SMS, EMAIL, and CHATBOTS with Metaverse?

The meteoric rise of messaging apps such as WhatsApp and WeChat has demonstrated the powerful role they play in modern communication. Many users appear to be replacing SMS, email, and other services with chatbots on these platforms. Although traditional messaging tools are still widely used today, their dominance is being threatened by a new generation of technologies that leverage the power of artificial intelligence (AI), computer vision, voice recognition, and other cutting-edge tools. This has led some experts to speculate about a future where we will need no other means to communicate than virtual reality (VR) platforms like Metaverse (Jovanović & Milosavljević, 2022). Banking and financial services, in particular, could benefit from the ability to conduct transactions and manage their accounts through a virtualized environment. As previously mentioned, one of Metaverse's key value propositions is its ability to integrate with other VR platforms such as Oculus Rift, HTC Vive, and PlayStation VR. This means that users can have a seamless experience where they can switch between different tools without having to take off their headsets or log into multiple channels (Krnjajic & Wesslén, 2022). Whether we will see the rise of more specialized messaging apps remains unclear at this point; however, it seems certain that advances in AI are driving us toward a future where VR-enabled interfaces play an increasingly important role in our communication habits (Plechatá, Makransky & Böhm, 2022). Thus, the future of Metaverse in banking and finance looks quite promising, from using it for transfers and bill pay to managing investment accounts.

6. How Banks can deliver their monthly statement through Web3.0 and Metaverse?

The banking industry is rapidly adopting new technologies to improve the efficiency of its operations, as well as to better serve its customers. One of these technologies is Web3.0 and Metaverse, which allow banks to deliver their monthly statements through online portals or virtual reality platforms with ease. One advantage of using Web3.0 and Metaverse for delivering banking statements is that it allows customers to easily access and view their statements online, anytime and anywhere they want. This can be especially useful for customers who may frequently travel or have busy schedules that limit their ability to visit brick-and-mortar branches regularly. Additionally, this technology also helps reduce paper waste by allowing users to download or print out digital copies of their banking statements instead of taking physical copies. Another benefit of using Web3.0 and Metaverse for delivering banking statements is that it provides improved security measures to protect sensitive customer data, such as login credentials and personal details (Banaeian Far & Imani Rad, 2020). This helps to reduce the risk

of data breaches which can cause significant financial and reputational damage to banks. Furthermore, banks can also leverage analytics tools within Web3.0 and Metaverse to better predict the spending habits of their customers, which in turn can help them provide more targeted marketing offers and promotions (Kiong, 2022). Overall, there are numerous benefits of using Web3.0 and Metaverse for delivering banking statements, including improved efficiency and customer service, as well as enhanced security measures to protect sensitive data (Allam et al., 2022). With every new technology acceptance era, it replaces various devices, for example, smartphones replaced cameras, watch, torch, computers, telephones, and many more devices. If the industry would have utilised smartphones properly, we could have reduced waste effectively in the past decade. Similarly, we have analysed that Metaverse will help in reducing land waste, food waste, electricity waste, water waste, and more if functioning and communication in Metaverse are initiated instead of physical bank branches.

7. How Metaverse can help in achieving Carbon Net Zero?

Carbon net zero is achievable if we utilize technology smartly since it can help us achieve energy efficiency. Metaverse can be used to achieve carbon net zero by various means, such as reducing costs in the energy sector and providing a reliable accounting system (Thompson et al., 2022). For banks and other utility companies, Metaverse offers shared ledger solutions through its all-inclusive digital identity verification for customers by integrating a trusted identity mechanism. This saves time and money that is spent on a manual KYC process, while subsequently reducing the carbon footprint of each company (Plechatá, Makransky & Böhm, 2022). This also allows for more transparency in transactions between different parties and helps reduce fraud since all parties have a clear record of ownership and past transactions. Additionally, Metaverse incorporates smart contract functionality so that once specific conditions are met on one side of an agreement (i.e., the bank or utility company), it automatically triggers processes on the other side of the transaction (i.e., the customer). The bank or utility company can then provide instant notification of transfer to the customer, from when the customer has agreed to a contract through to when the money is transferred, allowing for instant fulfillment of contracts (Subramanian & Subramanian, 2022). Metaverse supports branchless banking that is digital in nature with a human touch through an immersive experience. Thus, no physical land purchase for buildings, furniture, electricity, a new set of office goods, etc, may increase the waste on the planet. Metaverse in its way contributes to building circular economy culture – reuse, refill, and reduce waste through technology.

8. How Metaverse will redefine Mortgage's business?

A mortgage is a financial product that allows people to buy houses with borrowed money. Traditionally, the mortgage has been provided by banks and other financial institutions, who assess the risk of lending to individual borrowers to determine how much money they are willing to offer, at what rates of interest, and over what period. But Metaverse promises to change all that. By using blockchain technology, this innovative new platform will completely redefine mortgages as we know them today (Melnyk, Kuchkin & Blyznyukov, 2022). With Metaverse, lenders can quickly assess a borrower's creditworthiness based on factors such as their income history, job stability, credit score, and total assets – without having to rely on traditional methods like paperwork or lengthy appointments with bank loan officers (Renduchintala et al., 2022). Furthermore, the use of smart contracts on Metaverse will ensure that all terms and conditions of the loan are transparent and fair while helping to reduce fraud and minimize the risk of loan default. As a result, the mortgage on Metaverse will be faster, easier, more efficient, and more secure than ever before – offering people greater access to homeownership at lower costs overall (Kuang, 2022; Mystakidis, 2022).

9. How Metaverse will replace the Debit and Credit Card business with Metaverse digital identities and cryptocurrencies and transactions?

Debit and credit cards have become a staple for daily transactions. However, there are some significant problems associated with the use of debit and credit cards such as the hassle of having to carry them around and the risk associated with losing them. The advent of Metaverse digital identities, cryptocurrencies, and transactions has enabled a new and more convenient way for users to transact digitally. Through Metaverse's secure digital identity system, users can establish their digital identity on the Metaverse blockchain network and then use this ID to make transactions involving cryptocurrency or other assets in a decentralized manner. This eliminates the need for debit or credit cards, thus improving both conveniences as well as security. Another key benefit of using cryptocurrencies is that they are not subject to central bank manipulation like traditional payment methods such as cash or credit card payments (Dwivedi et al., 2022). This ensures that prices set by merchants remain consistent without being affected by fluctuations in interest rates, for instance. Additionally, cross-border transactions made using cryptocurrencies are also cheaper and easier compared to traditional methods such as wire transfers that require banks to act as intermediaries between the sender and receiver of funds (Bhat, AlQahtani & Nekovee, 2022). Thus, Metaverse's digital identity system and cryptocurrency framework offer users a more convenient and secure way to transact digitally while overcoming the limitations associated with debit and credit cards. With its innovative

approach toward financial transactions, Metaverse is set to redefine how we use our money in the future, making it the go-to platform for payments and financial transactions.

10. How Metaverse will help cross-border transactions and account opening in different countries?

Blockchain technology is based on cryptography, peer-to-peer network, and distributed ledger systems. It provides a decentralized database where all network participants are equal, which eliminates the need for an intermediary or third party to facilitate financial transactions. The traditional centralized model of intermediaries is replaced by a new era where each transaction has its smart contract that records the information about asset ownership. This ensures transparency and accountability as well as removes barriers of multiple currencies and complex banking networks when it comes to cross-border transactions (De Franceschi, 2022). For example, let us take the simple case of Alice from China wanting to send money to Bob in Europe who wants to buy some clothes online at Zara but does not have a credit card to pay for it. Alice and Bob have Metaverse accounts. They can set up an escrow contract between them (which will be locked until both parties agree, or cancel the order). After that, they can transfer value from their ETP balances in Metaverse to Euro using digital currency trading platforms. Then Bob gives the Euro received to Zara, which will approve payment and release the clothes. Moreover, when it comes to account opening or KYC requirements across different countries and regions, this process is often complicated and time-consuming due to differing standards adopted by various financial institutions. This is also where blockchain technology plays a key role by improving the transparency of transactions as well as minimizing the risk of fraud or identity theft (Dwivedi et al., 2022).

11. How can Banks create NFTs? is it possible to create - Credit Card NFTs? or Mortgage property NFTs? or Green loan or Green assets NFTs?

NFTS has great potential for banks. It opens up new ways to interact with their customers and offers them more flexibility in making financial transactions. From bank accounts to credit cards and mortgages, they can implement niche NFTs that benefit the customer. One possible application of NFTs for banks is in the area of credit cards. Banks could create branded NFTs that are tied to a particular card or line of credit, making it easier for customers to manage their financial transactions. This could include things like setting spending limits on certain purchases, setting reminders for when payments are due, or tracking spending trends over time (Belk, Humayun & Brouard, 2022). Another possibility is using NFTs for mortgages and other types of property loans. Banks could issue NFT-based loans tied to specific assets like real estate or vehicles, allowing customers to more easily track ownership and make any necessary changes as needed. Similarly, banks could also take advantage of NFTs as a way

to demonstrate their environmental credentials. They could create "green" loans or other assets that are tied to environmentally friendly initiatives, allowing them to build trust among customers and potential investors looking for socially responsible investment options. There are many opportunities for banks to use NFTs in innovative new ways (Smith, 2022). Whether it's increasing customer engagement with credit cards and other financial products, providing more flexibility in making transactions, or demonstrating their social impact and corporate responsibility, NFTs are paving the way for a new era of banking that benefits both customers and businesses alike.

12. Innovation Leader's Role in accessing Metaverse and benefits it can bring to Banking Industry

From 2023, the banking industry will see a lot of innovations as we enter into the Metaverse era. It is estimated that 85% of customers today are still not using virtual reality or augmented reality services and – more importantly – don't know how it could benefit them in their daily lives. For example, it has been estimated that with the appropriate attitude toward Virtual Reality and Augmented Reality, people can cut spending by as much as 60%. However, many businesses aren't even thinking about this new concept yet (Gadekallu et al., 2022). The role of an innovation leader requires laying out the foundation for these technologies and educating consumers on their benefits. With these technologies becoming increasingly accessible over time, business leaders need to innovate now regarding what an immersive experience means to their company's bottom line. Metaverse allows people to either be fully immersed in a 3D virtual world or interact with reality through augmented reality. For the banking industry to benefit from Metaverse, companies need to maximize the full potential of Virtual Reality and Augmented Reality. From making banking processes more convenient to make transactions more secure, Metaverse has the potential to completely change the way people think about banking (Kişi, 2022).

Innovation Leaders may also need to educate and spread awareness about the circular economy and fundamentals to reduce waste. Banks can avoid offering loans to companies that are unreasonably manufacturing new variants with the same functionality of daily-use products every month or year. For example - shoes, clothes, brushes, toothpaste tubes, shoe polish, beverage bottles of different shapes with the same capacity for the same product type, laptops of the same models but different colors (can be made reusable), smartphones, and even automobiles industries making the same model with various colors and many more products. This will give rise to NFTs in near future. Even if Pizza can reduce space waste by changing shape from a circle to a triangle or square, it makes sense to the idea of the circular economy.

Banks can avoid lending to designers-houses that promotes their products by making celebrities wear or use them whenever stepping out in public. Only Produce, Consume, Reuse, Buy or sell products that will reduce waste. Metaverse could be a role model for the circular economy, we could help people, corporations, NGOs, and regulators fast-track the movement with effective policies to march towards a world without waste.

13. The future of Metaverse in the Banking industry

The future of Metaverse in the Banking industry is shrouded in possibilities. Trends expected from 2023 to 2028 include greater collaboration between banks and technology companies, new regulations that promote innovation, as well as increased adoption from industries beyond financial services. The potential applications of Metaverse in the banking sector are numerous (Brik, 2022). For instance, Metaverse can be used to streamline compliance procedures, reduce fraudulent activities, and facilitate cross-border payments, especially from 2023. In addition, Metaverse can also be used to create digital assets that represent fiat currencies or other assets such as bonds and commodities. These digital assets can be traded on Metaverse's decentralized exchange, which offers a high degree of security and transparency. The use of Metaverse in the banking sector is still in its early stages. However, given the numerous advantages that it offers, it is expected to gain widespread adoption in the coming years. This would revolutionize the way banks operate and would bring a host of benefits for both customers and institutions (Allam et al., 2022)

14. Companies that are investing heavily in Metaverse

Following are some of the major companies and banks that are investing in Metaverse.

1) JPMorgan Chase & Co.: JPMorgan Chase is a leading global financial institution that has been actively involved in blockchain technology research and development since 2015. The company's interest in Metaverse is evident from its recent partnership with Digital Asset Holdings, a blockchain startup, to develop a platform for issuing and trading digital currencies.

2) Microsoft Corporation: Microsoft is another big name that is investing in Metaverse. The company has been working on blockchain technology for a while now and has even launched its blockchain-based platform, Azure Blockchain Service.

3) Goldman Sachs Group, Inc.: Goldman Sachs is one of the largest investment banks in the world and it is also one of the early investors in Metaverse. The bank has been working on blockchain technology for a while now and has even launched its cryptocurrency trading platform, called Circle Trade.

4) Deloitte LLP: Deloitte is one of the 'Big Four' accounting firms and is also one of the leading professional services firms that are investing in Metaverse. The company has been working on blockchain technology for a while now and has even launched its blockchain-based platform, called Rubix by Deloitte.

5) IBM Corporation: IBM is another big name that is investing in Metaverse. The company has been working on blockchain technology for a while now and has even launched its blockchain-based platform, called IBM Blockchain.

6) Capgemini: Capgemini has an Applied Innovation Exchange that drives innovations, and hackathons, establishes correlation regarding Buy Vs Build, and is focused on the latest technology that supports the circular economy and sustainability initiatives through technology like Web3.0 (Metaverse, NFTs, Blockchain, Digital Assets and more). The company has been working with various brands and helping them onboard on Metaverse.

These are just some of the major companies and banks that are investing in Metaverse. With such big names backing it, Metaverse is sure to be a big success.

15. Conclusion

Overall, it is found that Metaverse has an impressive and promising future in the banking industry. We are witnessing the digital drive that banks are moving from a paper to a paperless era. Another drive is branchless banking which is no physical branch. This has triggered a way for digital banks during the pandemic in 2020, and since technology is changing so fast another movement triggered in just two years is that - we will be seeing Banks moving onto Metaverse. It provides many advantages over the traditional banking system and is expected to gain widespread adoption in the coming years. The pandemic has fast-forwarded the digital transformation and Metaverse is inevitable. In the future, we will be online on different metaverse constructed by numerous providers. Shifting to the metaverse environment opens up the opportunity to accelerate the circular economy and reduce waste. This would revolutionize the way banks operate and would bring a host of benefits for both customers and institutions. Companies must invest in Metaverse to future-proof their businesses. The

government needs to take note of this and support the development of Metaverse by providing the necessary infrastructure, such as a digital identity system and decentralized exchange, and regulators to upgrade themselves with new technologies to match the tech-acceptance frequency that users have. Media needs to play a role in creating awareness about Metaverse and its benefits, from which the general public can benefit. Our economy would benefit greatly if Metaverse is widely adopted, as it would reduce fraudulent activities, and facilitate cross-border payments, especially from 2023 onwards – the year of Metaverse adaptation. We need to embrace Metaverse and use it to our advantage, by taking the lead in its benefits and well-informed decisions to reduce waste on the planet through research and development labs and an applied innovation mindset.

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AUTHORS DETAILS

MR. VIVEK DUBEY

ACCOUNT INNOVATION LEADER, INSIGHTS AND DATA PRACTICE

CAPGEMINI, UNITED KINGDOM

MR. SAUMYA RANJAN PRADHAN

SENIOR DIRECTOR, HEAD OF APPLIED INNOVATION EXCHANGE

CAPGEMINI, INDIA

MR. AZHER MOKASHI

VICE PRESIDENT

BARCLAYS. INDIA

MR. ROHIT WALIMBE

SENIOR MANAGER, DIGITAL ENGINEERING EXCELLENCE PRACTICE

CAPGEMINI, UNITED STATES OF AMERICA

MR. PARESH GUPTA

SENIOR MANAGER, APPLIED INNOVATION EXCHANGE – LEAD

CAPGEMINI, INDIA