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Introduction

The global financial services industry continues to be disrupted, as FinTech adoption gains momentum among banking customers. Augmenting customer experience is the need of the hour as customers increasingly adopt digital products and services and digital-only banks challenge incumbents to deliver better digital innovation. As a result, banks are investing aggressively in digital transformation to enable nimbler processes and support digital products and services. They are also collaborating with FinTechs to learn and acquire innovative approaches and technological capabilities.



Under pressure to boost revenue, cut costs, and at the same time deliver a better customer experience, banks are investing in emerging technologies and processes such as digital identity systems, artificial intelligence, and blockchain. In order to provide seamless customer journeys, banks are automating their processes, making increasing use of cloud implementations, leveraging analytics for better customer engagement, and providing a more personalized and enriching customer experience. Regulations are also spurring banks and FinTech collaboration through various Open Banking initiatives, with banks now being mandated to share data with third-parties through APIs.

To stay competitive, banks must remain cognizant of numerous implications from within and from outside the financial services industry. This document aims to understand and analyze the top-10 trends in the retail banking industry expected to drive future dynamics of the banking ecosystem.



Trend 01: Banks Make Significant Investment in Digital Transformation

Banks are investing aggressively to digitally transform as competitive pressures and customer expectations rise.



Background

- FinTechs have accelerated the digital disruption and are maximizing the use of technology, giving stiff competition to traditional banks
- Legacy systems and complex process architectures are limiting banks' ability to enhance customer experience, impacting their advanced analytics capabilities
- Increasingly, customers are choosing their primary financial services provider based on the ease with which they can operate their financial products, and are demanding a personalized experience:
 - Experiences with companies across different industries, such as telecom and retail, have reshaped customer expectations



- Banks are facing stiff competition from agile FinTechs and digital-only banks that offer superior customer experience
- Banks have a high focus on automation, big data, analytics, and innovation that require an agile architecture to support the digital ecosystem
- Customers are getting more digital and tech-savvy, and this is creating demands on legacy bank infrastructure to support new modes of engagement:
 - More and more, customers are migrating to digital channels that now form the bulk of banking transactions
- To leverage the latest technologies and optimize cost efficiencies, banks are looking at end-to-end digital transformation



Exhibit 1: Banking Executives Strategic Priorities



Digital enhancements for improving customer experience



Digital laggards in FS industry could potentially lose up to 35% of the total market share to digital pure-plays

Digital business/ digitalization is the #1 strategic business priority for industry CIOs in 2016-2017

Source: Capgemini Financial Services Analysis, 2017; "The Digital Banking Revolution: Who Will Survive?", Jeffrey Pilcher, The Financial Brand, Jan 31, 2017; "How a bank bet on fintech for its digital reboot", Bryan Yurcan, American Banker, Aug 30, 2017; Top 10 Strategic Priorities for Banking in 2017, Jim Marous, The Financial Brand, Dec 7, 2017



- Digital disruption has impacted the financial services industry, and banks are investing heavily in digital transformation:
 - BBVA has invested extensively in digital transformation and its number of digital customers increased from 33% in June 2016 to 39% in June 2017¹
 - When advising customers on mortgages, ABN Amro uses a webcam to eliminate the need for customers to hand over documents at a branch²
 - BNP Paribas is investing €3bn on digital transformation, boosting spending on digital initiatives by 50% over the next three years³
- Banks are bogged down by legacy systems, thereby hindering their ability to innovate new products and services, thus impacting customer experience:
 - Banks having conventional paper-based processes and legacy systems are finding it extremely tough to compete with financial institutions who have new-age digital platforms
- Rapid growth in online and mobile banking, as well as empowered customers embracing digital touchpoints, is further fueling the need for investments in digital transformation
- Superior digital banking capabilities leads to better data aggregation and predictive analytics capabilities, thereby improving cross-selling

- Digital transformation will be imperative for banks to automate processes and lower their costs
- Effective digital transformation will help banks to drive agility and quickly launch new products and services:
 - Banks will look to integrate User Experience (UX) design into their digital transformation projects for a more accurate analysis of customers' needs and preferences
- Banks will either reinvent themselves by transforming digitally or risk their relevance in the fast-evolving digital economy:
 - With Gen Y and tech-savvy customers driving digital adoption, digital transformation is no longer an option but a survival need
- Innovating on digital products and services will be the key to enhancing customer experience





- 1 BBVA 2Q17 Results, July 27, 2017, accessed October 2017 at https://www.bbva.com/en/wp-content/uploads/2017/07/20170727-2Q17-Press-Results-Presentation.pdf
- 2 "The Future of Retail Banking: Are Bots Ready to be Your Next Banker?", Eric Kline, Nov 28, 2016, accessed October 2017 at https://www.citrix.com/blogs/2016/11/28/the-future-of-retail-banking-are-bots-ready-to-be-your-next-banker/
- 3 "BNP Paribas to spend €3bn on digital transformation", Michael Stothard, Martin Arnold, Feb 7, 2017, accessed October 2017 at https://www.ft.com/content/c57ac5ca-ec9b-11e6-ba01-119a44939bb6

Trend 02: More and More, Banks Collaborating With FinTechs Through Different Models

Increasingly, banks are collaborating with FinTechs to leverage their technological know-how and for costeffective offerings.

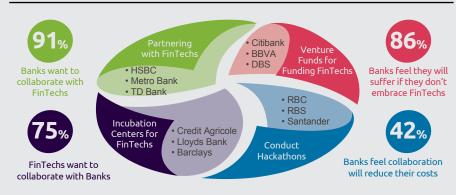
Background

- Over the last few years, FinTechs have continued to disrupt the financial services industry through innovative approaches:
 - FinTechs generally specialize in specific products within the banking value chain and adopt a customer-focused approach
 - FinTechs have lower fixed and investment costs, a lean and agile IT infrastructure, and have leveraged emerging technologies to provide a superior customer experience
- Rapid growth in technologies, increased competition, greater regulatory spend, and slow economic growth is impacting banks' topline and eroding their profitability:
 - Banks are now targeting new revenue streams, looking to cater to increasing customer expectations and to bring products and services to the market quickly

Key Drivers

- Technological innovations and disintermediation within the financial services industry is driving banks to adopt a collaborative approach
- New banking regulations such as PSD2 that involve sharing of customer data are also facilitating collaboration, especially by APIs being leveraged to share this data:
 - Regulators are encouraging Open Banking initiatives, and banks are having to open up their systems via APIs to third parties in providing access to account information and to initiate payments
- Banks have a burning need to innovate faster but have not been very successful with digital innovation through in-house efforts
- The complementary strengths and needs of both entities (banks seek new approaches to deliver innovation while FinTechs seek capital, scale, data, customer trust, and regulatory support) require their win-win collaboration

Exhibit 2: Bank-FinTech Collaboration



Source: Capgemini Financial Services Analysis, 2017; Capgemini World Retail Banking Report, 2017; "Are Banks an Endangered Species?", Jeffrey Pilcher, The Financial Brand, 31 Oct 2016









- Innovative FinTech entrants have disrupted the financial services industry Although banks initially viewed them as a threat, they are increasingly looking to leverage FinTechs' fresh approach to industry challenges
- Banks have been reacting differently to the disruption caused by FinTechs, by either acquiring, investing, or partnering with FinTechs (leveraging different approaches, such as by developing incubators / accelerators, conducting hackathons, or by using APIs to open up their systems to third parties):
 - UBS partnered with blockchain startup Clearmatics through an incubator to explore the use cases of blockchain⁴
 - Barclays has a 13-week accelerator program wherein it provides tools, equipment, facilities, and dedicated mentorship for select FinTechs⁵
 - U.S. Bank and MasterCard conducted a hackathon focused on creating innovative solutions, and both companies provided access to some of their APIs to develop new products⁶

- Collaboration will become an expected way of doing business, with 91.3% of banks and 75.3% of FinTechs saying they expect to partner with each other?:
 - An effective collaboration will complement both entities' competitive advantages and facilitate business viability
- Banks will be able to increase revenue streams, innovate faster, reduce costs, and focus on improving customer experience:
 - Banks will be able to provide differentiated products and services, and leverage technology for deeper customer insights
- The industry will move toward an open API ecosystem that will create a connected network of banks and FinTechs:
 - To realize positive synergies, an effective collaboration leveraging each other's strengths will be imperative for gaining a competitive advantage in the fastchanging financial services industry



- 4 "Cutting through the blockchain hype", UBS, Dec 5, 2016, accessed October 2017 at https://www.ubs.com/magazines/innovation/en/our-approach/2016/path-finding.html
- 5 Barclays Accelerator Program, accessed October 2017 at http://www.barclaysaccelerator.com/#/about/
- 6 "Can Hackathons Give Big Banks The Fintech Edge?", Lisa Rabasca Roepe, Oct 21, 2016, accessed October 2017 at https://www.fastcompany.com/3064811/ how-big-banks-are-using-hackathons-to-get-the-fintech-edge
- 7 Capgemini World Retail Banking Report, 2017

Trend 03: Banks Look To Leverage Digital IDs beyond Authentication

Banks can build and leverage digital identities to not only enhance cyber-security but also to improve efficiency and generate new revenue streams.



Background

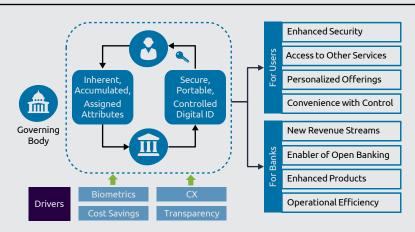
- Enhanced digitization has resulted in increased cyber-risk for banks, and to counter these threats banks need to continually adopt new measures
- Verifying identities of a person/entity and cross-checking associations (such as person-entity, person-asset, etc.) has always been a challenging task for banks
- Disjointed banking systems make it necessary for customers to provide their credentials time and again



- Availability of advanced biometrics-based solutions (e.g., fingerprints, iris, vein, face, voice, etc.) can help banks in creating and maintaining a credible identity system
- Manual processes of KYC and AML take a heavy toll on banks in terms of human and financial resources thus there is need of more automation to enhance efficiency and reduce costs
- Regulatory demand of increased transparency in transactions
- Generally, banks are the most trusted partners (after government entities) that people can rely on for their ID management
- Customers expect seamless service across channels without going through repetitive verification



Exhibit 3: Banks and Users Alike Will Benefit From Digital IDs



Source: Capgemini Financial Services Analysis, 2017





- Banks can create and use digital identities for themselves that could also be utilized by customers for access to services from public and other financial institutions, e.g., private transactions, geographic migration, etc.
- While Digital ID portability will enable inter-bank and even cross-industry identity verification, distribution control will remain with customers
- Digital ID is a noble concept, but its real benefit can be achieved only through wider adoption and common standards
- A number of banks are building solutions that go beyond authentication and cover the full transaction value chain including intermediaries and regulators:
 - Several major Canadian banks including Bank of Montreal, CIBC, Royal Bank of Canada, Scotiabank, and TD Bank are building a digital identity tool that will allow people to self-identify in a digital world⁸
 - Similarly, BBVA, Capital One, Deutsche Bank, and USAA are also among many banks that have started with digital ID projects⁹

- Instances of cyber-fraud are expected to shrink as banks can correctly verify customers' identity with relative ease
- Digital IDs can be an enabler of frictionless open-banking as different stakeholders can reduce operational and KYC burdens by leveraging existing digital IDs
- Digital IDs will help banks make personalized offerings as they have a better view of customer's financial life
- Enhanced customer experience as customers have access to a full range of products and services based on existing ID
- In cases where people do not have enough documents to prove their identity, bank enabled digital IDs can help enhance financial inclusion as well as their inclusion in other welfare schemes:
 - World Bank has the 'Identification for Development (ID4D)' program that aims to provide an identity to nearly 1.1 billion people that are unable to prove their identity¹⁰
- Opportunity for banks to offer 'identity-as-a-service' to other entities



- 8 "Canadian banks are building a digital identity tool", Tearsheet, accessed October 2017 at http://www.tearsheet.co/modern-banking-experience/canadian-banks-are-building-a-digital-identity-tool
- 9 "Banks can profit from digital ID movement", American Banker, accessed October 2017 at https://www.americanbanker.com/news/banks-can-profit-from-digital-id-movement-even-if-they-dont-control-it

Trend 04: Banks Strive to Bring Distributed Ledger Technology Out of Labs, Into the Real World

Distributed ledger technology is helping banks to build feature-rich key solutions such as 'global KYC.'



Background

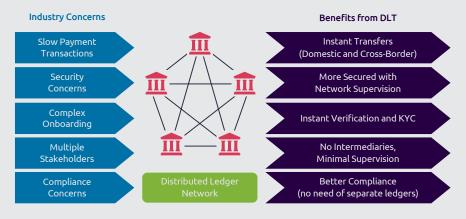
- Banks generally maintain their own central databases, therefore each inter-bank transaction requires intermediaries, supervision, and reconciliation
- Customers are becoming increasingly more demanding of banking services to be quick, secure, and convenient
- Banks are spending significant resources to meet regulatory and compliance requirements



- There has been a growing need for real-time banking services, particularly for payments, both, domestic and cross-border
- Cyber-attacks are getting more sophisticated, which imposes a more secure banking network
- There is growing need of leveraging technology to reduce processing time and operational expenses while enhancing customer experience
- Multiple global consortia with participation from several of the world's leading banks, as well as massive investments, are fueling experimentation in Distributed Ledger Technology (DLT)
- Several players are coming up with DLT-based platforms and Operating Systems that have compelling use-cases for retail banking



Exhibit 4: Distributed Ledger Technology Addresses Multiple Concerns



Source: Capgemini Financial Services Analysis, 2017



- Blockchain, the most prominent DLT, is a secure distributed ledger system or record of immutable transactions shared by a participant network
- Owing to its benefits such as no requirement of a central authority, elimination of intermediaries, faster transactions, reduction in operational costs, and high levels of transparency and security, banks are finding various use-cases and application areas for the adoption of blockchain
- The banking industry can leverage blockchain technology for improved fraud detection, efficient and cheaper KYC requirements, and instant payments:
 - Ripple, that claims to provide frictionless experience to send money globally, has signed up more than 100 clients on its Blockchain network RippleNet including big names such as Santander, UniCredit, UBS, and Standard Chartered¹¹
 - 'BankChain,' an India-based blockchain consortium has launched a new KYC system 'ClearChain' that facilitates sharing of customer information with network participants¹²
- Though practical solutions for banking use-cases have been demonstrated, issues
 of standardization, common protocols, governance, and interoperability are yet
 to be addressed
- Owing to the sensitivity of information, so far, banks have preferred to use private blockchain networks

- Through a trusted network of partners, banks can expedite onboarding and KYC of customers thus reducing hassles while also saving on operational costs at the same time
- Blockchain is expected to enhance the overall transparency in the financial industry as transaction blocks are accessible to all stakeholders and any change in the existing record will be noticed by all participants
- Once widely adopted and standardized, Blockchain is expected to significantly reduce the efforts that are required to maintain and reconcile financial records, and that too, with lesser errors
- The need for intermediaries and supervision will be reduced as blockchain ensures trust between network participants for various transactions (e.g., P2P payments):
 - Increased participation will augment positive network effect in the industry, resulting in more collaboration and stable systems





^{11 &}quot;Start-up Ripple has over 100 clients as mainstream finance warms to blockchain", Ryan Browne, CNBC, Oct 10, 2017 accessed Oct 2017 at https://www.cnbc.com/2017/10/10/ripple-has-over-100-clients-as-mainstream-finance-warms-to-blockchain.html

^{12 &}quot;India's 'BankChain' Consortium Launches Blockchain KYC System", coindesk, May 30, 2017, accessed Oct 2017 at https://www.coindesk.com/indias-bankchain-kyc-system/

Trend 05: Banks Deploy AI and RPA to Increase Productivity and Efficiency

Banks are automating processes, and are investing in Artificial Intelligence (AI) and machine learning to drive a substantial increase in operational efficiency.



Background

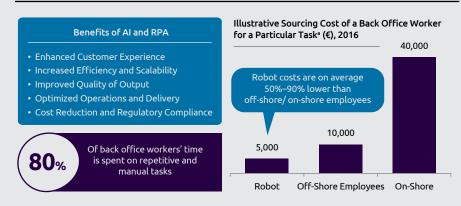
- In this rapidly-changing financial services' landscape with saturated markets and thin margins, banks are striving to remain relevant and competitive
- With digital banking on the rise, banks are expected to deliver the best possible user experience to meet the evolving needs and expectations of the customers
- Banks will have to look for ways to improve revenues, reduce costs, and maximize efficiency to survive in these harsh environments



Key Drivers

- Advancements in virtual technologies and growth in artificial intelligence with a focus on machine learning, natural language processing, and speech recognition are addressing growing needs of digitally empowered consumers
- There is a growing demand to maintain lean operations while delivering exceptional customer experience at lower costs
- With increasing market pressures, banks are looking for different opportunities to accelerate their productivity gains

Exhibit 5: Artificial Intelligence (AI) and Robotic Process Automation (RPA)



a: Average annual gross cost in common shared services centers locations
 Source: Capgemini Financial Services Analysis, 2017; "Robotic Process Automation,"
 Capgemini Consulting, 2016



- Banks are leveraging AI and RPA in various areas in the front office for customer service operations and in the back office for process streamlining and compliance automation
- Banks are using AI-based technologies such as chatbots and virtual assistants to provide customized responses to customer queries:
 - USAA, Capital One Financial, Barclays, Bank of America, and BBVA are all experimenting with AI-powered virtual assistants¹³
- Banks are using AI to monitor social interactions to identify patterns of fraud, which will help in reducing compliance costs:
 - Overseas Chinese Banking Corporation (OCBC) has been testing AI in building customer profiles for detecting fraud, and it will be crucial in fighting against money laundering and terrorism financing¹⁴
- Banks are using RPA to automate their processes that involve structured digital inputs, consistent rule-based logic, repetitions, data migration, or data entry, as they are generally monotonous in nature, time-consuming, and error-prone:
 - BNY Mellon and Deutsche Bank are using bots in their back offices to automate repetitive tasks like data lookups¹³
- Banks are leveraging RPA to achieve productivity gains of 35-50%, and when these gains are compounded across transactions it enables banks to have greater capacity and agility¹⁵

- As the AI technology matures, banks will leverage chatbots and virtual assistants in their strategic investment roadmaps for gaining productivity and augmenting customer experience
- AI and RPA enable banks to provide enhanced customer experience, as well as to strengthen risk and compliance management
- RPA will help banks to phase out manual tasks and information silos, thereby increasing accuracy, flexibility, and agility
- RPA will create a transparent environment in which every transaction will be recorded, categorized, stored, and will be available for review any time
- Using RPA banks will be able to derive immediate cost savings and realize the ROI, sometimes in as short a period as 6 months
- Investing in AI and RPA will increase efficiencies, freeing up resources, who can be utilized for higher value add tasks





^{13 &}quot;Bring on the bots", American Banker, Penny Crosman, January 8, 2017, accessed October 2017 at https://www.americanbanker.com/news/bring-on-the-bots

^{14 &}quot;OCBC tests AI solutions that detect fraud", The Straitstimes, Rachael Boon, July 20, 2017, accessed October 2017 at http://www.straitstimes.com/business/banking/ocbc-tests-ai-solutions-that-detect-fraud

^{15 &}quot;Capgemini Consulting: Robotic process automation", 2016, accessed October 2017 at https://www.capgemini.com/consulting-fr/wp-content/uploads/sites/31/2017/08/robotic_process_automation_the_next_revolution_of_corporate_functions_0.pdf

Trend 06: Banks Leverage Analytics to Transform End-To-End Customer Journeys

Analytics will play a key role as banks strive to transform isolated customer interactions in to an end-to-end seamless customer journey.



Background

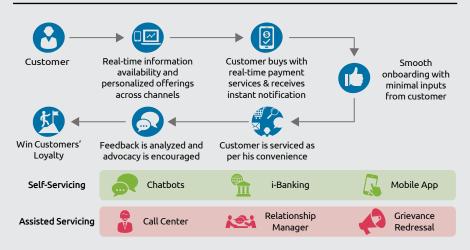
- Based on their experience with new-age firms, customers are also demanding a similar service experience from their banks – quick, hassle-free, cost effective, and personalized
- Banks have been trying to address customers' concerns, but in most cases their approach has been focused on individual touchpoints



Key Drivers

- Huge, yet exponentially increasing amounts of structured data (e.g., financial transactions) and unstructured data (e.g., social media)
- The need to enable customers and employees via real-time decision making information/tools
- Banks focus on driving growth within their existing customer base (by crossselling and up-selling) as this is generally cheaper when compared with new-customer acquisition

Exhibit 6: Analytics Empower Customer Journeys



Source: Capgemini Financial Services Analysis, 2017



- Superior customer journeys will lead to better and faster information availability, personalized offerings, self-service channels, real-time notifications and confirmations, and live human support for complex issues and queries
- To a large extent, banks should also be able to support straight-through processing by pre-defining rules and criteria, thus eliminating the need for manual intervention unless exceptions are flagged
- Analytics can be leveraged to obtain a more granular understanding of customers to personalize offerings and offer more efficient service:
 - US Bank uses an analytics solution that provides unified view of customers by integrating data from online and offline channels¹⁶
- Analytics can also help banks understand behavioral (spending category etc.) and situational (need of different financial products at different life-stages) aspects of customers, thus converging financials with customers' lifestyle needs:
 - Lloyds Banking Group in the U.K. is working with Google to better understand customer behavior, enabling them to offer real-time solutions based on requirements¹⁷
- Analytics can also help customer retention by promoting loyalty-based programs that reward customers based on their personal preferences

- Superior customer journeys are expected to enhance customer experience, which in turn should result in long-term loyalty
- Analytics is also expected to improve customer service operations through automation, real-time inputs for customer serving staff, and analyzing key customer service parameters such as turnaround time
- Drop-off rates are likely to go down as customers more seamlessly complete an end-to-end journey with relevant information and approvals already available to them
- Better fraud-detection as customers can be prompted for more authentication when a flag is raised by analytics-based tools





Trend 07: As Security Threats Recede, Banks Leverage the Cloud to Cost-effectively Streamline Processes

Banks have been leveraging the cloud to streamline processes, and with a growing confidence in its security, there has been an increase in its uptake.



Background

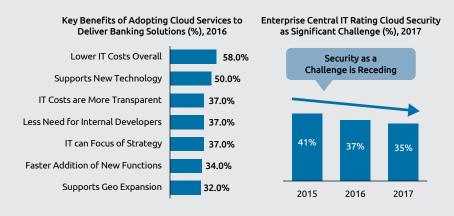
- A majority of banks are built upon pre-internet era legacy systems, with a narrow business focus, and having minimal security features
- With these inefficient systems, banks are finding it difficult to adapt to the modern marketplace, where they are expected to offer superior digital experience, products, and services customized to personal preference
- To remain competitive in this digital age, there is a need for banks to transform their systems, streamline business processes, and bring in a higher level of efficiency maintaining maximum security levels



- Increasing overhead costs of deploying and managing complex in-house data centers, servers, and systems
- With cloud suppliers meeting every security certification and standard, banks have become more comfortable adopting cloud
- To meet the evolving needs of customers, banks need to be agile and flexible, to constantly improve their products and services
- With the advancement of technology, there is an increasing need for banks to have easy integrations with emerging technologies
- There is a requirement for banks to have the ability to scale their processing capacity up or down, as per the prevailing market demands



Exhibit 7: Cloud Benefits and Security



Source: Capgemini Financial Services Analysis, 2016; "Cloud Banking: A Question of Collaboration", Temenos, 2016; "State of the Cloud Report", RightScale, January, 2017



- The banking industry has witnessed a huge push toward the cloud, with most banks initiating migration of infrastructure and applications to the cloud:
 - BBVA is working with Amazon Web Services (AWS) to build a cloud-based solution that is flexible, secure, and scalable, enabling them to meet the exponential growth of transactions that the digital age brings¹⁸
 - HSBC has gone live with its first major cloud deployment with Oracle for services such as financials, procure to pay, expenses, and real estate management¹⁹
- Banks generally have been a bit cautious with cloud implementations and tend
 to stick to implementations in peripheral functions such as ERP, HR, and service
 desks versus core functions (consumer loans, payments, enterprise data) that link
 to the general ledger, mainly due to risk concerns
- Due to an increase in cyber-attacks, cybersecurity is a challenge impacting the wider adoption of cloud. However, this challenge is receding gradually:
 - Cloud suppliers have been raising standards around security
 - Also, banks can ensure that security certifications and strict protocols are built into services, enabling secure access

- Analyzing computation intensive, huge amounts of data with the help of big data analytics and artificial intelligence (AI) would be faster and more cost effective
- Banks are likely to use a hybrid cloud, where critical banking applications and processes are migrated to private clouds with enhanced security features, and non-critical applications are migrated to a public cloud for cost efficiency and agility
- There will be significant overhead savings due to a decrease in upfront capital costs and costs for continuous maintenance and upgrade
- The budget, previously tied up in capital costs, could now be invested in innovation and other growth priorities
- Cloud platforms will enable easy digital collaboration and provide banks with the ability to partner or leverage innovations from FinTech cloud natives in this shared ecosystem:
 - With a long-term vision to become digitally enabled, banks with a well-planned cloud strategy are poised to be leaders in this disruptive environment





^{18 &}quot;BBVA works with Amazon Web Services to accelerate the Group's transformation", BBVA, October, 2016, accessed October 2017 at https://www.bbva.com/en/bbva-works-amazon-web-services-accelerate-groups-transformation/

^{19 &}quot;HSBC completes first major cloud implementation with Oracle Cloud financial and ERP software", Computer World UK, Scott Carey, February 2, 2017, accessed October 2017 at https://www.computerworlduk.com/cloud-computing/hsbc-completes-first-cloud-implementation-with-oracle-cloud-3653993/

Trend 08: Digital-Only Challenger Banks Threaten to Beat Retail Banks at Their Own Game

The limitations of traditional banks to meet the customers' digital demands, has opened the door to a new breed of digital-only banks.



Background

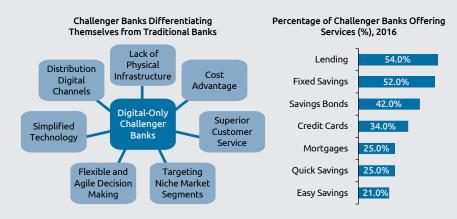
- Banks are burdened with lower interest rates, regulations, and aging legacy systems that impede internal innovation
- With the industry moving toward a digital ecosystem, incumbent banks are finding it hard to meet customers' demands of simplifying banking experience, which has led to a gap in the market for new entrants



Key Drivers

- Regulatory policies aimed to increase competition in the industry, have made it easier for challenger banks to foster
- There has been a substantial increase in capital investments or funding for challenger banks²⁰
- Consumer satisfaction in the legacy banking industry is low, emphasizing the fact that traditional banks are not able to deliver customer-centric products, in part due to their legacy systems
- Most developed countries have high penetration of smartphones, enabling continuous engagement with the customers

Exhibit 8: Digital-Only Challenger Banks



Source: Capgemini Financial Services Analysis, 2016; "Burnmark Research: Challenger Banking," October 2016

^{20 &}quot;'Simple banks' across the world raised \$269M", Medium, Slava Solodkiy, January 4, 2017, accessed October 2017 https://medium.com/@slavasolodkiy_67243/simple-banks-across-the-world-raised-269m-71ff596b7f41





Trend Overview

- The limitations of incumbents in meeting the growing demands of customers has led to a gap in the market for new technology-driven and customer-centric banks, referred to as challenger banks
- Digital-only challengers are banks that have defied the traditional model of banking through highly digital innovative products and services
- Without a physical infrastructure, challenger banks can keep their costs low
- They have a clear value proposition centered around customer experience, and driven by simple technologies and cohesive digital channels:
 - Starling bank has launched an app that lets customers view their current account activity in real time, a task that many legacy incumbent banks have failed to accomplish²¹
- Agility and fully-digital systems allow challenger banks to adapt quickly to changing customer demands and expectations

- Challenger banks are targeting niche and untapped market segments, which will allow them to grow quickly due to relatively low customer acquisition costs in these market segments:
 - N26 is targeting niche segments such as freelancers and self-employed persons apart from its regular banking segments, by launching a dedicated business account exclusively for them²²
- Customers can expect a high degree of personalization, creating more meaningful and relevant offers
- The rise of challenger banks will increase the competition in the industry, compelling the traditional banks to improve upon their digital offerings and extend their reach to fend off these upstarts:
 - Some incumbent banks are investing in innovation or collaborating with FinTechs using accelerators and incubators
 - Some banks are acquiring or investing in these challenger banks such as Spanish lender BBVA acquiring US online bank Simple²³ and taking a significant stake in app-only British bank Atom²⁴

^{21 &}quot;Starling Bank, a digital-only UK challenger bank, launches beta", Tech Crunch, Steve O'Hear, March 16, 2017, accessed October 2017 at https://techcrunch.com/2017/03/16/starling-bank-a-digital-only-uk-challenger-bank-launches-beta/

^{22 &}quot;N26 launches business bank accounts for freelancers", Tech Crunch, Romain Dillet, April 19, 2017, accessed October 2017 at https://techcrunch.com/2017/04/19/n26-launches-business-bank-accounts-for-freelancers/

^{23 &}quot;BBVA acquires Simple to accelerate digital banking expansion", February 20, 2014, BBVA, accessed October 2017 at https://www.bbva.com/en/bbva-acquires-simple-to-accelerate-digital-banking-expansion/

^{24 &}quot;BBVA strengthens its commitment to U.K.'s Atom Bank", March 3, 2017, BBVA, accessed October 2017 at https://www.bbva.com/en/bbva-strengthens-commitment-u-k-s-atom-bank/

Trend 09: Alternate Lenders Leverage Alternative Data for Providing Credit Facility to a Wide Range of Customers

Alternative lenders are using digital platforms and tools to provide credit facility to a wide range of consumers quickly and efficiently.



Background

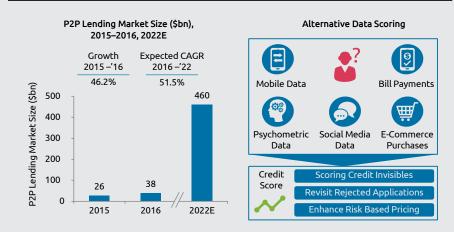
- After the 2008 financial crisis, stringent credit-related regulations forced banks to tighten their credit-lending processes, leading to a lending gap in meeting customers' funding requests
- Customers having low credit profiles/scores face difficulty in procuring loans from traditional lenders, and there also exists a huge unbanked population having steadily growing incomes who are not served by banks
- Borrowers are looking at getting credit at lower costs, whereas lenders are seeking a higher rate of return on their investments (when compared with traditional bank deposits)



Key Drivers

- Evolution in technology and improved online interfaces has led to easy access to capital and the growth of an alternate lending market:
 - Increasing digital adoption has led to lower operating costs for alternate lenders, with cost-savings passed to borrowers through lower interest rates
- Increased consumer knowledge of marketplace lending, lower interest rates, and faster credit has contributed to the demand for alternative lending
- Lenders recognize the need to eliminate complex and time-consuming processes, to provide lending transparency, and to leverage social data and analytics for a better customer engagement

Exhibit 9: Alternate Lending Industry



Source: Capgemini Financial Services Analysis, 2017; "Increasing Small Business Units to Act as Building Blocks for Peer-to-Peer Lending Market", Transparency Market Research, Aug 31, 2016; "Global Peer to Peer Lending Market by End-user and Business Model Type - Global Opportunity Analysis and Industry Forecast, 2014–2022", Allied Market Research, Mar 2017



- The financial services industry is witnessing an increase in highly scalable alternative lending providers, who are reducing the lending cycle down from a few weeks to a few hours
- Alternative lending is a faster-growing area within the FinTech space, and catching up with traditional banking across the globe:
 - Prosper (a leading P2P lending platforms) offers consumers personal loans in the range of \$2,000 to \$35,000, and retail investors can invest a minimum of \$25 per loan²⁵
 - Upstart is an online lending platform offering fixed interest loans, and their underwriting model identifies high-quality borrowers despite limited credit and employment experience²⁶
- Alternate lenders use technology-based algorithms and software integrations
 to assess credit profiles of customers and are also leveraging alternative data
 such as social media photos and check-ins, GPS data, e-commerce and online
 purchases, mobile data, and bill payments

- Alternate lending will continue to impact traditional lenders and transform the credit evaluation and loan origination processes
- Alternative lenders will continue to build their lending processes around technology, and the data-driven and analytics approach will help in de-risking their portfolios and reducing the cost of capital
- The alternate lending market will lead to higher underwriting accuracy, greater transparency, and better customer experience
- Leveraging alternative data and analytics for lending will provide deep insights for assessing customer's ability and intention to pay
- Alternate lenders will also look at opportunities to offer white-label services to traditional banks and as the industry matures, both entities are increasingly likely to partner with each other:
 - Alternative lender Equitable partnered with Canada's top six banks in creating a \$2 billion backstop²⁷, thereby deleveraging its risk
- Regulations will likely play a role in the alternative lending industry, thereby leading to higher compliance costs in future





²⁵ Prosper's company profile, accessed October 2017 at https://medici.letstalkpayments.com/companies/prosper

²⁶ Upstart's company profile, accessed October 2017 at https://medici.letstalkpayments.com/companies/upstart

^{27 &}quot;Alternative lender Equitable says all 6 big banks have agreed to fund \$2B backstop", CBC News, May 3, 2017, accessed October 2017 at http://www.cbc.ca/news/business/equitable-bank-alternative-lender-1.4097010

Trend 10: Banks Connect With Third-Party **Providers to Drive Customer-Centricity** and Implement New Models

Business and operating models of banks are expected to undergo a significant change as the industry promotes API backed openness.



Background

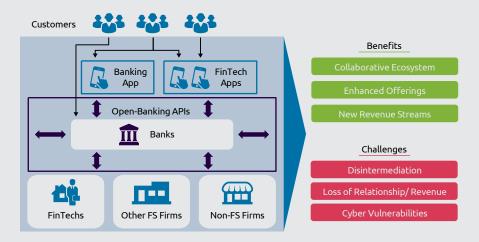
- For years, banks operated in siloes unchallenged by technology-based players. But this has changed recently
- Banks had maintained complete control over customer journeys from product offerings to customer servicing – but this is changing as FinTechs offer niche, innovative products and value-added services
- While customers have a good experience with FinTech firms, their overall financial experience is not seamless as most of the service providers operate in siloes, resulting in friction and aggregation issues

Key Drivers

- Regulations in certain geographies (such as PSD2 in the UK) are pushing for increased competitiveness through controlled data sharing
- While regulations have certainly been a driver, forward-thinking banks are adopting measures beyond regulatory mandates and are targeting new opportunities arising from the changing role of banks
- The industry has witnessed a rapid adoption and expansion of APIs that enable communication between banks and other stakeholders such as FinTechs, other banks, non-financial firms etc.
- Customers are increasingly adopting FinTech offerings for better services, necessitating banks to take action to avoid disintermediation
- Aggregators and digital comparison tools have made it easier for customers to make more informed decisions
- Various working groups across the world that are trying to come up with open banking standards that will further boost adoption



Exhibit 10: Open Banking Is Changing the Industry Landscape



Source: Capgemini Financial Services Analysis, 2017

Trend Overview

- 'Open Banking' refers to a banking ecosystem where banks can share customer data with third-party providers such as FinTechs, generally via the use of APIs:
 - Several global banks including Citigroup, OCBC, BBVA, Barclays, RBS have adopted API based approach to come up with innovative applications for open banking scenarios²⁸
- With open banking, users can fully view their financials in one place and also initiate transactions from there, thus eliminating the need to go to banks
- Single-point access to all financial service providers will facilitate customers to choose products and services as per their needs as movement of money is also seamless
- Banks are adopting different models such as app stores and developer portals, to collaborate better with the external world
- With the rise of open banking, banks are expected to assume various role(s) such as product producers, aggregators, distributors, and platform providers

- Banks need to re-think their business and operational model in order to not be reduced to a utility provider in financial ecosystem of the future
- Banks need to work hard to retain the 'ownership' of customer relationships as they are expected to face stiff competition
- Banks will try to fulfill varied customer expectations by including access to products and services provided by third-parties as well
- While open banking is paving the way for the 'API Economy', a lack of standardization will pose a threat of cyber security and may slow down the adoption
- Customers will have seamless access to products and services from a range of financial service providers





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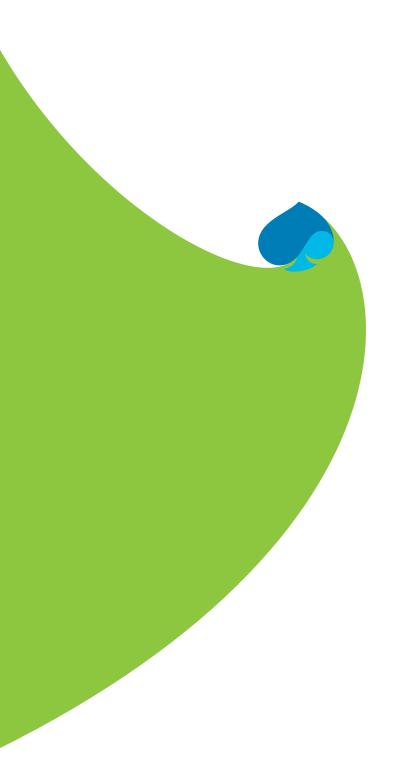
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