

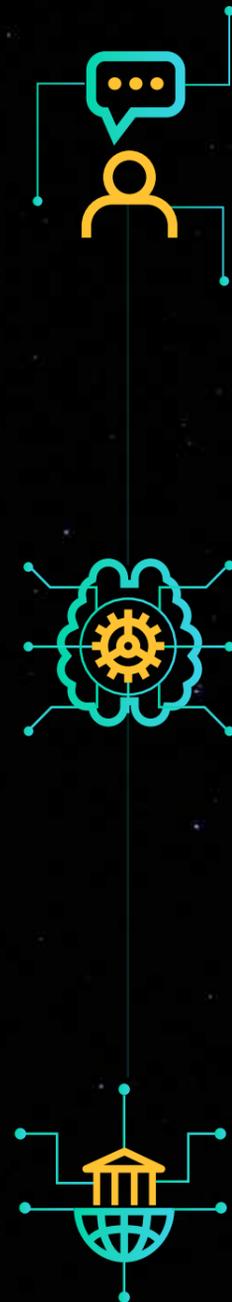


Whitepaper | Banking bots

# Conversational Banking: Are you ready to Harness its Power?



# The Era of Conversational AI is Dawning



Recently, one of the world's oldest and traditional banks implemented an artificially intelligent bot to streamline its customer support operations and address frequent queries on a real-time basis. The bank was able to streamline its customer and employee service operations. This event marked the beginning of the modern AI revolution in the skeptical banking and financial services industry as banks realized the potential cost saving and ROI benefits of conversational technologies.

**By 2020, consumers will need banking services, but they may not turn to a bank to get them. Or, at least, maybe not what we think of as a bank today.**

- PWC, Fstech2020

From retail banking to wealth management, nearly every banking and financial services related activity is being re-imagined by AI, some of which have attracted large amounts of interest and investment. Many banks are at the forefront of moving beyond their traditional transactional relationship with customers and embracing new standards of providing highly personalized and integrated customer experience powered by optimized operations. Financial institutions

across the world are already using artificial intelligence (AI) to experiment with service that is far more personalised. Many banks in the United States are piloting AI-based client advisors, where the AI engine is primed with the entire product manual, past call history, policy and procedures guidelines, and more,

Despite the spotted past with self-help software, perhaps this time it will be different thanks to advances in machine learning. It's an exciting time for technology because banks are actually testing new technology for customers.

-Garner Research,2017

to provide context based service to their customers. A host of factors are ushering in a new era for banks to adopt conversational AI technology through chatbots. The evolution natural language processing platforms(NLP) signals a shift to 'conversational commerce' where chatbots have the potential to impact customer support, customer experience and banking operations. Conversational banking facilitates two-way interaction that allow banks to establish conversations with their users while providing consistent experience across multiple digital touchpoints. Today, as the cognitive technologies continue to evolve and create more useful conversational interfaces, the time is ideal for banking and financial services industry to size up and put this technology to work.

# A Proliferation of Banking & Financial Services Use Cases



Recently, major banks & financial institutions such as Bank of America, MasterCard, Wells Fargo and American Express launched chatbots, with an aim of optimizing customer service, improving customer experience, and streamlining internal operations. Banks that leverage conversational AI can benefit in a number of ways.

## Payments, Location, and Persistent Identity with Personalized Financial Assistance

Banks can adopt conversational banking to answer common queries in real-time in the form of a digitized personal financial assistant. User registration, ATM branch locator, spend analysis and lost/stolen card cancellation are few of the many requests that can be serviced by such personal advisor chatbots. For example: Capital One launched a text-enabled chatbots that help customers manage their money using their smartphones. Through this chatbot, customers can interact and gain information about their account balance, recent transactions, payment, spend analysis and credit limit. Similarly, French bank Societe Generale developed a bot to answer common customer queries about equity funds for its Romanian banking unit.

## A Gateway to Improve Customer Engagement and Retention Rates

Chatbots make it easy and convenient for customers to access their data that translates into higher customer engagement and retention rate. Moreover, chatbots can also act as virtual sales agent as it can send push notifications about any personalized home loan or new credit card offers or assist customers with their insurance quotes.

The American Express (AmEx) bot lets AmEx customers access their account through Facebook messenger. The AmEx bot is programmed to provide customers real-time purchase notifications, reminders of credit card payments, contextual recommendations and more. AmEx also allows customers to link their credit card to their Facebook account to enable in-app purchases. Similarly, Barclays Africa launched a chatbot -Absa that allows customers to bank within their preferred social media apps.

## Commonalities across banking use cases for Conversational AI

- Tedious, repetitive and time-consuming tasks
- Critical and real-time decision making in a complex and fast changing situation
- Instruction and manual driven user interface
- Tasks that exceed human capabilities

## Gain Automated Analysis and Recommendations on a Real-time Basis

**33,000**  
consumers

**18**  
countries

A recent Accenture survey of 33,000 consumers across 18 countries indicated that more than 70 percent would be willing to receive computer-generated banking advice.

Due to the advantage of having bots as an advisor that can crunch more numbers than any human advisor, chatbots help customers or bank employees to make better financial decisions. This unique capability allows customers or employees to converse with the bots, ask analytical questions and receive relevant recommendations.

Erica, the new bot from Bank of America, can take inputs via text or voice, and send appropriate analytical responses and recommendations on personal spend, investment opportunities and more. She is intended to 'get smarter' with more data that 'she' collects.

Wells Fargo too introduced a robot-advisory tech and wealth management chatbot to help their customers make informed wealth management decisions.

## React instantaneously to network related anomalies and fraudulent attempts

AI tools can monitor patterns and identify

anomalies or fraud attempts. This feature is implemented in most modern chatbots where a banking bot can be programmed to detect and alert warning signs of fraudulent activities in real-time. The bot reacts instantaneously giving customers an option to verify suspicious activities, and if needed bot can send a step-by-step fraud resolution instruction guide.

## Increase operational excellence by streamlining customer support and back-office operations

Conversational AI makes it easy to automate customer support and employee operations through digital conversations.

**60 -70%**  
Cost Cuts

By automating tasks, banks can cut down inbound calls, resources in branch offices and transaction costs by nearly 60 -70%.

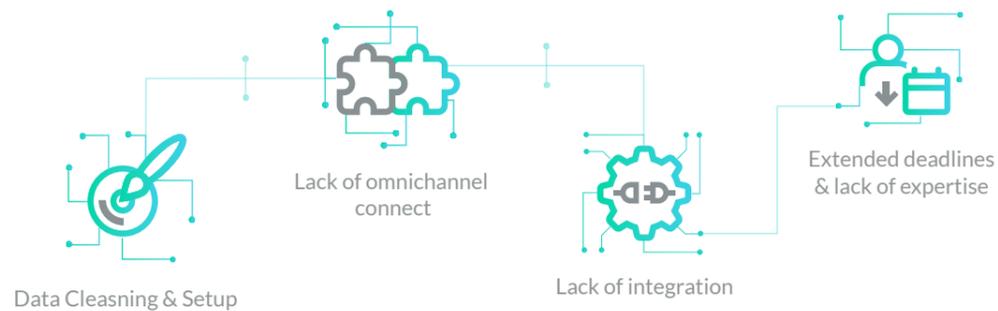
Instead of offering customers a virtual agent, JP Morgan Chase is using bots to streamline its back-office operations. The largest US bank recently launched COIN, a bot that analyses complex legal contracts faster and more efficiently than human lawyers. Ever since its launch, the bot has helped JPMorgan save over 360,000 hours of manpower. Similarly, SEB has released a bot that assists employees with internal IT support issues. There is no doubt that banks need to embrace conversational AI to cope with the digital demands of the future. However, this move

requires not just heavy investment but also a deep understanding of the technology and the security risks involved in implementing the same.

## Practical applications of chatbots for banks and financial institutions



# Considerations For Rolling Out Conversational AI in your Financial Institution



Although chatbots have huge potential, it introduces new kinds of risk. These risks raise some important questions on the business workflows and processes adopted to build bots.

For instance some questions revolve around the decisions that address at what instant would the decision making be transferred to a support executive, at what points should there be spot checks on decision making, how can few customer facing bank bots be iteratively tested.

If some of these critical risks are not addressed, without proper rules, there is lurking danger as systems can quickly spiral out of control. Therefore, it's critical to have a clear understanding on how businesses can strike the right balance between the risks and rewards that come with implementing chatbots.



## Early stage data blues

To provide better customer experiences and to make human effort more efficient—systems need to understand what the users are trying to do. The main challenge with traditional bot engines is that each engine is not universally applicable for all enterprise use cases. Often customers are faced many challenges while gathering the data to train the bot engines. Either

- a: There's not enough structured data that captures so many variations for the bot to be trained
- b: There's not enough structured data that captures so many variations for the bot to be trained

## Siloed information and scalability challenges

Enterprise banking systems are highly complex and at most times not user-friendly. As most of the information on these systems are siloed with no proper integrations in place, chatbots cannot instantly access data to pull up information on a real-time basis. Also, the bot platform is not robust enough to incorporate a wide variety of morphological, syntactic, semantic, and stochastic models for enterprise use cases. Enterprise chatbots require authentication on the information

exchanged, as well as increased levels of security commitments. Much of the concern around chatbot security in banks and financial services revolves around ensuring compliance with industry regulations. The obvious question that businesses may need to address is whether your bot platform integrated and robust enough to scale across your enterprise and will it preserve your PCI, PII security compliance requirements.

## Delivering upon the omni channel expectations

Only <b>17%</b> Confidence	Recent PWC research indicates that only 17% of financial institutions feel "very prepared" for a move towards customer-centric, omni channel business models.
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Delivering on the omnichannel promise for several banks has proven to be a continuous challenge. Most banks might need to ask if

**"Bots can go as far as enabling transactions, handling payments, ensuring delivery and providing customer service. Perhaps the key aspect of conversational commerce, however, is that it allows users to converse in their platform of choice, and therefore takes channel transparency to the next level."**

-Garner Research, 2017

they want to build a bot for each channel? For instance, Capital One introduced Alexa Skills and Facebook bot separately, leading to additional costs and effort to maintain these bots. Is your team ready to maintain bots with all its platform upgrades? If you plan to go omnichannel, then handling security standards across different channels -web, mobile and between social media channels (Facebook, Twitter) is a concern that you would need to address immediately.

### Time to market woes

In most cases, we have observed that it's easy to build chatbots as a prototype, but most bot platforms are incapable to scale and incorporate a diverse mix of enterprise use cases. Many platforms are incapable of adopting shared learning models as learnings from one use case cannot be applied to other

9  
Months

Moreover, most enterprises take at least 9 months to a year to define the required data and setup the bot.

related use cases. Most platforms also lack capabilities to identify unhandled queries or smart models to update relevant data modules. By this time, competitors would have already added new set of use cases and the market would have upgraded to a better version. As artificial intelligence and chatbots become a part of daily life, the above set of impeding factors will need to be addressed, one block at a time.



### Conversational AI is a key game changer !

The possibilities for conversational AI in banking is above and beyond. As we've seen, conversational AI can help streamline banking operations – by reducing costs, improving efficiency and, ultimately, improving the banking experience for both customers and employees alike. Well, this is just the start. Although entering the chatbots market is fairly easy, understanding the challenges of banking operations and deploying the right workflow models is a key factor that would put few banks ahead of the rest.



When done right, conversational AI can be a unique differentiator that delivers great value and enhanced experience. For those who are not ready to take the plunge or those who continue to play the waiting game, apart from the danger of being left behind, the opportunity costs of not deploying the chatbots at the right time may prove to be very expensive on the long run.

### About Avaamo

Avaamo is a deep learning enterprise software company specializing in conversational interfaces to solve specific, high impact problems in the enterprise. Avaamo is building fundamental AI technology across a broad area of neural networks, speech synthesis and deep learning to make conversational computing for the enterprise a reality. Avaamo proprietary artificial intelligence algorithms coupled with Deep Domain ML models can learn and perform multi turn conversations and execute judgement intensive tasks just like humans. With offices in Bangalore and Los Altos, Avaamo has a world-class engineering team with over 100+ years combined experience in enterprise software. Avaamo platform is currently deployed globally across a diverse set of Financial institutions, Banks, Utilities and Telcos.

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