LEADING NEXT
TOP BUSINESS AND TECHNOLOGY TRENDS IN BANKING, 2022
It is a pleasure to introduce the banking trends forecast on a positive note. 2021 was a transformative year by any standards, rounding off two years of unprecedented digital adoption in every industry, including banking. While we are citing two highly successful banks here, almost every bank on the planet has accelerated digitization since Covid-19. For them, DBS Bank – which significantly increased the share of products sold on digital channels since the beginning of pandemic (mortgage: 42 percent to 73 percent; auto loan: 3 percent to 27 percent; general insurance: 64 percent to 91 percent) – and Bank of America, which achieved record levels of digital engagement (mortgage: 36 percent to 68 percent; overall digital sales: 42% from 30%), are inspirations.

But while banks can derive satisfaction from their digital innovation efforts of the past two years, they cannot rest on their laurels. They must keep transforming and innovating just to keep pace with a highly dynamic and fast-evolving market. Just one statistic, namely India’s open payments UPI transactions, which crossed 4.2 billion a month in October 2021, shows just how fast. Consider two facts- this real-time payments scheme took only 5.5 years to reach 4.2 billion transactions a month mark. And today, three non-bank players – namely Walmart-owned PhonePe, Google Pay, and a FinTech disrupter Paytm drive over 90% of these volumes. This is despite over 50 apps from incumbents that offer similar capabilities.

The concern for incumbents is that survey after survey declares that challenger banks and fintech companies are gaining innovation leadership in even traditional banking products. This threat comes on top of sluggish revenue growth rates, weak profitability and returns on equity, and flagging valuations compared to new-age FinTechs. To rejuvenate their performance in 2022, banks must capitalize on the big trends influencing the industry. As a preferred partner to a large number of banks around the world, we would like to draw attention to four business and four technology trends, which serve as levers for “Leading Next”, our theme for 2022.

While we have identified these key trends, we are aware that they may not apply equally to every institution. Banks need to consider them within their own context and benchmark their digital maturity, before deciding their strategy. While every bank may go on a different journey, they are all bound by a common urgency to transform to close the gap to the digital leaders. In 2022, there will be no time to lose.
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Business Trends
The conversation about digital business model innovation is not new, but it has never been more pressing. As CEOs grapple with their biggest challenge, namely, how to stay relevant amid rapid change and uncertainty, the legacy pipeline-based business model are often at the heart of the problem, and ecosystem-led business model, invariably, at the heart of the solution. With few things more important to the industry today than business model innovation, we have identified 3 archetypes that are sure to gain traction in 2022 and beyond.
Banks and non-banks alike are increasingly adopting Banking as a Service (BaaS) propositions to enable banking integration in primary customer journeys and power embedded finance innovations at scale. Typically delivered through well-defined APIs and business partnerships, BaaS is gaining significant importance globally. Banks of various sizes and persona such as Goldman Sachs, BBVA, ICICI Bank, and Solaris Bank are coming with innovative solutions to unlock opportunities to acquire new customers and business through BaaS. In addition, specialist BaaS intermediaries such as Galileo, Marqeta, and Setu, are also getting significant traction. In 2022, we expect the market to heat up further as the investments are rapidly scaling in this area.

4X-8X

PS ratio of Marqeta, a BaaS provider, vis-à-vis incumbent banks

$2.8 Bn to $12.2 Bn Revenue by 2031

Is estimated to be the global Banking-as-a-Service (BaaS) Platform market revenue growth from 2021 to 2031.

Source:
1. Banking-as-a-Service Platform Market, Future Market Insights
Case Study

Marcus by Goldman Sachs is building its business with a very active BaaS strategy.

- The retail banking arm of Goldman Sachs is arguably the most successful digital bank launched in the US and UK in the last decade.

- The bank’s collaboration with Apple for the Apple Card, with Amazon to provide lines of credit up to $1 million to merchants selling on the Amazon marketplace, JetBlue for financing vacation packages, is testimony to its BaaS led growth strategy.

- In addition, the recent acquisition of Green Sky will further help scale its Buy Now, Pay Later (BNPL) business. Even on the corporate banking side, the bank is making big strides with its transaction banking (TxB) APIs and BaaS offering.

Source:
Marketplace Banking

Inspired by e-commerce giants, many large institutions and FinTechs are investing in building financial and non-financial marketplaces. The financial marketplaces are helping customers choose financial services from multiple third-party suppliers in an open environment. For instance, Raisin Deposit marketplace help customers access the best deposit rates across Europe, and BankBazaar platform in India lets customers check their credit score, compare offers and apply for products digitally. Even incumbents are responding by building financial and non-financial marketplaces. For instance, DBS Marketplace is a one-stop portal to browse property listings, cars, book travel flights, book hotels, and compare utility providers, with financing options bundled along. As these marketplaces gain popularity, banks of all sizes need to determine their play in the marketplace banking – whether to build, buy, or partner.

$518 billion additional revenue by 2025¹

Is estimated to be the additional revenues by 2025 by layering non-linear business models on top of the traditional vertically integrated model (an annual growth rates by up to an additional 3.8%)

Source:
¹ The Future of Banking: It’s time for a change of perspective, Accenture
Case Study
Paytm's marketplace offers everything from electronics, clothing and movies to taxis, train tickets and flights.

• Paytm is a publicly-traded Indian FinTech provider with a 14-billion-dollar valuation. It started as a digital wallet provider and soon expanded into a marketplace with various financial and non-financial products.

• Paytm embeds financial products into the customer journeys, including credit cards from Citibank, term deposits from IndusInd Bank, and unsecured loans from various lenders.

• Paytm has 333 million customers and 21 million merchants across India, processing INR 4 trillion (USD 54 billion) in gross merchandise volume in the past year1

Source:
1. Paytm Super App, Business India https://businessindia.co/magazine/paytm-super-app
Industry Utilities

Industry utilities specialize in delivering non-differentiating services by pooling resources, expertise, and capabilities to increase efficiency. Yet, the banking industry has been behind other industries in unlocking value through utilities at scale. However, with more than 50 percent of banks generating returns on equity below the cost of equity, the pressure on cutting costs continues to mount. Consequently, many banks seek cost-take-out options by outsourcing business processes to external partners and industry utilities. The utilities offer a Business-Platform-as-a-Service (BPaaS) offerings, combining technology, operations, and data. In the coming years, we believe more and more banks will seek to outsource business operations to utilities, particularly in the high complexity and non-differentiating back-office areas such as mortgage processing, trade finance, and post-trade processes.

50% - 60%  
Of a bank’s cost base approximately can be potentially addressed by Banking Utilities

Source:
1. Banking utilities: Succeeding amidst acceleration, McKinsey
While the industry is digitizing in general, the progressive banks are recasting their business into new digital models, further widening the gap to the lagging banks. As the traditional model shoes wear thin, in 2022 and beyond, banks will need to make explicit decisions in embracing new digital business models to win in the digital economy.

Case Study

Stater offers a complete range of services across the mortgage and consumer lending value chain with deep capabilities in digital origination, loan servicing, and collections

- Stater is the largest mortgage service provider of the Benelux. Stater services 1.7 million mortgage and insurance loans for approximately 50 financial institutions in The Netherlands and Belgium.

- It was founded in 1997 by ABN AMRO. In 2019, Infosys acquired a majority share in Stater. Today, Stater manages over 40% of all mortgages in The Netherlands.1

- Its clients include ABM AMRO, Allianz, Deutsche Bank, Lloyds Bank, among others.

Source:
1. Infosys and ABN AMRO Announce Strategic Partnership in the Netherlands
Superior customer engagement requires a holistic approach that encompasses various layers of organizational maturity. It starts with building and aligning people, processes, and technology at its core. And then bringing these capabilities to life in the context of customer relationship lifecycle to Onboard, Converse, Service, and Sell better. This further necessitates that banking is accessible on all the discovery and value delivery channels possible. Done right, with each interaction, the bank will help drive financial well-being and empower customers to save, borrow, pay, insure and invest better.
To engage better, banks need to consider a holistic model

Finacle identifies a unique “Golden Engagement Circle” to enable banks drive purposeful growth

- Enhancing core capabilities
- Empowering deeper engagements across customer lifecycle
- Engagements across channels
- Alignment of customer financial well-being

Click here to access our PoV on ‘The Golden Engagement Circle: A 3-layered approach for better customer engagement’
Enhancing core capabilities - people, process, technology & data

As we head towards greater digitization, automation and organizational transformation, banks need to scale capabilities and capacities of their people, processes, and technology to deliver a bespoke customer experience.

They need to continually enhance their talent pool with contemporary skillsets, providing on-demand contextual learning, and creating an agile workforce model. They must redefine the processes to facilitate newer engagement models. Going forward banks must focus on creating CX user journey-based process maps to ensure every customer interaction across a transaction lifecycle is personalized and frictionless. They must factor the customer’s primary – and not just financial – needs and digitize processes to support self-service.

On the technology front, now more than ever, banks need to re-imagine their technological framework to support customer-centric processes that promote engagement. The technological capability in terms of the availability of digital systems, ability to automate repetitive tasks, process vast amount of data, derive actionable insights, and ensure scalability of operations forms a key component of this.

**76%**

Banks identified workforce skills improvement as extremely important to their business in the next 3-5 years

**69%**

Banks plan to increase investments in process improvement in 2021

Source:
1. Innovation in Retail Banking, Beyond the Pandemic - EFMA & Infosys Finacle
2. Innovation in Retail Banking, Beyond the Pandemic - EFMA & Infosys Finacle
Case Study

DFS’ modern processes powering deposits business transformation

- DFS launched a program to modernize the bank’s technology platform to support seamless digital customer experience and drive business growth
- The program delivered 30% reduction in account opening time and effort and 65% decrease in servicing cost
- The transformation program improved quality of customer service with most common customer requests now requiring 40% fewer clicks

Source:
1. Building a Digital-only Bank, Infosys Finacle
Driving deeper engagement across the customer lifecycle

Banks will focus on providing a coherent experience across all the banking channels that can be achieved only through a concerted effort extending across onboarding, conversations, servicing, and selling. For instance, at the customer acquisition stage, banks will focus on enabling the customer to choose the right products and services, easing the documentation processes, and facilitating instant, seamless onboarding.

Further, they need to provide day-to-day engagement including prompt and responsive customer services that are tailored to individual preferences. Going forward banks will also focus on smart upselling based on deep insights and personalized offers delivered through consistent omnichannel experiences.

Data-driven insights that are not restricted to the standard KYC processes and that considers the customer’s evolving priorities will guide the conversations across the lifecycle. In 2022 and beyond, this will be key for banks to achieve true personalization and provide differentiated offerings.

67% CEOs are planning to drive significant customer experience initiatives going into 2022.

2.7x According to Forrester CX Index, experience-driven financial institutions customers were 2.4x more likely to stay with them, 2.7x more likely to spend more with them, 10x more likely to recommend them and ready to pay 200% more for a preferred brand as compared to other firms.

Source:
1. A CEO’s Growth Mindset in 2022, 3 keys to leading your market – SBI Growth Advisory
2. Press Release - Forrester Introduces New Forrester Decisions Service For Customer Experience Leaders
Case Study

US based Ally bank has built a one-stop shop for digital banking customers

• Offers an array of banking services for its customers, including high yields on CD’s, low-fee deposit accounts, loans, investment products and services, all integrated into Ally’s app.

• Customers have free access to 43,000 ATMs through the Allpoint network

• Provides assisted service availability 24/7 on phone, and live chat and offers a virtual assistant in its app including voice banking on Alexa-enabled devices

• The Ally Bank mobile app has a high rating of 4.7 on iOS and a 4.0 rating on Google Play

Source:
1. Ally Bank Review 2021, Bankrate
Driving omnichannel engagement

Customer-centric banking in the digital age implies being equally accessible on a wide range of channels such as mobile, internet, voice-enabled chatbots, and smart home automation devices to create a seamless omnichannel offering. With new-age competition bringing in innovative propositions and customer-centric experiences, traditional banks in 2022 and ahead will need to rush to meet or exceed the same standards.

Optimizing the channel mix, banks will consider creating a cost-effective channel-product-customer affinity matrix, for a specific target customer base. The importance of open banking and third-party channels for customer engagement will likely grow non-linearly. Thus, embedded finance initiatives will gain significant prominence in banks channel strategies.

Further, banks will focus more on cross-channel consistency and continuity by integrating channels, products and functions across all touchpoints, offering a frictionless banking experience. We will increasingly find these engagements to be served across a broad range of traditional, contemporary, emerging and self-serve channels that a customer may choose to interact with the bank from time to time.

76% of customers expect an omnichannel experience and 44% of customers face medium-high friction during channel interactions

72% Financial institutions are increasing investments in omnichannel platforms
Case Study

Commonwealth Bank of Australia Customer Engagement Engine (CEE) program facilitated a shift away from product and campaign-based marketing to deliver customer journeys powered by data insights applied in real time and at scale.

- Created a truly unique capability with hundreds of AI Adaptive Models (ADMs) scanning huge data to ensure that the bank has the right conversation with the right customer at the right time, in the right channel, including the ability to anticipate tax refunds and initiate proactive savings.
- Demonstrable improvement in customer satisfaction.
- Step change improvement in AI model management capacity.
- Up to 66% uplift in click-through rates.
- Up to 60x click through rate in top decile compared to bottom decile in some of the bank’s most predictive models.

Source:
1. Commonwealth Bank: Personalized Engagement at Scale, by Celent
Banking will continue to experience the effects of the pandemic for longer than usual. Cost-to-income ratio, which reflects both growth and efficiency, is highly impacted. Banks need to take a dual approach to manage costs and strengthen foundations to accelerate growth. We expect banks will focus on optimization strategies, digital-first operations, and making automation all-pervasive at an enterprise level.
Reorienting organization strategy from an optimization standpoint

Banks, given their own standing with respect to assets, competitive strengths, and target markets, will evaluate viable business models. Basis the chosen model, and with the cost-to-serve and profitability objectives, banks will strategically determine the customer segments to serve. With an in-depth review of their business portfolios, they will optimize the existing product mix and hence will focus on product portfolios where they can be truly market competitive. A comprehensive channel-product-customer affinity matrix will govern their key decisions such as consolidation of physical channels (branches/ATMs), expanding reach through digital channels and adopting modern technology-led interfaces such as chatbots, DIY tools and more.

30 percentage points difference\(^1\)
Between cost to income ratio of digital and traditional customers
- DBS

20% reduction in cost-in income ratio\(^2\)
Banks believe the reduction in incumbents’ cost-to-income ratio will exceed 20% due to digital transformation initiatives

Source:
1. Annual report 2020, DBS
2. Innovation in Retail Banking, Beyond the Pandemic - EFMA & Infosys Finacle
Case Study

DBS approaches different markets and business streams with varied digital strategies¹

- In its core markets such as Singapore and Hong Kong, DBS aggressively digitalized operations to pre-empt disruptive competitors
- In emerging markets such as India and Indonesia, it has challenged the local incumbents with its disruptive digital-only offerings
- In corporate business, the digital priorities were aimed at gaining efficiency and profitability

Source:
1. DBS: From the “world’s best bank” to building the future-ready enterprise, MIT CISR
Digital-first operations

In 2022 and beyond, banks will continue to rebuild business processes for digital first operations. Accordingly, they will make journeys, ranging from customer acquisition and onboarding to more complex processes such as trade processing, entirely paperless. Banks will also adopt a wide range of digital tools and technologies to eliminate all manual touchpoints and automate them for near 100% straight through processing. Apart from productivity, speed to processing and customer responsiveness, the newly adopted digital processes will lead to visibility, transparency and lower compliance risks. Since the evolving digital-first operations must also provide insights, banks will embed analytics across key business processes as far as possible, for designing, executing, measuring and optimizing operations, across the enterprise.

$ 7.3 billion

The savings in operational cost by 2023 as banks adopt bots and automated customer service

20% - 30%

Typical cost to income ratio of digital-first propositions from incumbents and challenger banks

Source:
1. Representing a Growth in Operational Savings of 3,400% from 2019 – Juniper Research
Case Study

Indonesia's Bank Rakyat takes lending digital.

- Bank Rakyat Indonesia, the first bank in the world that owns and operates its own satellite - BRIsat, serves every corner of the country, including many small islands of the archipelago. It also launched the world's first ever sea-floating banking service.
- To serve customer base spread across islands, the bank reimagined its lending journeys with its Ceria and Pinang.
- Now, application to disbursement takes less than 10 minutes, without requiring a face-to-face meeting.
- This has enabled the Bank to quickly reach many more customers.

Source:
1. Bank BRI Attracts Millennials with Ceria
Pervasive automation at enterprise scale

Banks will setup a comprehensive automation roadmap covering front, middle and back-office processes, across the enterprise. This will focus on improving all parameters of efficiency, creating unifying experiences for operations staff as well as customers, and enabling better risk management. Banks will also pursue inter-organization automation via blockchain and other distributed ledger technologies to take forward their platform strategy and transform banking in key areas such as international trade and payments. Finally, banks will explore new automation options in the form of industry utility-based business processing that brings together an ecosystem to perform a set of non-differentiating functions, thereby enabling cost containment, process harmonization, risk mitigation and elevated service delivery.

65%¹

Banks believe that they have been moderate to very successful in deploying AI and automation to augment or replace humans

Up to 25%²

Work across banking functions will be done by machines, thus increasing the capacity of employees and enabling the employees to focus on higher-value tasks

Source:
1. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
2. The transformative power of automation in banking, McKinsey
Improving cost to income ratio is crucial for reclaiming financial performance in the post-Covid world. In 2022, banks will leverage optimization, digitization, and ubiquitous automation to reset this metric.

Case Study
Indian Banks’ Blockchain Infrastructure Co Pvt Ltd (IBBIC) – a joint venture of 15 banks powering blockchain based collaborative ecosystem to automate trade finance processes¹

- Initiative to digitize end-to-end trade finance transactions
- Marked improvement in transparency, cost reduction and efficiency across business processes
- Inland letter of credit cycle time poised to reduce from 8-9 days to 2-3 days

Source:
Leading Next with Zero Trust Security Paradigms

Business and technology dynamics are driving Zero Trust adoption at an accelerated pace. With internet-based access becoming a norm, thanks to remote working, Zero Trust Security demands embracing Defence in-depth across the IT infrastructure.
Secure Access Services Edge (SASE) Frameworks

With factors such as the need for reduced network complexity and costs, trusted access over untrusted networks, and the quest for improvement in performance and ease of use, banks will increasingly need to shift from traditional networks to SASE. SASE also offers the advantage of enabling new digital business scenarios and low operational overheads.

A Secure Access Services Edge (SASE) framework transforms security controls toward the edge by replacing legacy multi-protocol, label-switching, wide area networks in favour of an “as-a-service” model. BFSI is the largest adopter of SASE. Banks must commit to roadmaps to embrace a single management pane with tighter integration to meet the defined SASE framework with latest security controls.

80% of organizations will be SASE framework compliant by 2024. This journey entails shifting to an “as-a-service” model with the SASE framework to yield better ROI, robust security and reduced complexity.

USD 1.2 Bn to USD 4.1 Bn is estimated to be the growth in global SASE market size from 2021 to 2026, recording a CAGR of 26.4%
• SD-WAN
• Carrier
• WAN Optimization
• Bandwidth Aggregation
• Networking Vendors
• Network as a Service
• CDN

- Network Security
- CASB
- Cloud SWG
- ZTNA/VPN
- WAAPaaS
- FWaaS
- RBI
- DNS

Source:
1. SASE is the Future: Survey Uncovers Organizations’ Security Priorities for Hybrid Working
Securing identity and access governance

There is a growing need for adoptive authentication and fraud management solutions that track and monitor unusual behaviour patterns and enforce appropriate controls at the user entry point itself. Digitally transformed modern banks require strengthened identity and access governance solutions to establish transparent access across on-premise, hybrid and cloud-hosted applications and infrastructure assets.

With a single-pane view into who has access to what across on-premise and cloud infrastructures, banks can dynamically monitor and remediate access risks across the landscape. This can also help enable continuous compliance management aligned with regulatory requirements.

$347 Bn\(^1\) Estimated loss in revenue growth in banking between 2019-2023 because of cybercrime

$56 Bn\(^2\) Is the total Identity Fraud losses in 2020

Source:
1. What will cybercrime cost your financial firm? - Accenture
2. 2021 Identity Fraud Study: Shifting Angles – Javelin Strategy & Research
A strong authentication management focuses on

• Comparing user activity with baseline behavior and detecting deviations as potential fraud.
• Challenging strong authentication based on risk.
• Device recognition and association with baseline device risk.
• 360-degrees insight across fraud indicators.
• Evaluating activities to identify sessions initiated by bots.
• Tracking activity details and identifying fraud patterns.
• Eliminating frauds with risk-based approach for transaction monitoring.
Stepping up Defence with Next Gen Threat and Vulnerability Management

With growing incidences of advanced threats, banking security teams have been finding themselves a step behind cybercriminals who identify security vulnerabilities and target businesses relentlessly via multiple attack vectors. Therefore, banks must deploy an overarching operations layer that enables 24 X 7 information tracking and a world-class network of interconnected, global facilities. This will be a crucial element when it comes to building an effective cybersecurity program.

Banks have always been key targets of attackers and are particularly vulnerable since they have huge attack surfaces with thousands of network nodes. Therefore, banks will increasingly need to embrace comprehensive vulnerability management platforms that can scan across a large number of network nodes as well as the extensive user base, eliminating manual security scanning.

76% of all applications have at least one vulnerability as per the State of Software Security (SOSS) report from Veracode

$180.9 Bn Of worth expenses incurred by financial institutions towards financial crime compliance

Source:
1. State of Software Security v11 Key Findings - Veracode
2. LexisNexis Solutions Global Study 2020
Focus areas for scaling defences

• Shifting from point solutions to Integrated next gen security solutions.
• Shifting focus from maintaining tools to delivering outcomes of defending evolving threats proactively.
• Managing siloed knowledge to delivering network effect.
• From cost-mindset to consumer-based service adoption.
• Incident response readiness with people, process and tools.

The recent pandemic is not the first and, certainly will not be the last that organizations will face. In the new world order, banks and FIs will have to set their sights higher and focus on long term fortitude.
Technology Trends
Leading Next with Anti-fragile Composable Architecture

With banks moving towards modern and open solutions, a composable architectural design is the way forward. With this, banks will gain the much-needed agility, flexibility and resilience to thrive in the new market realities. What’s more, the composable architecture will enable them to evolve and refine different components at different speeds based on the changing business environment.
Breaking monoliths with microservices-driven architecture

To meet the new market realities and compete with digital challengers, banks will disaggregate monolithic systems with a microservices-driven architecture in 2022. This will call for adapting to domain-driven design principles and create domain capabilities using multiple disaggregated microservices.

As a result of applying domain-driven design in a systematic manner, banks will be able to disaggregate domain services to the right level of granularity and achieve composability both from a technical and a functional perspective.

15% cost reduction

And 10% reduction in traditional transformation timelines can be achieved by banks by taking a microservices led approach to application development

22.4%

The compound annual growth rate of the cloud microservices market between 2018 ($683.2 million) and 2023 ($1880 million)

Source:
1. How banks can achieve next-generation legacy modernization - McKinsey
2. Cloud services market report - MarketsAndMarkets
Case Study
Goldman Sachs uses microservices-led architecture to build a FinTech in quick time

- Marcus by Goldman Sachs was built on the cloud in just 11 months, on a microservices-led architecture, using a DevOps model and best-of-breed cloud native tools.

- A robust technology platform combined with a digital-only business model gave the Bank the agility to meet changing customer needs, scale up, and deliver a superior customer experience.

- Six years from its inception, Marcus today has eight million customers, over $100 billion in deposits and nearly $10 billion in loans and card balances.

Source:
1. Marcus Has Reached $100 Billion in Deposits, Debanked
Unlocking the true potential of composability with robust API governance

Having created domain capabilities on-the-go by combining multiple independent functionalities with a microservices-led approach, it is time for banks to expose these capabilities externally by building a plug-and-play consumption model at the foundation of a composable architecture.

Banks will need a robust API governance strategy to ensure API completeness, compliance and consistency. Frameworks and regulatory guidelines, such as BIAN and PSD2, will influence the design of APIs and data models.

Banks will also look to build a holistic all-inclusive API infrastructure by augmenting capabilities such as consent management, event management, TPP management, sandbox, developer portal, event hub and more.

72% According to a 2020 research conducted by Platformable, 72% of the top 50 banks ranked by market cap have API platforms

36% As per a 2020 research, 36% of globally available open banking products go beyond regulatory requirements

Source:
1. Open Banking Trends Q2 2020: Banks, Platformable
2. Open Banking Trends Q2 2020: Bank, Platformable
Case Study

ICICI Bank leverages APIs to deliver innovative digital banking experiences

- ICICI Bank launched ICICI Stack - a comprehensive set of 500 digital banking services and APIs for retail and businesses.

- This allows ICICI Bank to expose its domain functionalities to customers, corporates, developers, FinTechs, e-Commerce players and others, delivering an uninterrupted banking experience remotely on the digital channels.

- Some of the key examples of APIs exposed by ICICI banks include Savings Account API, Trade Finance API, IMPS API and more.

Source:
Powering rapid assembly of components with service composers

Amid availability of many services for composition, banks will need to build capabilities to orchestrate the process of coordinating and assembling individual business and technical components to create fit-for-purpose banking products. Banks in 2022 need to develop architecture that can support robust service discovery mechanisms, with the right metadata about the service being available.

Further, banks will need to stitch the services together in a code free declarative manner to offer meaningful functionality. This will require state management and transaction management and compensation across these services.

With this, banks will not only create functional or domain components, but also go to the next level with a new class of engagement or experience APIs built on top of the domain APIs using a service composer.
Example - Composing a cash management solution

Composable architecture will give banks the agility, flexibility and resilience to survive the new market realities. Banks must prioritize this as one of the key trends to pursue in 2022 to differentiate themselves and respond to the post-pandemic competitive disruption.

Click here to access our PoV on ‘8 Architectural Views: A guide for Technology Leaders’
Leading Next with Multi-cloud, Multi-edge Hybrid Approach

The role of cloud computing in driving the transformation of existing IT infrastructure and as a vehicle for new technology-driven innovations has been widely acknowledged for years. However, the adoption was hindered by security, compliance, or skilling issues, which often distracted banks from the urgency of adoption. The pandemic, coupled with ecosystem developments has changed this.
The Critical Mass of Cloud Adoption

While speed, capability, and scale have been the top three cloud objectives for most enterprises, evidence suggests that most enterprises were able to realize the promised speed and capability gains only when they shifted 60 percent or more systems to the cloud as per the Infosys Cloud Radar 2021 report. Therefore, banks must go all-in into cloud deployment in 2022 and beyond to ensure that they get a competitive edge, rather than just improvements in “defensive priorities” (cost, access, resilience). This also allows banks to be more confident about their cost estimates, possibly due to their ability to dynamically allocate compute capacity between applications to maximize cost efficiency. Banks must also explore software-as-a-service models to achieve more value from their cloud deployments. Thus, banks will increasingly look forward to achieving the critical mass before becoming circumspect about ROIs.

91%<sup>2</sup> Banks stated that they have been moderately to extremely successful in deploying cloud computing.

Source:
1. Infosys Cloud Radar 2021 Report
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
Case Study
Capital One closed all its data center and became the first US bank to operate fully on the AWS public cloud¹

- In this journey, the bank has rebuilt 80% of its applications to be cloud native leveraging micro services and RESTful APIs.
- The migration has not only enabled the bank benefit from instant provisioning of infrastructure, but it has also enabled them achieve rapid innovation journeys.
- To drive its transformation, Capital One adopted more than 30 AWS services, including Amazon EC2, Amazon S3, Amazon RDS, and Amazon Connect.

Source:
1. Capital One case study, AWS
A Hybrid Cloud Model

With the pandemic driving rapid digital transformation, banks have already moved from brick-and-mortar set-ups to online services. However, we can now expect a wave of large traditional banks with massive workloads moving from an on-premise to hybrid cloud model. As per our research, a hybrid approach is most popular as financial services organizations house most of their systems on private cloud (41 percent), followed by 31 percent on hybrid cloud and 29 percent on public cloud. Henceforth, the percentage of private cloud will start moving down and hybrid cloud adoption will increase. Banks will need to adopt new ways of working to adapt to a hybrid cloud environment where applications and data reside in different private and public clouds. However, the rewards from adoption will also be substantial.

Banks have stated that cloud computing will have moderate to very high impact on the banking business in 2022.

Banks said that over 75% of enterprise banking applications will move to the cloud by 2030.

Source:
1. Infosys Cloud Radar 2021 Report
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
3. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
Case Study

FECredit moves its mission-critical applications to AWS

- FECredit, the market leader in consumer lending in Vietnam, has shifted most of its mission critical applications to the AWS public cloud.
- As a result of the elastic scaling capability extended by AWS EC2, FECredit has been able reduce the time needed to deploy new functions on its banking platform from three months to two weeks.

Source:
1. Case Study: FECredit, Fintech News Singapore
Embracing end-to-end DevOps

As clients move to the hybrid cloud space, and greater automation for provisioning of dockers and containers, DevOps becomes critical to bring greater agility in standardizing the lifecycle. The other key advantage of DevOps has been the ability to facilitate impact free deployments, for example, automating the entire testing infrastructure etc. DevOps tools are set to witness double-digit growth in the near future as per analysts. As remote working becomes the norm in a post-pandemic world, streamlining delivery and automation of provisioning will emerge as important priorities for banks. DevOps strategies will allow for standardised collaboration for fragmented and increasingly heterogeneous work environments. In turn, this will spur banks toward an end-to-end DevOps approach thereby bringing agile release cycles and the next level of automation and continuous improvement across the entire product life cycle. The use of DevOps on cloud will also result in a multiplier effect.

USD 20.31 billion

Global DevOps market is estimated to grow at a rate of 18.3% from USD 5.30 billion in 2020 to USD 20.31 billion in 2028

85%

Of financial institutions have identified cloud computing to be important to very important technology for their business in the next 3-5 years

Source:
1. DevOps market, Reports And Data
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
Case Study

ING is driving banking innovation with cloud native strategy¹

• Built an internal public cloud for its CI/CD pipeline and green-field applications strategy.
• Leverages Kubernetes for container orchestration and Docker for containerization.
• Standardized the deployment process within the company’s strict security guidelines.
• DevOps teams empowered with agility as applications traverse test-acceptance-production cycle seamlessly.

The use of cloud in banking has progressed beyond dynamic infrastructure provisioning or IT modernization to the stage of business transformation, and banks must embrace this change.

Source:
1. Case Study: ING: Driving banking innovation with cloud native, Cloud Native Computing Foundation
The majority of financial institutions plan to deploy AI to generate new revenue, automate processes, acquire clients, manage risks and deliver superior customer service within the next two years. AI will therefore be a key lever of success for banks in 2022 and the years to come.
Hyper-automation

Automation today has taken a giant leap forward into the realm of cognitive systems that learn automatically as processes are executed. Cognitive technologies, which can sense, comprehend, act, and learn, are already being deployed to solve various problems in financial services, from customer support to investment advice.

We are heading into an environment where processes with machines and software at either end are bringing up the possibility of autonomous banking. Tools providing visibility to map business activities, automate content ingestion, orchestrate work across multiple systems, and leverage nuanced rules are proliferating.

2022 will see an acceleration of the citizen developer model where business, rather than IT, leads automation. Digital workers will augment the operations capabilities of business teams.

Thanks to automation, prices of banking services will drop further. This will expand the market opportunity multiple times. From a competitive standpoint as well, automation is critical. Challenger banks’ cost-to-income ratio, at 25-30 percent, is substantially lower than incumbents. Therefore, the incumbent financial institutions would need to double down on their automation journeys to stay competitive.

$ 596.6 billion

The worldwide market for technology that enables hyper-automation. This is up from $481.6 billion in 2020.

$ 204 billion

According to an IDC report, global spending on AI systems will jump from $85.3 billion in 2021 to more than $204 billion in 2025. The compound annual growth rate (CAGR) for the 2021-2025 period will be 24.5%.

Source:
2. Worldwide Artificial Intelligence Spending Guide, IDC
Case Study
The Bank of New York Mellon leverages artificial intelligence across its business operations

- BNY Mellon developed and deployed more than 220 RPA bots integrated with AI to improve process efficiency and save costs in multiple processes such as external data requests, fund transfer and more.
- The bank estimates an annual saving of $300,000 by deploying funds transfer bots alone, as it minimizes employees time spent on identifying and correcting data errors, thus accelerating payments processing.
- The initiative ensured 100 percent accuracy in account closure across five systems, improved the processing time by 88 percent and trade entry processes by 66%. There has been a significant reduction in reconciliation of failed trade, from 5-10 minutes earlier to 0.25 seconds now.

Source:
Hyper-personalization

We are living in an era of hyper-personalization. From Amazon to Netflix, every brand optimizes every interaction to engage customers deeply. While a little behind, the banking industry is also making significant strides forward.

With the amount of direct and derived available data, banks will increasingly take customer understanding to a whole new level. They will use structured and unstructured information to deliver highly personalized insights of increasing analytical sophistication:

• Descriptive insights in the form of visual inputs and categorization that inform customers about the happenings in their financial lives.
• Diagnostic insights that explain the reasons for the above (for example, you saved less because you spent more on entertainment).
• Predictive insights that present what is likely to happen, such as a cash flow crunch or potential penalty for tax non-compliance.
• Prescriptive insights that nudge customers along a recommended path of action, say, balance cash flow, rebalance portfolio, cut discretionary expenses, move surplus money for better returns etc.

Finally, banks will look to embed the recommendations and associated actions within the relevant customer journeys – for instance, move surplus money into money market fund in a single click for better returns.

64%¹

Banks believe that advanced analytics and AI will have very high impact on the banking business in 2022

Only 20%²

of banking organizations considered themselves adept in using data analytics and AI, with 51% stating they were inept.

Source:
1. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
Case Study

Personalized communication has dramatically increased digital applications at Bank of Ireland\(^1\)

- After merging online and offline data to improve customer engagement, Bank of Ireland started personalizing e-mail messages and omnichannel experiences.
- Submission of applications on digital channels went up by 278%.
- Targeting personalized content at customers increased digital personal loan applications by 15%.

Source:
\(^1\) The power of personalization in Irish banking, Accenture
Disruption of Data Management Value Chains

Financial Institutions (FIs), that have been deploying machine learning in localized fashion, and in silos thus far, will look to extend it across the enterprise. They will do this by collating the organization’s data into Graph DBs and other tools to enable complete analysis of an individual or corporate, rather than a limited investigation of a particular business process.

Also, recognizing that legacy data models and infrastructure hinder AI/ML-powered decision making, FIs will seek to disrupt their data management value chains. The urgency of transformation will mount along with the technical debt created by legacy infrastructure in the wake of new advances, such as DNA storage, nanotube computing and memristors.

86%¹ Financial institutions considered the need to improve data and advanced analytics as an extremely important digital transformation strategy

94%² Financial institutions believed that they have achieved moderate to significant success in Data and advanced analytics

Source:
1. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
AI has started to deliver on its promise, and progressive banks are already accruing the benefits. Moreover, with corporate banking divisions increasingly joining the retail banking counterparts in adopting AI, it will pave the way for enterprise-scale initiatives delivering enhanced value propositions for all stakeholders.

Case Study
Danske Bank streamlines data management to improve user experience while meeting compliance requirements¹

• Danske Bank’s goal was to meet the data needs of every business unit.

• Working with various stakeholders the data governance team integrated with AI and cloud solutions to not only improve data gathering and storage but also make data more consumable for every stakeholder, without violating compliance standards.

Source:
1. Danske Bank brings teams together with data governance and privacy, IBM
Arguably, there isn’t anything more disruptive for existing banking value chains than distributed ledgers, cryptocurrencies, and CBDCs. The pandemic has further catalyzed progress. The era of experimentation is slowly but surely giving way to an era of commercialization.
Distributed Ledger Technology

Distributed ledgers continue to become the bridges that link up new financial ecosystems. They will be used to join data across nodes on an ecosystem to allow the full value of the data to be realized.

When an update to the ledger is made, each node connected to the ledger constructs the new transaction. This update can be shared with multiple users connected to the ledger simultaneously. DLT reduces the number, duration and complexity of reconciliations, manual interventions, and other data processing steps thus, reducing cost and increasing speed. The decentralized nature of DLT increases resilience and guards against corruption using consensus protocols. This allows a single version of the truth to be shared across a wide range of market participants.

In 2022 and beyond, distributed ledgers will power innovations such as smart contracts, integrated trade finance, and synchronized settlement of security transactions to move from the pilots to reality.

41% reduction

In the volatility component of the National Securities Clearing Corporation’s (NSCC) margin with the DTCC estimating a shift towards T+1

80% savings

in post-trade infrastructure by leveraging DLT as per a research from the International Swaps and Derivative Association

Source:
1. Advancing Together: Leading the Industry to Accelerated Settlement - DTCC
2. Future of Post Trade—shifting the cost curve – Deloitte
Case Study
Banque de France settlement of government bonds in Central Bank Digital Currency with blockchain technology.

- An experiment was carried out to issue and settle French Government Bonds on a permissioned distributed ledger that included a consortium of banks led by Euroclear.

- The participants were able to open securities wallets for their own customers. This means that securities transactions between clients of a custodian can be directly managed on the blockchain platform like any securities transaction between two direct participants of the CSD. This post trade technology makes T+0 settlement a reality.

Source:
1. Case Study - Wholesale central bank digital currency experiments with the banque de france
Growth of Crypto Assets

Cryptocurrencies are a form of decentralized finance which are not issued by a central bank and often does not have a single administrator. In June 2021, China banned crypto mining and has since declared all Bitcoin transactions illegal. However, this has not slowed the interest in cryptocurrencies. During the pandemic, cryptocurrencies became increasingly mainstream, not as currencies but as crypto assets to be held as a store of value as part of a wider investment portfolio.

2022 could be the year when crypto assets become mainstream. American banking regulators have announced a roadmap where they will offer clarity to the regulation of crypto assets. With this regulatory clarity in place and the opportunity to purchase crypto assets from mainstream providers such as Paypal and Square, the route is open for an increasing number of investors to take the plunge and include crypto assets in their investment portfolios.

$4840 - the price of Ether\(^1\)

Is the rise in the price of Ether since pandemic. Much of this was due to Ethereum’s Proof of Stake algorithm which uses less energy than Bitcoin’s Proof of Work consensus algorithm which means it is used for innovations such as NFTs.

77\(^2\)%

Bankers surveyed believe that Cryptocurrencies and digital fiat currencies will be used more frequently than cash by or after 2030.

Source:
2. Innovation in Retail Banking, Beyond the Pandemic – EFMA & Infosys Finacle
Case Study

Bitcoin soars in value during the Covid-19 pandemic

At the start of the Covid-19 pandemic the price of Bitcoin was just under $8,000. During the pandemic it rose to a high of around $63,000 in March 2021. However, this has not been a steady rise. On the day that El Salvador declared Bitcoin to be legal tender (7th September) the price of Bitcoin fell from above $52,000 to below $44,000. Though by November it was back at a record price of over $68,000. These dramatic changes in price mean that Bitcoin is not useful as a currency but valuable as an asset in an investment portfolio (provided the investor is prepared to accept the risk).
Wholesale CBDC

We believe the real value of a Central Bank Digital Currency (CBDC) will be realized through wholesale payments. CBDCs offer in digital form the unique advantages of central bank money: settlement finality, liquidity, and integrity. Today, when a cross-border multi-currency payment is being made, the movement of money relies on a series of bilateral agreements between correspondent banks. With the introduction of CBDCs the connections could be made directly using nodes on a distributed ledger. As the central bank will have liability for the money, the cross-border payment settlement could be made instantly, ushering in a new era of real-time cross-border multi-currency payments.

The BIS innovation hub has already demonstrated real savings of reducing the friction in cross-border payments by allowing payments to move directly in Central Bank money rather than through a correspondent bank network. In 2022 and beyond, with international cooperation among central banks, CBDCs will drive unprecedented innovation in cross-border payments.

$100 Billion

is the amount that JP Morgan estimates would be saved by global corporates if a multi-currency CBDC payments network was introduced.

80%

Around 80% of Central Banks across the globe are either introducing a CBDC or are conducting research into the introduction of a CBDC.

Source:
1. J.P. Morgan releases Unlocking $120 billion in Cross-Border Payments report
2. About 80% of Central Banks Are Exploring CBDC Use Cases, Bison Trails Report Says, Coindesk
Case Study

The BIS Innovation Hub in Hong Kong has a project to investigate cross-border CBDC payments¹

- Project Inthanon-LionRock is a collaboration between the Central Banks of Hong Kong, Thailand, UAE and China to investigate a multi-currency CBDC (mCBDC) cross border payment system on a distributed ledger.

- The results of the prototype were a substantial improvement of the speed of cross border payments and a potential to reduce the core costs of correspondent banking. They achieved this by a distributed ledger that directly connected the CBDC issuing banks.

Source:
1. Multi-CBDC prototype shows potential for reducing costs and speeding up cross-border payments, BIS
Retail CBDC

In 2021, retail Central Bank Digital Currencies (CBDC) became a reality as four central banks either went live with retail CBDCs or ran pilots where individuals could use CBDCs in the real economy.

As society moves from using cash to electronic payment methods, some central banks fear being disintermediated from the economies they serve. There is a fear of losing control if the payment rails are dominated by payment apps, card providers, and commercial banks based in foreign countries. This is leading some Central Banks to introduce a retail CBDC for local currency payments. This retail CBDC could be issued through local commercial banks or held in a digital wallet. In both cases, the ultimate liability would be with the issuing central bank, as with cash.

In 2022 China will roll out the e-Yuan at the Winter Olympics, and we expect many other central banks to follow.

86% ¹
Of Central Banks are globally actively researching the potential for CBDCs, 60% are experimenting with the technology and 14% are deploying pilot projects.

140 Million ²
The People’s Bank of China has reported that 140 million people have a Digital Yuan account. In addition, there are 10 million corporate Digital Yuan accounts.

Source:
1. BIS third survey on Central Bank Digital Currency
2. China’s PBOC Says Digital Yuan Users Have Surged to 140 Million- Bloomberg
Case Study
The Eastern Caribbean Central Bank are live with a CBDC pilot

- DCash is a CBDC issued by the Eastern Caribbean Central Bank. It is possible to pay in shops or transfer money in real time using Dcash.
- During the pilot period this will be free but the ECCB plan to keep the fees as low as possible.
- As one of the aims of DCash is financial inclusion it is possible to own and use DCash without a bank account using a digital wallet.
- It is possible to top up Dcash in exchange for physical currency. The ECCB does not see DCash as a replacement for the physical currency and the two types of currency will both be legal tender.

As adoption of new digital technologies becomes mainstream in banking, unlocking new value with DLT, Cryptocurrencies, and CBDCs and will emerge as a key priority across banking functions

Source:
1. https://www.eccb-centralbank.org/p/about-the-project
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About Infosys Finacle

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