Using Chat Bots in the Banking Industry

12 Opportunities and Challenges for 2017
“Over time, the computer itself — whatever its form factor — will be an intelligent assistant helping you through your day. We will move from mobile first to an AI first world.” Sundar Pichai, CEO, Google

I wake up in the morning to the sound of my favorite music. As I get out of bed I ask Alexa what time it is, what’s on the news and what the weather will be like. I walk lazily towards the bathroom. I have speakers installed in the shower and they start airing Amy Goodman’s “Democracy Now” morning show. I ask about my stocks and how they’re performing this morning.

Back in 2013, when the movie “Her” by Spike Jonze was released in theaters, this all sounded like a fantasy. Today, with the help of Amazon’s Echo, Google calendar integration, Slack, Siri and the like – this is all possible. Touchless, voice activated, accurate.

Have you wondered how this is all possible?
And how far we can get using automated intelligent computer operating systems that can simplify our lives and make things easier and more convenient?
The answer is bots.
They come in a wide variety of shapes and forms. Some are incredibly simple in their design. Others are very complex and may even surprise the most technically savvy with their efficiency and ability to solve our problems without ever interacting with another person. Without ever WAITING for an answer.

There are many industries where chat bots would go a long way towards reducing customer pain points. We haven’t even scratched the surface yet for most use cases.

In today’s post, we are going to take one industry and show you exactly how amazing, powerful and useful bots can be: the banking industry.

A conservative field, which has only recently started to take advantage of tech innovations, the banking world is a prime example of where technology can solve many of our problems as customers – where the use of chat bots can reduce friction points while improving the operational efficiency and reduce the cost to serve for the banks that service our financial needs. Are you as excited as we are about this?

Let’s begin.
What are chat bots, and why does the financial industry need them (desperately!)

Bots operate based on “if this, then that” underlying logic. For example: if a bank decides to enable balance notifications for their users, a chat bot can be set up so that when a customer asks “balance,” they get an answer with the exact amount of money currently available in their account.

Chat bots are software products leveraging natural language processing to interpret and respond to specific text and voice commands (questions). Bots operate on a very simple premise: they are set up to recognize key pieces of information a user shares through texts and voice and then provide an answer if one is set up

Chat bot technology is a great opportunity for banks to help customers save time and get their financial questions answered quickly. But it’s more than just that.

The banking sector as a whole is currently at an all-time low in terms of brand perception and customers’ trust in them.

Its why some 6,000 fintech companies, powered by $20B in capital funding, are emerging in this space and disrupting it.

For all the gradual changes throughout history, not until recently have there been any significant improvements in how we manage, monitor and use our money.

New fintech companies are emerging virtually overnight (some operating 90% or more on chat bot technologies only) and releasing financial products that are easier to use, more customer friendly and more convenient overall than legacy banking products.
And it’s not just a question of having access to and using new products that is threatening the bottom line of traditional banks and financial institutions.

We’ve seen more volatility recently, especially after the 2008 financial meltdown, which had profound economic implications for banks, but also on how much financial risk consumers were willing to take on when buying a new house, car or other high-ticket items. Because consumers started buying less of everything, banks were forced to become more competitive in offering “never before seen” interest rates for credit cards, personal loans, mortgages and everything in between.

In short, profit margins for banking companies have declined significantly over the last decade.

In return, banks have attempted to compensate for this reality by trying to improve the overall internal operational efficiency and reduce the cost to serve customers in an effort to maintain profitability even at reduced interest rates.

This is exactly where bot technologies come into play by offering an automated, easy-to-use, launch-and-maintain system that promises to reduce customer care call volumes and increase satisfaction while also potentially help change customers’ opinion of banks.

With 4 billion dollars invested in chat bots so far, it is only a matter of when, not if, banks will embrace chat bot technologies.
Biggest business benefits for chat bots
1. Chat bots as the new, 24/7 face of customer service

This is the obvious, primary use case for chat bots. Customers call banks for a variety of reasons, many of which can be automated and do not necessarily need call center reps to engage with end users by phone. The first step towards this has been the adoption of interactive voice response technologies, but this still requires people to call a toll number. Chat bots can take this to the next level without the hassle of calling in.

For everyone concerned about security and data integrity, we want to highlight that the same verification protocols used to verify someone’s identity through a call center can be leveraged electronically.

I was recently traveling abroad and had the displeasure of having to deal with my bank through the call center, something which could have been fully automated through chat bots – and could have provided a much better experience for me, as a customer.

Just before leaving Chicago I called my bank and told them I would be traveling abroad. It took about 5 minutes to get to a customer representative and tell him where I was going. The next day, I traveled internationally and when I reached my destination I attempted to withdraw money at an ATM. The ATM refused to allow me to withdraw money and my account was blocked due to fraud concerns. The bank then called me at a time where I couldn’t pick up because of the time zone difference and left 3 voicemails which I couldn’t listen to. After looking up the number online and realizing who was calling, I returned the call and had to deal with another rep for 20 minutes until the mess was sorted out.
2. Chat bots can help automate fraud prevention processes

To a large extent, banks’ unwillingness to adopt new customer-friendly initiatives stems out of executives’ inability to reimagine internal processes and optimize them in a way that handles both security risks and customer needs at the same time.

Fraud prevention is a critical component of any bank’s operational strategy. When fraud happens, both banks and consumers lose. And the numbers look grim: in 2014, 31.8 million US consumers had their credit card breached (out of 242 million adults in the country – 13% of the entire adult US population!).

These numbers, of course, drive the overall reluctance on behalf of banks when it comes to new technologies – chat bots included. In addition, banks must follow very strict and stringent identity protection and multi-step validation rules as they are one of the most regulated industries in the US (which also makes the adoption of new technologies more difficult to initiate).

Yet chat bots are an excellent method for dealing with fraud prevention. For example, I receive an automated notification from American Express every time my card is swiped anywhere. And I love it! It is something that, as a consumer, I have come to always glance at when I hear the notification but it is also something I have learned to expect. And it has happened before where I didn’t recognize a charge and, as a result of the notification, I had to call the bank, contest the charge and receive a new card in the mail.

A charge notification is just one simple way chat bots can be leveraged by fraud departments as a foundational strategy for reaching out to customers.
3. Bots can push relevant content to end users and test user engagement

It is in this context where chat bots can become a competitive tool. They can not only push relevant information to a specific user to drive engagement with the brand, but also to test the interest level in specific products.

In this day and age, most banks offer a wide variety of products and services – credit cards, savings accounts, debit cards, financial planning, personal loans, mortgages etc. Yet many customers are not always aware of all the products offered by the financial company they’re doing business with. In addition, users often use many different financial options depending on how effective various banks were at providing incentives during the time a customer had a specific need. As such it is not uncommon for one customer to have 5 different credit cards, a student loan, mortgage, personal loan, savings accounts, investment portfolios – all with different banks.

Bots can introduce users to the benefits of using new banking services and even gather competitive information from them. At the same time, because users know they are dealing with an automated system and not a real person, customers can ask the bot to stop asking questions like they do with any unsolicited text messages – by simply texting “stop” back.

In short, companies can solicit feedback and promote products via automated bots. Provided that these attempts to engage with customers through automated systems are not so frequent as to annoy the end user, they can serve as an excellent data-gathering tool while reminding existing customers of their financial products’ benefits and/or presenting other products.
4. Bots can lead a company’s personalization strategy and generate incremental revenue

Banks have traditionally done very little in the field of personalization despite the reality that they have the necessary rough data to do an excellent job at it.

Personalization refers to the overall digital strategy that leverages key data points about a customer to present relevant offers, products and services to a target audience, when customers need or want to engage in a new purchase.

Sometimes, even if the customer does not specifically need to buy a new product or service, a perfectly executed personalization strategy could lead to “compulsive buying.”

Think about it: your primary bank knows how often you use your card, in what product categories, how much income you’re getting and when/where/how you spend your money. It also knows how often you’re paying credit card bills and in what amount. All this information is currently going to waste because most banks do not execute strategies that would offer users personalized tools, promotions and opportunities.

The use cases in which financial institutions could leverage existing customer data sets are endless.
Bots’ role in operational efficiency & analytics
1. Chat bots & automated data gathering (and improvements)

Chat bots are excellent data analytics tools. Because they operate by serving customers with answers based on specific needs and keywords, they can give a bird's-eye view of the customers' current needs and biggest pain points. And more importantly, chat bots operate independently of the operating system (iOS vs Android) or channel (mobile/desktop), allowing for maximum flexibility once deployed.

What bank executive wouldn't want to know the most common reasons why customers call the hotline and whether they get a satisfactory resolution to their problem? Or how well specific promotions work? Or if current customers know about existing or newly launched banking services?

More importantly, customers will only reach out to a bank or financial institution if they have specific issues they need to deal with. That is because virtually no user wants to waste time waiting on a phone call to reach out a customer service representative to resolve their issue.

Automating most common bank-related tasks would allow customers to get a quicker answer to frequent questions. It would also gather valuable information, which can then feed into a central database to produce real-time, insightful and actionable reports on which executives can act to improve services and customer satisfaction.

Lastly, the same data sets collected can be leveraged to expand chat bots' overall abilities, tweak or add new answers to the database.

Chat bots represent the new age of user analytics done right!
2. Chat bots ensure brand consistency

Chat bots are an excellent tool to ensure brand consistency, tone, message and communication strategies between an end user and a financial institution. When leveraging call center representatives, one can always expect variations in customer service from one call to another.

People working as customer care representatives for a bank can produce different levels of service from one rep to another due to a wide variety of factors: fatigue, interest, personal situation, knowledge of a topic, attention to detail, etc.

The chat bot is obviously not impacted by any of these factors. As long as the system is smart enough (read: configured enough!) to give answers to specific questions, the tone and the message is the same for all customers at all times.
3. Chat bots = zero turnover

This one is self-explanatory. Customer service jobs – onshore and offshore – have traditionally been low paying jobs showing high turnover rates. In addition, studies show that the cost of replacing an employee is about 50-60% of an employee’s annual salary but can reach 90-200% when accounting for training, interviewing, job errors, the recruiter’s salary and other factors.

All these costs – and risks! – are fully eliminated when using chat bots. Obviously, chat bots will require their own maintenance and professional monitoring and reporting on the usage of this technology, but the underlying costs tied to employee turnover will be significantly reduced with the introduction of chat bots.
4. Chat bots mean no peak times or extra staffing projections for the holidays

Who among us hasn’t called a company only to be told that we have to wait for 30 minutes before reaching an operator? It is the ultimate customer insult to make them wait when contacting a company because something is wrong to begin with.

Customers have to wait, of course, because internal and external factors often impact demand for the call center in unexpected ways.

For example, a software release may make the bank’s website unavailable, thereby routing traffic to the call center. Or a security breach could have impacted millions of customers who are trying to get in touch with a bank and cancel their cards (as it happened after the Target breach in 2014).

No matter the reason behind a certain spike in customer needs, a chat bot program can easily scale up and respond to incoming requests, versus a call center that is overwhelmed, leading to endless wait times for the customer.

In addition, chat bots can proactively disseminate timely information to a bank’s audience if a certain event is causing users to suddenly connect with their bank.

It’s simple: from an operational point of view, chat bot management requires minuscule effort, especially to fulfill customer service requirements that might be driven by unplanned events or planned events (system maintenance downtime).
Chat bot challenges and limitations
1. Not getting the right answer

The obvious biggest problem with a chat bot is that it can only provide answers to questions that have been clearly predefined (it’s a computer after all, not a human being).

When talking about chat bots, problems like spelling, not using exact words that the chat bot expects to receive or inability of chat bots to parse sentences for specific keywords required to return an answer are just a handful of issues that would cause a bot to return an error. (e.g., “Sorry, I don’t have the answer to your question.”)

The solution to this problem is surprisingly simple. Until the chat bot reaches maturity for a specific business, executives should have dedicated resources that constantly define new rules and answers based on incoming traffic. Of course, the downside is that the original users will be turned off by the lack of an answer to a question they have, but the business can improve the chat bots over time – and they absolutely should! Capturing the right analytics around what customers are asking chat bots and the response provided by bots in return is key to the overall success of any chat bot deployment.

It takes very little effort to add custom rules to a chat bot when the system has been set up. Of course, business executives can also ensure, via rigorous testing, that the majority of the common issues customers have are addressed and accounted for before the feature is launched.
2. Not interpreting the question correctly – context awareness

Oftentimes, how a question is asked impacts whether the chat bot provides the right answer or not.

We see it all the time with Amazon’s Echo. Let’s take the example of the Translator skill, which can be installed on Echo. Alexa can give an answer if you say “Alexa, ask Translator to say ‘love’ in Chinese.” But you ask “Alexa, how do you say ‘love’ in Chinese?” the bot cannot give the answer. That is because the particular bot behind the skills is not configured for the variations of this question and as such it cannot help with the correct answer.

Another example would be for a user to try to ask a chat bot two separate queries. With the Alexa Capital One skill I cannot ask for my balance and latest transactions in the same sentence/command because its bot is not configured to produce more than one answer at a time.

In addition, most bots cannot interpret day-to-day language variations. Say for example that I want to know my statement balance for September. As a customer, I may think of it as “last month’s balance” or “balance for the month of September.” If the bot isn’t configured to interpret both options as being the same command, it will disappoint the user by not being able to answer the question.

Of course, the solution is identical to the issue of not giving the right answer to customer questions. Companies must take the time and dedicate the necessary resources to optimize questions and answers based on customer input, and better refine how a bot responds to people’s questions.
This isn’t really a chat bot problem as much as it is a problem related to how companies choose to leverage the technology. A bot is as much a solution to a business problem – cutting down on customer support resources – as it is a customer-facing technology. Taking the time to personalize the voice, messaging and tone of the chat bot is important. So is defining a way that gives concise, plain and friendly answers to the end users’ questions and comments.

Banks in particular are known for using various ‘legal’ verbiage, which might be verbose and impersonal, when sharing information with customers.

Finding the right balance between business needs and a conversational tone is of paramount importance to implementing a successful chat bot strategy.
4. Chat bots are not fully equipped to deal with “real life” scenarios

In a provocative article, Rebecca Greenfield, writing for Bloomberg.com, calls bots the “newest, dumbest co-workers”. The argument is that bots are very simple in their nature, have a limited scope and can be very repetitive.

All valid arguments. The reality is that bots are only equipped to answer specific questions that other humans have thought about. Their intelligence is very limited in scope and breadth unless it’s constantly updated. In a way, bots are judged for the lack of foresight their creators and business owners exhibit. And that’s the unjust reality.

What about machine-learning bots that can adapt to the needs of customers? So far, social experiments about letting bots “learn” from users have ended up in failure, with Microsoft’s Tay chat bot being the most famous example of bots going rogue. Tay was an experiment in artificial intelligence launched by Microsoft and catered towards young people. It was supposed to mimic conversations by learning about topics users care about and like.

The day it was launched, Tay fell victim to online trolling. As users started tweeting racist, sexist and xenophobic messages at Tay, the bot started responding in kind, tweeting obscenities of its own. Microsoft had to immediately take down the bot and the designated Twitter account.

At the end of the day, the truth is that chat bots are really not equipped to handle real-life scenarios. In their current state, they’re nothing more than an object of convenience to address specific customer needs. Like Overstock’s Mila chat bot that can fill up schedules and replace workers when users tell it they won’t come in today, or Slacks’ bot that can handle scheduling tasks and give answers to specific questions, most bots are not designed to fully replace humans.
Digit.co: an excellent chat bot showing what bots can do when implemented well

There are a handful of chat bots already deployed in the banking industry. The Royal Bank of Scotland launched a chat bot named “Luvo,” able to help customers with issues like lost credit and debit cards or locked PINs. Singapore’s DBS bank has announced a chat bot that can allow its users to get their balance, see previous transactions and even make bill payments, all inside a chat window.

Perhaps the most widely known product in the financial space that operates primarily based on chat bots is Digit. The company promises to help users “save money without thinking about it.” A user starts by connecting their primary bank account with Digit. The company’s proprietary software then decides how much money to withdraw from the customer’s primary account and transfer it to an FDIC insured savings account. Typical withdrawals range between 5 dollars and 50 dollars, every 2-3 days. The money is kept in a savings account that the user can access.

Every morning, Digit sends regular text messages informing customers on how much money they’ve saved and their previous three transactions made with the primary account. The bot also provides the overall account balance for the funding source and sometimes includes some hilarious GIFs in the text message.

Users can withdraw money by “chatting” with the bot and sending the command “withdraw.” Digit allows users to check the savings balance, view their checking balance, save more money per month, pause savings or save for specific goals with clear deadlines associated with it.
The entire system works flawlessly because most of the commands already supported by Digit cover the majority of the use cases a customer would need access to. Whereas there are some fringe use cases the platform doesn’t account for (like how to stop saving for a specific goal or delete a savings goal), the majority of the things a normal user would expect from this type of service are covered. The overall tone of the chat bot is conversational and to the point.

This is an excellent example of how a company spent the necessary time and resources to create a chat bot-driven product that accounts for the vast majority of possible scenarios. Executives looking to deploy chat bot technologies should really look to Digit to see how chat bots can successfully complete various tasks.
So is this the future of chat bots?
The future of chat bots – as well as their many different applications – is certainly open and, to some extent, unknown. But at the end of the day, there is one simple reality: chat bots are reshaping and reimagining how companies and individuals interact with each other, as well as how data is collected and communicated between parties.

As we have seen in this article, chat bots represent an incredibly powerful technology that can be leveraged within the banking industry to both increase customer satisfaction and decrease the cost to serve for bank users across the board.

In this article, we covered various reasons why chat bots should be implemented by banking executives:
WHY BANKS SHOULD IMPLEMENT CHAT BOTS

Chat bots are the new 24/7 customer service tool that can operate without any human interference once they’re set up.

Chat bots can help automate fraud prevention processes and collect critical information from potentially impacted bank users.

Bots can push relevant content to end users and test user engagement.

Bots can lead a company’s personalization strategy and generate incremental revenue.

Bots can ensure brand consistency – one voice, one message, one tone for every customer.

Bots can run smoothly during both low volume times and peak times, which means that the response rate and times will remain always consistent, allowing for a great user experience.
In addition, we have also discussed some of the current challenges and limitations with chat bot technologies. In particular, chat bots are not able to give the right answer unless questions are asked exactly how the chat bot was set up to interpret a user input. Oftentimes, chat bots do not interpret the question correctly, and they are not known to be able to interpret multiple questions asked at one.

Despite these limitations, as we saw from the Digit case study, companies can, even today, fully automate user experiences and user flows and provide real value to their customers.

The time has come to embrace chat bot technologies. History has shown a constant shift in how companies and individuals interact with each other to maximize efficiency and to allow for a convenient two-way communication. Only fifty years ago, most communication was happening in person with sales reps and customers meeting face to face. For most of the last forty years, the primary medium to interact with companies has been via phone calls (read: call centers). In the past ten years, online support, knowledge base, forums, Q&A sections, and online chat options have become very popular mediums for company-customer communications.

Chat bots are the natural evolution to a more instant, useful and efficient solution for communicating with customers at scale. Companies adopting chat bots are guaranteed to increase both customer satisfaction and reduce the cost to serve: a win-win situation all banking executives should adopt and take advantage of.