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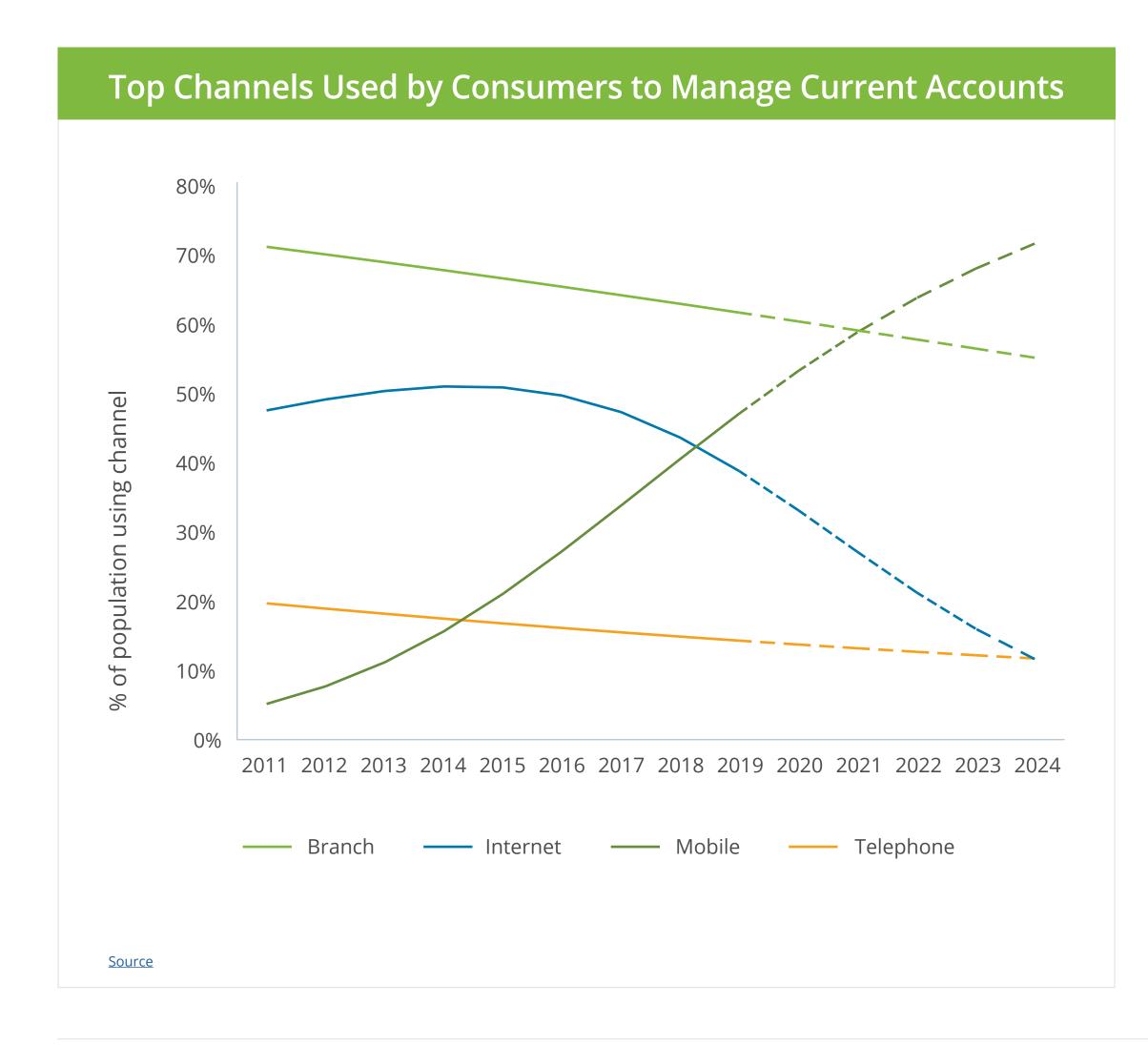




Digitalization in the retail banking sector was much overdue. The global pandemic in 2020, however, forced many players to speed up their plans. Consumers' expectations around digital channels availability, servicing speed, and convenience of banking have tremendously vaulted ahead, especially during lockdown periods.

According to a 2020 World Retail Banking Report 2020 by Capgemini¹, over 57% of consumers now prioritize online banking (vs. 49% pre-pandemic) and 55% prefer mobile banking apps (vs 47% previously). These behavioral changes accelerated the approach to an earlier predicted cross-over period — a time between 2020 and 2024 when mobile will become the most prominent banking channel.





Newly emerged consumer preferences represent just one aspect of the current business environment for retail banks. A growing cohort of digitally-native, non-traditional financial services providers are stepping on incumbent banks' heels. Positioned for aggressive customer acquisitions such players in Western Europe, Latin America, Asia, and, to some extent, the US are enticing new users with low-to-no banking fees, app-based digital banking experience, and seamless digital customer onboarding. The latter, in particular, has helped digital players maintain a better posture during the toughest months of the pandemic and minimize service disruptions for data.

Based on the latest data², London-based **Revolut** accumulated over 8 million customers across markets, where the company operates. **Monzo**, another UK-based digital bank, said it's been signing over 55,000 new customers every week last year. German **N26** amassed over 3.5 million global users and now gears up for attracting between 30-70 million customers in the next decade. Should their plans be successful, N26 would be bigger than Deutsche Bank or Barclays.

Apart from rapid growth, digital banks also turned out to be better positioned than certain retail bankers due to revenue stream diversification. When the transaction volumes dropped due to reduced consumer spending in the wake of the pandemic, banks like Revolut could still maintain a steady cash flow by collecting profits from other financial products in their portfolios such as business banking, personal investing, and crypto trending. **Though their revenues dropped by 40% at the beginning of the year, by November 2020, they managed to get 50% ahead compared to pre-Covid levels³.**

Keeping Up with the Industry Evolution



While digital-first banks have certainly seen a good year in terms of growth, traditional retail banks still have an upper hand when it comes to customer loyalty. Despite the growing prevalence of fintech companies, they still remain a primary banking institution for many consumers — a stronghold where paychecks go, savings get deposited, and bills paid from.

Research conducted by Ogury⁴ found that most UK consumers use digital banks as a supplementary product:

- 80% of Monzo users also regularly use mobile banking apps from Barclays, NatWest, and Halifax.
- 81% of Revolut users are also customers of Barclays, Lloyds, and HSBC.

In other markets, challenger banks and FinTechs are also struggling to become users' primary banking choice. That's the silver lining for the traditional banks.

By November 2020, digital banks got 50% more revenue compared to pre-pandemic levels

Still, given the slow pace of change, prompted by the markets, incumbent players may lose the upper hand in the mobile banking battle unless they put up new plans

for leapfrogging in the digital banking department. After all, as McKinsey estimated⁵ in 2020 the retail banking distribution experienced up to 3 years of digital preference acceleration.

With reduced profits from interchange fees, growing portfolios of non-performing assets, and a lower volume of lending applications, retail banks need to pivot to new channels and customer offerings to improve their market standing. In that sense, digital-native banks have already charted the initial blueprint for targeted action:

- Go mobile
- Get agile
- Diversify

Keeping Up with the Industry Evolution





Traditional and digital native banks have their respective strengths and weaknesses. Borrowing those from one another in 2021 could not only help stabilize the operational flux most are still experiencing, but also locate new pockets of future growth.

The Difference Between Traditional and New-Age Banks



Traditional banks

Main characteristic: a fully vertically-integrated value chain

Asset heavy

- · Large branch network
- · Product-centric organization and high verticalization of products
- · Culture of "built in-house", business consensus and zero-risk tolerance

Legacy structure

- · Rigid, non-modular outdated tech stack with low scalability
- · Difficult to integrate third-party players
- · Functionalities divided in silos, with manual processes and poor data management

PERFORMANCE



\$200 average customer acquisition cost



cost-efficiency ratio



distribution and channel costs



New-age banks

Main characteristic: a fully digital and platform-based

Lean and agile

- · Large marketplace community
- · Customer-centric organization and high horizontalization of products
- · Culture of launch fast, take risks, leverage partners (open platform)

Advanced digital capabilities

- · Agile digital stack with high scability enabled by microservices and open-platform architecture
- · Ability to plug and play new functionalities
- · Data-driven business models with simple, automated processes

PERFORMANCE



\$1 - \$38 average customer

acquisition cost



cost-efficiency



distribution and channel costs While full legacy core transformations are not fully feasible to execute within a short-term, traditional banks can still gain operational leanness, cost reduction, and customer base growth by adding the following top 5 technical initiatives to their 2021 agenda.

<u>Source</u>

The Top 5 Mobile Banking Priorities for 2021





ABCD – the acronym for **artificial intelligence**, **blockchain**, **cloud**, **and data** – has become the new alphabet of the future of finance.

Popularized by Chinese financial <u>super apps</u>, this tech combo enables banks to build a faster, smoother, and more effective KYC experience for mobile banking users.

MYbank, a financial arm of Alibaba, uses a combination of social and transactional data, processed by advanced ML algorithms, to assign custom risk scores to every mobile banking app user and proposes different interest rates. In 2020, MYbank issued over \$282 billion⁶ loans to SMBs in China, while maintaining a default rate of 1.3%.

As mentioned already, European digital-first banks also leverage the cloud and big data analytics to streamline online account opening. The process of setting up and getting approved for a current online mobile banking account with them takes from 5 to 15 minutes. Both banks use smartphone-native features such as cameras, biometrics, and location-based services to conduct Simplified Due Diligence ("SDD") for new customers.



INTRODUCE MOBILE BANKING KYC AND ONBOARDING BEST PRACTICES

Entirely expected, last year digital onboarding was ranked as the second most important technological prerogative for banks, right after launching a mobile banking app⁷ by most banking leaders.

While certain progress has been made, we expect that digital account opening (DAO) and KYC will still remain among the central initiatives this year. For good reason, as **remote customer onboarding dramatically lowers customer acquisition costs** (CAC):

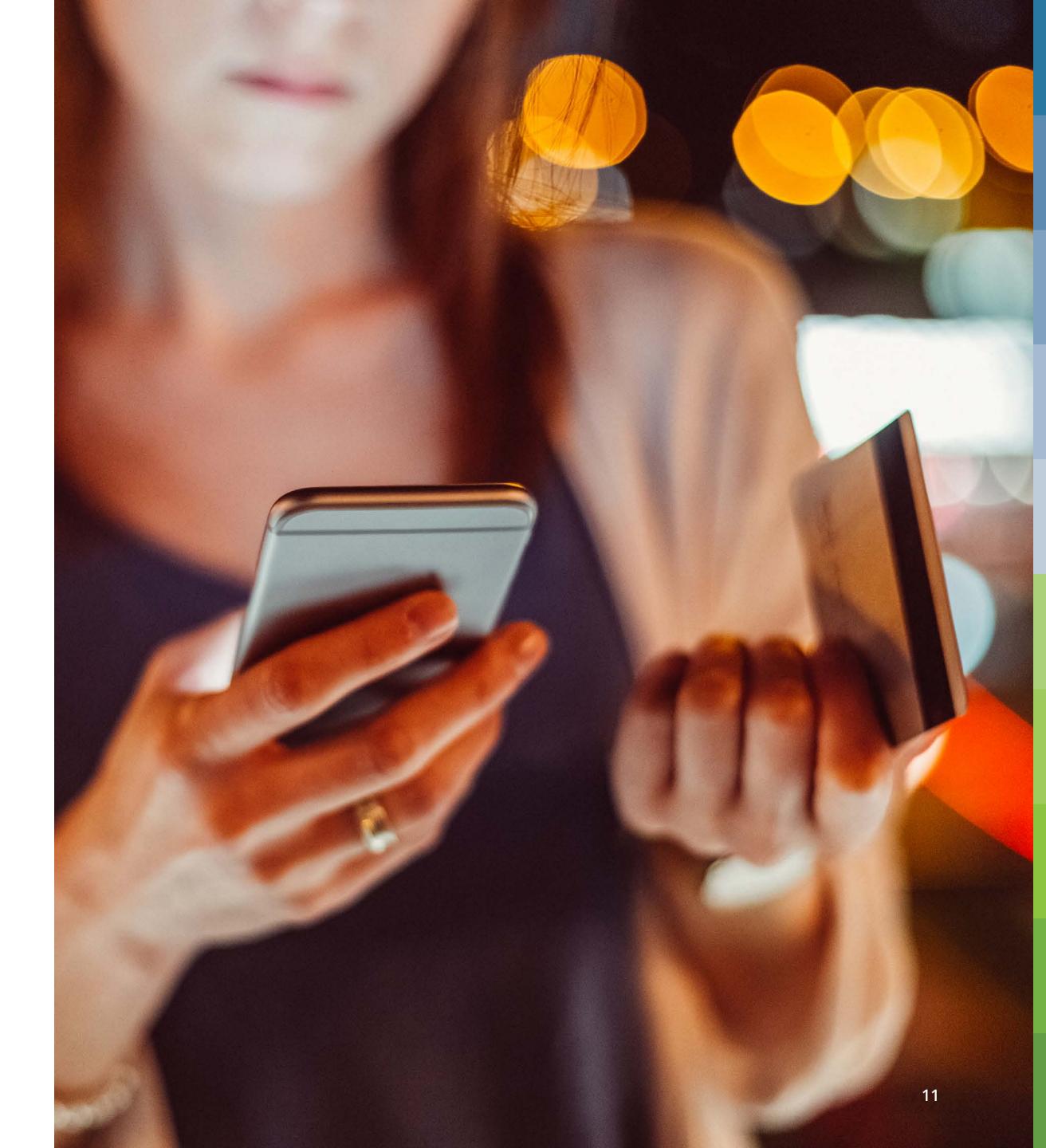
\$138

In-brach average customer acquisition cost

\$77

Digital average customer acquisition cost

What's standing in the way of those lower CAC costs and higher digital sales for most banks is a rigid 'know your customer' policy. Granted, with the new technological solutions available, it's possible to maintain absolute levels of know your customer compliance and provide a delightful digital account opening experience at the same time.





SWITCH TO SIMPLIFIED DUE DILIGENCE (SDD) FOR BASIC ACCOUNT OPENING

Simplified due diligence (SDD) framework, already adopted by the European Banking Authority and equally supported by FATF, legally allows financial institutions to liberalize CDD (customer due diligence) requirements for low-risk activities such as opening a current account or ordering a debit card.

In essence, the SDD framework allows you to initially simplify the KYC process for new customers and, thus, create a simple digital account opening process.

SDD Measure	Digital Account Opening Step
You can verify the customer identity either when they apply to open an account or once their transaction volume exceeds a defined threshold. SDD also allows more means for verifying the customer's identity based on the: • Information obtained from one reliable, credible, and independent document or data source only; • Accepting information obtained directly from the customer when verifying the beneficial owner's identity; • Using the source of funds to meet the basic CDD requirements.	Collect only basic customer data to speed up the process of opening a new account. Instantly provide the new customer with their account details to start building a usage habit early on. Leverage the smartphone's native functionality such as the camera to enable the customers to submit photos/scans of their ID document, proof of address, etc. Alternatively, you can integrate that data from another institution such as another bank or FinTech service that the customer used to showcase their source of funds. In addition, you can use alternative data to verify customer identity and perform basic AML-checks such as location data, customer's social media digital identities, mobile wallet transactions, etc.
Additional CDD can be applied only when certain events happen – the customer wants to apply for another financial product or has reached a certain transaction threshold.	Impose additional KYC procedures only when the need arises. Before requesting the customer to upload additional information, make sure you've tapped into other data sources at your disposal.
Over 60 countries ⁸ have exemptions or simplifications to CDD for certain financial products. In most countries, these provisions will be spelled out explicitly in know your	customer laws and regulations. So be sure to check these when creating a working framework for your digital account opening process.



IMPLEMENT TIERED KNOW YOUR CUSTOMER RULES AND PROCEDURES

Tiered KYC is the second step in simplified due diligence. This paradigm stipulates that the more KYC is met, the greater functionality is delivered to the customer.

For instance, to apply for lending or trading products, you may ask the customer to provide additional insights into their income and occupation. In fact, with the help of

machine learning and big data analytics, your bank can develop a custom backend compliance engine that would send alerts and trigger respective **compliance steps based on the customers' data.**

CUSTOMERS' DATA TO BE PROCESSED BY A CUSTOM BACKEND COMPLIANCE ENGINE



Country of residence and local regulations



Source(s) of income

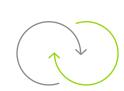




Spending and topping-up patterns



Overall transaction volumes



Other behavioral patterns

Just how much of an impact can tiered KYC have? GSMA⁹ estimated that within two years after introducing this

scheme, Mexico has seen a 14% increase in account opening, equal to over 9.1 million new bank accounts.

Clearly, that's a significant portion of previously unharnessed revenues.



LEVERAGE BIOMETRICS TO FURTHER IMPROVE UX

By 2023, nearly 57% of all mobile payments¹⁰ will be authenticated by biometrics, up from just 28% in 2018. Additionally, biometrics is a cost-effective contender for improving mobile banking security, especially if paired with extra modalities such as knowledge factors and/or security tokens. For example, Banco Santander Mexico experienced a \$1 million savings in authentication costs after implementing voice biometrics for customers.¹¹

When it comes to the KYC process, biometrics offers:

- Rapid and highly accurate way of ID verification
- Better security and lower risks of identity theft/forgery
- <u>Seamless authentication for transactions</u>
- Greater convenience, especially on mobile devices

Biometrics-Powered Digital Onboarding Process

1



A new customer

downloads your

mobile banking

app and starts

the account

opening process.

Using a quick

survey, you

propose the

optimal financial

product for them.



As part of KYC, the app prompts the user to take a picture of their ID. 4



Next, the app captures the customer's live image as a photo/video to compare with the submitted ID.

5



Facial recognition software matches the two images and grants access to the account in minutes, not days.

<u>Source</u>



USE THE CUSTOMERS' MULTIPLE DIGITAL IDENTITIES FOR FASTER KYC

Rather than asking the customer to provide sensitive personal information over and over again, request access to their credentials from trusted third parties. Governments worldwide are actively investing in national Digital ID and Mobile ID systems that could be leveraged for KYC.

In the Nordic region, banks, in particular, were the major catalysts for growing usage and acceptance of federated e-IDs. Today, **over 70% of citizens**¹² in Sweden, Norway, Finland, and Denmark hold a digital identity that they also use for banking services.

Signicat data¹³ perfectly sums up all the benefits banks gain from leveraging digital IDs:

- One bank reports that 8 out of 10 consumer loan applicants completed their applications when using BankID, as opposed to 5 out of 10 prior to its introduction.
- Another Norwegian financial institution reported that
 e-IDs allowed them to reduce the time for an average
 mortgage application from 16 days, 70 sheets of paper,
 and 9 mail dispatches to 1 day when done digitally. The
 operational cost savings were significant too.
- If all Norwegian banks adopted digital signatures, the sector could save an estimated 150 million euros annually.

TO ALIGN WITH EXISTING KNOW YOUR CUSTOMER BANKING REGULATIONS, MOST BANKS WILL NEED TO RAMP UP THE SECURITY OF ISSUED DIGITAL IDENTITIES.

READ THE FULL ARTICLE

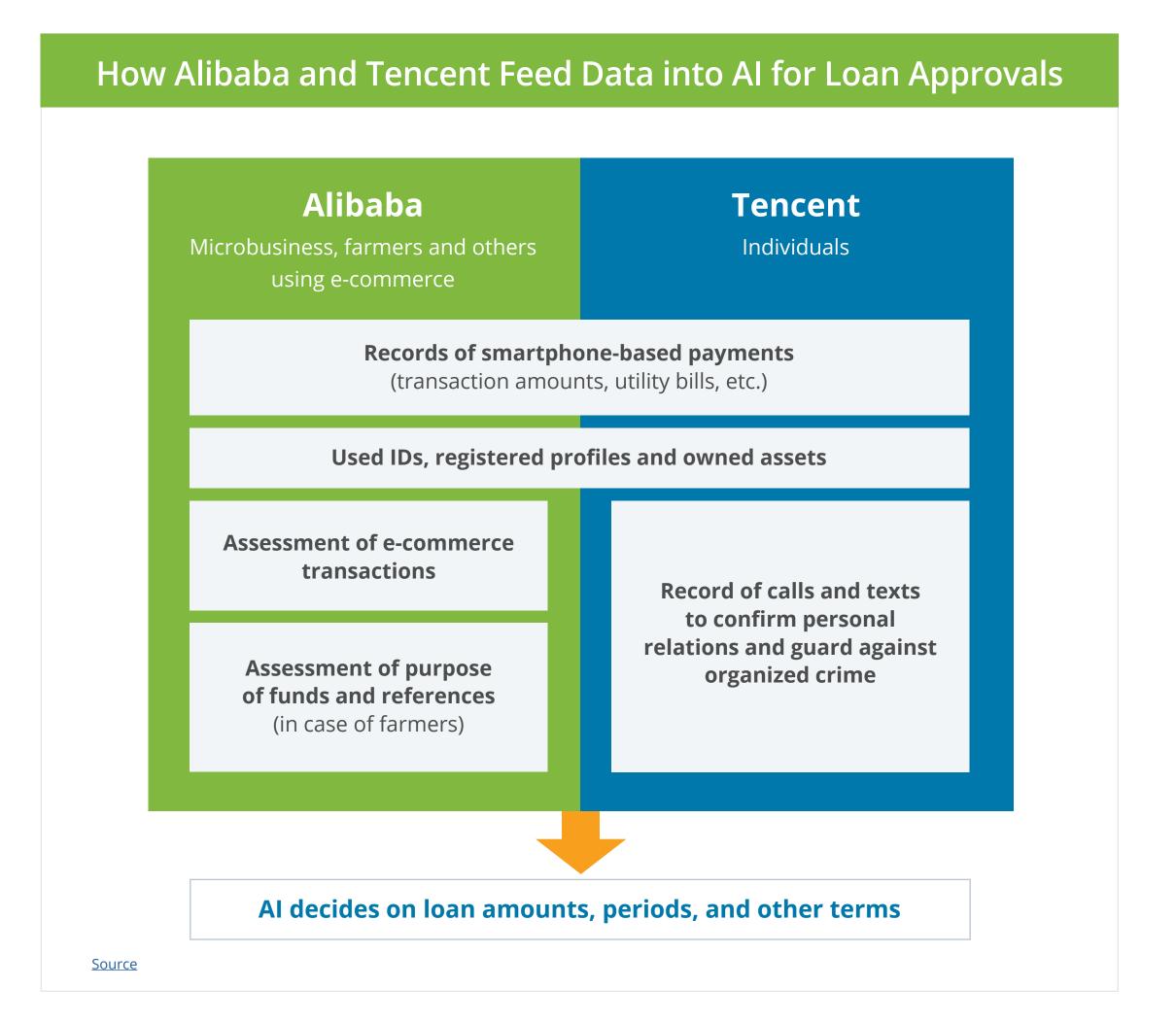


REDUCE RISKS WITH MACHINE LEARNING AND PREDICTIVE ANALYTICS

Anti-money laundering and minimization of other financial fraud are the core priorities for every KYC policy. That's part of the reason why many banks don't feel confident enough to simplify CDD or retire certain KYC procedures.

However, as speed and convenience in financial services provisioning have become key differentiating factors for consumers, holding on to outdated policies presents more risks than relaxing the requirements. Especially, when these relaxations are backed by state-of-the-art anti-fraud analytics systems that progressively learn over time to become even more accurate.

Asian FinTechs are leading the way when it comes to fast, effective, and secure ML-driven customer background checks.



16



KakaoBank, the first digital-only bank in South Korea, managed to **onboard over 1 million customers within 5 days** after launch¹⁴ – all thanks to streamlined KYC and back-office operations powered by Al and Machine Learning. With an intelligent credit-scoring algorithm, the neo-bank also became the largest loan issuer in the domestic market, running ahead of 19 more established, incumbent banks with approx. **\$3.6 billion worth of deposits** accepted and over **\$3 billion loans** issued.

Banks in other markets can certainly take the cue from their Asian counterparts and look more into ML-powered fraud detection systems and AML-solutions.







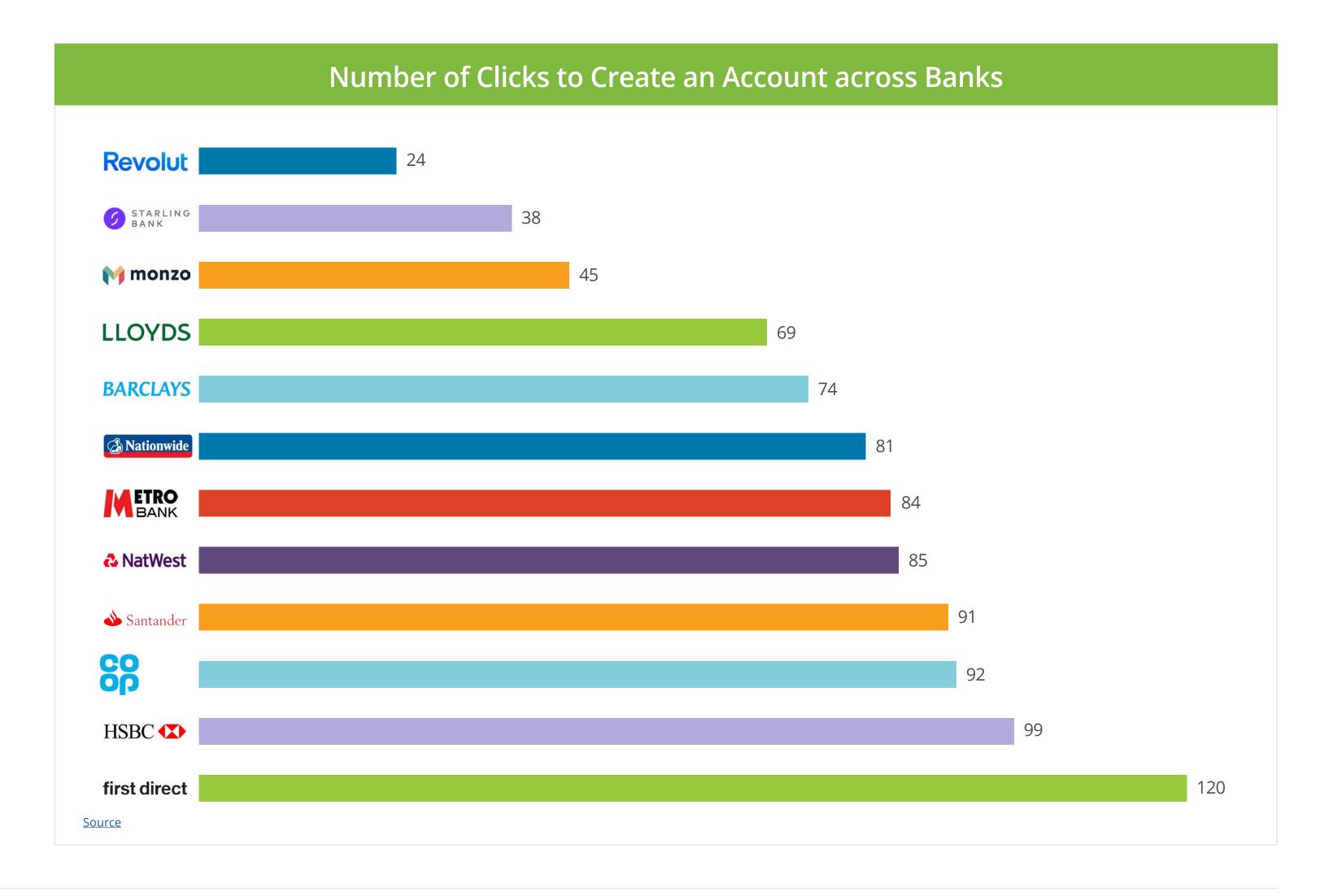
\$55.5 billion¹⁵. So where exactly all that investment is going? As we mentioned briefly in the previous section, biometrics is climbing up the ranks of the most preferable modality for authentication, both among consumers and security leaders.

What's even more important is that seamless authentication is a driving factor for overall product CX. When it comes to mobile banking, extra friction translates to imminent attrition. Biometricspowered security solutions promise to reconcile security and CX at the crucial stages of product adoption and usage.



FASTER ONBOARDING AND KYC

Instead of collecting signatures and physical ID copies, the most progressive banks now employ facial recognition to compare the submitted documents with the real-time photo of a new user. Doing so pays off. As identified in an independent UX study¹⁶, **it takes 5X times fewer clicks** to open a mobile account with a digital-only challenger bank such as Revolut than with more traditional establishments such as Lloyds, HSBC, or First Direct.



2. Biometrics-Powered Security Solutions



The faster you provide your new customer with access to their account – the sooner they begin building a habit of using your product and get on the path of becoming a loyal customer.

If using biometrics makes you concerned about compliance, take a cue from **Commerzbank**. As part of their digital transformations, the German bank was planning to launch a new mobile banking app and onboard new customers remotely. However, the EU laws are rather stingy when it comes to remote customer identity verification.

To avoid branch visits, the bank partnered with **IDnow** – a digital identity verification platform – that provided them with the tools to securely verify customer identity via smartphone video and biometrics data without breaching any compliance requirements. After implementing video verification, Commerzbank **increased in-app conversions by 50%**¹⁷ and simultaneously reduced unverified account applications by more than 20%.





INCREASED SECURITY AND LOWER CYBER FRAUD

2FA, powered by OTP passwords – a long-living standard in the banking space – is neither convenient nor fully secure. The usage of card PINs for validating card transactions has also been debatable. **6 out of 10 consumers admit that they have too many PINs/passwords** and constantly worry about forgetting them.

41%¹⁸ of consumers say that they reuse the same PIN code more than once, personally undermining the security of their finances.

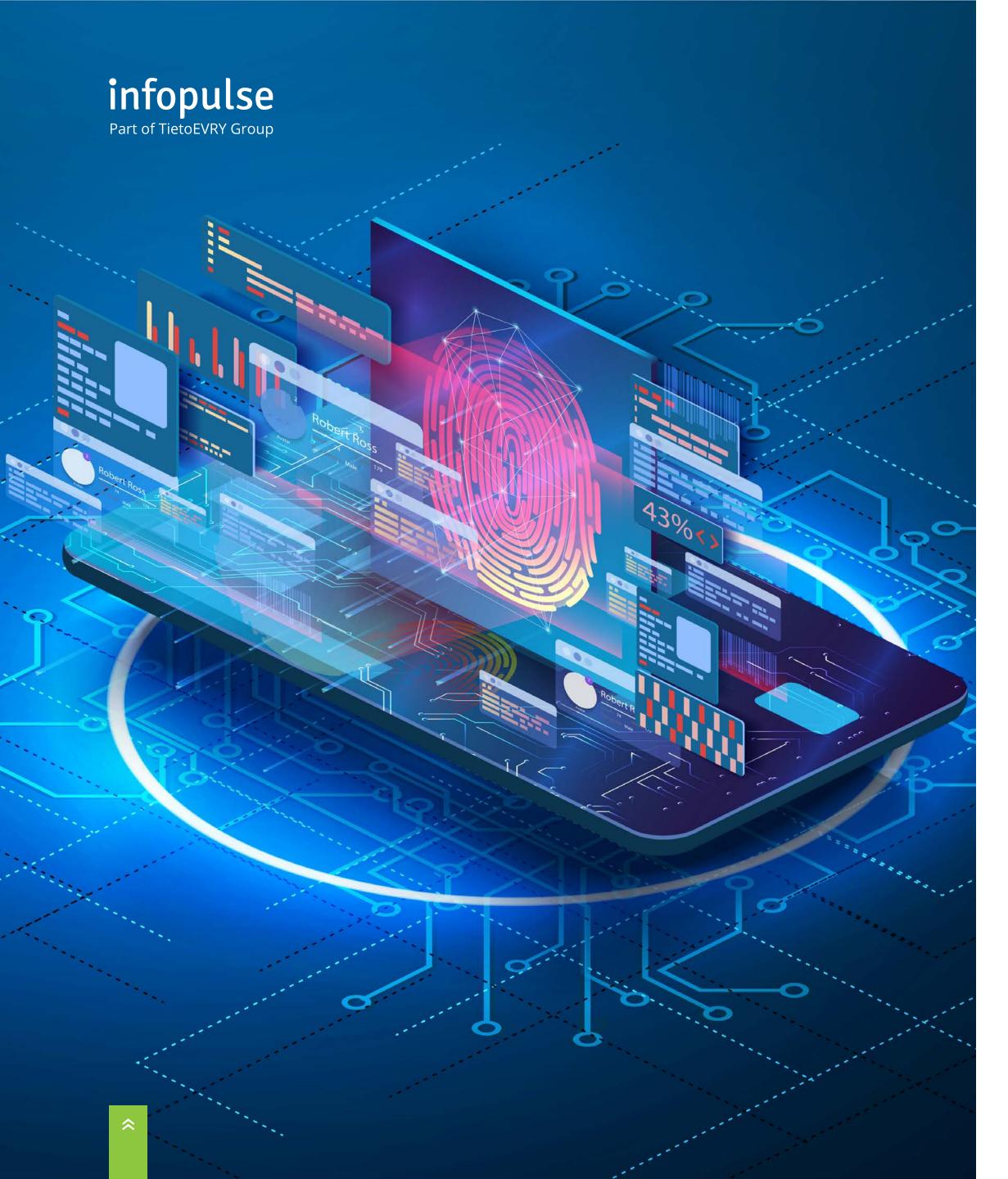
The big boon of biometrics technologies is that they can be organically integrated at various steps of customer's interaction with your product – to access the banking app, validate a payment, confirm a sensitive account action, etc. After all, the most commonly used type of behavioral biometrics such as a finger scan is much more convenient than any custom PIN.

On top of that, by incorporating progressive biometrics security for a multitude of in-app actions, you increase the customer's trust in your mobile banking product. According to PYMNTS research¹⁹, 66% of Millennial banking consumers would like to have more authentication control to feel safer. Also, 33% of banking respondents indicate that they would use their mobile banking app more frequently if their FI offered more protection against potential mobile app fraud.

Biometrics, along with <u>other innovative approaches to cybersecurity</u>, can help balance the need for greater safety with convenience. **HSBC**, for instance, was among the first banks in the UK to support Voice IDs and Touch IDs for customer authentication whenever they wanted to access some banking services over the phone or log into the mobile banking app.

BBVA went a step further and, together with Samsung, incorporated eye scanning as an authentication method for their mobile app²⁰.

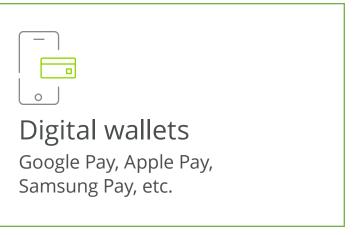
2. Biometrics-Powered Security Solutions



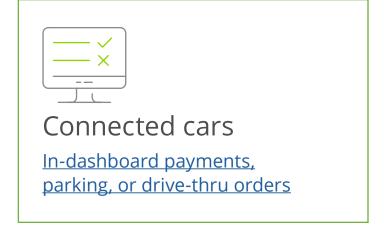
FUTURE-PROOF YOUR PAYMENT EXPERIENCE

As innovative payment technologies come to the fore, PINs and passwords will only lose their popularity further. Biometrics is the key enabler for delivering a seamless, secure, and streamlined payment experience through the emerging payment avenues.

EMERGING PAYMENT CHANNELS







Furthermore, as mobile e-commerce remains on the rise, banks should also look into new ways of preventing card-not-present fraud. In-banking app authentication for online payments, done via biometrics, is a solid alternative to 2FA and OTPs.

Biometrics-powered credit and debit cards are another interesting trend that came to the fore during the pandemic. To avoid touching shared surfaces a lot of people has switched to contactless payments as the preferred payment option (**up 34% net in 2020** according to EY²¹). Over 20% of consumers also expect to rely less on cash and use contactless payments more often in the next couple of years.



Given such changes, it makes sense why the sentiment around biometric cards has become rather positive. **Over 82% of UK consumers**²² consider biometrics cards to be more secure than standard ones and an additional 82% said that such a card would become their preferred payment method.

82% of consumers would use a biometric card as the main payment method

For retail banks, issuing biometrics cards isn't just another way of ensuring greater customer security and satisfaction – it's a robust way of **preventing AML fraud and reducing the volume of false-positives**. What's more, a biometrics card is designed in such a way that the sensitive data is stored on the card itself, not within the proprietary systems. Meaning such cards do not transmit sensitive customer data over the air or otherwise expose personal details. This, in turn, can generate significant data storage and compliance savings.

BEHAVIORAL BIOMETRICS

Behavioral biometrics is a new wholesome approach to cybersecurity that attempts to personalize user security to their actions. While traditional biometrics gauges singular user metrics (fingerprint, iris scan, facial features), and traditional security measures sit atop of what the user knows (PIN, password, secret question), behavioral biometrics companies analyze the common user activities and patterns within them to determine what's normal or abnormal behavior.

Much like <u>anomaly detection</u>, behavioral biometrics is driven by the usage of big data analytics and ML. Some of the current **behavioral biometrics examples include mapping keystroke patterns, hand tremors, navigation, and finger movements** within an application to a particular user to offer a greater degree of in-app personalization to them.

2. Biometrics-Powered Security Solutions



In mobile banking, behavioral biometrics has several prominent use cases:

- Account opening fraud prevention: By analyzing user's online and offline behavior, banks can prevent the usage of stolen or synthetic identities for new account opening.
- Account takeover fraud detection: Knowing what constitutes "normal" customer behavior, banks can identify account takeover attempts at the onset.
- **Protection against social engineering voice scams:** Such systems can detect and monitor against social engineering scams where an agent pretends to be a bank employee and attempts to fish for sensitive information.

For mobile banking to scale in 2021, new security approaches are mandatory. Biometrics is a strong contender worth considering, along with other cybersecurity measures.



2. Biometrics-Powered Security Solutions





To remain competitive in the upcoming decade most businesses will need to transition to an "ecosystem business model". Instead of attempting to do-it-all on their own, leaders will digitally join forces with other players and grow through platform offerings.

- BCG

Consider the automotive sector. Most OEMs are gradually launching servitized offerings ranging from car-sharing to connected parking solutions, e-vehicle charging infrastructure, and more. By plugging new players into their ecosystem, they drastically expand the scope of value-added services for consumers and gain additional revenue streams.

The financial industry gravitated towards a similar route pre-pandemic, though Covid-19 prompted certain changes to strategic roadmaps. Given that profits from transactions have dipped, while lending became riskier, some financial leaders are now placing a stronger emphasis on **alternative growth routes**, **enabled by BaaS**:

- "Opening" core banking infrastructure and delivering it as a BaaS offering (Example: <u>BBVA</u>)
- Expanding portfolio of marketplace products and client offerings via joint offerings (Example: N26 and Transferwise partnership)

Both routes enable financial players to achieve faster, yet sustainable scaling at a lower cost and with lower risks. The two new business models – **Banking as a Service (BaaS) and Marketplace banking** – can help banks retain a central spot in the customers' lives and sustainably venture into new business verticals.



WHY BANKING AS A SERVICE IS A WINNING APPROACH TO DIVERSIFYING REVENUES AND RISKS

Banking as a service (BaaS) is an end-to-end process that enables the provision of core banking services over the web, on-demand. In essence, this business model allows banks to extend their core services to non-financial companies and enable them to directly integrate your offerings into their platform via APIs.

THREE LAYERS OF THE BAAS ECOSYSTEM:



1. LICENSED FINANCIAL INSTITUTION:

A bank that provides its license as a service. Additionally, licensed banks can also 'rent out' their core banking infrastructure.



2. SERVICES PROVIDER:

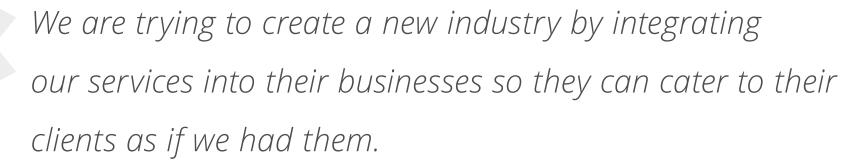
A FinTech company or bank, supplying modular financial services via APIs to others.



3. BRAND:

A non-financial company wishing to embed financial services into its offerings.

Legacy banks can assume the role of both 'license as a service' provider and financial service provider as **Goldman Sachs** recently did. After successfully transitioning its core banking services to the cloud, Goldman released a set of public APIs, enabling third-party developers to build new products on top of the bank's platform.



- Hari Moorthy, Goldman Sachs global head of transaction banking²³

Prior to releasing the new BaaS solution to the public, Goldman already tested its viability in an earlier deal with Amazon and Apple. The three industry giants announced a small business lending program for Amazon sellers and Apple Card users back in July 2020²⁴.

Goldman Sachs is hardly a pioneer in the BaaS movement though. **BBVA**, the Spanish multinational financial services company, has launched a global open banking platform back in 2018 and now actively focuses on bringing their offerings in line with the PSD2 requirements to fully embrace the Open Banking initiative.



In 2019, BBVA launched an API Market in Spain with 11 banking APIs available to developers²⁵. Similar to Goldman Sachs, the BaaS pioneer is now seeking out partnerships with other brands to expand their ecosystem and scale profits from BaaS. Apart from growing their UK-based digital bank arm – Atom Bank – BBVA also signed up deals with Uber (to launch a new financial product to Mexican drivers), as well as Amazon Web Services and Bloomberg (to develop new cloud-based technology for the equity markets).

Such alliances are largely made possible by the financial sector's fast adoption of cloud computing, microservices architecture, and Application Programming Interfaces (APIs). The latter allows third parties to securely connect to the bank's core financial systems and embed them into their own products in a compliant manner.

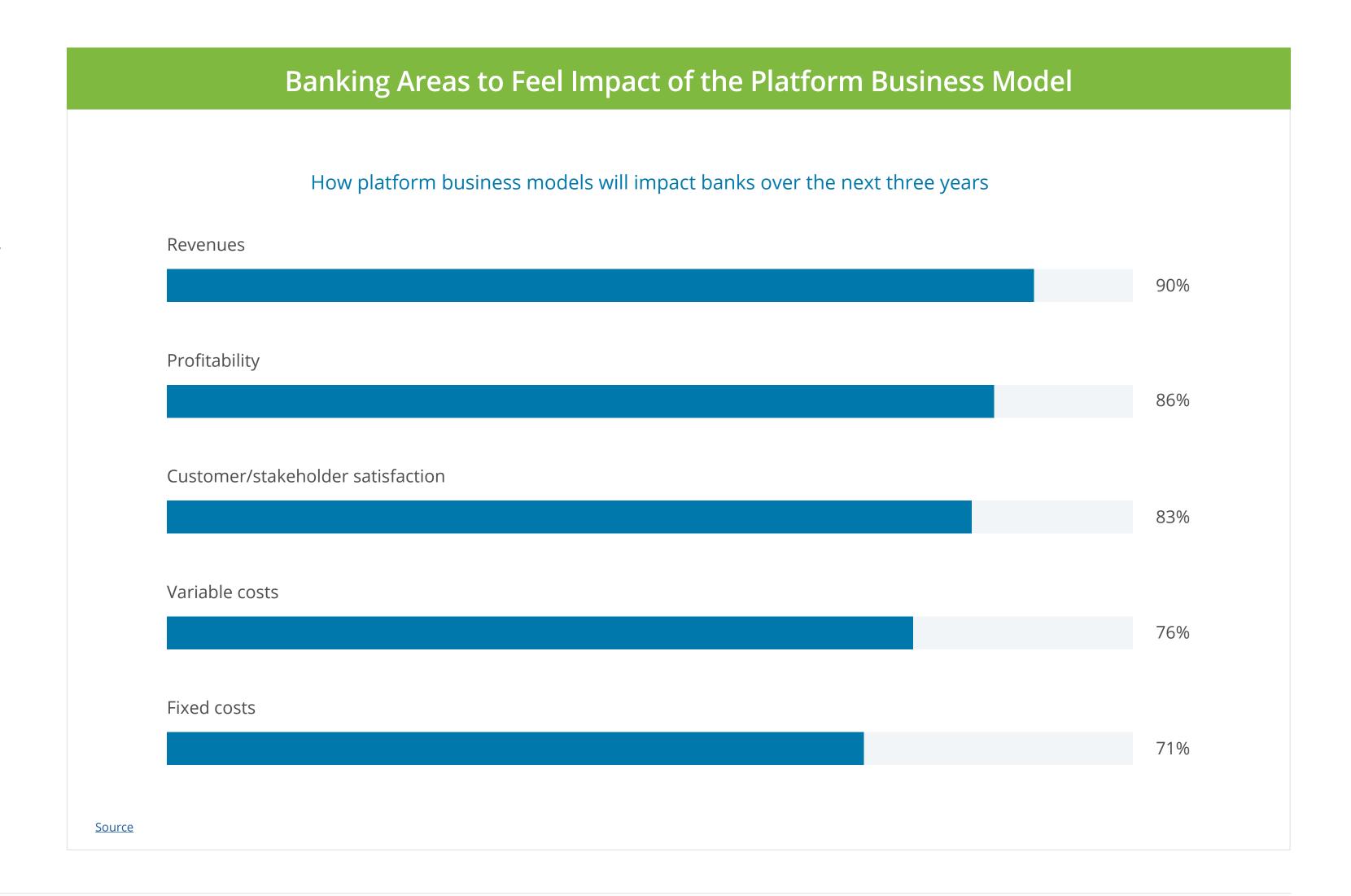
The biggest boon of APIs in the financial sector is that they enable banks to break down their single offering (core banking system) into a modular range of individual services that can be used to create additional revenue streams.

Types of FinTech APIs <u>Source</u>



THE BENEFITS OF BANKING AS A SERVICE MODEL

BaaS can help banks diversify their core business and, by doing so, protect themselves from gradual profit erosion, steered by FinTech and TechFin players. Instead of competing with newer market players, banks can become their infrastructure partners and capture extra revenues from the partners' growing user bases.





BaaS Benefits for Banks:

- Diversification into new business vertical and products
- Access to a larger customer base via partners
- Reduced cost of distribution of their core products and services
- Access to new revenue pools and monetization opportunities

End-customers of both participants, in turn, gain access to an array of new products and services that lead to higher satisfaction, loyalty, and ultimately, profitability.

BaaS Benefits for Partner Brands:

- Reduced cost of implementing financial/payment functionalities
- Regulatory- and process-light entry into the financial space
- Faster time-to-market for new products
- Diversification of customer offerings and access to new revenue pools





BAAS VS OPEN BANKING VS MARKETPLACE BANKING: WHAT ARE THE DIFFERENCES?

BaaS operational model often gets mixed up with **Open Banking** – a European initiative, aimed at improving data exchanges among financial institutions, so that customers can enjoy unified access to all their financial data, cross-company. To accomplish that, participating institutions are also encouraged to open up their APIs, so that other participants could retrieve the customers' data and 'plug' it into their platform.

Marketplace banking (also known as platform banking) is yet another operational model (that we discuss in detail in the next section), enabling banks to connect more players into their ecosystem. Unlike banking as a service platform, the key idea behind marketplace banking models is to attract new participating players to the existing banking ecosystem, rather than engage with them externally.

	BaaS	Open Banking	Marketplace Banking
The Gist	Licensed banks open their core banking systems' APIs to third parties, who'd like to offer financial services to their customers.	Third-party players use APIs to gain access to banking data and incorporate it into their product or trigger in-app payments.	Bank integrates a range of other players into their ecosystem and user interface via APIs to offer extra services to their customers.
Example	An airline that partnered with a bank to offer a branded checking account and credit card.	A personal finance management app that shows your activity across all banking accounts.	A financial platform that offers access to a range of financial products (different savings accounts) and deals from non-financial partners (insurance options, donations, utility provider switching, etc.).



WHAT MAKES MARKETPLACE BANKING MODEL A STRONG ATTRACTOR FOR TRADITIONAL AND DIGITAL BANKS

Back in the day, **Amazon** launched as a monoline e-commerce business selling books. Within the next decade, the company attained major growth by opening doors to third-party sellers and transforming into a marketplace of goods and services, provided by both the internal team and external partners.

The financial space is now undergoing similar transformations. Digital banks and FinTech players that launched with a single customer offering – a no-fee debit card or checking account – are now actively collecting more services under their brand to compete with legacy financial brands.

EUROPEAN DIGITAL BANKS SUCH AS MONZO, REVOLUT, N-26, AND STARLING AMONG OTHERS ARE POPULATING THEIR ECOSYSTEM WITH NEW PRODUCTS TO RETAIN EXISTING CUSTOMERS AND PROMPT FURTHER GROWTH.

After capitalizing on rapid growth, orchestrated by the reliance on low-profit margins on basic financial products (such as no-fee SEPA transfers, P2P payments, and free checking accounts), challenger banks are now forced to search for extra revenue pools if they want to remain ahead of the race.

Unlike traditional banks, however, most choose to attract partners into their ecosystem, rather than attempt to build new products in-house. **Revolut** offers a range of insurance, trading, and lifestyle products (such as airline lounge passes and rebates) from a variety of partners. **Fidor** went a step further and offers an off-the-shelf marketplace banking solution, already pre-packed with an array of products provided via third-parties.

The marketplace trend stretched even further in Asia and prominently manifested itself in the rapid rise of <u>super apps</u> – a closed ecosystem of many apps (financial and non-financial), packed into a single interface. **Ant Financial**, a China-based financial giant, recently named as the world's most valuable FinTech company, **has scaled to \$8 trillion in transaction volume** by assembling a strategic ecosystem of partners under its hood. One of their main offerings is an open insurance marketplace, featuring over 80 insurance companies and reaching **over 180 million users**. ²⁶ In addition, the company offers asset management and retirement planning among others by leveraging the marketplace model.

GoBear also chose to pursue a marketplace banking model from day one. Launched in 2015 as a metasearch engine for financial products, GoBear now operates the largest financial products marketplace in Asia, offering access to **over 1,800 consumer financial products** such as travel, health and car insurance, credit cards, and personal loans.



WHY TRADITIONAL BANKS SHOULD CONSIDER THE MARKETPLACE MODEL

Legacy banks already have a diverse portfolio of financial products, but lag when it comes to added-value products and services that most consumers now use along with their primary banking application – personal finance management apps, credit scoring products, lending apps, and more.

However, the growing array of FinTech tools and apps also contributes to decision paralysis and creates app fatigue. According to the 2019 FinTech Global Adoption Index from EY²⁷, **60% of surveyed consumers** would prefer to have access to their financial products from a single app or online portal.

By consolidating more services providers under their brand, traditional banks can recuperate some of the customer bases and revenues, lost to other service providers.

We are living in an experience economy – providing banks with the ability to easily integrate and combine traditional banking products with services from new innovators is paramount if they are to meet customer demands.

- Ken Moore, executive vice president and head of Mastercard Labs²⁸



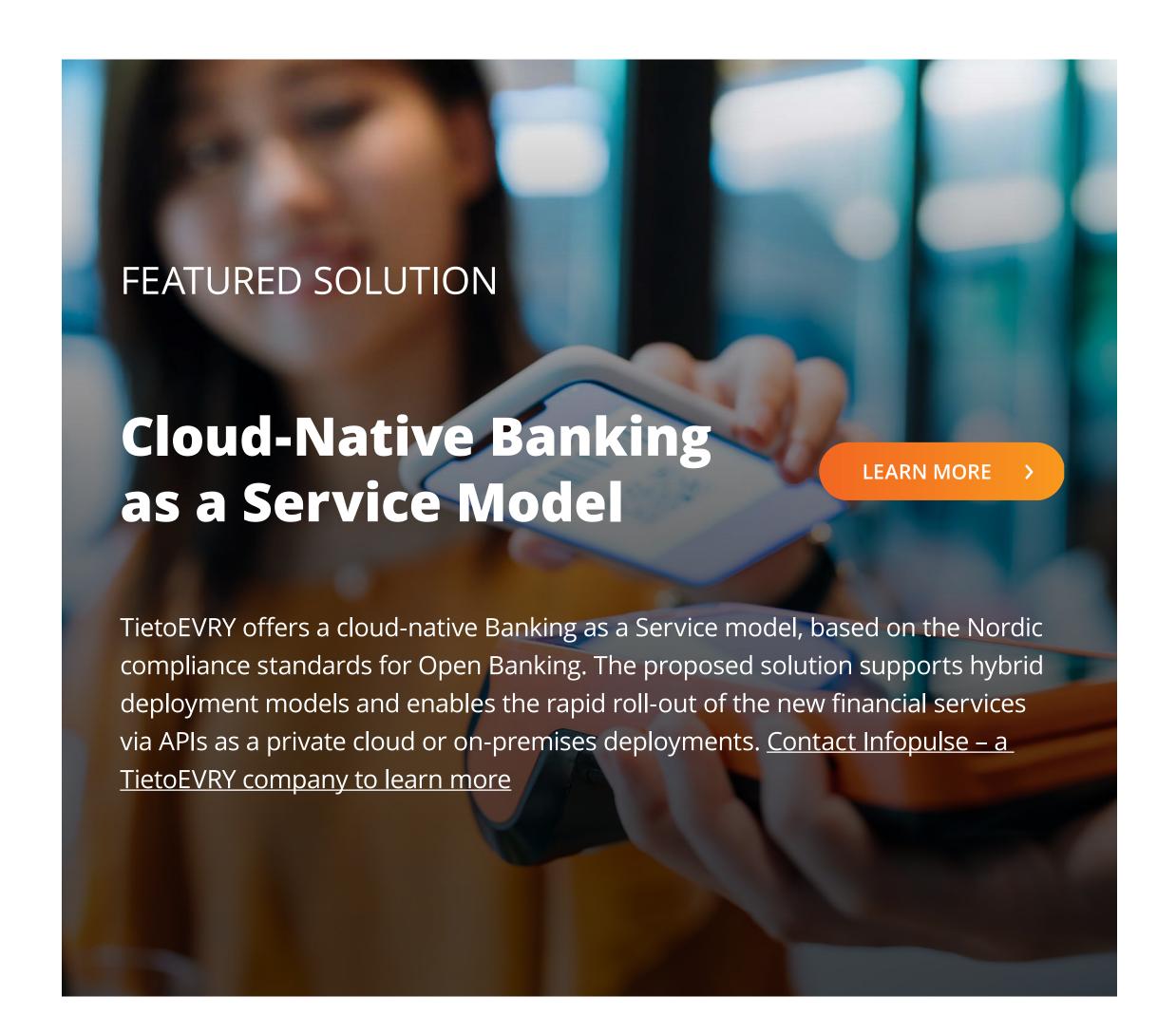


In this regard, the **benefits of the marketplace banking model for banks** can be summed up the following way:

- Ability to launch new financial services/products faster
- Smarter scaling through horizontal growth
- Diversification of risks through partnerships
- A greater degree of product personalization to different customer segments
- Improved customer retention, loyalty, and satisfaction

Reduced risks of profit cannibalization by other players.

Ultimately, nearly **80% of FI executives** believe that platform-based offerings will help them stay competitive in the upcoming decade²⁹. So it's high time to start putting plans for technical transformations of your infrastructure.







Voice is rapidly becoming another venue for commerce. In 2019, 9.6% of consumers³⁰ completed a transaction using voice. By 2022, **voice shopping is expected to reach \$40 billion**³¹ **in the US** as the adoption of smart speakers surges. While payment services providers (PSPs) rush to create new infrastructure for supporting voice-authenticated payments, banks should focus on improving voice support within their mobile banking apps.

USAA, Wells Fargo, and **OCBC Bank** have already made voice commands one of the competitive advantages of mobile banking for their customers:

- USAA introduced a conversational coach to improve users' financial literacy
- Wells Fargo supports in-app voice search
- OCBC in-app assistant provides information about various transactions, spending categories, and bill payments.

Voice is the emerging payment avenue that traditional financial institutions and payment services providers (PSPs) need to be prepared to harness. Or else they risk losing to technical players that are already making their way into the financial turf.



VOICE PAYMENTS IN 2021: MARKET OUTLOOK

Voice-enabled payments are far from being mainstream yet. Though the consumer, as well as the business, interest in this payment method has been rising steadily for the past three years. In 2019, 9.6% of consumers used a voice-activated device to complete a purchase³². To put this number into a perspective: it took Starbucks mobile payment app 6 years to achieve the same usage levels.

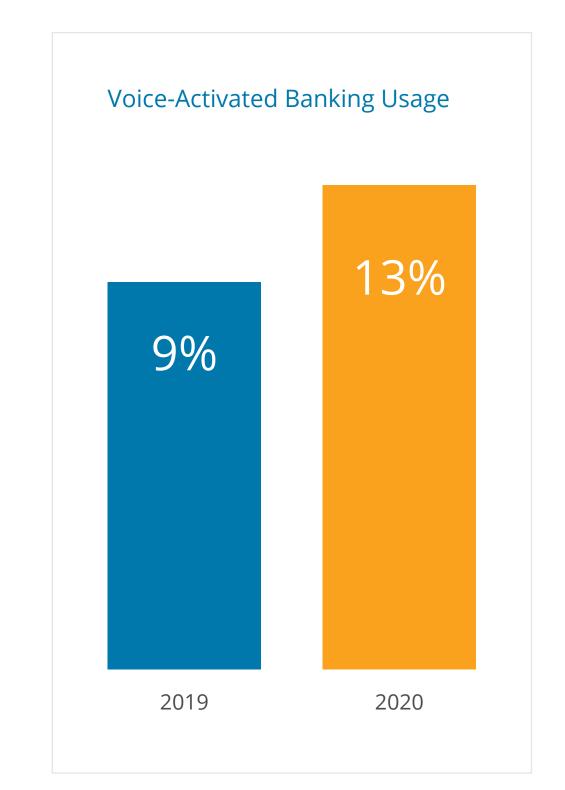
Voice-activated assistants also gained extra popularity due to the pandemic as more and more concerned consumers started to prioritize voice over touch, especially when it comes to shared services. In the UK, the percentage of people using **voice assistants for daily shopping also increased to 33%** from 23% during the confinement months as people minimized their trips to the outside world³³.

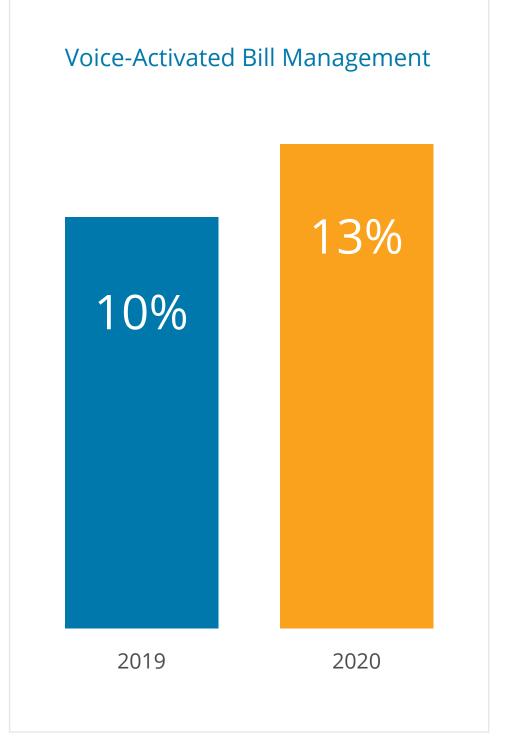
In 2020, 37% of consumers, owning smart speakers, used voice to make a purchase according to Visa's latest data³⁴. Among them, 18 million were shopping for retail products and 27 million used connected devices to order groceries.





Voice Commands Usage for Financial Activities





What's even more curious is that a lot of voice purchases are highly contextual, often completed alongside other activities such as watching TV (9%), cleaning the house (8,5%), and having lunch (5.3%).

The general affinity towards contactless payment options has grown significantly as a direct consequence of the COVID-19 pandemic: 59% of consumers want to see more contactless payment options before they return to brick-and-mortar operations, while 58% are also open to alternative payment methods that do not require touching a card reader³⁵. Voice-based payments can positively contribute to the reshaped retail sector, emerging post-COVID.

Embedded finance is another growing avenue of voice payment usage, especially in physical devices such as vending machines, kiosks, self-checkout terminals.

For example, **Coca-Cola** developed a contactless beverage dispenser within just one week during the pandemic, allowing customers to choose and pour their drink using their phone, without installing any app. By the end of the year, they planned to make all Freestyle dispensers contactless. Voice ordering functionality may be the next logical step for such solutions.

4. A Strong Call for Voice Commands and Voice Payments

<u>Source</u>



THE MAIN USE CASES OF VOICE TECHNOLOGY IN BANKING

Considering that voice payment experience is largely invisible, financial institutions were initially slow to explore this route. However, further reluctance to venture into the 'voice space' can cost banks a hefty volume of revenues that will fully migrate to technological players whose voice assistants live in the customers' phones and homes.

P2P PAYMENTS

Personal payments to listed contacts were one of the earliest use cases of voice in banking. Most consumers opt for voice commands as they save time, are easier than typing, and can be done with your hands tied.

For long enough, legacy banks have been losing the battle in the P2P transfers space to

- FinTech players (PayPal, Venmo, Cash App, etc), that offer a cheaper, more convenient experience for 'sending money back and forth'.
- Digital banks (Revolut, Monzo, Chime) that entice users with low-to-no fee SEPA/ACH transfers and the ability to split bills in one tap.

To recuperate some of those lost transactions, banks can try to win over their existing customers by offering a smooth voice-activated P2P payment experience.

Royal Bank of Canada, Barclays, and Santander were among the earliest banking players to introduce voice recognition payments via Siri. Garanti Bank and Westpac Banking Corporation have also integrated Siri, Alexa, Google Assistant, and other voice-enabled home devices into their banking ecosystems so that customers can use the app via voice commands and make different financial transactions. BBVA recently deployed MIA (Mobile Interactive Assistant) that goes a step further and relies on NLP (natural language processing) to send payments, settle bills, or do other financial transactions.

4. A Strong Call for Voice Commands and Voice Payments



VOICE SHOPPING

As mentioned earlier, consumers have a dire desire for contactless commerce in the post-pandemic world. Tech players are quick to act upon this emerging (and ongoing) trend.

In 2020, French grocery chain **Carrefour**, together with Google, updated its mobile app to make voice-enabled shopping a reality for French consumers. The newly launched service is part of a larger digital transformation initiative the two companies have been developing for the past three years. It will allow Carrefour shoppers to tie their account with a Google assistant and then just dictate the products (coffee, Coca-Cola, green apples) they want to add to the cart. The checkout and payment experience is voice-based too. In 2021, Carrefour plans to launch the app in 30 more countries where it operates.

In-car payments and commerce is another promising area of interest for financial players as avid drivers already favor voice over tapping when they commute. In 2019, 53.3% of drivers in the US connected³⁶ to a voice assistant while driving and spent some **\$212 billion on invehicle purchasing**, spanning over drive-thru orders, gas, grocery shopping, and <u>in-car entertainment</u>. Banks and financial service providers have a great opportunity to team up with OEMs to create a smoother voice payment experience for their customers.

IOT PAYMENTS

Last year, contactless, cashier-less stores seemed more like a fun fad, rather than a long-term feature. However, as COVID-19 struck, multiple retailers are assessing the feasibility of creating a fully <u>unattended retail experience using IoT technology</u>. Voice-enabled payments can be part of that new experience or used as another method for authenticating transactions.

Smart pumps, connected parking, smart vending machines, or fully self-serviced hotel premises are among other promising use cases for voice in IoT payment space. As the manufacturing space is moving towards servicized offerings and pay-as-you-use service models, the voice may soon become the key payment enabler and connector within the M2M interactivity space.



WHAT IS IMPEDING WIDER VOICE PAYMENT ADOPTION IN FINANCE?

Despite the initial rapid advances in the development and prompt consumer adoption, voice payments still stay on the financial industry margin. There are several reasons for that:

- Challenges in scaling voice payment experience
- Limited contextual understanding of voice commands
- Cybersecurity concerns.





CHALLENGES IN SCALING VOICE PAYMENT EXPERIENCE

Despite rapid technological advances in deep learning and neural networks, voice recognition remains a complex process that is hard to scale effectively. Modern state-of-the-art algorithms are already capable of recognizing simple, straightforward commands and synthesize natural responses to them, like Siri, Google Assistant, Alexa do.

This way they teach the software to perform more complex, sequential campaigns not technologically feasible at scale. More research and data are required to create fully-voiced guided financial interfaces for complex matters such as **portfolio management**, **tax preparation**, **or personal accounting**.

LIMITED CONTEXTUAL UNDERSTANDING OF VOICE COMMANDS

Consumers do not mind paying for low-value items with voice, but most are reluctant to shop for higher value items through this channel. **Only 18% of smart speaker owners** said that they are ready to book a holiday or pay for their flat via this device³⁷.

Security is one concern. Lack of effective customer experience and high accuracy is another. The abovementioned report also indicates that customers rank voice recognition customer experience for payments lower than those for facial and fingerprint authentication. To a large extent, this is due to the fact that most assistants (especially the in-app ones) often have a limited contextual understanding of different voice commands. Voice recognition algorithms need to be properly trained to engage in meaningful conversations with customers to prevent annoying accidents such as money being sent by accident to the wrong contact.

CYBERSECURITY CONCERNS

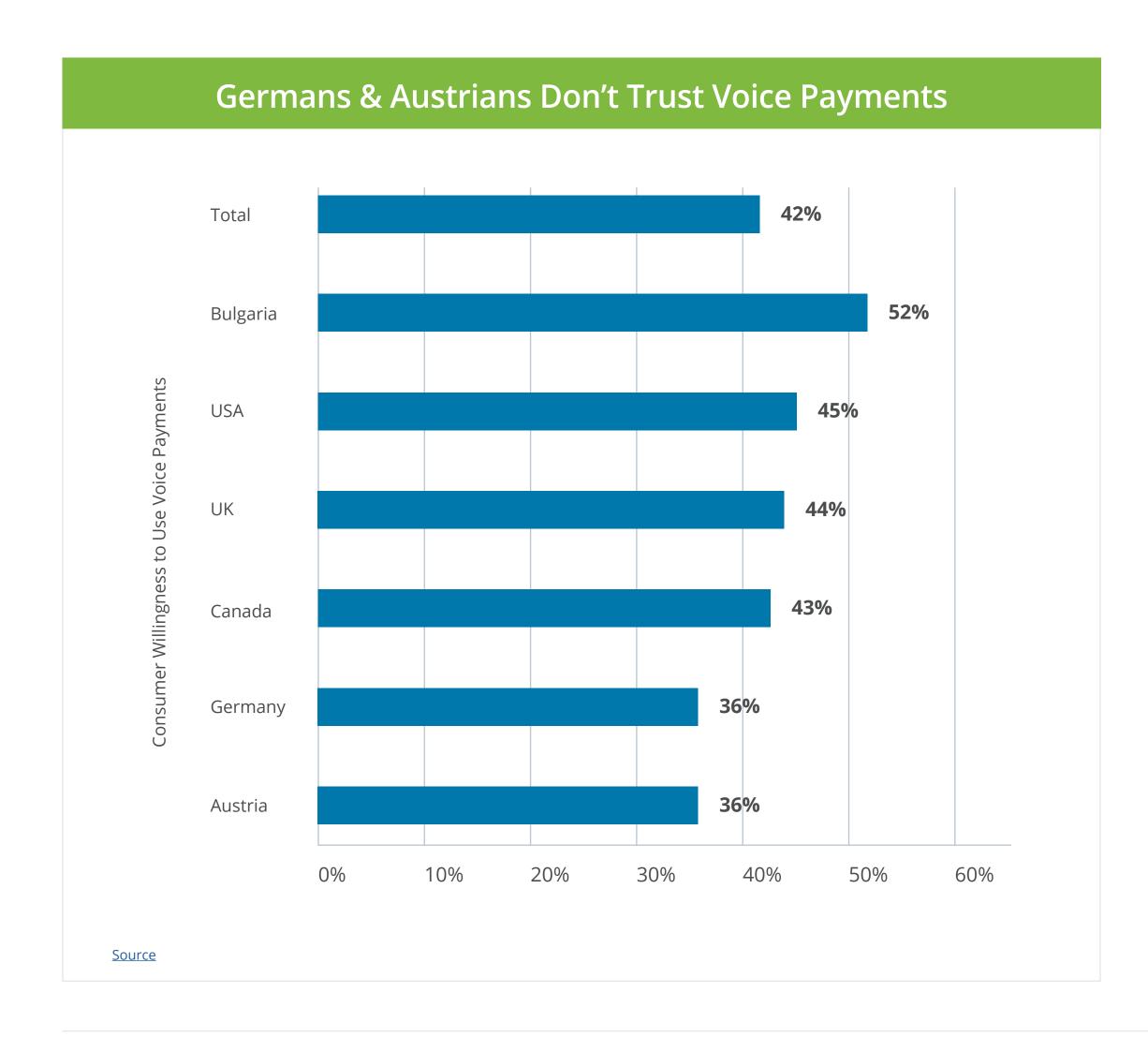
While biometrics is an inherently better security mechanism than PINs and even 2FA, leaders in the voice payment sphere are still mid-way into figuring out how to fully secure voice-activated payment flows from hacking and fraud.

On top of that, banks need to improve their voice recognition for payments, and other types of transactions, as the current level of accuracy does not impress most consumers.

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4. A Strong Call for Voice Commands and Voice Payments



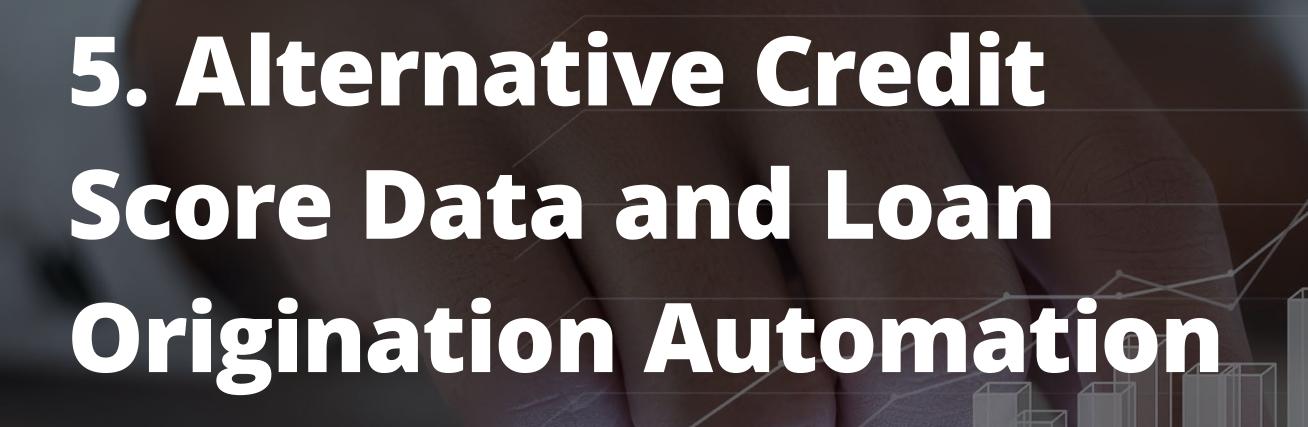


To address the lack of trust and improve the algorithms' accuracy levels, **Google** has recently piloted a new voice matching service that will secure transactions made via smart speakers and smart displays, as well as in-app purchases and restaurant orders.



4. A Strong Call for Voice Commands and Voice Payments







In 2021, lending remains a risky avenue for transitional services providers as most that remain vary regarding their customers' ability to meet their financial obligations. EY³⁸ predicted a nearly 16% drop in consumer credit in 2020 – the sharpest since 1993. Mortgage forecasts are also dire with lending expected to rise by just 2.6%. In the business segments, the forecasts are also pessimistic: UK-based businesses, for example, were expected to borrow five times more in 2020, compared to 2019, and only start repaying in 2022.

On the other hand, financial companies cannot delay the lending sector restart, especially if they want to maintain a balanced portfolio of solvent customers in the future. The response measures your organization will take in 2021 are crucial to future customer relationships, your public image, and future recovery of loan losses.

How can financial leaders navigate safely and sustainably out of the crisis? By accelerating the much overdue digital transformations in the lending sector, especially those pertaining to loan origination automation and alternative data usage.



HOW ALTERNATIVE LENDERS ARE TAKING OVER TRADITIONAL PLAYERS AT THE LENDING RESTART

While traditional financial institutions were focused on implementing emergency "defense measures", digital-first lenders such as **Kabbage** (previously backed by Soft-Bank and Credit Suisse, acquired by American Express in August 2020) re-focused on growth. Despite a brief period of operational challenges, the digital lender proactively helped SMB customers access government-backed loans and provided US-based small businesses with over **\$7 billion in working capital in 2020**³⁹. Kabbage was also among the few non-bank companies who were approved to participate in the \$349 billion Paycheck Protection Program (PPP) in the US.

Unlike incumbent lenders, Kabbage provides **credit decisions in under 10 minutes**, using the company's Al-based credit scoring engine. The entire process is fully digital and intuitive for first-time applicants. Apart from traditional credit scores, the company also uses alternative data – over 1.5 million data points⁴⁰ per applicant – to make its decisions and minimize default rates.

A credit request can be approved in less than 10 minutes by digital lenders today

Upstart Network is another global pioneer in the alternative field. The consumer online lending marketplace relies on alternative credit data and custom machine learning algorithms to assign custom scores to customers. Up to date, the company has already generated **\$4 billion in bank-quality consumer loans**⁴¹. Their proprietary credit scoring method approved 27% more consumers and reduced the interest rates by 3.57%. Creditthin consumers, in particular, received higher approval rates and lower interests.

In either case, the two fintech startups managed to amass a large and loyal customer base by leveraging emerging technologies and customer data, acquired outside of the credit reporting agencies (CRAs). Such inherent agility has enabled digital-first players to resume lending faster and adapt their infrastructure to benefit from PPP loan schemes as well as other governmental grants.

Traditional lenders and credit bureaus should borrow some lessons from their digital-first partners when it comes to **streamlined decision-making**, **loan origination automation**, **and digital customer experience**. Alternatevely, by the time financial conditions rebounds, legacy organizations may have already lost a significant portion of their customer bases to fintech competition.



WHAT TYPE OF ALTERNATIVE DATA LENDERS CAN LEVERAGE?

To issue fast and accurate lending decisions, digital players are using sophisticated machine learning algorithms to build highly-accurate lender profiles for each applicant. However, unlike traditional lending institutions, they are looking beyond credit records and connect extra data sources, to power their analytics.





'Alternative' credit scoring data can be conditionally grouped into:

- Rental payments serve as a strong proxy for a customer's ability to meet payment obligations.
 CreditLadder, for example, leverages open banking APIs to connect to the applicant's bank account and add rental payment data to their overall credit score.
- Self-reported financial data. The recently released UltraFICO scoring engine lets consumers provide extra personal checking and savings information to increase their total score. Newly released FICO10 also leverages historical data regarding the applicant's credit usage and account balances over the last 2 years.
- **Disposable income. Aire**, a digital consumer reporting agency, runs Interactive Virtual Interviews (powered by conversational AI) to collect an array of data points across the customer lifecycle and assign an

- accurate score, based on their disposable income, asset ownership, and employment history among other factors. The latter is already a part of the credit decision-making process in France and Japan.
- POS and transactional data. Both give more insights into the consumers' typical spending and can also indicate their levels of disposable income. **Uulala**, a LatAM digital lender, leverages such data for credit-thin applicants.
- Telecom and mobile data can also provide lenders with extra context into the applicants' lives, especially in emerging markets, where traditional banking services penetration remains low, while mobile money usage keeps growing. Tala is a digital lender that built a sophisticated credit scoring model for consumers in emerging markets, based primarily on mobile data.

These data sources can help lenders get a more comprehensive view into the applicant's financial life and ongoing behaviors, indicative of the outcome they would want to predict. In addition, extra data can help leaders establish connections between anonymized customers' profiles and outcomes to create 'lookalike' personas of likely reliable lenders.

However, a greater volume of data can also result in more chaos over clarity without a **proper data management strategy**. In particular, all the variable data points, used within the custom scoring algorithm, need to be properly cleansed, grouped and ranked in terms of their impact on the outcome. For example, regular rental payments may denote the applicant's ability to make regular payments, but don't quite explain if they could meet their obligations on larger on-time payments.

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AS AN EXTRA STEP TO MAKE SENSE OF ALL THE DATA, BANKS AND FINANCIAL INSTITUTIONS TURN TO THE LATEST TECHNOLOGIES THAT RESHAPE APPROACHES TO UNDERWRITING AND RISK SCORING, INCLUDING CLOUD, BLOCKCHAIN, AND AI.

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5. Alternative Credit Score Data and Loan Origination Automation



Ultimately, lenders will need to select between 10 to 20 of the most predictive variables and test the performance of the algorithms using them, against the set benchmarks. Suitable alternative credit data sources should:

- Be indicative of the borrower's behavior
- Leverage borrower's segment psychographics
- Take into account the context and pre-existing relationships.

Alternatively, lenders can also consider integrating a thirdparty fintech solution, rather than developing a custom scoring algorithm. With the rise of BaaS, several industry frontrunners (both fintechs and banks) provide lending and credit scoring APIs.





HOW LENDERS SHOULD APPROACH LOAN ORIGINATION AUTOMATION

More diverse data is the fuel for better scoring. But some legacy lenders also need a new engine to power their operations since manual or rule-based systems no longer suffice for quick and accurate decision-making.

The emerging set of technologies – <u>BIG DATA</u>

<u>AND PREDICTIVE ANALYTICS, ROBOTIC PROCESS</u>

<u>AUTOMATION (RPA)</u>, and <u>MACHINE LEARNING</u>

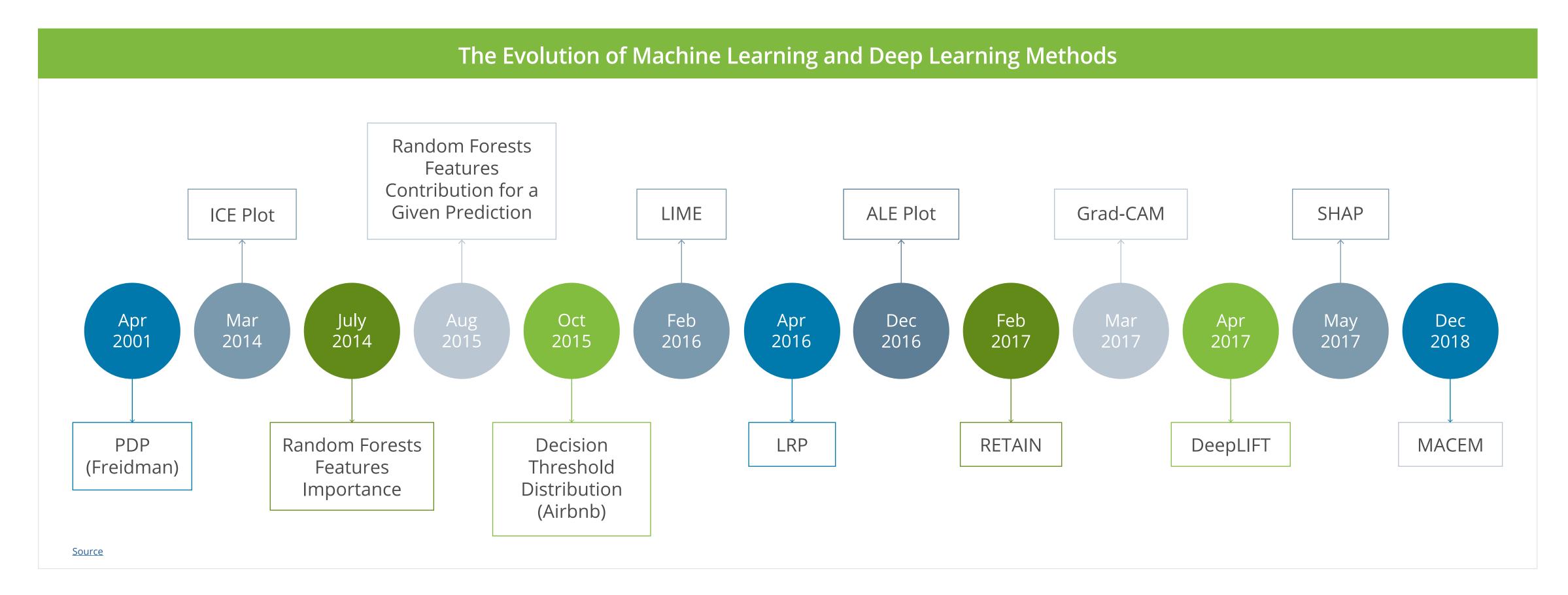
(<u>ML</u>) – have already proved to be strong contenders for increasing the efficacy of loan origination, underwriting, and risk evaluation.

RISK EVALUATION

Traditional lending risk evaluations, based around Basel II standards and the Judgmental Method of the 5Cs (**Character, Capital, Collateral, Capacity, Conditions**), are gradually losing their effectiveness. Due to the inconsistent interpretability of the 5C factors, a lot of credit-thin or minority lenders end up being at a disadvantage. Lending institutions, in turn, also fall prey to their bias towards borrowers 'ticking all the compliance boxes', but ending up being unable to meet their obligations.

The newer grade of machine learning (and <u>deep learning</u>) algorithms, powered by traditional and alternative data, has proven to be effective at fairly operationalizing the available data to predict lending outcomes. Unlike human analysis, such systems utilize an array of statistical and mathematical methods against larger datasets to identify common patterns within data and make highly accurate predictions.





The current state-of-the-art risk engines can provide accurate risk predictions in a matter of minutes. This allows your company to extend credit faster without magnifying operational risks.



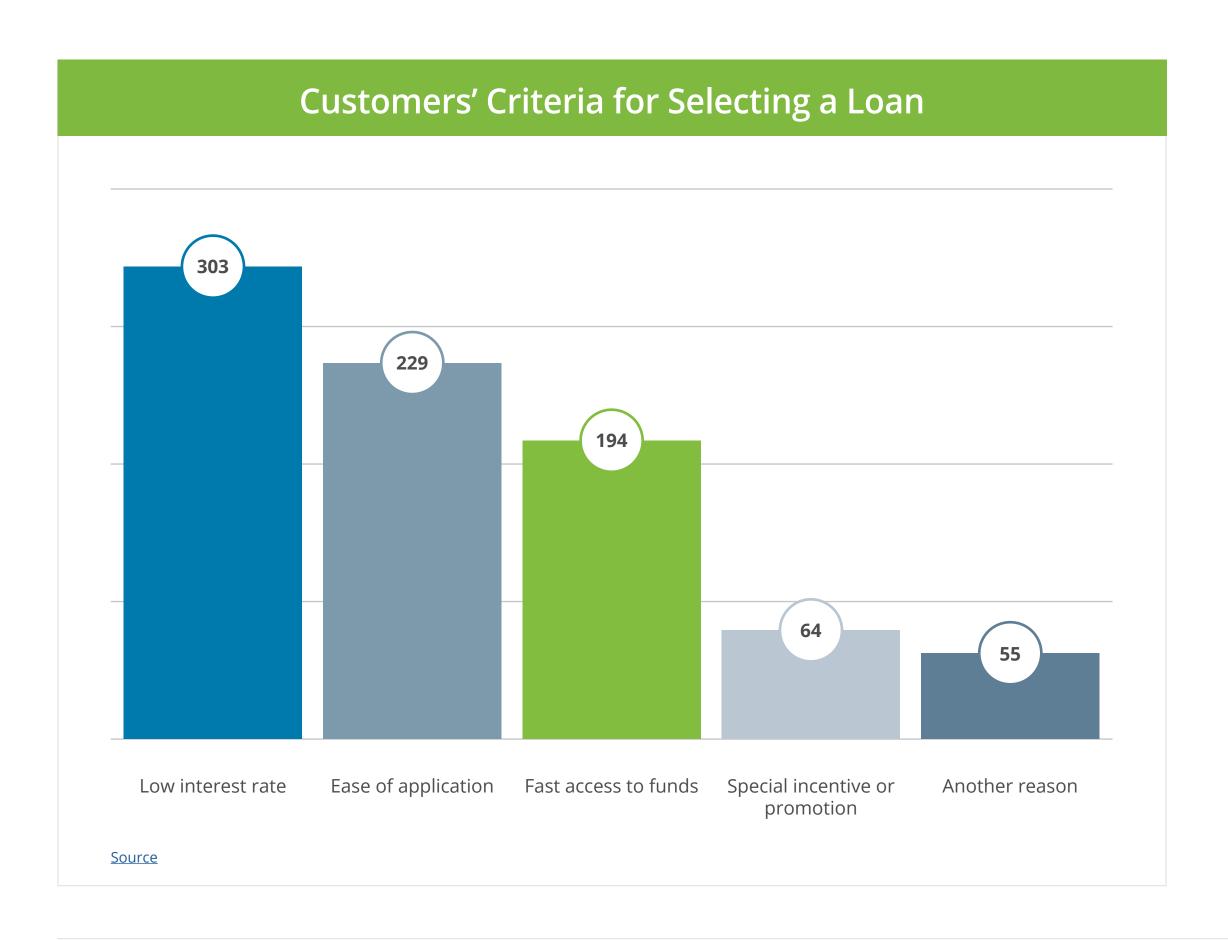
LOAN UNDERWRITING AND DECISION-MAKING

Underwriting is another manual process due for an overhaul. Given that a lot of the customer interactions have moved to the digital space, speed has become a paramount factor. **Over 70% of the modern price-sensitive consumers**⁴² reached 2+ lenders (including marketplace lenders and comparison websites) when seeking a loan. Clearly, lenders who could provide the optimal loan terms the fastest eventually closed the deal.

Apart from increasing speed and accuracy of loan underwriting, the new breed of automated solutions such as **Intelligent Robotic Process Automation** can also help improve compliance, plus improve the consistency of lending decisions. After implementing such robots as a service solution, a US-based mortgage lender managed **to automate 85% of loan setup tasks** and gain a 3X growth in loan origination volumes without increasing operational costs⁴³.



IMPROVING ONLINE LENDING EXPERIENCE FOR CUSTOMERS



Modern borrowers are increasingly seeking a fast, convenient, affordable, and predominantly digital lending experience. **Over 71% of borrowers**⁴⁴ indicate that they are comfortable with completing a lending application online; 65% have already done so – either fully or partially.

Enabling remote loan applications, featuring preliminary KYC, onboarding, and data collection could help banks attract a younger cohort of well-off Millennial consumers, as well as minimize errors and redundancies during the application process.

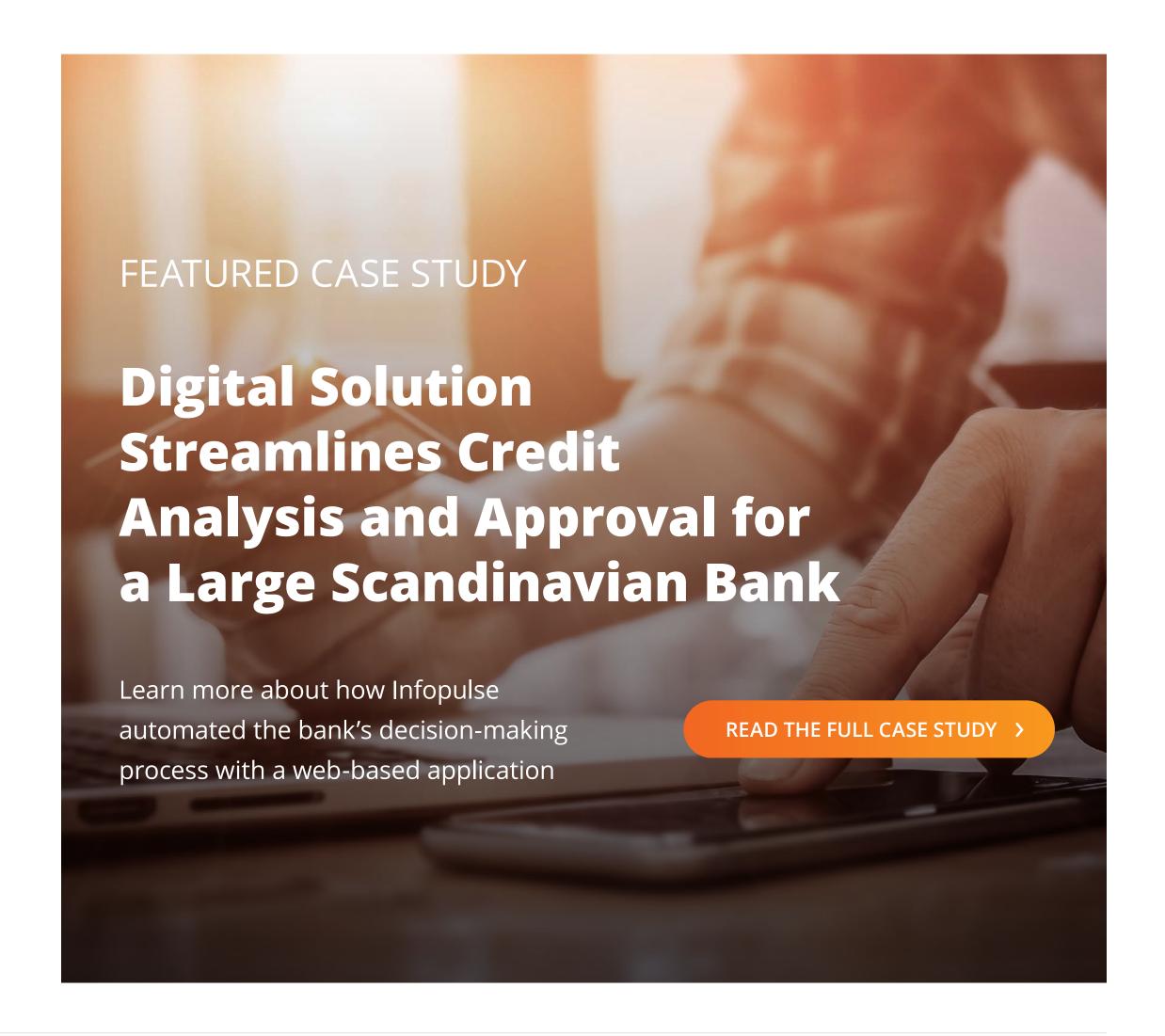
After implementing an automated loan origination system and improving digital lending interfaces, one **European bank** increased its new SMB customer sign-up rates by a third and reduced the average margins by over 50%⁴⁵. In addition, they also reduced the average lending decision time from 20 days to less than 10 minutes.



A bank with a balance sheet of \$250 billion could gain over \$230 million in extra profit by digitizing the key steps of the lending process such as 'reducing the number of touchpoints with the borrower', lowering risk evaluation costs, increasing win rates for new applications, and improving pricing.

- McKinsey⁴⁶

While lending process digitization is multifaceted and complex, improvements in one area – be it online customer onboarding, risk evaluation, or loan underwriting automation – can have a tangible impact on the lender's ability to quickly expand into new areas of growth and remain as competitive as digital-first players.



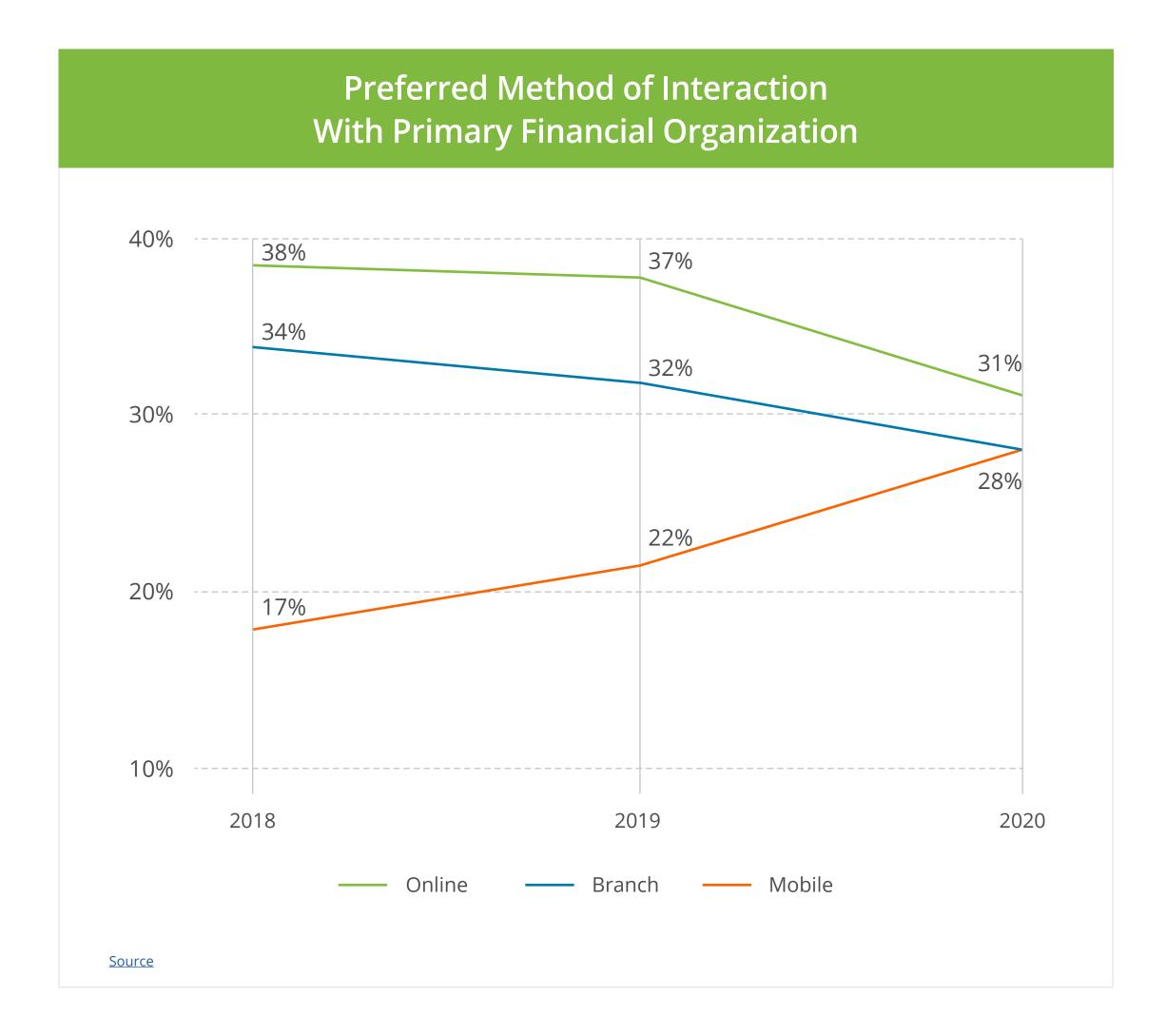


To Conclude

In 2021, the financial sector players have reasons to be confident and reasons to be wary. Gradually, consumer spending has rebound to pre-pandemic levels across different regions. Thanks to governmental support, smaller businesses are recuperating their losses and getting their cash flow balances in check.

While some leaders in the financial space have been paralyzed during the first wave of the virus spread, a lot have found the strengths to rapidly regroup and look into differentiated growth opportunities in both retail and business banking sectors. A shift towards digital banking – that began pre-Covid – will be gaining momentum in 2021. Despite gradual reopenings, most consumers still plan to prioritize digital channels over branch visits.





In 2020, mobile banking has equaled in popularity with in-person banking. This year, we expect the gap between online and mobile banking to narrow down even further. The pandemic has been a major catalyst for digitalization, but financial leaders are still far from fully profiting from all the emerged business opportunities. It's high time to recharted your product roadmaps to position yourself at the new points of change and growth.

Whether you start off your digital journey or seek a helping hand in implementing your transformation strategy, <u>Infopulse is ready to guide and assist you on your way</u>.

CONTACT US

To Conclude



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