A WHOLE NEW WORLD: BANKING'S DIGITAL FUTURE

2020 REPORT

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" Welcome to our vision of how tomorrow's bank will function digitally. "

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EXECUTIVE SUMMARY & PERSONAL MESSAGE FROM MR. LI

Welcome to our vision of how tomorrow's bank will function digitally.

In five years' time, consumers will combine their banking needs with a trip to their local café or supermarket, opening an account secured with full KYC and AML checks through super-capable POS terminals or withdrawing cash when paying for their coffee. As Brett King puts it in Bank 3.0, 'Banking is no longer somewhere you go, but something you do.'[1] – a complete change from what we've known to date. And this revolution will be powered by super-capable, automated banking terminals, backed up with secure, efficient and powerful software.

Digital banking has a number of attractions, not least because it is based on more flexible and cheaper intelligent terminals and cloud computing enabled by new, super-fast mobile internet network technologies. These technologies reduce the investment threshold for banks and help to create new services, with lighter terminals, a smarter network and the capacity for a range of intelligent sensors, from 3D structured light cameras and NFC readers to fingerprint scanners and GPS.

This new approach to banking service delivery will have wide-reaching effects, including enabling those people around the world without sufficient access to financial services to enter the banking system, a market valued at around US$380[2] billion per year.

To succeed, banks need to completely change the way they think about their existing systems. As the world moves online, customers will expect faster, cheaper, more secure and flexible services as and where they want them.

As our report makes clear, banks around the world have started adopting innovative, digital-first client services. Although still in its infancy in Europe and North America, fully digital banking is more advanced in Asia, the Middle East and Africa, where banks have fewer legacy systems to manage.

Now is the time for banks around the world to ask themselves: are we ready for the digital revolution? This report explains why the digital banking revolution is happening – and what you need to do to prepare.

Please contact us for a discussion about how your institution can get ready for the digital future of banking.

Li Yan

Founder and CEO, Wiseasy

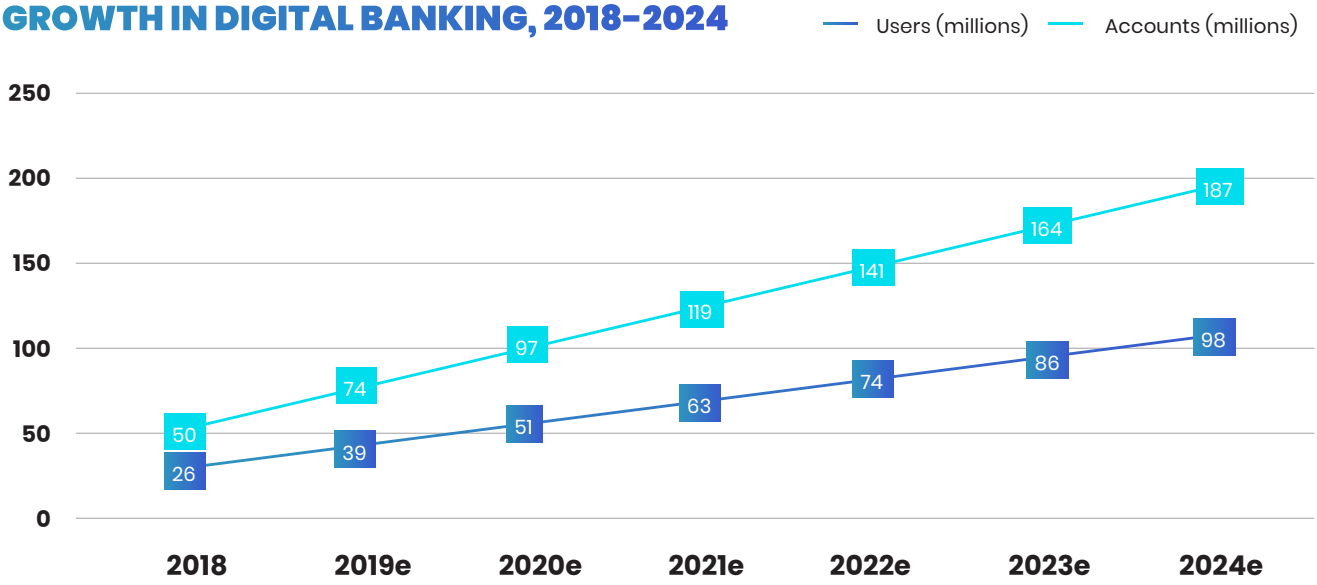
[1] See "Bank 3.0", by Brett King: https://www.amazon.ca/Bank-3-0-Banking-Somewhere-Something/dp/1118589637

[2] See Visual Capitalist: https://www.visualcapitalist.com/wp-content/uploads/2017/07/banking-unbanked.html

INTRODUCTION

A new study by CapGemini[3] has concluded that today's established banks must adapt quickly to the digital era, or become irrelevant. This stark warning comes at a time when digital banking is rocketing globally: management consultants Deloitte[4] forecast that almost half the world's population will be using digital banking services by the end of 2021. Meanwhile, the number of US citizens using digital banking services will reach two-thirds of the population in 2020, according to the American Banking Association (ABA)[5]. Similarly, McKinsey predict the number of digital banking users in Asia will top 1.2 billion before the end of 2020[6].

GROWTH IN DIGITAL BANKING, 2018–2024



Source: Business Insider

Statistics are one thing: making sure your bank is equipped for these new opportunities is something else. CapGemini's study noted that more than 90% of bank attempts to become more "digital friendly" are considered failures because banks simply add a digital interface to their existing systems. In this report, we show how digital banking goes beyond a simple customer interface. In reality, it means re-thinking service delivery and technology across the board.

EXPERT COMMENT

The future of finance is not technology. It is an obsession to be on the side of the customer. Technology is the enabler to make this happen.

– Hariz Talwat, Head of Marcus by Goldman Sachs

The enablers for digital banking

Digital banking has been enabled by the rapid development of cloud computing and intelligent terminal technology – which

[3] See CapGemini, Banking Is Essential, but what about Banks?
[4] See Deloitte, Digital Banking Benchmark Study
[5] See the ABA study
[6] See the McKinsey study relating to Asia

itself has proliferated thanks to the wide-spread adoption of super-fast 4G and 5G mobile Internet. As we show in Section 3 (p 8-13) of this report, the banking service network is undergoing a once-in-a generation change in Asia, Africa and other regions, with ATM and POS networks becoming more powerful and efficient. Now is the time for Western banks to capitalise on "early adopter" advantages of these same technologies – which will be present in Europe and North America before 2025.

This new generation of digital banking services will dramatically reduce the cost of creating a banking service delivery network while improving the operational efficiency of these networks and fostering innovation. A new service model which includes secure, fast and efficient automated services, mobile payments, AI user identification and fraud detection is coming, bringing with it much greater efficiency and consumer convenience to banking.

EXPERT COMMENT

Many banks' core systems are still antiquated, forcing customers through antiquated processes... having a digital front-end is simply not enough.

- Thys Brusser, Deloitte

"A new service model including fast, efficient and automated services will bring greater efficiency and convenience to banking."

Industry analysts from Deutsche Bank and others[7] predict those icons of modern banking we take for granted – from branches to credit cards and cheques – are on their way out, to be replaced by more capable ATM and POS networks that improve the efficiency of banking network services, widen access, and lower costs. In Section 3 of this report, we show how the long-term decline in bank branches is accelerating, with branches being replaced by digital services.

[7] See Deutsche Bank, January 2020: The Future of Payments II: Moving to Digital

THE DIGITAL ADVANTAGE

Digital banking has a number of attractions for banks, not least because it is based on more flexible and less expensive intelligent terminals and cloud computing. These networks reduce the investment threshold for banks and help them to innovate new services:

Lighter terminals which are more user-friendly and enable professional levels of security protection, high computing performance and multiple sensors such as face and fingerprint recognition.

A smarter network – customised Android systems communicate with management platforms in real time via the mobile internet, making systems management easier and more flexible.

Cloud operations – digital banking terminals interface with a bank's core systems via secure cloud-enabled networks which make integrating new services easier.

Intelligent sensing – intelligent terminals include a range of sensors, from GPS to NFC communications, 3D light camera modules and others.

As is so often the case, tomorrow's reality can be seen in patterns emerging today. In the next section of this report, we show how the move to digital banking is the logical consequence of trends that have been around for at least the last five years, including online banking, mobile wallets, and the decline of bank branches in favour of fully-automated services.

TODAY: FROM INTERNET TO DIGITAL WALLET

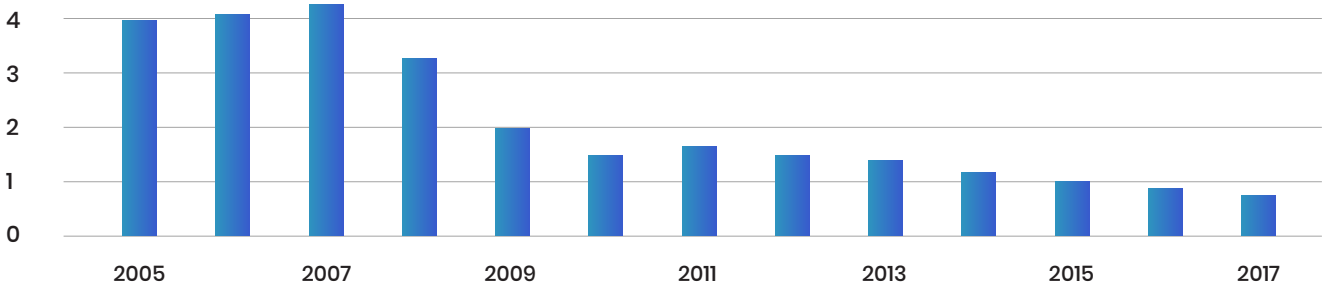
Many established banks in Europe, North America and parts of Asia have been slow to move to truly digital banking because of the high costs of maintaining both a branch network and outdated legacy technologies, some of which date back to the 1970s. Nonetheless, the trend away from physical services and towards full digitisation has been apparent for many years.

Branching out

Take, for example, the situation regarding banks' branch networks in Europe and North America. As the populations of these regions have become accustomed to internet banking, the number of bank branches in both regions has steadily declined over the past decade:

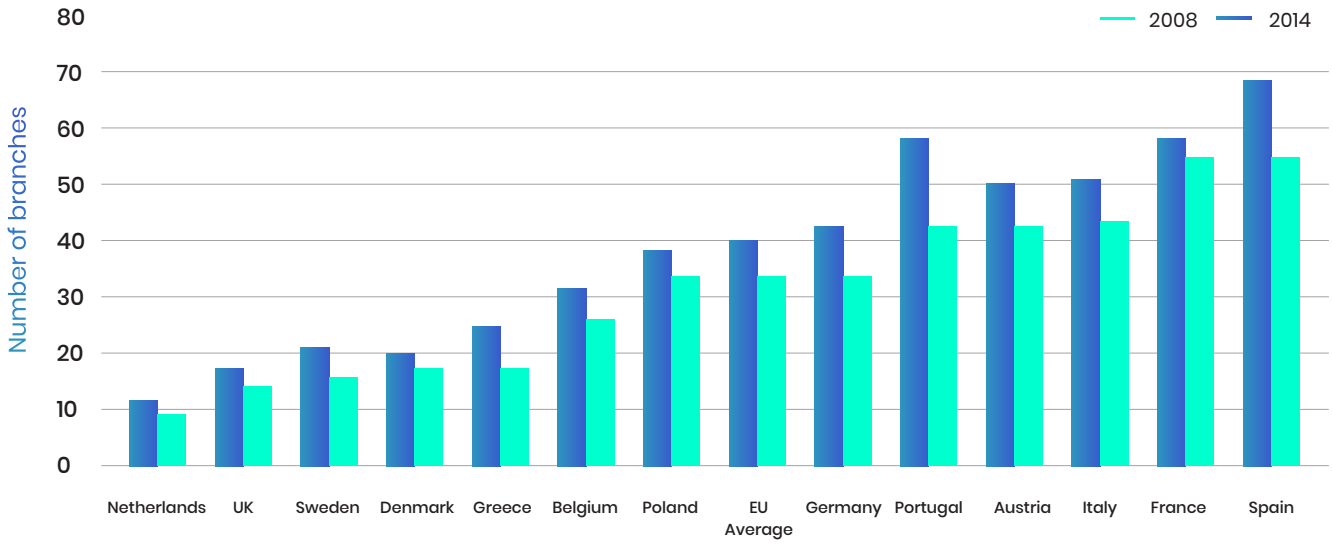
UNITED STATES BANK BRANCHES

Number of bank branches '000's



BRANCH DENSITIES VARY BUT NUMBERS ARE FALLING ACROSS THE REGION

Number of bank branches per 100,000 inhabitants in selected EU countries



Source: S&P Global Market Intelligence

Branch networks are expensive to maintain, both from HR and property estate perspectives. Closures have been the logical consequence of an industry struggling to deliver adequate returns to its investors in recent years, while at the same time maintaining adequate levels of service delivery.

EXPERT COMMENT

"Customers are moving to online and digital banking, so that the branch has lost its importance in some communities."

– Ray Davis, Umpqua

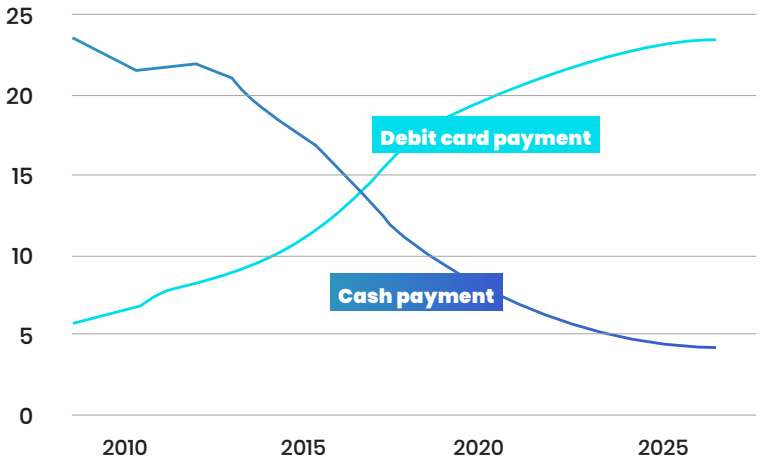
In Latin America and Africa, the number of people holding mobile phones far outstrips the number of people with bank accounts. This makes both of these regions ideal for the rapid adoption of digital banking. A 2020 study by Mastercard[8] reports that across Latin America, bank account penetration stands at 55% and credit card penetration at just 19% compared to smartphone penetration of more than 70%. Likewise in Africa, just 34% of the population have bank accounts[9] – but some 44% have mobile phones, of which 50% are smartphones. In both these regions, digital banking via smartphone is the logical channel to enable entire populations to access the benefits of a full range of financial services.

First cards replaced cash ...

In developed markets, retail bank branch closures have happened at the same time as cash use has declined dramatically. Independent research by *Payments Cards and Mobile*[10], based on figures from national central banks and the European Central Bank (ECB) now places cash use in Norway, for example, at just three percent of all transactions. Around the world, cash use has been falling for thirty years – and the UK is a typical example of this. As the graph from UK Finance below shows, card payments outstripped cash in 2016 and have continued to grow ever since:

CASH VERSUS DEBIT CARDS

UK payments 2008-2018 and forecasts to 2028 (billions)



Source: UK Finance

A similar pattern is seen in Canada, Australia, the US and in Europe. Indeed, the situation regarding cash in some Northern European countries is now so acute that governments in Sweden[11] and Norway are considering legislation to ensure cash still exists for elderly citizens to use. In the Middle East and Levant, cash use is also declining, albeit at a slower rate. Data from Cardtronics shows that cash use is projected to fall by 4% in Turkey and Saudi Arabia over the next two years, reducing to just 20% of all transactions in Turkey and 34% in Saudi Arabia. With cash use at such low levels, the next logical step is the displacement of card transactions by digital wallets[12].

[8] See the full report from Mastercard

[9] See study by the World Bank

[10] See *PCM's Digital and Card Payments Yearbooks*, available at: www.paymentyearbooks.com

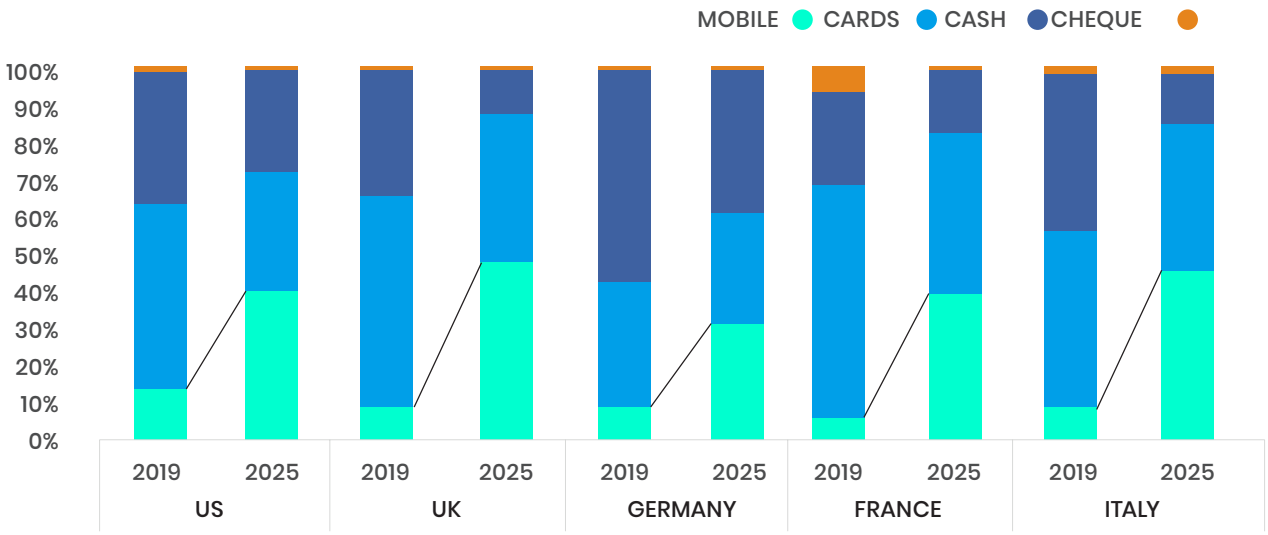
[11] See https://www.cashmatters.org/blog/swedish-government-expected-to-pass-law-requiring-all-banks-to-handle-cash/

[12] The full Cardtronics study is available here

... and now wallets are replacing cards

Despite the current popularity of cards, new research suggests that cards are falling rapidly out of use in favour of digital wallets, account-to-account payments, and other digital banking methodologies. Deutsche Bank (q.v., see note 5 above) has gone as far as to predict that payment cards will constitute less than a third of all transactions in five years time – whereas digital wallets will rise to reach 35% of all transactions:

WEEKLY IN-STORE PURCHASES BY COUNTRY IN 2019 AND 2025.



SOURCE: DEUTSCHE BANK The Future of Payments - Part II Moving to Digital

The rise in digital wallet technologies has taken place over the past five years at a time when business in general has been moving online, with e-commerce now accounting for 8% of UK GDP, according to the E-Commerce Foundation[13]. And the COVID-19 crisis has only increased this trend – research from Lightico[14] shows that 63% of Americans are now more willing to move to fully digital banking, following COVID. Lightico's research also suggests 82% of American consumers no longer want to visit bank branches after this crisis. A similar story is seen in Europe, with European transaction processor Nets reporting that contactless digital wallet transactions have risen by more than two-thirds in the first half of 2020[15], compared to 2019. Asia has been leading the world in the move to digital for the past ten years: according to McKinsey's Global Payments Map[16], digital payments in China account for approximately 99% of the country's non-cash transaction volume and 45% of all digital payments worldwide. At the same time, a separate McKinsey study shows that 80% of consumers in developed Asian markets (China, India and Thailand, among others) are ready to transfer all or some of their other financial services business to digital-only players – a figure that's matched by 50% of consumers in less developed markets such as Myanmar or Cambodia[17].

EXPERT COMMENT

"We have never seen adoption rates [of contactless digital] like this before."

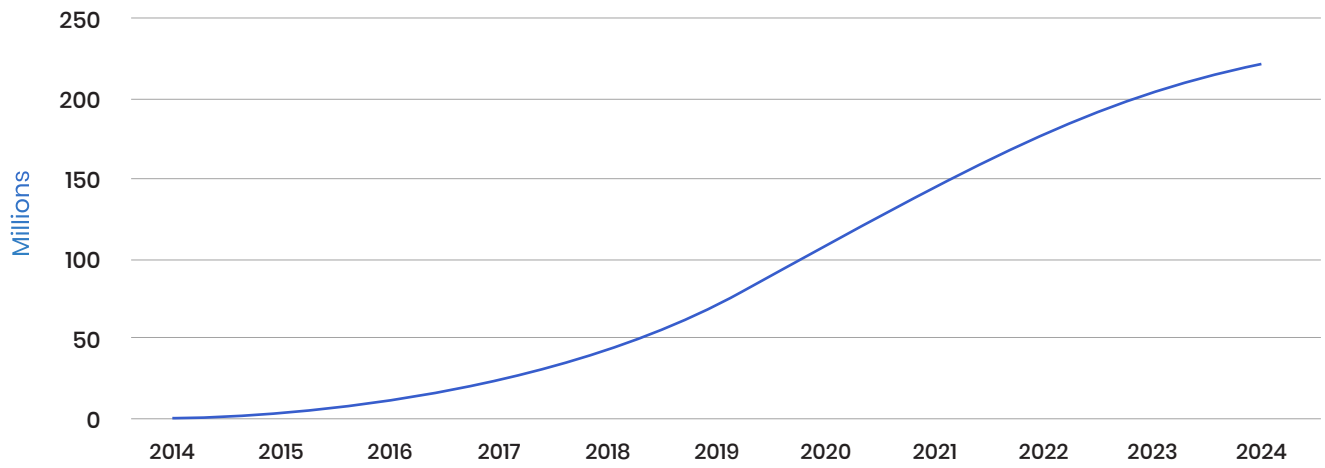
– Robert Hoffmann, Head of Merchant Services, Nets

[13] See https://ecommercenews.eu/ecommerce-in-uk-to-reach-e200-billion-in-2019/
[14] See https://www.americanbanker.com/news/coronavirus-throws-digital-banking-into-the-crucible
[15] See ibsintelligence.com/ibs-journal/ibs-news/nets-data-reveals-a-rise-in-contactless-payments-in-the-nordics-amidst-covid-19/
[16] See https://www.mckinsey.com/featured-insights/asia-pacific/how-asia-is-reinventing-banking-for-the-digital-age
[17] See McKinsey report - Digital Banking in Asia: What do consumers really want?

Digital wallets – a global phenomenon

As we will show in Section Four, the development of digital banking is closely related to the development of mobile digital wallet technologies. Digital wallets are the entrance point for a wider range of digital financial services. Although there are different trends in the development and adoption of digital wallets globally (see box below), the global move is undeniable: digital wallets are the future of payments, as source data for their adoption and usage shows. There are now more than 150 million digital wallet products in the United States, with a population of just over 328 million, according to ARK investment Management – and this number is set to pass 200 million by 2023:

US DIGITAL WALLET CUSTOMER GROWTH



Source: Ark Investment Management

This growth pattern has been repeated across Africa, Latin America and especially Asia, the region which has led the world in adopting digital wallets, as information from Global Market Insights demonstrates:

ASIA PACIFIC MOBILE WALLET MARKET

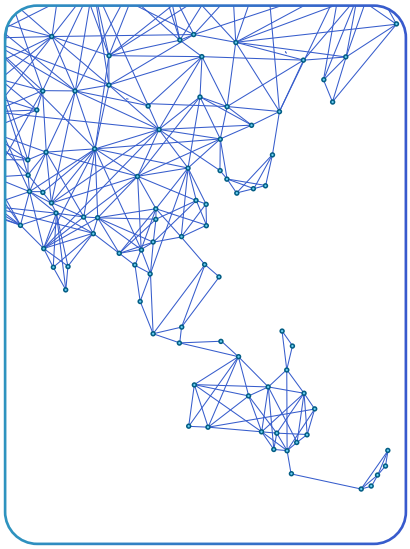
Semi-closed mobile wallet market CAGR (2018-24) > **18%**

Banks segment CAGR (2018-24) > **17%**

Tech companies sector share (2017) > **70%**

Optical/QR technology CAGR (2018-24) > **17%**

China led the APAC market acquiring over **95%** share in the year 2017



Source: Global Market Insights

WALLETS AROUND THE WORLD

In the economically developed regions of North America and Europe, apps constitute the core of today's digital banking offering. Offline consumer credit cards and debit cards still occupy a large market, but specialized online lending and applications have begun to rise in countries with a good credit environment, with lendfoundry reporting that peer-to-peer lending was worth $33.6 billion in the US alone in 2018. This combination of online lending and mobile payments via digital wallet is seeing rapid growth among millennials in Australia, the United States, the United Kingdom, Northern Europe and others.

Asia-Pacific has seen very rapid growth in mobile wallets and digital banking, thanks to high penetration rates for digital devices and flourishing financial innovation, especially in rising South-East Asia. China, Japan, South Korea and other East Asian countries will also maintain their advantages for a long time and expand their development. In South Korea, for instance, card payments are now being taken over by mobile wallets and digital payments, which have experienced consistent growth rates of more than 150% per year since 2016. At the same time, micro-financing and credit arrangements are being pioneered by players like Ant Financial and Tencent, who are using transaction histories to credit-score consumers and offer new products. This is a great example of how mobile wallets can be used as a first point of expansion for a wider range of digital financial services.

Digital wallets in the **Middle East and South Asia** region have entered a period of rapid growth, especially in India with its large population and the UPI2.0 of central banks, which provide a big boost to its digital banking business. India's Paytm, backed by China's Ant Financial, has seen user numbers rise from 25 million to over 350 million in the last four years[18].

In **Africa**, digitization will play a major role in addressing the issues of poor bank service coverage and very low engagement with the formal economy. Smart POS bank counters will provide basic account opening, transfer, and deposit and withdrawal operations for wider sections of the African populations, with the use of digital wallets already rising in major cities. Nigeria's OKRA recently received US investment to grow its role as Africa's first API integrator between banks and fintechs, while Kenya-based digital transactions firm mPESA grew revenues by 12.6 percent between 2019 and 2020 to reach almost US$ 1 billion[19]. Like Tencent and Ant Financial in Asia, mPESA is now using consumer transaction information to establish micro-lending and micro-financing products based on credit-scoring. And this model is being replicated across Africa by SafariCom, AirTel and Orange Mobile.

Latin America's rising penetration of mobile phones, coupled with the development of more sophisticated financial services is leading to the rapid development of digital wallets, especially those linked to cards. At the same time, the rapid growth of smart POS in this region is expected to bring some countries into the intelligent age by skipping traditional POS terminals directly. In mid-2020, Mexican online payments firm Mati announced it would be expanding into Colombia and Brazil to target the 21% of people who still order online but pay with cash. However, comScore reported that 58% of e-commerce transactions in Latin America were now undertaking using mobile digital wallets – demonstrating that wallet technologies are now becoming widely accepted in the region, especially by younger consumers.

[18] See https://www.ft.com/content/0788d906-1a7b-11ea-97df-cc63de1d73f4
[19] See https://www.the-star.co.ke/business/2020-04-29-m-pesa-data-raises-safaricoms-revenue-to-sh251-billion/

Digital banking in action globally

1. In 2016, the National Bank of Abu Dhabi (NBAD) and First Gulf Bank (FGB) merged to **become First Abu Dhabi Bank** (FAB)(Arabic :لوالايبظوبكنب), which became the largest bank in the United Arab Emirates.

Mobile payments are highly popular in the UAE and have grown rapidly in recent years, with not only the local payment system Beam Pay, but also Apple Pay and Samsung Pay available. Asian payments giants Wechat and Alipay have also entered the country's market. FAB has adopted a full range of digital banking solutions, including smart POS terminals, cloud management platforms and payment applications which allow the bank to operate more efficiently, conveniently and intelligently. FAB now aims to expand their market share in mobile and digital banking.

2. Africa's **Lesotho Postbank** (LPB) was incorporated in 2004 as a public company and has always carried out a series of micro-finance schemes to alleviate poverty as a 100% government-owned institution. However, the bank faced a low penetration rate for all banking services and a high degree of financial exclusion locally. Additionally, digital and mobile banking services have been slow to take off. In 2017, the bank successfully upgraded its core banking system – Flexcube – and brought in many digital and smart services including mobile banking, online banking, mobile wallets, merchant bankcards and agency banking. To help expand the range of banking services available in the country, LPB has opened more than 500 banking outlets in 14 major cities and towns, and branches have also been set up in South Africa. These outlets and branches have been equipped with smart POS devices which are used to pick up new customers and validate their identities using e-KYC software and smart sensors for fingerprint scanning and other biometric factors.

3. In India, **FINO Bank** intends to reach 50 million customers in the next five years, and has chosen to strengthen its last-mile delivery network with digital banking solutions. These digital solutions make local, remote banking services possible by bundling a tablet, fingerprint scanner, card reader, camera, and printer into one device. This device can carry out the entire range of bank transactions, including account opening, deposits, cash withdrawals, money transfers, and the purchase of financial products and services such as gold, loans or insurance. It is interoperable with other banking systems and will allow customers with debit cards issued by other banks to undertake payments and withdrawals at FINO's banking outlets.

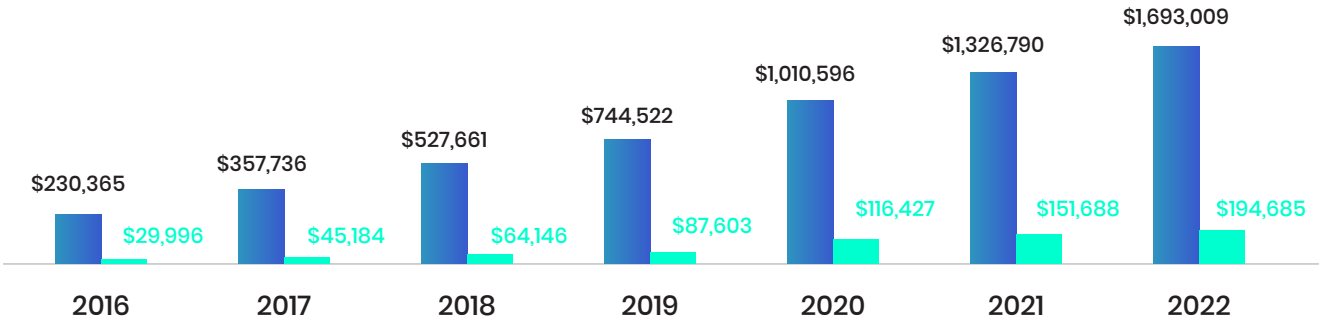
TOMORROW'S BANK: THE WALLET EVOLVES

The development of digital banking is closely related to the development of the mobile wallet market, since mobile wallets are the entrance point for digital banks to reach users, and an important interface for the provision of a wider range of consumer financial services.

As we've shown, mobile wallets are growing in both number and in usage. The graphs below from Juniper Research[20] and e-Marketer, Inc.[21] show more than $1.6 trillion in mobile wallet transactions globally by 2022, and more than 1,310 million wallets – in other words, nearly one wallet for every four people on earth, and some 42% of all smartphone users.

GRAPH A – MOBILE WALLET TRANSACTION VOLUME

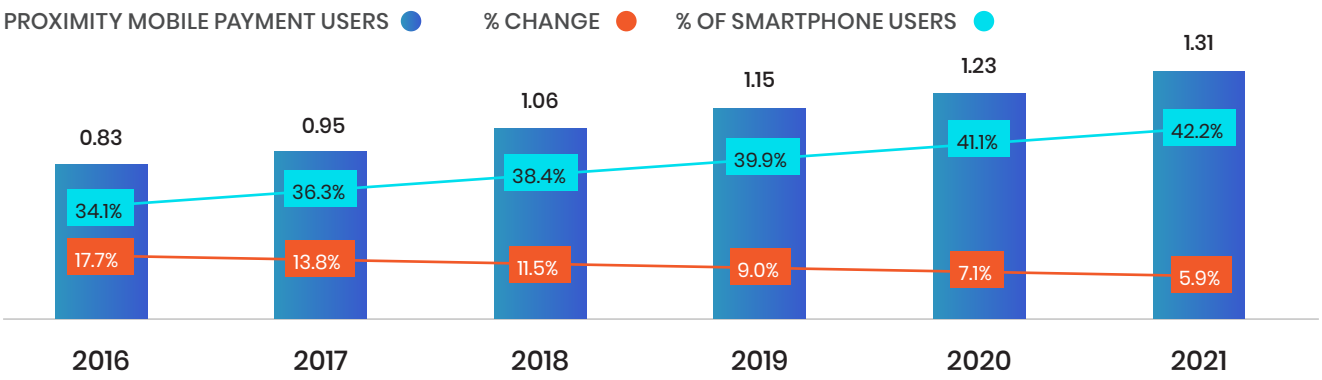
($ millions) US vs Worldwide



Source: Juniper Research

GRAPH B – NUMBER OF MOBILE WALLETS WORLDWIDE BY 2022

How many people worldwide use promixity mobile payments? 2018-2023
billions, % change and % of smartphone users



Source: eMarketer

[20] See https://www.paymentscardsandmobile.com/the-future-of-us-mobile-payments/
[21] See https://www.emarketer.com/content/global-mobile-payment-users-2019

FROM MOBILE WALLET TO DIGITAL BANK

There is a clear development path from the use of mobile wallets to the provision of fully digital banking services. This can be characterized into four developmental stages as follows:

1. Mobile wallet applications replace cash payments, and become the most frequently installed and opened financial app. In this phase, banks discover they are able to reach users more effectively via their mobile wallet than via other channels.
2. Bank transfers, and fee and bill payments become widespread as mobile wallets are bound to bank cards or to digital bank cards issued as mobile wallets.
3. As the penetration rate of mobile payments in overall consumption scenario increases, the consumer financial services using mobile wallets at their core gradually develops. Banks provide consumers with consumer installment, bill installment, microcredit and loyalty programs through mobile wallets.
4. Insurance and investment services also become available through mobile wallets as consumer familiarity and confidence with using the wallet as the core of their banking experience increases. At this point, the wallet becomes the virtual "bank branch", available 24/7/365 for the provision of a wide range of digital services.

The move from mobile wallets to fully digital banking is going to have wide-reaching effects, including enabling those without sufficient access to financial services to enter the banking system, a market which Accenture estimates to be worth around US$380[22] billion per year. And that market isn't confined to developing economies, either – the World Economic Forum estimated in 2018[23] that 20% of the US population is either unbanked or underbanked. To take advantage of these new opportunities, banks are going to have to completely change the way they think about their existing systems. Not only is there a wealth of new opportunities available: as the world moves increasingly online, customer expectations for speed and flexibility in bank service delivery are growing all the time.

EXPERT COMMENT

"We're witnessing the creative destruction of financial services, rearranging it around the consumer. Whoever can do this in the most exciting way using digital technologies will win."

– Arvind Sankaran, Venture Capitalist

"Customer expectations for speed and flexibility are growing all the time."

Taking advantage of the opportunities offered by digital banking means more than having a nice app to check your balance or transfer funds between accounts. Using digital banking solutions, banks can now set up micro-networks rapidly and at low cost, forming new service networks with wide coverage in both physical and online environments. By using digital banking solutions, it's possible to bind payment services based on traditional bank cards with mobile wallets, effectively making the card itself a thing of the past. Whether it's using contactless NFC, QR-code payments, fingerprint identification or face recognition as a payment method, digital banking is going to upgrade the security and speed of payment services at lower cost for all parties.

[22] See https://newsroom.accenture.com/news/banks-have-a-380-billion-market-opportunity-in-financial-inclusion-accenture-and-care-international-uk-study-find.htm

[23] See https://www.weforum.org/agenda/2017/09/the-worlds-unbanked-in-6-charts

Bankers get ready

"Now is the right time for banks to catch up and offer customers a superior experience."

A number of consulting firms have published widely-appreciated studies to the effect that most Western banks are simply not ready as yet to take advantage of the opportunities offered by true digital banking. For instance, CapGemini and EFMA's *World FinTech Report 2020*[24] notes that traditional banks can still thrive in today's market by embracing a fully-digital open platform model. However, the gap between what customers expect and what traditional banks offer has never been wider, but now is the right time for banks to catch up and offer the best customer experience. As amply demonstrated in this report – and confirmed by consultants from McKinsey to Deloitte, and others – banks in Asia and the Middle East are now leading the push to digital banking. As a result, some Western banks' failure to move quickly to a fully digital model has put them at risk from disintermediation, with Big Tech and new, internationally-focused digital-only banks showing their ability to win customers over.

Specifically, banks should be investing in the new technology architectures such as security intelligent terminals and cloud computing. This is a marked departure from banks' IT investment to date, which has mostly consisted of supporting their legacy systems and projecting existing services into a digital environment.

"What was once possible only in a branch will be possible – and more – anywhere, any time."

The natural cost advantages and business flexibility inherent in fully-digital service delivery not only reduces the investment threshold to enable the expansion of a bank's digital network, but also helps the bank to innovate. The main advantages of digital banks from network, hardware and software perspectives are as follows:

1. Lighter terminals. The physical interface between a bank and its customers is no longer a branch or a telephone. Instead, this becomes a network of intelligent terminals with military-grade security protection, high data-processing performance and multi-sensing ability. These terminals are no longer expensive and single-purpose like the current generation of POS terminals. In the new network, terminals are multiple-purpose and highly capable. This delivers better service for consumers and works out cheaper for banks.

2. Smarter networks. For better security and operational management, customized Android systems are being adopted in smart terminals used for digital banking services. Smart terminals can communicate with the background cloud management platform in real time via the mobile Internet. As well as effective monitoring of how equipment is running in real time, services can be black and whitelisted and service availability adjusted instantly. Remote maintenance and online upgrade can also be carried out via remote takeover, reducing the need for staff on-site and overall maintenance costs, as well as the network's overall intelligence.

3. Cloud services. Business processes and processing systems are all run in the cloud via a secure network. The system is connected with the bank's original business front or business core system via the cloud. Cloud services provide a rich combination of capabilities for innovative business, and can be easily integrated with various kinds of business systems.

[24] See https://www.capgemini.com/ca-en/news/world-fintech-report-2020/

4. Intelligent sensing. A wide range of sensors may be installed on the intelligent terminal, such as GPS, NFC sensors, 3-D structured light cameras, infrared sensors and HD cameras. Biometric readers such as fingerprint scanners may also be installed; these sensors enable important information such as user identity, licenses and other documents to be acquired "live", with ID verification and data analysis carried out using cloud-based AI services. What was once possible in a branch will be possible – and more – anywhere, any time.

A FULLY-DIGITAL FUTURE: HOW BANKS WILL FUNCTION IN 2025

How to Prepare

To prepare for this revolution, banks should be asking themselves whether their digital banking systems are ready for the following:

"Know your customer" and account opening services. At present, banks' digital onboarding strategies are open to abuse, with CipherTrace reporting that up to 50%[25] of accounts opened online are subject to fraud within the first twelve months after opening. Banks are going to have to find more powerful – and quicker – means of verifying customer's identities. And that starts with the way they capture and engage with customers both online and in the physical world.

Cash deposit, withdrawal and remittance services. Today, the bank branch is in the rear-view mirror. In Europe, the overall number of bank branches has declined by around 5.6%, or 10,000 branches, over the past year alone, according to the European Central Bank (ECB)[26]. As we have previously discussed, consumers in Africa and Latin America are highly likely to move from zero banking relationships to conducting their banking business uniquely through the mobile channel. Now and in the future, customers are looking to combine banking services with other retail activities. We have already seen dramatic changes in remittance services, with consumer pressure to reduce settlement times and fees: as instant payments become a reality, this pressure is only going to intensify around the world. According to data from xpressmoney, remittances can account for up to 15% of the total GDP of some of the poorer African countries – and international firms are spending 40% of all financial services investment in Africa on improving the speed and reducing the cost of remittances[27].

Value-added payments (Municipal services/insurance) customers will be looking for one-click/tap solutions that allow them to pay for services such as local taxation and insurance using verified digital ID. Again, this goes beyond direct debits from current accounts and looks more like an omnichannel payment – any time, any place, anywhere – rather than a preselected debit.

Mobile wallet and payments, loyalty programmes. Mobile wallet payments are the wave of the future, and will account for up to 35% of all payments (including cash) by 2025, according to a recent study by Deutsche Bank (q.v.). As wallets move into the mainstream, consumers will expect to see wallet payments tied to both bank and retailer loyalty programs that reward both online and physical world activity.

AI and ML applied to consumer and corporate financial services. Today, you may be using AI and ML to some extent in your anti-fraud operations. But as consumers become more sophisticated and their expectations grow, your banking platform should be able to support machine-learning driven insights into consumer behaviour – as well as tailoring products and services to suit each customer's needs.

Merchant acquiring and reconciliation. Finally, as consumer expectations rise, merchants are going to want access to rich customer transaction information and near-real time transaction settlement and account reconciliation. Next-day processing is not going to cut it, nor is manual query handling or low-information transaction files. Taking four days to settle an international money transfer is not an option: your platforms need to be ready for a new world of instant delivery anywhere in the world, both for consumers and merchants.

[25] See the report from Ciphertrace

[26] For access to the ECB's data warehouse, please visit: https://sdw.ecb.europa.eu/

[27] See https://www.xpressmoney.com/blog/industry/africa-remittance-outlook-for-2019/

2025 – A DIGITAL VISION

Qurate Business Intelligence is just one of many research organisations to predict that the market for digital banking will double in the next five years from $3.3 billion to $7.2 billion, for a compound growth rate of 10.47%. The factors surrounding this growth rate include the impact of COVID-19 on payments, the growing use of blockchain solutions and digital currencies in financial services, and above all consumer demand for faster and cheaper banking products that can be delivered where and when consumers need them.

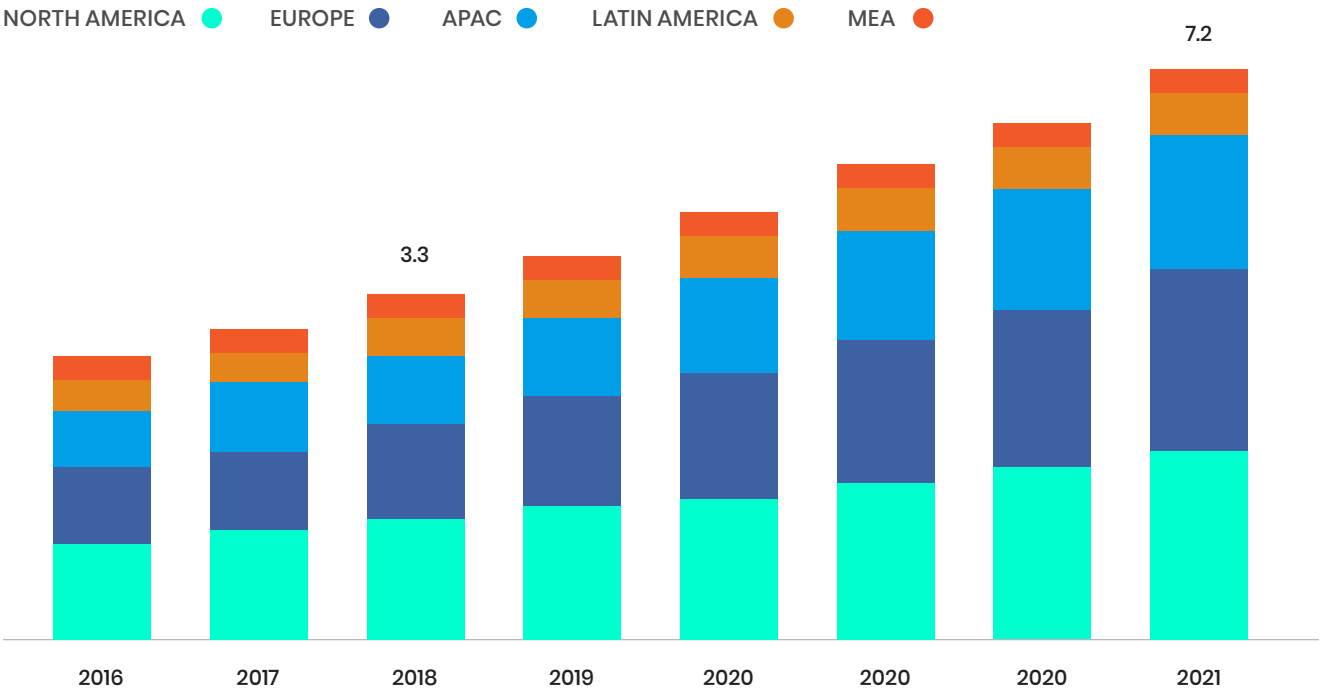
EXPERT COMMENT

"Banking has to work when and where you need it. The best advice and the best service happens in real time, is based on customer behaviour, using the principles of Big Data, mobility and gamification."

– BRETT KING, CEO, Moven

DIGITAL BANKING PLATFORMS MARKET

By Region, 2016-2025 (USD billion)



Source: PCM Research

The impact of COVID-19

"The drivers of digital banking have intensified since the COVID-19 crisis."

The impact of COVID-19 on the global economy is serious and far-reaching. The factors which we have referred to as drivers towards digital banking have, if anything, intensified since the start of the crisis. For instance, the use of digital wallets – which we see as the main future driver of future digital banking relationships – has exploded since the start of the crisis in March. Downloads for wallet apps in the UK rose by 200,000 every day, as consumers became more used to accessing banking services and paying with their mobile. Of particular note is the fact that UK banking app downloads rose by 5 percent among those over 55 years of age – traditionally the segment most resistant to digital banking. Globally, Cap Gemini confirm this trend, reporting that use of digital wallets is up 65 percent among over-65s; while in Sweden, the over-55s group have used the country's Swish mobile payment solution 50 percent more since the start of the crisis. In Latin America, the penetration of mobile wallets reached around 8% last year, according to eMarketer. By 2023, eMarketer forecast this penetration will more than double to 17.2%[28].

As the initial impact of the virus recedes, the world now faces a huge economic downturn. GDP in the United States alone is projected to have fallen by more than half in Q2 2020, according to the Atlanta Federal Reserve in June 2020[29]. In Asia, the World Bank predicts[30] growth falling to -5% in the worst affected markets, with China least affected as it decelerates to 1% growth for 2020. As the global economy recovers, it will be more centred on online business than was previously the case, and we will see an intense focus on digital banking.

THE DIGITAL BANKING ECOSYSTEM

Tech giants like **Google** and **Amazon** are earning up to

50% of the

$1.35 trillion

in **US financial services** revenue from incumbent

By **2021** global banks **IT budgets** will **surge** to

$297 billion

35% of all **bank revenues** could be at **risk** from more t**ech-savvy competitors** as soon as **2020**

Mobile banking is expected to grow at a **CAGR** of **2.83%** between **2019 and 2024**

Source: Business Insider

First, though, the global economy will have to deal with the biggest downturn it has faced in 200 years. For banks, this will mean saving costs and cutting down the numbers of inefficient physical branches, accelerating a move to digital which, as we've shown, has long been in development. The need to realize cost savings and make IT budgets more efficient will create new opportunities for digital counters and banking outlets.

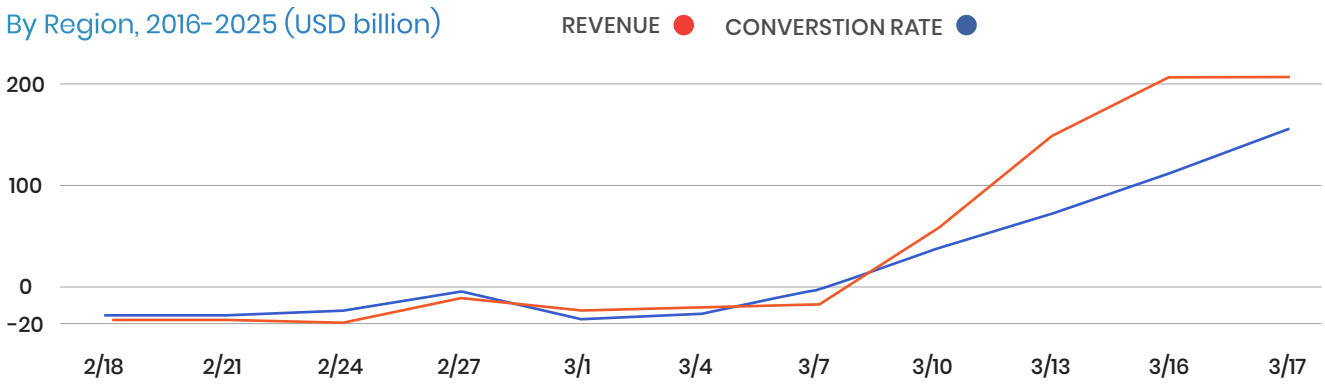
[28] See https://www.emarketer.com/content/latin-america-mobile-payment-users-2019
[29] See https://www.frbatlanta.org/cqer/research/gdpnow
[30] See https://openknowledge.worldbank.org/handle/10986/33477

Online is the new normal

As a result of COVID-19, digital banking is now hard-wired into consumer behaviour. According to CapGemini (q.v.), digital banking is now used in some way by 60% of the world's banked population, and only 22% of US consumers intend to return to physical branches after COVID. E-commerce has also shot up, with Canadian online payments security firm PaySafe estimating that 22% of all global consumers tried e-commerce for the first time in the three months to June 2020[31].

E-COMMERCE REVENUES ROSE BY OVER 200% IN FIRST WEEK OF COVID-19

By Region, 2016-2025 (USD billion)



Source: Big Commerce Research

As e-commerce becomes embedded in consumer behaviour, users will become more accustomed to doing more of their banking via online and mobile channels. Digital banking services will gradually become an important growth point in bank operations. Globally, the adoption of FinTechs is far more widespread in Asia and in developing economies, when compared to Western countries – as data from E&Y's "Global FinTech Adoption Index 2019" demonstrates[32]:

FINANCIAL TECHNOLOGY SERVICES ADOPTION AMOUNG INTERNET USERS IN SELECT COUNTRIES, MARCH 2019

% of respondents in each group

China	87%	**Chile**	66%
India	87%	**Brazil**	64%
Russia	82%	**Germany**	64%
South Africa	82%	**Sweden**	64%
Colombia	76%	**Switzerland**	64%
Peru	75%	**Australia**	58%
Netherlands	73%	**Spain**	56%
Mexico	72%	**Italy**	51%
Ireland	71%	**Canada**	50%
UK	71%	**US**	46%
Argentina	67%	**Belgium & Luxembourg**	42%
Singapore	67%	**France**	35%
South Korea	67%	**Japan**	34%
Worldwide	**64%**		

Source: eMarketer

[31] See the developing blog

[32] Sourced from: https://middleeast-business.com/the-state-of-digital-banking-in-2020/

Re-shoring the bank

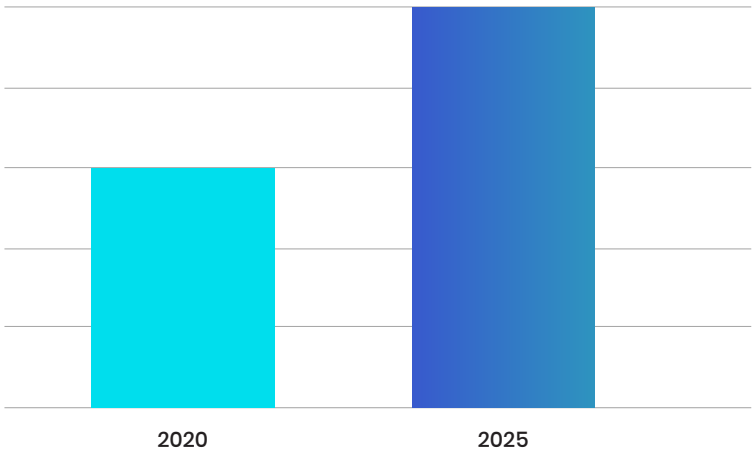
Finally and notwithstanding the current crisis, moves are already underway for countries to shorten their supply chains and improve oversight of their financial institutions[33]. As a result of COVID, countries will pay more attention to their economic independence and national borders. Part of this shift will mean that the domestic supervision and local management of financial institutions will come under closer scrutiny. We believe it likely that this will lead to increased local investment in financial technologies, and that the development of digital banking will be encouraged by governments to enhance national competitiveness and deliver economic benefit.

Blockchain and digital currencies – further drivers

The growing adoption of blockchain and digital currencies will be additional factors in the growth of digital banking. Transparency Market Research published new data in March 2020, predicting that the global cryptocurrency market would reach $6.7 billion by the end of 2025[34], a figure that represents compound growth of around 30% per year in the decade 2016-2025, with growth of 8.3% p.a. between 2020 and 2025.

DIGITAL CURRENCY GROWTH, 2020-2025

Market Summary - CAGR 8.3%



Source: Mordor Intelligence

EXPERT COMMENT

"Blockchain has the potential to bring great value in financial services activities, from trade finance to payments and securities settlement."

– John McLean, CTO Global Blockchain Systems, IBM

As digital currencies grow in popularity, users will seek digital banking solutions that make conversions between fiat currencies and digital currencies faster, easier and cheaper. Similarly, the current growth in blockchain solutions related to financial services will further improve the speed and efficiency of digital banking products – especially in areas such as international money transfers and investment purchases, where long settlement times have long been a source of frustration for consumers. In a 2019 study[35], McKinsey estimated that the application of blockchain to cross-border payments could save banks $4 billion a year, and speed up settlement times for consumers by a significant multiple.

[33] For a full discussion of this issue, please see: https://www.pwc.com/us/en/library/covid-19/supply-chain.html

[34] Please see: https://www.mordorintelligence.com/industry-reports/cryptocurrency-market

[35] Please see: https://www.mckinsey.com/industries/financial-services/our-insights/blockchain-and-retail-banking-making-the-connection

The Benefits of Digital Banking in 2025

By 2025, we expect digital banking solutions to predominate around the world. Banks will have revolutionized their customer acquisition strategies and improved customer satisfaction while reducing overall costs both for the banks themselves, and their customers.

Simplified Onboarding

Using remote terminals equipped with sensors, banks can make onboarding easier for customers, as well as employees, through a fully-mobile process that is enabled by advanced technologies. For example, while opening a new account, an applicant is asked to provide a large number of documents, such as ID Proofs, employment proof, address. With the help of modern technologies, it is possible to enable your customers to upload these documents using their smartphone, and the extracted data can be automatically processed and updated in the bank's systems, saving time and reducing complexity. ID documents can be verified using sophisticated sensing technologies in independent terminals and confirmed via super-fast 5G communication in the cloud.

24/7 Full service banking – from anywhere

"Digital banking customers are twice as likely to purchase new financial products from their digital banks as non-digital customers." – Backbase

Moving beyond the always-open ATM and access to account information and simple transfer operations via internet banking, customers will be able to access a wide range of financial services 24/7 without the need to stand in lengthy queues. Digital banking via mobile apps makes it convenient to bank anytime from anywhere, adding to the customer experience significantly. The rise of digital banking will also improve customer service with the introduction of real-time customer support channels, such as live chat and co-browsing, which is highly effective for query resolution.

With the application of better AI and machine learning techniques, it will be possible to quickly analyze customer data for mortgage applicants as well as their past financial behaviour to determine the likelihood of default and decide the fate of their application instantly. Likewise, investments will be purchased, and settlement confirmed, in near-real time – from anywhere. Research from Backbase[36] has shown that highly digitally-engaged customers are twice as likely as non-digital customers to purchase new financial products from their digital bank, and that they hold 4.4 products from their digital bank on average, compared with 2.7 products for non-digital customers.

Cost Savings

Introducing automation in various processes can decrease costs and streamline the operational processes to deliver more value to customers. Digitization also reduces overhead costs and staff expenses, which can be passed on to customers in the form of reduced charges. Something as simple as swapping paper statements with e-statements can save time, money, and also the environment. The Backbase research cited on the previous page also claims that onboarding

[36] See: https://www.fintechfutures.com/files/2018/10/Backbase_The-ROI-of-Omni-channel_Whitepaper-2.pdf

costs per customer can be reduced from $300/customer on average to less than $100, which would represent a cost saving of more than $10 million per year for a bank acquiring 52,000 new customers – and this is in one area of operations alone.

Increased Personalization

Customers don't want to be treated like numbers but expect customized services that add more value to their experience. One way in which personalization can be achieved is through data collection and analysis using predictive intelligence and other machine learning algorithms that point to future consumer behaviour, based on data from user's digital banking operations. With new developments in the field of natural language processing (NLP), digital assistants may also handle more complicated tasks in the future, such as renewing car insurance. According to the Boston Consulting Group, the next wave of what's known as "hyper-personalization" will add 10% to the revenue of banks who manage this process successfully[38].

KEY FACT – 90% of bankers in a PwC survey[37] said that the need to reduce costs made new technologies a priority – but only 27% felt their bank was doing enough at present.

Process Automation

McKinsey reports[39] that banks can automate up to one-third of their processes through smart technology implementations that reduce costs and eliminate human error. JP Morgan Chase has already taken a step in this direction with its data-based automation platform, COIN. Chase's Coin is powered by a private cloud network and uses a robust machine-learning algorithm to review complicated documents. JP Morgan reports that the platform only takes a few seconds to finish repetitive tasks that previously took up to 360,000 hours to complete.

EXPERT COMMENT

"Personalization at scale is a 21st-century approach to what banking has lost: the ability to truly know customers, anticipate their needs, and foster loyalty that can last a lifetime."

– Boston Consulting Group.

[37] See: https://www.afme.eu/News/Press-Releases/Details/gfma-and-pwc-identify-global-technology-and-innovation-trends-and-challenges-for-investment-banks

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[39] See: https://www.mckinsey.com/industries/financial-services/our-insights/the-transformative-power-of-automation-in-banking

Prepare your bank for the digital future

A PwC report, *The Future Shape of Banking*, has predicted that the bank as we know it today could have vanished by 2025[40]. Despite this, there is ample evidence that banks in North America and Europe have not yet undertaken the fundamental shifts required to equip their bank for the digital era by revolutionising not just their customer channels, but also their approaches to hardware and software. Doing so will enable banks and their customers across North America and Europe to accrue the benefits of digital banking we have outlined above.

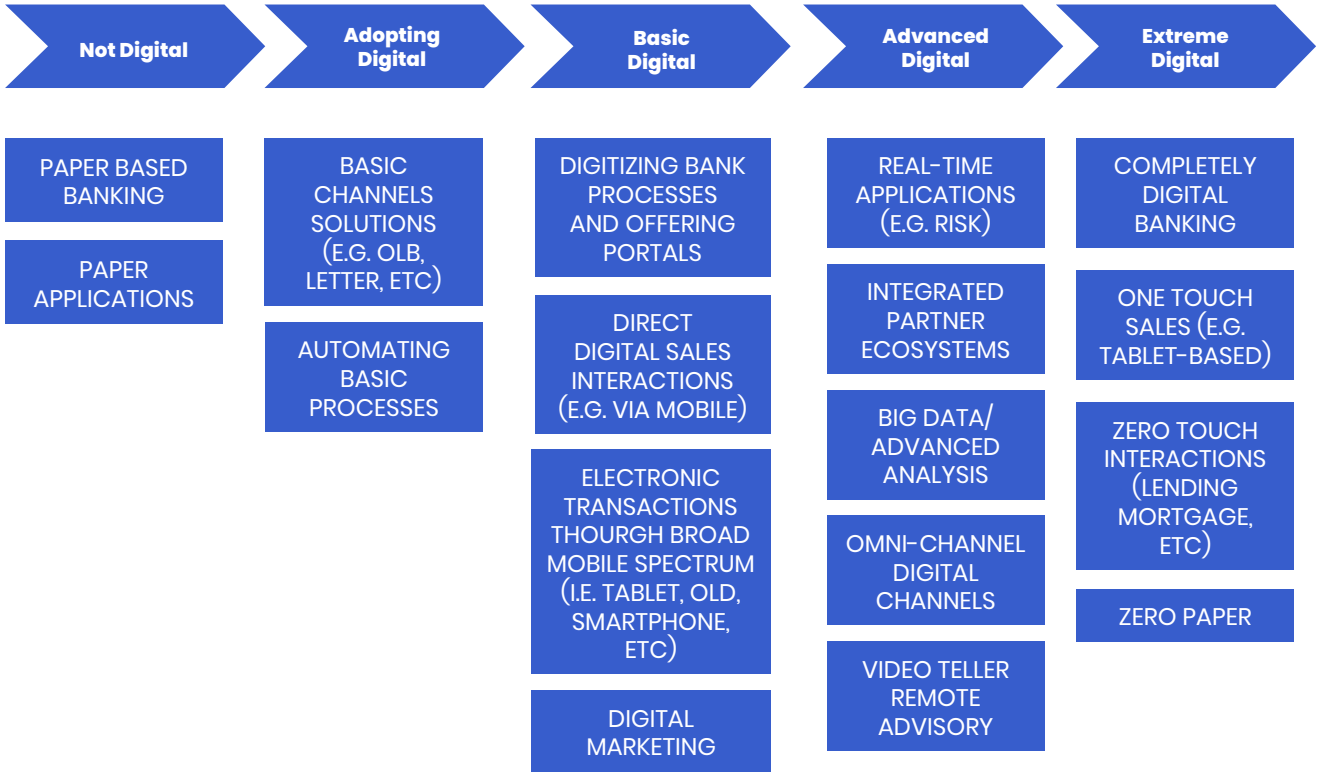
EXPERT COMMENT

"Technological advances will challenge banks' business models and fundamental change is inevitable."

– Miles Kennedy, financial services partner at PwC

THE STAGES OF DIGITAL BANKING DEVELOPMENT

Overview of Digital Progression



Source: Celent, inc.

If many banks in the Middle East, Asia and Africa are moving towards the fourth stage of digital adoption – "Advanced Digital" – in the above model, then we estimate that the most advanced banks in Europe and North America are between stage two ("Adopting Digital") and stage three ("Basic Digital"). To maintain their competitiveness and survive the current revolutionary stage in the development of digital banking, Western banks should accelerate their moves to digital by investing in the right infrastructure for the digital future.

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[34] https://www.mordorintelligence.com/industry-reports/cryptocurrency-market

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As pioneers of the next generation of intelligent financial terminals and digital banking systems, Wiseasy helps banks, electronic payment companies and other financial institutions to achieve low-cost business network coverage and the construction of mobile Internet-based business systems through our innovative technologies and products.

We believe that hardcore Fintech can not only bring convenience to the public, but also improve people's lives through better access to financial services. Enabling the digital banking revolution is our passion.