



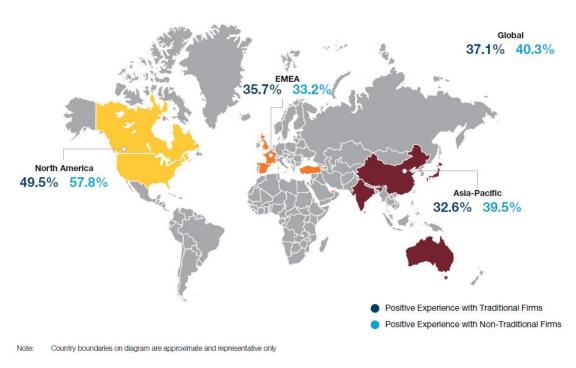
# **SUMMARY**

Digitization gives banks the opportunity to take customer service to the next level. The proliferation of mobile technology and easy-to-use Application Programming Interfaces (APIs) platforms is now changing the global banking industry. Video communications have expanded significantly over the past few years. Financial institutions are turning to launch a face-to-face video banking service as part of their brand tansfomation strategies, allowing clients to securely interact with banking consultants via audio, video and chat. DBS/POSB introduced nine DBS/POSB Video Teller Machines (VTMs) across Singapore on 25 April 2017, offering round-the-clock branch banking services to customers<sup>1</sup>. The Teller Automation and Branch Transformation 2017 report from Retail Banking Research showed video chat is the trend for branches to build in-person customer relationships while keeping branch costs down and saving time. The research emphazises the success of video banking in China, where it was first installed in 2011 by China Guangfa Bank. Vidyo, a provider of embedded video and video conferencing technology, counts six out of the top 25 largest banks in the world as video banking customers, using video as part of their mortgage, private banking and wealth management services. Almost one-third of banking clients already deposit at one new-age tech-driven financial firm or non-traditional provider, despite traditional banks still holding significant market shares. The success of financial institutions will require a change towards a more open and digitally sustainable business model which focuses on customer innovation. The transition to video communications using in retail banking delivery will transform the whole industry.

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# Traditional Firms V.S. Non-traditional Firms

Temnos reports that major banks worldwide experience almost 90% of customer interactions via digital channels. A faster-than expected adoption of new cosumer technolohies is transfoming the retail banking. Face-to-face relationships are increasingly being replaced by digital technologies. Banks have been reducing the number of traditional full-service branches, from 64% of the total in 2011 to 49% by 2016. Branches are most likely become less focused on simple transactions and more focused on sales activities. The average number of branch visits is eight. By 2022, the average number of visits will shrink to only three per year. A report by Efma, CUNA Strategic Services and Vidyo, tested the role of video banking playing in the digital transformation of banks. Respondents consisted of 282 banks from 63 countires. Around 10% of banks deployed at least one form of video banking in 2016, while 50% will use it by the end of 2017 and 80% are planning to offer a video banking service by the end of 2018, particular those large financial institutions. According to the report, excellence in customer engagement is ether important or extremely important to the success of their business. 80% of customers who switched providers due to poor customer service said they could have been retained. The personal connection is still seen as important for banks, but 93% of the banks would expect high-quality video banking to have a positive impact on customer satisfaction. Video and AR/VR banking allows new and valuable engagement opportunities nad is perceived as a new way to strengthen the customer experience when compared to more traditional banking.



Source: Capgemini Financial Services Analysis, 2017; Capgemini and Linked WFTR Voice of Customer Survey, 2016

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Tech-driven financial services providers or non-traditional firms are gaining increased acceptance. Across the world, non-traditional firms performed slightly better than banks, delivering a positive experience. Non-traditional firms in North America showed 57.8% of positive experiences from customers, compared to 49.5% for banks. Nearly 52.4% of customers engaging with non-traditional firms have a relationship with three or more of them. Banks are less flexible and slow to respond to the new firms amid burdensome regulations, aging systems and a resistance to change. Data from the 2015 J.D. Power Retail Banking Satisfaction Study shows that acceptance of digital channel functionality continues to grow, particularly within Gen Y and Gen Z demographic segments. The Matrix and Minority Report — millennials predicts millennials will mak up 75% of the U.S. workforce by 2025. Gen Y and tech-savvy customers are the biggest pool of customers using servies from non-traditional firms. Millennials are more likely to manage their finances through social media, as well as payment and fintech companies. More than 55% of Gen Y and tech-savvy customers in China and 60% in India prefer using services from non-traditional firms.

It is vitial for financial institutions to capture the opportunity to keep customer relationships and meet the demand for fast and convenient solutions. A research done by Accenture showed competition from non-traditional firms could erode a third of traditional bank revenues in North America by 2020 and 27% of customers are willing to shop for better deals of superior products. According to the Brookfield, millennials, high net worth individuals and people who live in urban areas are far more likely to be open to new innovations and non-traditional frims. 65% of millennials are comfortable managing their finances through a payments company, compared to 26% of non-millennials. When asked specifically about accessing voice banking via their financial institution, 15% of coustomers expressed interest, including 33% of millennials. Interested coustomers said they would like to check account balances (68%), pay a bill (46%), and transfer money between accounts (38%) through a voice-activated device. Meanwhile, 91.3% of traditional banks and 75.3% of FinTechs said they expect to work with each other in the future. By opeing of APIs, bank could be moetize their data and discover new revenue sources.

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# **Chatbots in Banking**

Chaots are emerging in banking industry as an cheap way to apply artificial intelligence (AI) to interact with customers via messaging and digital platforms. Large banks are trying to merge their traditional services with robotics in banking in an attept to attract more tech-savvy customers. BI Intelligence's research found the growing public acceptance of chatbots have created more trustworthy relationships with users, particularly for millennials. A report by Juniper<sup>2</sup> predicts that chatbots will be responsible for over \$8 billion per annum of cost savings by 2022. Banks could offer advice on a large scale and learn about customers' habits by applying chatbots.

#### TOP 5 BANKS GLOBALLY THAT HAVE ADOPTED CHATBOTS



#### **BANK OF AMERICA**

The largest bank in America recently introduced its chat-based assistant Erica.



#### JPMORGAN CHASE

The bank avails a personal assistant to its customers, which helped them save more than 360,000 hours of their workforce.



### **CAPITAL ONE**

This bank has introduced a text-based chatbot assistant named Eno to help customer save their money.



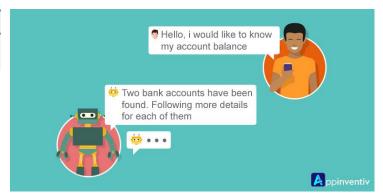
#### MASTER CARD

Mastercard took a step ahead by introducing a chatbot on Facebook Messenger to better their digital services.



#### **AMERICAN EXPRESS**

The bank uses technology like Master Card. It provides the customers with real-time sale notifications, contextual recommendations, and also reminds them about credit card benefits.



For instance, Forbes indicated that Swedbank showed positive results of their chatbot tool called "Nina" built with Nuance Communications. The bank says of the 40,000 conversations a month that Nina handles the chatbot resolves 81% of the issues. Also, ImaginBank aims to help millennials with a Facebook Messenger chatbot.

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### • Feature of Banking Chatbot



## **User Registration**

- → Onboarding of existing digital banking users
- → Onboarding of newly registered digital channel users
- → User invites



### Security

- → Image based channel authentication
- → Transaction authorization using existing digital banking credentials



#### **Accounts**

- Account balance for all user accounts
- → Account details for all user accounts
- → Account transactions detail per each of the accounts



### **Payments**

- → Internal transfers (move money)
- → Payments from templates
- → P2P payments (send money or ask for money)



### **Customer Interaction**

- → Campaigns
- → Multiple and configurable workflow support for campaigns
- → Delivering next best offer to customers (cross-selling, upselling)
- → General and targeted messaging
- Support for various financial notifications



#### General

→ Fully integrated analytics and usage statistics

Source: Chatbots Opportunties and challenges in the banking industry, COMTRADE DIGITAL SERVICES

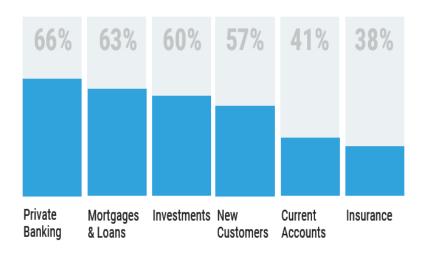
Tech-savvy customers expect their banks to provide personalized support and faster resolution. Chatbots can supplement existing communication lines such as online chat. Chatbots provide real-time text and voice assistant to customer for both online and mobile services. Chatbots will not only understand customers' needs but also anticipate their next actions, helping simplify the whole banking experience of customers. Chatbots will also keep track of tranactions, analyze the data and understand the spending habits, giving budget planning tips and personalized services. Meanwhile, a chatbot can detect and effectively monitor warning signs of fraudulent activity.

With some countries considering a loosening of fintech adoption rules, banks could be more easier to offer bot-based services. Chatbots will be a part of omin banking strategy and become a trend to attract the younger customers.

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# **Video Banking**

A lot of fintech start-ups are taking market share from the traditional banks. New technologies are disrupting the industry and changing the way banks operate. Banks are trying to transform the services branches offer and encourage customers to use new technologies to save time and costs. They are pushing live chat, particularly live audio and video chat, via social media or on their own web sites. Live chat combines approachability and human interaction by creating a real-time, contextual dialogue between a bank representative and a customer. With customers can be in thier home, office or anywhere and resolve any issue they have with their bank, at the right time. Nationwide Building Society expanded the use of video conferencing equipment for customer consultations to 100 more branches in 2015, being the first association to enable mortgage consultants to meet customers via high-definition video links using Cisco technology. The technology has also been expanded to include financial planning managers and personal banking managers.



 $Source: \underline{Capgemini\ and\ Linked\ WFTR\ Voice\ of\ Customer\ Survey, 2016}$ 

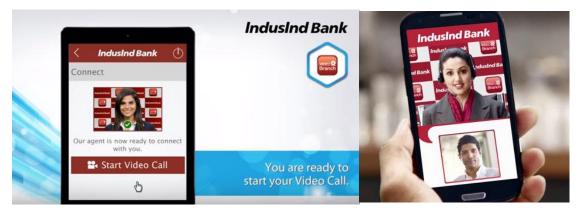
The Efma research found that 70% customers prefer video banking on mobiles and desktops than in branch or ATMs. Most banks choose to initially offer their video services from the banks' own properties. Customers are able to visually communicate with banking experts via the bank's proprietary corporate network. 66% of banks surveyed think video services most suitable for private banking and 63% consider expanding the video to mortgages and loan services. The application of video in banking not only reduce the number of

traditional brick and mortar banks, but also number of staff in the banking hall by 45% as less customers visit the physical banks.

The key concept is to use innovative digital engagement like video banking to attract customers to the quick and easy methods of opening new accounts, receiving a loan available both in branch and online. With the help of the video chat, customers do not need to go through a number of steps and follow IVR guidelines to reach the exact service center. Customers are able to connect with video operators on screens, which the services enhance customer relationships and increasing cross-sell an dup-sell success rates. That's why many banks are moving to live chat technology to differentiate their online channels and retain the customers.

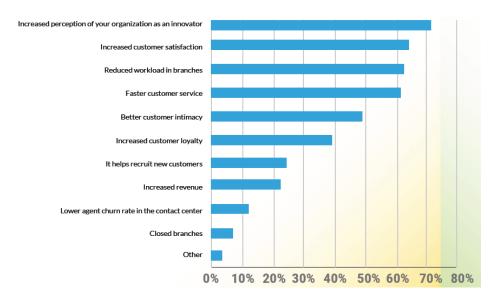
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In 2014, Barclays Retail Bank launched a 24-hour video banking service that will enable customers to receive face-to-face conversation with an adviser via their smartphone, tablet or computer, wherever they are in the world. Barclays the move was "a UK banking first".



Source: IndusInd Bank - How To use Video Branch

IndusInd Bank<sup>3</sup> launched a purely video-based channel connecting customers on mobiles and desktops to staff representatives for face-to-face communications. The Video Branch face-to-face online banking customer service which is powered by Vidyo encourages customers interact with the Video Branch at their own convenience both from his desktop/ laptop computers on smartphones. Customers can have graphs, spreadsheets and other documents with the bank representatives in real time from right within the video call.



Survey by Efma, CUNA Strategic
Services and Vidyo showed that
customer satisifaction increased
and optimize the staffing
resources after banks fully
deployed a video banking service.
IndusInd Bank further reported
that its Net Promoter Score is 50%
more cases are solved in the first
call compared to its standard voice
service.

Source: Capgemini and Linked WFTR Voice of Customer Survey, 2017

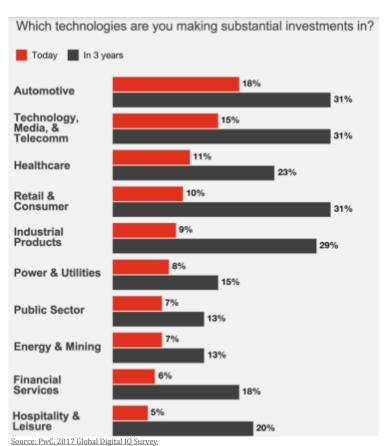
Banks also partner with companies to develop video banking and include new security features to the product, such as digital signatures, facial recognition, and voice biometrics, video banking can be fully encrypted and run on the

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banks' own data systems, more secure than telephone banking. The widely adoption of video banking and mobile banking have already caused 9,100 branches in Europe closing in 2016.

However, one main difficulty is integrating with exitsting tools and workflows. Other common challenges banks identified included privacy and the secure transmission of sensitive data, compliance, cost and customer preparedness. LiveBank, a virtual banking services provider, said another challenge is cultural differences. In countries with strict religious codes like the United Arab Emirates, a male caller speak to a male representative and a woman caller speak to a woman representative.

# AR and VR Banking



Virtual reality (VR) and augmented reality (AR) are beginning to change the world. The technology can dramatically personalise and enhance the customer experience. Banks could use avatars to almost replicate the old banking experience. Goldman Sachs has predicted that the augmented reality market will be worth \$80 billion by 2025. There are many banks and credit unions looking for alternatives for the customers still using branches, despite as many as 90% of transactions taking place online. Industry experts predict that 33% of Millennials won't need a bank at all in the near future.

The 2017 Global Digital IQ Survey by PwC showed that banks will be investing in AR in three years and customer experience will be an additional goal. With a high demand for a more intuitive customer experience in digital banking, there will

be a widespread use of VR and AR in the future, augmented, virtual and mixed reality are expected to be the trend for the internet of things (IoT) ecosystem. Conventional branches will no longer be required when all the services could be accessed from home.

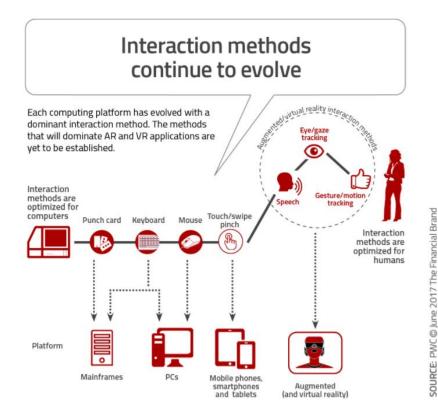
Kony, an enterprise applications developer based in Austin, is working with finnaical institutions to introduce its AR banking features, called Branch View.

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Source: Next Reality

The app can personalize the AR experience for customers with showing personally relevant and contextual information like portfolio information and special rates to specific customers. The platform covers everything from the typical digital tools for retail and business banking to new technologies. key points of interest highlighted and personalized messages displayed on the walls.



According to an article from IT
ProPortal<sup>4</sup>, the Commonwealth Bank of
Australia and Halifax in the UK offer
'home finder' apps which use AR
technology to enable users to view and
pull up data on houses for sale as they
pass them. Financial software vendor,
Misys, developed a proof of concept
augmented reality enabled personal
financial management app. Royal Bank
of Canada also introduces the AR
branch and ATM locator which Chinese
customers could use banking AR apps
to receive coupons for stores nearby.

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Banks could also offer customes a face-to-face discussion through a virtual bank. With VR enabled smartphones or devices such as Oculus Rift, a virtual bank could be created with a high level of interaction. Customers could meet with a virtual bank representative and discuss products or services which would also be available in a physical branch. With the use of AR/VR-based augmented channels, the friction of visting the branch for in-person interactions can be be significantly reduced.

BNP Paribas released a VR-based retail banking app in June 2017. The app enables users to access their bank transaction records as well as move through the various steps of a real estate purchase in Virtual Reality mode.





Source: The BNP Paribas 360 ° 2017 Corporate Film

In addition to the mobile app, a 'teleportation' capsule called the POD was developed, allowing prospective purchasers to port themselves inside a new apartment or building under construction or for sale and view it in 3D and 360°.



Source: Citi's Holoens Trading Concept

All current banking AR applications are based on smartphones. When this technology is applying with products like the Microsoft Holoens, a more immersive experience could be offered to the users. The bank representative would able to use Holoens to make notes on documents for the customer, which overcome the shortcoming of video banking. For instance, Citibank use Microsoft's HoloLens headset to create Holographic Workstations for traders which allow

the traders to visaulise and make decisions collaboratively with customers. With AR/VR, information can be displayed in 3 dimensions and traders could interact with the information in a futuristic manner.

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# **CONCLUSION**

Advances in technology continued to offer new avenues for banking. Video banking or digital banking will be a common way for banking customers to engage with bank representatives to participate in a broad variety of transactions. The accelerated adoption of digital technologies among consumers reshaped the banking industry. Multichannel offerings become increasingly important to business models. Innovation and customer-centric banking must also be incorporated into the model. Digital banking is undoubtedly the future of banking. However, the dynamic economic environment and tough regulation threaten the pace of transformation. By just offering mobile and online banking services will not give banks the differentiation they need to retain customes. Along with the adoption of new technogies, banks also need to create an immersive relationship or personal relationship with customers and develop continuous daily customer interaction.

# **Endnotes**

<sup>1</sup> THE STRAITSTIMES, "DBS/POSB launches nine video teller machines for round-the-clock service to customers" 25 April 2017,

http://www.straitstimes.com/business/dbsposb-launches-nine-video-teller-machines-for-round-the-clock-serviceto-customers

<sup>2</sup> MOBILE BANKING USERS TO REACH 2 BILLION BY 2020, REPRESENTING MORE THAN 1 IN 3 OF GLOBAL ADULT **POPULATION** 

https://www.juniperresearch.com/press/press-releases/mobile-banking-users-to-reach-2-billion-by-2020

<sup>3</sup> IndusInd Bank rolls out video conference service for customers, http://www.thehindubusinessline.com/companies/indusind-bank-rolls-out-video-conference-service-forcustomers/article6075200.ece

<sup>4</sup> Augmented reality in financial services, April 11, 2017, https://www.itproportal.com/features/augmented-reality-in-financial-services/

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