zensar

The Future of Digital Banking

Q2 FY22

White Paper

The COVID-19 pandemic accelerated the acceptance of digital-first for the banking ecosystem almost overnight. The ecosystem is poised to take a bolder leap with Metaverse on the horizon. In this article, we look at the trends that will shape the future of digital banking.

How digital banking is evolving

First, let's look at what the market has been doing or planning for digital transformation in 2021. Refer to a C-suite survey[1] carried out in the US to understand. We can observe that most banks, credit unions, and lenders have already incorporated a digital strategy or are in the process. Below are the significant facets they focused on.

Customer/client experience capabilities	Already implimented	Planing to impliment
Cloud-based collaboration platform	72%	26%
Customer/client analytics real-time intelligence	62%	36%
Data-driven personalization	58%	41%
Marketing automation	57%	35%
Conversational AI/chatbots	56%	38%
Ability to capture user information online	52%	46%
Automated cost estimates	52%	40%

Customer offerings	Already implimented	Planing to impliment
Mobile banking	84%	14%
Digital account opening	73%	26%
Real-time financial managementbdashbords	61%	37%
Personalized loan options	57%	35%
Peer-to-peer payment	56%	38%
Digital wallet	52%	44%
Open banking	52%	30%
Location-based offers	46%	48%
Robo-advising services	28%	45%

Figure 1: Digital Strategy Status and Roadmap

Major technological advancements in 2021 include hyper-automation, cybersecurity, decision intelligence, snowflake, edge computing, internet of behaviors, AI-as-a-service, and metaverse spaces. Banks have adapted to the changes, helping them personalize and improve customer experiences.

What is happening in digital banks?

Banking has transformed due to the massive impact of technology in the 21st century. However, real change happened because of the COVID-19 global pandemic. It forced almost everyone to change overnight and embrace technological advances to be able to perform regular tasks remotely, avoiding any physical contact with people. Banking was no exception to the sudden shift in work and work environments. It had to evolve to keep the economy stable during these challenging times. The technological impact is only expected to continue, and there are some emerging trends that will shape the future of digital banking:

- The new standard for banking operations
- Branchless and next-gen banking
- Customized client solutions
- Fintech and tech giants – competition and collaboration
- Fintech-as-a-service and Baning-as-a-service
- Artificial intelligence and Data Science

The global pandemic has led to an unprecedented downturn in the market, causing enormous setbacks for the financial sector. The entire banking industry had to turn to unconventional ways to continue operations. Banks effectively deployed technologies to execute banking operations despite many roadblocks smoothly, thus demonstrating agility and resilience. Within weeks, the banking industry seamlessly handled large-scale virtual operations and successfully executed untested operating models

1 The new standard for banking operations

For banks that choose to maintain branches, certain tangible actions can help manage operations while monitoring risks.

Checklists for banks that maintain branches

Clean

Ensure cleanliness and deep clean all branches and customer-interaction locations to give employees and customer comfort

Identify

Heighten monitoring of physical channels to quick identify the ones affected (confirmed and potential) and develop a play book for addressing contamination

After processes

Identify and after physical process requirements - to ensure continuity on main service even with branch slosure of staff reduction

Control

Ensure appropriate controls in altered workplace sitting and that trade-offs between contingency measures and risk appetite are well-considered

Monitor

Monitor customer-service capicity against need and reduce operations if customer need is not evident

For example, review ATM and branch limits on reciepts and payments; identify alternatives to in-person sign-offs; leverage branches with remote advisory installed capabilities.

Figure 2: Measures taken by banks as a response to COVID-19[2]

2 Branchless and Next-gen banking

Branchless banking

The first significant strategic change implemented was the reduction in branch operations and thereby closure of branches and retrenchment of branch staff. Below is a reference for the UK market that indicates the number of branches closed over the last couple of years.[3]

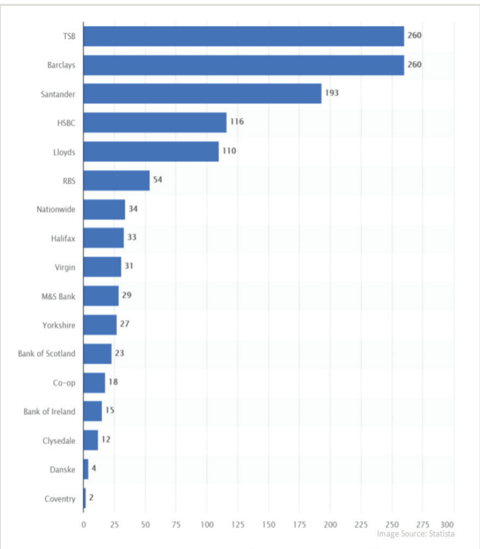


Figure 3: Number of bank branches closed (and scheduled closure) in the United Kingdom (UK) between 2019 and 2021, by bank

This gave a big boost to digital channels. The acceleration of a digital-first economy also led to a rising trend in digital-only banks or neo banks that operate entirely through a digital interface. In this new normal of banking, every company will have one or more such providers of banking services. There is a shift in focus from branch-heavy interactions and product-centric organizations to offering personalized, seamless digital consumer experiences. We will soon witness the launch of the next generation of neo-banks — an optimized convergence of the old and new banking business models for the post-covid world. The rise in digital banking transactions has prompted traditional banks to elevate their digital offerings and explore technological solutions. With existing, trusting customers, traditional banks not only keep up with emerging neo-banks but also challenge their reach. For instance, JP Morgan Chase plans to roll out a neo-bank this year, code-named Dynamo.

A millennial-geared service headquartered in London, it has already created 400 jobs in the UK.[4] Arvest Bank in Arkansas[5] closed 31 of its 270-plus branch locations from June 30, 2021. This is a significant strategy shift from branch banking to digital banking. The bank also plans to deploy 38 additional ATMs with live teller machines to allow customers to communicate with Arvest tellers on video via a screen, to facilitate more transaction types than a traditional ATM.

Next-gen banking

The global pandemic ensured that banks personalized their offerings for different generations — Gen X, Gen Y (Millennials), and Gen Z. Banks had to offer other solutions to engage them. They also focused on a strategy for Millennials and Gen Z, knowing that they form most of the customer base. Gen Z are the true digital natives. From streaming to sharing, those between the ages of 18 to 24 expect seamless connectivity — and their finances are no exception. The banking industry has shifted servicing dramatically from its beginnings as a brick-and-mortar stalwart to become more digitally capable and flexible.

Banks' ability to attract and retain Gen Z users relies on creating and delivering highly personalized banking experiences. There are a few disrupters in the market already. Companies like Netflix, Amazon, and TikTok continue to shape Gen Z's expectations for hyper-personalized experiences. These companies use algorithms to tailor suggestions for content and products using consumer data, creating customer loyalty and longevity through personalization.

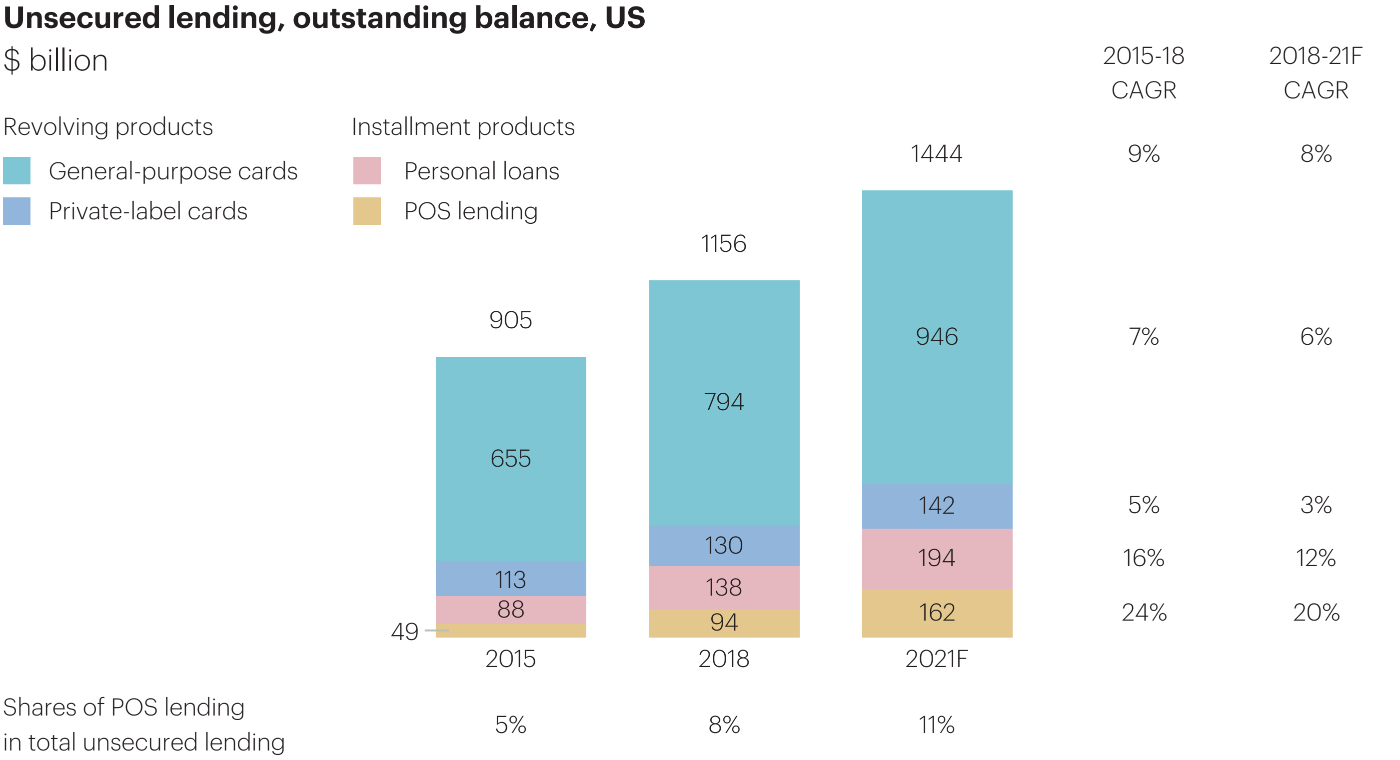
Another testament to the next-gen-centric approach is Varo Money Inc., a consumer fintech company that received a national charter from the Office of the Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation (FDIC), and Federal Reserve to become a national bank – Varo Bank NA.[6] This will allow Varo to offer customers comprehensive, FDIC-insured banking services. The national bank charter enables the company to move to its new and improved technology stack and innovate across a range of financial products to improve the financial health of millions of Americans, overlooked and underserved by the traditional financial system.

3 Hyper personalized solutions for customers

As banking solutions become more customized, offering a generic solution or product to all customers is unfair. As Gen Z sets the expectations on personalized offerings, Millennials are also developing a taste for personalization. One of the aspects of this is lending products. When customers buy high-value products, they prefer to split payments into installments but don't have a chance to strike a good deal with banks for consumer loans or cash advances. Hence, they prefer if the seller can offer a good deal for splitting the total value into installments.

This works in favor of the seller and those who can sell more units. Such point-of-sale (POS) lending has seen massive growth (refer to the chart[7] below). Financial institutions can integrate APIs to offer marketplace lending, supply chain financing, and POS-based lending products to their micro, small and medium enterprise (MSME) partners and build ecosystem partnerships with corporates. Tapping into cash inflows of MSME customers will improve pricing, underwriting, and collections. For example, in April 2020, Goldman

Sachs launched MarcusPay, a POS financing tool that helps users pay for larger purchases over time with highly competitive interest rates.



Source: Transunion Experanc: McKensey Consumer Lending Pools

Figure 4: Growth in POS lending within unsecured lending in the US

Similarly, we are witnessing customizations in the financial and banking solutions offered to the customer through the birth of open banking. Any third-party service provider can access the customer data stored in banks' databases to build and manage the customer's investment and borrowing portfolio, addressing all specific needs at important phases in life. Such facilities were available only to a few high net-worth individuals (HNIs) through private banking. The BNPL (buy now, pay later) products and solutions are becoming exceptionally popular. They allow customers to purchase the products they need now, allowing them to manage their payments at their convenience.

4 Fintech and tech giants - from competitors to collaborators

Fintech companies are challenging banks with innovative products and great services. These innovators want to reinvent the banking experience. Their efforts have been successful until now. From payments to lending and beyond, fintech companies enjoy an ever-increasing market share. The way forward for both banks and fintech companies is through collaboration. Although both have different approaches, the truth is that fintech companies and banks are companions. Collaboration is critical to offering the best services and solutions to customers. Banks have a robust suite of products and the scale to make them cost-effective. Fintech companies can quickly reach niches with customized services and experiences that traditional banks cannot. Hence, it isn't surprising to know that many financial services firms are working to incorporate the technologies of fintech companies into their tech stack. Banks are also looking for opportunities for inorganic growth by acquiring fintech companies, thus boosting their technologies. Below[8] are a few examples of such collaboration:

HSBC and Tradeshift

HSBC has partnered with the global supply chain finance company, Tradeshift. In their agreement, the bank will use Tradeshifts's platform to automate supplier invoice payments, speeding up and adding transparency to lengthy payment cycles.

ABN Amro's Grip[9]

Dutch bank ABN Amro developed the Grip app. This tool is a personal financial manager that lets users connect to six different Dutch banks. They can get insights on spending and are coached on making better financial decisions. The Grip app has been downloaded over 500,000 times, making it one of the most popular finance apps in the Netherlands.

Figure 5: ABN Amro's Grip

Another major factor driving change in banks' approach toward technology is the foray of tech giants like Apple, Amazon, Google, and WhatsApp into banking and finance. According to a KPMG report, 26% of financial institutions are already partnering with one or more technology giants. Also, within the next 12 months, 27% report a plan to forge partnerships. This represents a significant shift in the industry.

Companies like Apple, Microsoft, and Google are application and data-centric focused, foraying into financial cloud computing from a technology and data management perspective. In contrast, e-commerce firms like Amazon and Alibaba focus on creating a frictionless customer experience that drives their interest in financial services, such as using customer data to manage credit risk and working capital better.

The giant tech firms excel in supporting an integrated delivery of services, financial and otherwise, as part of a holistic customer engagement strategy. These firms also have advantages over traditional financial players due to a lack of legacy systems, ongoing investment in modern technologies and the knowledge of how to best manipulate data to deliver positive commercial outcomes for clients. Data-centric businesses can also hold and process volumes of data far more efficiently than financial institutions. This efficiency is increasing year over year. In contrast, financial institutions have strong existing customer bases that trust them to hold their money and sensitive data safely and securely. Working together, tech and financial organizations can make strong plays, such as services that combine elements of the traditional supply chain into a single integrated delivery platform.

In the US, banks have woken up to reality and are leading the change. They realize that technology will drive the business forward in the future. So, banks are heavily investing in fintech. An example of this is Bank of America's patent grants rose to 512 in 2021. Meanwhile, US Bank has worked and taken the initiative to accelerate this investment further by becoming a limited partner in two venture capital (VC) firms specializing in the fintech space[10] — Fin Venture Capital and Commerce Ventures. These VC firms invest in startups within the fintech ecosystem that work alongside banks. KeyBank is also heavily investing in the future through fintech[11], building partnerships with numerous best-in-class innovators to provide better payment solutions to its customers.

> Banks have woken up to the reality and are innovating ahead of fintech

5 Fintech-as-a-service (FaaS) and Banking-as-a-service (BaaS)

Fintech[12] offers profitable avenues to lending businesses that aim to lead the financial industry. Many fintechs are offering their APIs to other players in the financial markets as software to be integrated into their systems. This model is relatively new in financial markets and is called fintech-as-a-service.

Leveraging a fintech-as-a-service platform allows financial businesses to optimize their end-to-end process, thus ensuring wholesome execution of a commercial service, provided through the internet, on-demand within a specified timeframe. FaaS platforms ensure complete management and deployment of delivery environments. Moreover, they ensure legal compliance with banking regulations and proper security mechanisms like solid authentication.

Now flip the coin, banks are also exploring the technology option through the concept of banking-as-a-service (BaaS). This describes a model in which licensed banks integrate their digital banking services directly into the products of other non-bank businesses. This way, a non-bank business, such as the POS lending example discussed above, can offer its customers digital banking services such as mobile bank accounts, loans and repayment services, and debit cards without needing a banking license.

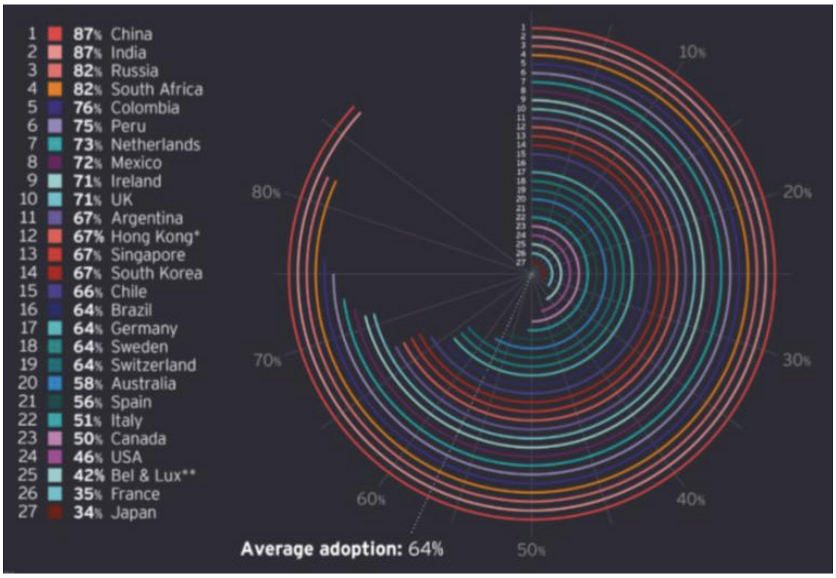


Figure 6: FinTech adoption across 27 markets

The bank's system communicates via APIs and webhooks with the product or service, enabling the customer to access banking services directly through the product website or app. Your product or service never really touches the customer's money. It only acts as an intermediary and is not burdened by any regulatory duties a bank must fulfill. Thus, with BaaS, pretty much any business can become a banking provider with nothing but a few lines of code. That is why BaaS is also often referred to as white-label banking since the banking services are delivered through the branded product of the non-bank. Next, after Solarisbank, other providers in Europe's growing BaaS landscape include ClearBank, RailsBank, and Starling Bank. Across the pond, established banking giants are also launching BaaS projects next to their existing offerings, such as BBVA in the US. This has taken a new dimension through BNPL (Buy Now, Pay Later). Almost all the major platforms invite customers to use the BNPL facility to increase their spending by allowing easy consumer finance and delayed payments.

One may easily confuse BaaS with open banking, but they are essentially different. BaaS exposes the Bank's API to businesses to use one or more of its core services like lending without that business being the lender (the bank remains the lender and follows all the processes and compliances). In open banking, banks expose the API that shares the customer's data, such as account balance and interest rate. This allows the service provider, like a third-party portfolio manager, to collate and manage the customer's overall portfolio across various institutes.

Another aspect of BaaS is new-age, cloud-native core banking platforms. Numerous products have picked up this market pulse to build cloud-only products — Thought Machine, Mambu, Finxact, °neo, etc. All these are offering disruptive solutions. This has pushed the traditional banking and financial services (BFS) products to drive this change into their traditional on-premise platforms. Few have pivoted strongly to cloud-native solutions, viz., Finacle, Temenos, Finastra, Fiserv, and FIS.

6 Artificial intelligence (AI) and data science

All these ultra-modern technologies help bring new perspectives to banks and more accurate predictive capabilities and customized insights to understand customer needs and provide them with solutions and services. AI can analyze customer profiles, web data, and past interactions to provide product recommendations and other personalized suggestions upon fetching data from multiple sources. BBVA, a Spanish multinational bank, analyzes contextual customer data via its Bconomy app to offer its bank customers relevant content and product suggestions.

> He, who leverages the data best and gets the predictive models right, may well be the next winner

Process control and optimization are already one of the most applied approaches in fintech that will be the leading competitive advantage for companies in the decade. It makes business processes more efficient, fast, and increases overall productivity. In the coming years, the technology will become more widely available and drive more systems toward automation. AI finance software will reply more effectively to customers, generate detailed reports, and analyze big data.[13]

To minimize failures, businesses start utilizing AI and machine learning (ML) to solve the two most significant aspects — response time and personalized customer approach. Chatbots powered with AI and machine language (ML) will respond within seconds. With the growing competition in the market, quick customer engagement will be more valued than ever before. The tremendous amount of analyzed information allows the creation of a more personalized customer experience. It includes not only customer responses in a chat, but AI can also collect data from social networks, review websites, send personal emails to specific audiences for feedback, and more.

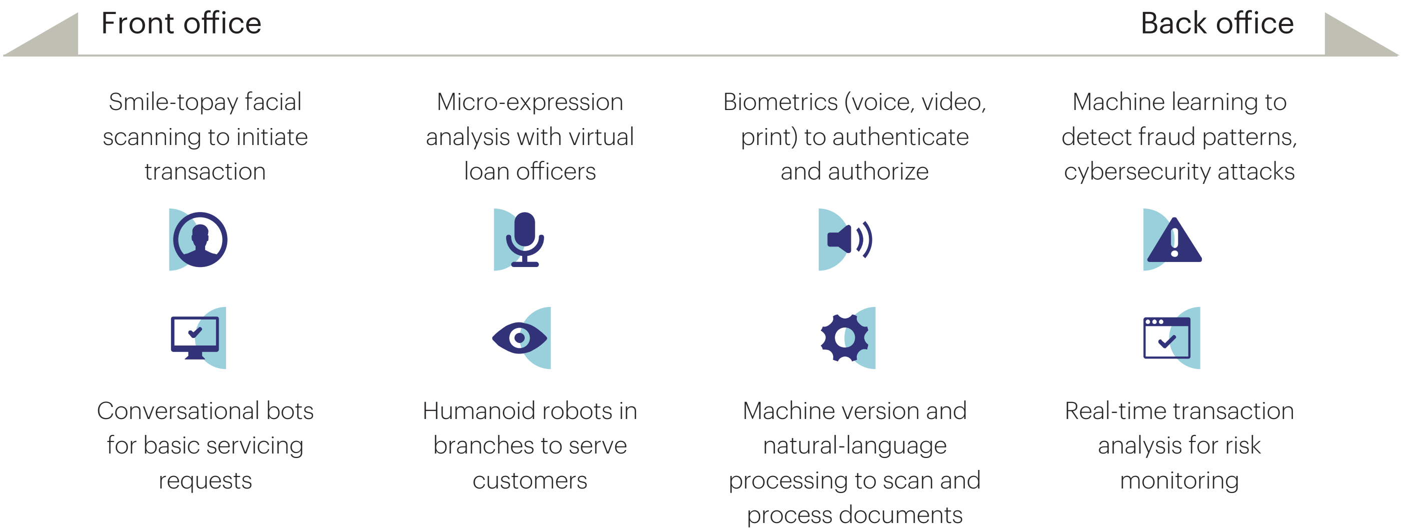
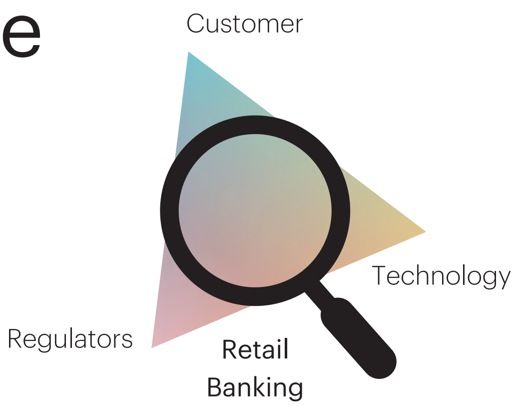


Figure 7: Use of AI technologies across bank processes
Image source: Mckinsey & Company

Most current credit scoring systems are outdated. Their decisions are based on a hypothetical customer base, including demographics, age, marital status, possible preferences, etc. Meanwhile, modern credit scoring and churn prediction software analyzes real clients through big data. Churn prediction with AI allows reducing the number of lost customers by 45% and empowers the whole marketing and sales campaign. Credit scoring powered by AI and ML is the future of credit risk management. The software will analyze historical data based on previous lending operations, debts, marital status, financial behavior of applicants, and more to help you decide whether to grant loans or not. AI credit scoring can reduce non-performing loans by up to 53% while boosting your revenue by 37%. With AI and ML, companies will reduce risks and speed up decision-making processes to days instead of weeks.

Zensar's viewpoint on the future of retail banking

There have been plenty of predictions about retail banking due to the accelerated technological evolutions we are witnessing. However, where we are headed from here is not unpredictable anymore. We have tried to predict it from the perspective of different stakeholders.



Customer	Technology	Regulators
Product with in-built hyper-personalization liveraging IoT	Accuracy and precision in hyper-personalization	More global regulations for customer data privacy
IoT and open banking integrate digital financing solution with 'zero' human involvement	Humanoid bots taking over customer communications	Self-executing contracts between banks on a private blockchain network
Death of intermediaries and agents	Metaverse spaces add dimensions to the virtual world	Digital currency complementing hard cash
Real-time origination of loans using QR code on the property	Robo-advisors aiding self-service and financial diagnostics	
	BNPL as a primary mode of payment	
	Advances artificial intelligence is replacing the workforce	

Figure 8- Outlook for retail banking with perspective of different stakeholder

Customers

Customers are the most important stakeholders for banks. As mentioned in the points above, the younger generations have different demands from banks. Gen Z are pretty savvy about their finances and quite frugal for significant expenses or borrowings. They are happy leasing or renting vis-à-vis purchasing properties, primarily because such properties bind them to one location. These customers

prefer mobility and liquidity over ownership. So, banks will have to shift the focus from traditional mortgages and vehicle loans to more prudent products that will allow customers to conveniently change locations by transferring their homes or cars to someone else looking for them. And that too without many interventions from other intermediaries or agents. They wish to have all this integrated and available at their fingertips. There will be a lot of remote access mechanisms in place to connect with such customers — virtual kiosks, mobiles, wearables, etc., — will see more use in the communication and solution. Internet of Things (IoT) brings another dimension of hyper-personalization. With various sensors feeding into the information about the customer, IoT will help in the further personalization of solutions. There will be intelligent integration of the customer's finances leveraging open banking platforms giving a real customer a 360-degree view. This will result in hyper-personalization in the solutions offered by banks and enabled by machine intelligence. Also, to speedily process such requirements, there would be the need for robotic process automation and straight-through processing wherever possible. With so much integration of products, platforms, and finances, we will see superfast or real-time origination of loans. Imagine a QR code on a car or a home property scanned on mobile by the interested customer, allowing immediate purchase using pre-approved loans. This is followed by an immediate transfer of title and hypothecation of the purchased property.

Technology

Fintechs and tech giants will shape the demand further to have precise solutions to a customer's problems. Technology will introduce more bots into customer interactions. Communication with these bots will feel more natural, and bots will be able to empathize with customers before offering solutions. All of this could be placed inside metaverse spaces to give another dimension to the virtual world — customers can get a feel of physical interaction in the bank and get what they want or need (JP Morgan Chase already opened a lounge in metaverse). Data-centric fintech will help analyze the customer data and generate customized solutions with precision for the exact needs. This will further be improved with ML and AI. Robo-advisors will leverage this and provide self-help solutions to customers allowing customization. With IoT and open banking integration, robo-advisors will be able to reach the root of the issue and make better decisions for customers through financial diagnostics. With the integration of a customer's financial data, BNPL will be the primary mode of payment. Robo-advisors will advise the customer on the product's affordability and adjust the installments to suit the disposable income and target investment plans. More BNPL will help generate more business for the banks. ML and AI will also help in better and faster underwriting and credit decisions, reducing the probability of defaults. It will also assist in reviving bad assets by providing more innovative restructuring of the balances by applying design thinking and AI. This will result in a reduced human workforce in the loans departments.

Regulators

Regulators will expect banks to honor customer data privacy, give birth to more laws like GDPR, and force more solutions around the same. Blockchain will enable banks to build their secure private network making things transparent for all the banks. Smart contracts in such networks could help automate transactions such as converting off-balance sheet items into balance sheet ones, viz., bank guarantees. Regulators can be a node in these private networks, making it easier to govern it automatically. This will help reduce conflicts between banks to a great extent. Many countries' central/reserve banks will heavily rely on digital currencies[14] rather than paper currencies, optimizing

the movement and circulation of currency. While hard cash will continue to go down, this move will further reduce the need for hard currency and related infrastructure, allowing better traceability and transparency of the currency in circulation. The Reserve Bank of India (RBI) has already taken steps toward central bank digital currency (CBDC)[15]. Both Blockchain Private Network and CBDC should not be confused with cryptocurrencies. Legalization of it still has a lot of roadblocks.

In conclusion

The BFS industry has evolved a long way from early days of having a token digital presence to '**Customer is the King of Digital**'. With new age technologies enabling digital, increasing customer digital savviness, ease of access & multitude of digital options being available at end customer disposal, and the pandemic further hyper accelerating the adoption of digital, Banks have to be on the forefront of a continuously changing digital experience to not just capture but also retain customers.

On one side we have the customer preferences that are varied & continuously evolving from baby boomers to Gen X, Y & Z and the digital offerings need to be dynamic to engage the audiences differently. On the other side we have the innovations coming from FinTech (Metaverse, Digital currencies etc.), cyber fraud challenges, evolving regulatory requirements, the much needed ESG consideration which require banks and financial institutions to have robust product engineering processes, continuously innovate & adapt.

These are exciting times and the players who are flexible, nimble and innovative will survive and thrive these testing times.

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