CHATBOTS IN BANKING INDUSTRY: A CASE STUDY

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Abstract: Conversational Banking is a smarter way to retain the loyal customers by offering them a quick response to their queries. Technology has helped humans to evolve from the Stone Age to the modern digital era. The pace of the shift in consumerism behavior from a service seeker to a game-changer is quite quick. Gone are the days, when a business could afford to prioritize the customers' needs at a later stage. With the customer becoming the ultimate decision-maker for a business to stay or go, it had become the priority of every business to ensure that customer satisfaction is achieved at any extent.

Speaking about the banking sector, technology has gifted many exclusive ways to allow the industry to gain customer's satisfaction to the maximum. One such smart strategy is to introduce the chatbots to its customers. Chatbots designed with AI are one of the most promising strategies of a banking business that can lead the bank to win the satisfaction vote of their loyal customers.

Key Words: Artificial Intelligence, semantic variations, Interactive voice response.

Objectives of the Article:

➢ Ushering details of progress made by chatbots in Indian banking**.**

➢ Conducting a case study of HDFC and Kotak Mahindra Bank regarding the Chatbots usage.

➢ Making an insight into the views of various banks regarding the use of AI based techniques.

In today's day and age, it's our bankers, more than anyone else, who have taken Socrates' advice seriously. Banks have been the early adopters of most new technology that has ever seen widespread commercial success.

So when Artificial Intelligence started making the rounds, it was only a matter of time before banks turned to AI for smarter automation solutions to meet the ever-growing expectations of customers!

The Indian banking industry has evolve, gone are the days when one used to stand in the queue for hours (after taking a half day leave at work) to get their bank work done. Today, all of it is done through a tap on their phone, thanks to technology!

Technology implementation in banking has helped Indian banks cross many barriers, reach out to more people and all of this, while saving time. Customer service has occupied a major part of the technology overhaul. Banks are looking at various ways to make it easy for the customers to reach out to them, often even while sitting at home.

The next big thing in customer service in banking is the use of artificial intelligence to create chatbots for easy user experience.

In the hype cycle, chatbots have seen a lot of interest and have been implemented over the years. Chatbots are AI enabled conversational interfaces. Bots can conduct smart and compelling conversations on behalf of the bank

with millions of consumers, at a fraction of the cost. They promise to enhance the experience of banking customers and their approachability.

More and more banking organizations are leveraging artificial intelligence to launch chatbot solutions, reducing costs and serving increasingly tech-savvy consumers. In many instances, chatbots are developed to facilitate two-way communication, replacing channels such as phone, email or text. The objective is to provide quick service and transactional support.

Most basic tasks such as balance inquiry, bank account details, loan queries etc. can be handled by a bot efficiently, allowing customer service representatives time for complex issues … leading to a more positive banking experience. Over time, artificial intelligence (AI) and new digital technologies will provide the banking industry with expanded forms of engagement, potentially moving beyond bots to digital voice interactions.

It is projected that chatbots will save banks billions of dollars in the coming decade. According to a report released by juniper, chatbots will be responsible for over $8 billion annual cost savings by 2022. According to Gartner, by 2020 chatbots will be handling no less than 85% of all customer service interactions.[1]

Utility of Chatbots

The channels the banking customer uses and the path they take to conduct banking is more complex than ever. It is no longer possible to chart a single customer journey. Consumers use online and offline channels, and expect a personalized experience from their financial institution at all steps of their journey.

Financial institutions must engage with their customers and members in the right way, and at the right place and time. A good integration of chatbots as part of the engagement process can provide consumers with quick and personalized interactions, using machine learning and artificial intelligence as a foundation. Although only 19% of consumers are currently using chatbots, 95% think they will make more use of chatbots in the coming years.

There are many reasons to use a chatbot for consumer engagement in banking.

1. Cost savings. Chatbots are relatively inexpensive to develop and maintain compared to the human equivalent. Chatbots require less coding than standalone banking apps, can be supported by an expanding array of channels and don't require expensive data storage thanks to chatbots' cloud-based systems.

2. Ease of use. Chatbots are more intuitive and easier to use than a traditional banking app. There is no download required and the experience can be personalized over time through machine learning.

3. Conversational interface Studies have already shown that people find phone calls tedious and slow as compared to instant chat. Customers are looking for speed and personalization when interacting with their financial institution. At the same time, they don't want the impersonal experience of email or online forms. Customer support chatbots offer a mix of both live conversation and speed.

4. Financial advice. Advanced banking chatbots provide access to all of a customer's data. It can track spending habits, provide credit scores, set and manage budgets and tell the consumer where they are spending their money. This allows for AI-based recommendations and advice for better money management.

5. 24/7 digital support. A 24/7 instant chat feature is expected by the increasingly digital 'always-on' consumer. This means that banks with chatbots built into their websites have a competitive advantage, and are likelier to attract and retain customers.

Bank chatbots from around the world

Here is a list of some chatbots used around the world by banks

1) Erica by Bank of America

2) AmEx Chatbot by American Express

3) EVA by HDFC

4) Keya by Kotak Mahindra Bank

5) Amy by HSBC bank

6) Ceba by Commonwealth Bank

Eva and Keya: Case Study

EVA: HDFC Bank's EVA (Electronic Virtual Assistant) is India's AI-powered banking assistant for HDFC's customers. It was built with the aim to help serve the customers better and faster. Helping with Branch addresses, IFSC codes, loan and interest rate information are a few of the things that EVA does. With EVA, customers can get quick access to the Bank's product details, fees and charges for various products, application processes, branch IFSC Codes, and a lot more information at a faster rate than talking to an agent.

The chatbot has been configured to handle queries on more than 7,500 FAQs, along with information on the bank's products and services.

It works not only on the website but can also be invoked via Google Assistant ("Ok Google, talk to HDFC Bank") and Amazon Alexi ("Alexa, open HDFC Bank").

These integrations of HDFC Bank's conversational AI into their website and popular digital tools enable customers to carry out a range of tasks efficiently without requiring human intervention.

Customers can ask EVA for information on their account balances, statements, credit card balance, and outstanding credit card payments. They can also use EVA for HDFC Bank "Billpay" services to make bill payments, recharge their prepaid connections, book bus tickets, etc. This is a value-add that is helping banks such as HDFC Bank compete against the pure payment app companies.

Eva is officially India's largest banking chatbot. HDFC Bank collaborated with Senseforth and launched EVA in March 2017 on their website www.hdfcbank.com. Since then EVA has interacted with over 530,000 unique users holding 1.2 million conversations and addressing their 2.7 million queries with swift ease.[2]

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As mentioned by Senseforth "Eva currently handles 50,000 plus semantic variations for thousands of banking related intents. Eva tracks and analyses everyday customer issues and gains a deeper understanding of their behavior patterns." [3]

Information which might generally take an average of 8-10 minutes to obtain is provided by Eva in a matter of seconds. This makes Eva faster than all other modes of interaction for various information related queries around cards, loans, accounts etc.

With an accuracy level of over 85% and uptime of 99.9%, EVA is making purposeful strides towards her ultimate goal of revolutionizing the customer interactions through conversational interfaces.

> ➢ **KEYA:** Kotak Mahindra Bank recently launched Keya. The chatbot combines the benefits of virtual and human assistance and provides a differentiated customer experience. Kotak believes that this technology will also enable them to derive real customer insights and thereby, identify new automation opportunities. Besides that, it is integrated with Kotak's phone-banking helpline, and therefore it has augmented the traditional interactive voice response (IVR) system.

Kotak Mahindra Bank released a statement, "Voice commands forms a significant share of search online. In addition, the nature of the call is changing with customers using voice as an escalation channel. Keya is an intelligent voicebot developed keeping in mind the customers' changing preference for voice over text. It is built on a technology that understands a customer's query and steers the conversation to provide a quick and relevant response."[4] The AI-enabled chatbot is a text+voice-based bot that can answer a range of queries related to bank accounts, debit & credit cards, fund transfers, home loan, personal loan and fixed deposits.

With the voicebot, customers can now complete simple transactions such as ordering a cheque book or paying bills through voice instructions. In the first phase, the focus was on making it easier for the customer to navigate the interactive voice response system. Instead of negotiating through six levels of validation to get the requisite answer, the customer could get a response after two levels and can be satisfied within 50-56 seconds.

In the pre-voicebot phase, only 2% of customers were concluding the request on their own and the rest were coming to the call officer to conclude their call. This has gone up to 13%. After moving to a conversational bot, the intent recognition has gone up to 1.2 million out of an average monthly volume of 1.7 million calls.[5]

Since its launch, Keya chatbot has handled over 3.5 million queries from over 1 million unique users with 93% accuracy. In addition to responding to a customer's query, the chatbot also provides actionable buttons that enable customers to complete the action associated with the query at that very instant.

Limitations of Chatbots

As with any digital innovation leveraging machine learning and artificial intelligence, the benefits and limitations of using chatbots are changing over time as more organizations develop use cases and continue expanding the functionality of the technology. At this time, some chatbots have limited functionality compared advanced chatbots being used inside and outside the banking industry.

The limitations below are general in nature without every chatbot having these limitations.

1. The dialogue capability can be limited to very a very specific set or format of questions that are established by the chatbot development team. This limitation is quickly diminishing as the technology is being tested and implemented.

2. Chatbots have significant limitations based on accents and languages. For organizations in multi-lingual regions, this limitation becomes a more significant barrier.

3. Chatbots cannot hold the conversation which means it cannot answer multiple question at the same time.

4. Not all consumers are familiar with or comfortable with chatbots because their limited understanding.

5. The expansion of chatbot capabilities is limited by the ability to hire trained teams or partner with organizations familiar with this rather new technology.

The way ahead for chatbots in banking!

From the inception of AI, chatbots have come a really long way owing to the advancements in computational power and huge chunks of open source data being available. Even the public sector banking units are preparing to move for the inception of chatbots.

In this series, Bank of Baroda affirms that chatbots are an important addition to the family of robotic process automation tools which provides value for the firm and they have deployed a chatbot to handle customer queries related to products. This leads to greater customer satisfaction, quick response and much lower cost.

Moving with the flow, DCB Bank, also looks at chatbots in banking today as a revolution and opines that chatbots and conversational banking are definitely the way forward. They will make banking easy and frictionless leading to the rise of open banking.

However in terms of technical capabilities, chatbots are still a WIP and will keep improving. Every customer has specific needs and banks are needed to make sure they pitch them in the same way. This can be done smartly via optimizing their marketing plans on these chatbots.

To wrap up this article, the other side of the coin, of course the customers also seems to be pretty well going with the AI based innovations and are making the best out of it. Definitely the future will be the AI era.

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