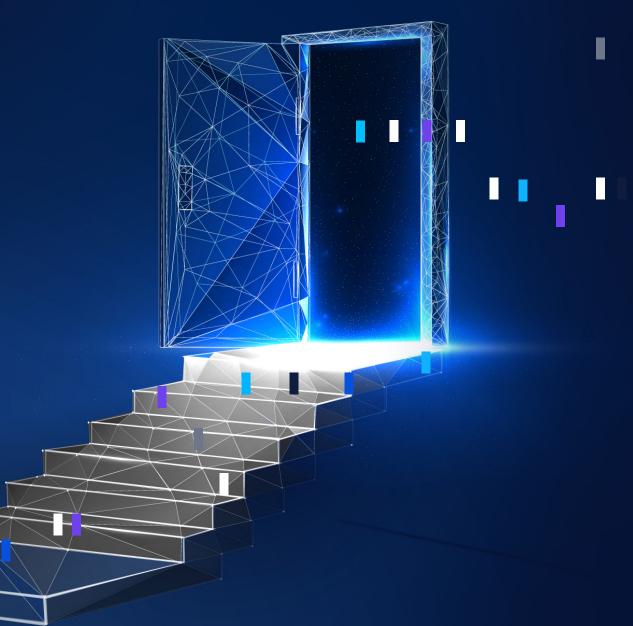
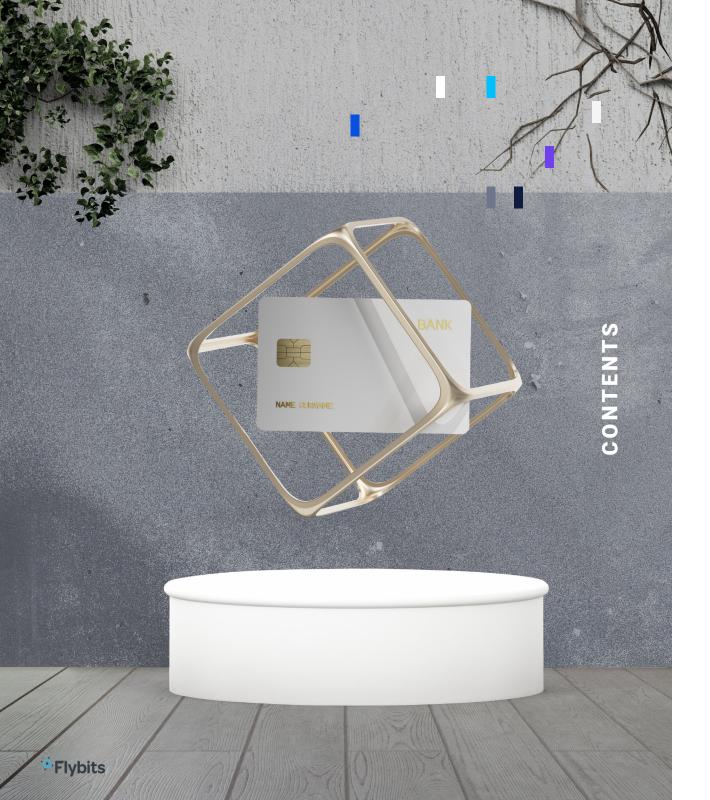
Banks and the Metaverse:

Opportunities for today and tomorrow









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INTRODUCTION

A whole world built and enhanced by data

Last November, when global pop music phenomenon Justin Bieber held the first ever live concert in the metaverse, he did more than delight his fans. He also gave the business world a case study fit for any MBA program, with a special lesson for legacy sectors and business models: digital experiences can be just as powerful, and even more lucrative, than traditional ones.

While other platforms had previously hosted prerecorded metaverse concerts, Bieber performed live from a Utah studio wearing a motion-capture suit. His avatar was livecast into the metaverse, projecting his voice and his dance moves in real time. An estimated 10 million people attended the performance — more than could ever fit into a stadium. With Bieber front-and-centre on their screens, every concertgoer's desk and couch became a front-row seat. People could chat online with other fans from around the world, and applaud by sending virtual expressions known as emotes. "Click to send Justin your light," read the screen, and as more people did, it set off fireworks-style light displays onscreen.

Those who attended the event live describe a palpable sense of connection: to them, Bieber's concert was as real as it was virtual. And Bieber reportedly earned millions from that single performance, the equivalent of months of live touring, even though the event was free to attend. In the months since Bieber performed, dozens

of other acts have signed on to do the same.

The lesson of Bieber's MBA case study couldn't be clearer: The metaverse took a longstanding industry with lots of deep-rooted habits and entrenched beliefs — live music production — and made the experience vastly simpler and more participatory for consumers, not to mention more profitable for business. Other legacy industries are sure to follow, and as with Bieber, the advantage will go to the first movers.



Making sense of the metaverse

The metaverse is the latest evolution of user experience on the Internet. It's a network of three-dimensional virtual worlds where people can navigate enhanced digital lives: doing business, socializing with coworkers, meeting up with friends, and engaging in new, immersive digital experiences.

Some have called the metaverse a "seamless convergence of our physical and digital lives." For younger generations the concept is nothing new, as metaverse platforms such as Roblox, Decentraland and Fortnite already immerse them in their digital worlds by the millions. And as those examples prove, you don't need a VR headset to enter the metaverse: while its spaces are three-dimensional, they are easily experienced through two-dimensional screens, including mobile ones. For all these reasons, the metaverse is expected to emerge as the dominant mode of digital interaction over the next decade.





The appeal of the metaverse, for users and brands alike, is that its three-dimensional nature makes it possible to experience interactions and visualize data in ways that were previously impossible. When mobile devices became the dominant channel, brand efforts were focused on condensing information and getting straight to the point — keeping things simple and transactional. The metaverse, by contrast, allows different layers of information to be rendered simultaneously and tiered based upon relevance. It can project information into the future, creating highly contextualized and engaging educational experiences.

Enter the metaverse: The time is now

And as the consulting firm Accenture points out in its April 2022 white paper The Ultimate Guide to Banking in the metaverse, it's also a place "where digital assets can be created, bought, and sold": land, buildings, meeting spaces, events, and avatar accessories such as clothing, jewelry, artwork, even dance moves. The metaverse will not only facilitate business and transactions in the current economy — it will spawn a whole new one. Much like the previous shift from desktop to mobile, the new platform will be lucrative. Former Amazon executive and metaverse pioneer Matthew Ball estimates the metaverse will be worth

between \$6-\$13 trillion by 2030.

As the platform matures, people's screen time will increasingly migrate to the metaverse for the superior experience it provides. Indeed, if Justin Bieber can thrill his fans in whole new ways with a digital avatar, imagine the kinds of exquisitely designed customer experiences brands will be able build for their customers in the metaverse. Businesses will be able to engage users in ways they could only dream of before.





Banks and the metaverse: lead or lag?

This makes the metaverse a potential game-changer for banks and financial institutions, who have watched their customer relationships erode steadily for decades. In the metaverse, they will be able to welcome customers into a virtual bank perfectly curated to their lives, needs and interests. The first movers will attract new customers across new demographics from around the world.

Combined with the move towards open banking, the metaverse will be able to provide customers with all their disparate financial industry relationships and vehicles —

accounts, mortgages, investments and more — through a single, seamless metaverse experience. It will allow banks to provide all their customers with the kind of deeply personalized, white-glove service once reserved for only its highest net-worth clients.

The burning question, for the financial sector, is how quickly it will adapt to the latest evolution in digital channels, and whether it will lead or lag its customers — and its competitors. Most banks were late to reorient their digital presence from the web to smartphone apps.

As a result, they inadvertently cleared a path for digital-first challenger banks and gave up the opportunity to set the standard for mobile banking. Given the opportunities made possible by the metaverse, another lagging adaptation from the financial sector could prove more costly still.

And yet, even though it's a trillion-dollar market in the making, most financial institutions don't have a metaverse strategy — nor do they know where to begin.



The present, and future, of digital banking

Financial institutions have had a troubled relationship with the digital economy. As personal digital technologies evolved, enterprise banks and others responded with innovations such as secure online and mobile banking and digital payment systems that have become ubiquitous, greasing the wheels of both the traditional and digital economies.

1990s

BANKING ONLINE



Desktop, static 'read-only' websites

2000s

MOBILE BANKING



Social web. Emergence of banking apps, read-write web 'interaction', transactional banking, cloud computing, built around the users

2010s

PERSONALIZED BANKING



Computers can interpret information like humans via Al/machine learning Omni-channel, personalized banking & lifestyle experiences based on context, real-time, consent-based

2020s

METAVERSE BANKING



Web 3.0, Open banking personalized / contextual immersive & social, real-time experiences, co-creation built on top of technologies such as blockchains, crypto exchanges, and NFTs



At the same time, banks have also experienced years of declining face-to-face interactions with customers, who independently manage most of their transactions through digital channels. Paradoxically, even though banks now handle more transactions than ever for each individual customer and provide them with increasingly personalized experiences, their relationships with those customers are eroding.

Human relationships and data relationships

What's been lost is the intimacy and trust that's generated from face-to-face interactions. Customers used to visit their branch to talk about homes, cars, careers, spouses, kids, loans, investments, plans, needs and wants — and it was a banker, not just a bank, who knew their story and helped them financially with all of it.

In the digital era, all that granular information still flows into the bank. But it's no longer exchanged from customer to banker; it arrives in the form of data gleaned from transactions, online queries, browser histories and more. Banks today have more data at their disposal

than ever before, more than any branch manager could ever know.

Yet banks have had difficulty synthesizing that data and using it to build engaging, immersive digital experiences for their customers. And the dominant digital channels, whether online or mobile, have until now been sub-optimal platforms for the task. As a result, customer relationships have become increasingly transactional, eroding customer loyalty and downplaying the value of trust in the banking relationship.

To put it plainly: banks have been unable to replicate the benefits of the face-to-face banking experience in a digital environment.

The metaverse bank: Three ways to engage

The metaverse offers a chance to achieve that elusive goal, because people will no longer experience digital life as a screen on their desk or their phone. They'll be navigating through three-dimensional digital spaces, meeting, exploring, and learning, often with others.

For any financial institution, there are three levels of engagement in the metaverse:

- 1. Be a participant. Banks can establish a brand presence, and reconfigure existing digital banking tools for the metaverse platform. As a participant, they become one of a multitude of metaverse experiences their customers can find.
- 2. Be a player. Once you bring your bank into the metaverse, the next step is to bring the metaverse into your bank, and make a digital hub your organization and its employees.
- 3. Be a pillar. Banks can establish themselves as an "anchor experience" in the metaverse, the kind their customers return to frequently a safe and secure vault for all their

personal data, not just their banking data, as well as a hub for immersive, experiential learning on how to build personal wealth.

The first level of engagement — being a participant — represents the basic table stakes for metaverse banking. It's what every bank brand will establish as a minimum presence in the years ahead, as part of keeping up with the shift to the metaverse. Banks may choose to stop at this level of engagement, though doing so would leave them exposed to significant risk from challenger banks and other digital-first and digital-forward competitors.

The second level of engagement — being a player — is part and parcel of the broader, long-term social and commercial migration to a new digital experience. The metaverse can be used to host internal meetings at all levels. It can be an integral part of how banks vet, hire, and onboard new employees. And it can a highly effective platform for skills training and career development.

It's the third level of engagement, being a pillar, where opportunity lies for brand expansion and extension. It's at this level where financial institutions can build a metaverse strategy that transfers the bank's best reputational assets — such as trust, privacy,

security and consent — to the digital realm, powering a metaverse data vault. It's the perfect digital complement to their traditional service: in addition to being the protector of financial assets, they can be the protector of their customers' data assets. Customers will be able to engage with all their personal data in visual form to make new choices, plan their future, and improve their lives.

Just as digital firms are now at work building virtual meeting rooms better than any office space, banks will be able to build metaverse hubs that are not merely replicas of a physical branch but something better — a truly immersive, curated digital experience that finally puts the power of all their data to work for both customers, and for the bank itself.



Metaverse Banking: Welcome to the "Open Dome"

The metaverse isn't a single space but a network of immersive virtual worlds. Some of these worlds will become increasingly connected and even interoperable, while others will remain gated. What will distinguish them from one another will be the kind of experience they offer, and the degree of privacy and security they provide to users.





Some worlds will be built for gaming, music or other entertainment. In these spaces, user data and preferences will be widely available for use in personalized advertising, as most social media platforms currently function. But other spaces will be built for work or for personal relaxation, with data protections in place to ensure privacy and security.

In other words, the metaverse will feature both public and private worlds. Hossein Rahnama, the CEO of the digital experience design firm Flybits, likens these private spaces to a kind of "open dome": a space with the immersive qualities of the metaverse, where data can be presented in new and engaging ways, where offline experiences can meet online interactions,

and where relevant data from a multitude of sources can come together in a structured, logical way — but also where that data is kept private and secure, unavailable to advertising algorithms or other forms of surveillance marketing.



These are the metaverse spaces where users will deal with financial issues, which makes them the spaces where banks can thrive. Financial institutions can create safe digital spaces where customers can access their financial information. And once customers are within the bank's protected space, they can do so much more:

- Customer data can be transformed into new visualizations of customers' financial assets and options, such as investment portfolio returns, options, and risk-reward ratios.
- They can allow customers to draw information from other sources and integrate it into a seamless whole.
- These information sources can be public ones, such as interest rates, currency values, stock data, and real estate listings.
- These sources can also be personal, ranging from other bank accounts and investments to personal budgets, insurance policies, credit card statements, bill payments, small business balance sheets, energy consumption, health data, and more.
- Customers can then engage with all this data in visual form to look into their future, using the power of data to make their lives better.

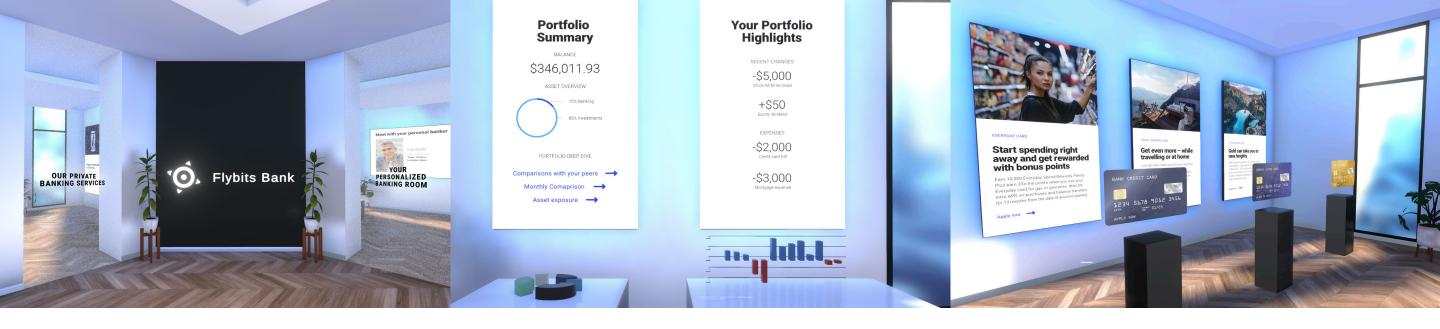
The power of these kinds of private spaces is the data alliances that they can enable, without the need for a web of business-to-business data sharing agreements. Because private digital spaces will be designed around user consent, customers will be the ones who initiate the sharing.

It's by hosting and facilitating these types of spaces that banks can become key pillars of users' experience in the metaverse. With all this information at hand, metaverse banking hubs can help customers see the entirety of their financial lives and commitments. It can show them new financial goals and opportunities they'd never considered before. It can curate news reports and other educational resources to help them understand new products and services. It can help them game out a variety of financial scenarios. It will be the metaverse space that is built to their wishes, rather than the wishes of advertisers or sellers.

In essence, the metaverse allows banks deepen its customer relationships through data — and to provide all its customers with a level of service once reserved for its highest net-worth clients. It can grow the customer relationship beyond mere transactions, and help customers truly structure their financial lives for the better.







Introducing Open Dome

This kind of enhanced digital banking experience is the impetus behind OpenDome, a first-of-its-kind platform for banking in the metaverse. Developed by Flybits, OpenDome allows financial institutions to create virtual spaces that can gather and integrate data from a multitude of sources ("Open" beneath a digital shield that provides full data privacy and security, all with the customer's consent ("Dome".

As a company, Flybits sets itself apart for its ability to connect data across multiple systems — and to combine it with public and 3rd party data, providing banks with the ability to extract insights and create truly contextual, personalized experiences.

OpenDome is the next iteration of Flybits' unique data and contextual personalization capability. Built upon the company's innovative Experience Studio, OpenDome is the first digital banking platform that can integrate into the three-dimensional virtual world of the metaverse. With OpenDome, banks create a private, personalized metaverse for customers, with the bank acting as the central hub of the customer's data ecosystem.

OpenDome is structured to continually secure active customer consent for data sharing and integration. OpenDome allows them to retrieve and integrate the data they need to find answers to their questions or

solutions to their problems, always with full privacy and security protections in place, organically creating customer-driven, privacy-preserving data alliances across industry ecosystems.

OpenDome can help banks build a truly immersive and participatory decision-making space, one where their brand becomes far more than just an intermediary for commoditized transactions but a trusted partner in their financial security — and their data security.



Open Dome in Action

The advantage of OpenDome is that it facilitates the transition from having a metaverse presence to becoming a pillar of user metaverse activity. As banks look to use the metaverse to extend and grow their brand, they can approach the task through a simple four-step process.

- **Step 1** Identify a customer problem you can solve. Whether it's educating first-time homebuyers or helping long-time customers transition into retirement, the key is to hone in on customer situations where relationships matter.
- Step 2 Establish how your institution can add value.

 Assess the kinds of customer data and open-source information your bank can use to help customers see the bigger picture and make better decisions.
- Step 3 Enhance the experience. Imagine new ways of presenting information to customers contextually, with the benefit of an immersive virtual space. Graphs and charts no longer have to be static numbers on a flat screen customers can walk through them, adjust them on the fly, and visualize the impacts of their options.
- **Step 4** Explore cross-industry opportunities. Seek out new ways of integrating your bank's offerings with other sectors, serving as the curator of their customers' needs, wants and preferences.

Thanks to OpenDome, banks can use this process to imagine a new kind of deeply personal and contextual relationship with their customers, one that's driven by data while ensuring full data privacy and security. With OpenDome, banks can put the power of data into their customers' hands and deliver highly immersive and deeply personalized engagement and experience.

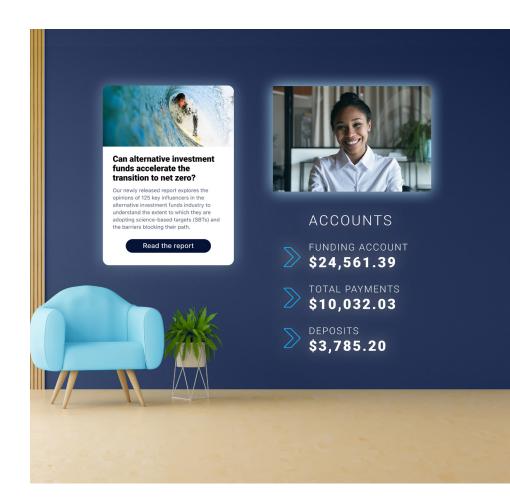




Image: Visualization of the future of banking by Open Dome

Case Study 1: Buying a home

Imagine Herneet and Franklin. They are a newly married couple in their late 20s looking to buy their first home. In today's world, they conduct their research by opening a multitude of browser tabs and spreadsheets: comparing listings, making mortgage calculations, estimating monthly costs, adjusting their budgets. It's a labor-intensive process, one with more

questions than answers. They've never owned a home before; they're still learning.

In the metaverse, beneath the OpenDome provided by their bank, they can integrate all this information in a single virtual space, and visualize the results together from the comfort of their living room.



- OpenDome leads Herneet and Franklin through threedimensional, virtual education sessions on home ownership, leading them on virtual tours, teaching them about seasonal maintenance, energy efficiency, and more
- OpenDome imports data from real estate listings and from Herneet and Franklin's personal budgets
- The bank applies its mortgage calculator to each listing and creates scenarios for the properties they are considering
- OpenDome helps them explore the community where each property is located, with neighbourhood data from statistical agencies and other sources
- OpenDome calculates projected monthly savings from the installation of rooftop solar panels, and shows the number of months for their installation to pay for itself
- The bank proposes a home equity line of credit to make the investment
- When the purchase is completed and the possession date established, OpenDome will notify all their service providers of the change of address: water, electricity, natural gas, cable television, home car and life insurance, credit cards, subscriptions, and more.

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Image: Visualization of the future of banking by Open Dome

Case Study 2: Growing personal wealth

Meet Marcus. He's a marketing executive in his mid-40s with an investment portfolio of \$6 million and a total net worth of \$12 million. His assets span multiple funds, managers, accounts and properties; it's become a challenge for him to stay on top of it all, make decisions, and continue to grow his personal wealth.

In the metaverse, beneath his bank's OpenDome,

Marcus can create a single, immersive portal where
he can gather all his investment and wealth data in
a unified, privacy-protected personal space.

- OpenDome updates his net worth projections based upon all the information he provides, allowing him to see connections and discrepancies, and to dive deeper into the stories behind his best-performing and underperforming investments
- In the OpenDome, the bank can provide a thorough review of Marcus' risk profile, visualizing his portfolio in ways that were previously impossible
- Marcus can invite a real and trusted bank advisor into his private space to review his whole portfolio with him, discuss future trends, and helping him focus his decisions
- With a complete picture of Marcus' lifestyle and preferences, the bank can curate personalized offers for him, from credit card upgrades to travel opportunities.







Case Study 3: Initiating new customers

Jonas is a 12-year-old gamer who's already spending lots of time in the metaverse. He's begun to amass a large following for his online-gaming skills and commentary, something he may soon be able to monetize. But he's never had a bank account — and doesn't fully understand why he needs one.

In the metaverse, with his parents' bank, Jonas can learn all about saving, budgeting, investing and wealth in a language that he understands.

- With OpenDome, the bank designs gamified experiences that build financial literacy, from budgeting to investing
- Jonas can apply for his first debit card through the metaverse
- As Jonas progresses, he unlocks special rewards and offers designed by his parents.
- As Jonas matures, the bank can guide Jonas' first steps into developing his personal band. With Jonas' consent,
 OpenDome can bring his gaming data and social media profiles into the mix, helping him understand and assess the value of his activity



Image: Visualization of the future of banking by Open Dome

Conclusion

The financial sector has tended to lag on digital adoption. The result has been the steady erosion of customer relationships: where clients once trusted banks as their close partners in wealth management, they now use them mostly as transaction intermediaries.

In the metaverse, banks can reverse both trends. They can become early adopters in these new virtual spaces, which will allow customers to see them in a new light. Not as bricks-and-mortar organizations but digital-first enterprises. Not just as financial vaults but also data vaults. And not just as transaction enablers, but as creators of immersive digital experiences.

And the tools are already available to help financial institutions extend their brands into the metaverse. Banks can now curate unique experiences and visualizations that integrate data from a multitude of sources, helping customers visualize and understand how all their financial dealings fit together in ways never before possible — all in a secure and privacy-protected environment — and showing them how they can make their finances and their lives better.

For financial institutions, the leap into the metaverse can also be a quantum leap, over challenger banks and other digital competitors, and back to their leading position at the forefront of their sector.



