

IBM Team - Batch10

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Domain Name:	Banking and Finance
Use case Name:	AI based discourse for Banking Industry

Paper 1

Authors: K. Satheesh Kumar, S. Tamil Selvan, B. Ibrahim Sha, S. Harish.

Year: 2018

Title: Conversation to Automation in Banking through Chatbot Using Artificial Intelligence Language

Methodology: This paper examines some of the latest AI patterns and activities. System Chatbots are made. In the banking industry, the introduction of Artificial Intelligence has driven chatbots and changed the face of the interaction between bank and customers

Advantage: Artificial Intelligence involves creating machines that are capable of simulating knowledge. Adopt Conversational AI Banking Chatbots. Automated Notifications and Reminders. Chatbots are available 24×7 and can respond to your customers instantly. Chatbots can be a great way to collect your audience data.

Disadvantage: Implementing the proper algorithm. Although the AI works flawlessly with faster results, its accuracy depends on the algorithm it works on Expensive. As we have seen the multiple benefits of AI for the financial industry, it has a relevant high cost too.

Paper 2

Authors: Dr. Shalini Sayiwal

Year: **2020**

Title: Chatbot in banking industry: A case study

Methodology: 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.

Advantage: Chatbots are relatively inexpensive to develop and maintain compared to the human equivalent. Chatbots are more intuitive and easier to use. There is no download required and the experience can be personalized over time through machine learning.

Disadvantage: Chatbots have significant limitations based on accents and languages.

Paper 3

Authors: Patil, Kanchan & Kulkarni, Mugdha

Year: **2019**

Title: Artificial Intelligence in Financial Services: Customer Chatbot Advisor Adoption

Methodology: Chatbots are predicted to play a key role in customer service based on recent advances in the area of Artificial Intelligence (AI). However, a lack of user trust impedes the wide- spread adaption of AI-based chatbots. Still, there is a lack of

systematically derived design knowledge concerning user trust in those agents. In this short paper, we report on the first steps of our design science research project on which design principles are relevant for building trust in chatbots

Advantage: Enhanced customer experience – Chatbots can effectively handle financial services and efficiently perform operations that were once handled by agents. Task automation – Financial companies are deploying chatbots to automate most of their tasks such as handling customer complaints

Disadvantage: AI in finance has automated processes and drastically reduced the cost of serving customers. While AI has, on one hand, reduced the cost of financial services, on the other, it has made financing extremely convenient to avail.

Paper 4

Authors: Prashant Bansal

Year: 2022

Title: Artificial intelligence caters to banks and customer needs

Methodology: Banking customers do not think, speak, text, or communicate as financial institutions do. They seek personalization, empathy, and a deeper understanding of their financial and life circumstances. Artificial intelligence has the ability to read customers' moods and aggregate data to predict further intention and needs, which opens up the opportunity for banks to bring more meaningful conversations and engagements with customers. AI can also help financial institutions lower operating costs, ensuring time-effective and stringent business processes without much human intervention.

Advantage: According to a survey of financial services professionals, 80 percent of banks are highly aware of the potential benefits presented by AI. Certain AI use cases have already gained prominence across banks' operations, with CHATBOT in the front office and anti-payments fraud in the middle office the most mature

Disadvantage: Although the AI works flawlessly with faster results, its accuracy depends on the algorithm it works on. An improper algorithm or command can bring unnecessary errors and wrong results. So, proper implementation of the algorithm is important. As we have seen the multiple benefits of AI for the financial industry, it has a relevant high cost too. It may not be possible for all the finance companies to go for this big expensive model initially

Paper 5

Authors: Tarun Lalwani, Shashank Bhalotia, Ashish Pal, Shreya Bisen, Vasundhara Rathod

Year: **2018**

Title: Implementation of a Chatbot System using AI and NLP

Methodology: Mainly a chatbot works by a user asking some question or initiating a new topic of discussion. Chat bots can be referred as software agents that pretend as human entity. These are the agents with AI embedded and using NLP they can answer to user questions.

Advantage: Implementation of a Chatbot System using AI and NLP. The bot will analyze user's queries and understand users to provide an answer to the query of the user. To save the time of the user since he/she does not have to. This system will help the student to be updated about.

Disadvantage: Chatbots sound too Mechanical Chatbots are created using Natural Language Processing which is extremely popular for customer support applications. Natural Language Processing is a part of Machine Learning which can be used to interact with the users in textual form and solve their queries

Paper 6

Authors: Dr.Anil .B Malali, Dr.S.Gopalakrishnan

Year: **2020**

Title: Application of Artificial Intelligence and Its Powered Technologies in the Indian Banking and Financial Industry

Methodology: Examine the dynamics of AI ecosystems in the banking and financial industry and how it is fast becoming a most important disrupter by looking at some of the critical unsolved problems in this area of business

Advantage: AI will empower banking organizations to completely redefine how they operate, establish innovative products and services, and most importantly impact customer experience interventions.

Disadvantage: AI and ML are replacing the human analysts in business activities since human selection involves high cost.

Paper 7

Authors: Sewoong Hwang and Jonghyuk Kim

Year: **2020**

Title: Chatbot for Financial Sustainability using AI

Methodology: This study examines technology effectiveness for industry demand in which artificial intelligence (AI) is applied in the financial sector. It summarizes prior studies on chatbot and customer service and investigates theories on

acceptance attitudes for innovative technologies. By setting variables, the study examines bank revenue methodologically and assesses the impact of customer service and chatbot on bank revenues through customer age classification.

Advantage: When classified by age, purchases by the majority age group in the channel positively affect bank profits. Finally, there is a tendency to process small banking transactions through the chatbot system, which **saves transaction and management costs, positively affecting profits.**

Disadvantage: This isn't a disadvantage, but it's worth remembering that like all improvements implemented in a company, it takes time until everything's 100% operational and showing actual results. Implementation, setup, and learning can take a while

S. no	Author	Title of the Paper	Methodology	Pros (Advantage)	Cons (Disadvantage)
1	K. Satheesh Kumar, S. Tamil Selvan, B. Ibrahim Sha, S. Harish.	Conversation to Automation in Banking through Chatbot Using Artificial Intelligence Language	This paper examines some of the latest AI patterns and activities, System Chatbots are made. In the banking industry, the introduction of Artificial Intelligence has driven chatbots and changed the face of the interaction between bank and customers	Artificial Intelligence involves creating machines that are capable of simulating knowledge. Adopt Conversational AI Banking Chatbots. Automated Notifications and Reminders. Chatbots are available 24×7 and can respond to your customers instantly. Chatbots can be a great way to collect your audience data.	Implementing the proper algorithm. Although the AI works flawlessly with faster results, its accuracy depends on the algorithm it works on expensive. As we have seen the multiple benefits of AI for the financial industry, it has a relevant high cost too.

2	Dr. Shalini Sayiwal	Chatbox in banking industry : A case study	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.	Chatbots are relatively inexpensive to develop and maintain compared to the human equivalent. Chatbots are more intuitive and easier to use. There is no download required and the experience can be personalized over time through machine learning	Chatbots have significant limitations based on accents and languages.
3	Patil, Kanchan, Kulkarni, Mugdha	Artificial Intelligence in Financial Services: Customer Chatbot Advisor Adoption	Chatbots are predicted to play a key role in customer service based on recent advances in the area of Artificial Intelligence (AI). However, a lack of user trust impedes the wide-spread adoption of AI-based chatbots. Still, there is a lack of systematically derived design knowledge concerning user trust in those agents. In this short paper, we report on the first steps of our design science research project on which design principles are relevant for building trust in chatbots	Enhanced customer experience – Chatbots can effectively handle financial services and efficiently perform operations that were once handled by agents. Task automation – Financial companies are deploying chatbots to automate most of their tasks such as handling customer complaints	AI in finance has automated processes and drastically reduced the cost of serving customers. While AI has, on one hand, reduced the cost of financial services, on the other, it has made financing extremely convenient to avail.
4	Prashant Bansal	Artificial intelligence caters to banks and customer needs	Banking customers do not think, speak, text, or communicate as financial institutions do. They seek personalization, empathy, and a deeper understanding of their financial and life circumstances. Artificial intelligence has the ability to read customers' moods and aggregate data to	According to a survey of financial services professionals, 80 percent of banks are highly aware of the potential benefits presented by AI. Certain AI use cases have already gained prominence across banks' operations, with CHATBOT in the front office and	Although the AI works flawlessly with faster results, its accuracy depends on the algorithm it works on. An improper algorithm or command can bring unnecessary errors and wrong results. So, proper implementation of the algorithm is important.

			predict further intention and needs, which opens up the opportunity for banks to bring more meaningful conversations and engagements with customers AI can also help financial institutions lower operating costs, ensuring time-effective and stringent business processes without much human intervention.	anti-payments fraud in the middle office the most mature	As we have seen the multiple benefits of AI for the financial industry, it has a relevant high cost too. It may not be possible for all the finance companies to go for this big expensive model initially
5	Tarun Lalwani, Shashank Bhalotia, Ashish Pal, Shreya Bisen, Vasundhara Rathod	Implementation of a Chatbot System using AI and NLP	Mainly a chatbot works by a user asking some question or initiating a new topic of discussion. Chat bots can be referred as software agents that pretend as human entity. These are the agents with AI embedded and using NLP they can answer to user questions	Implementation of a Chatbot System using AI and NLP. The bot will analyze user's queries and understand users' to provide an answer to the query of the user .To save the time of the user since he/she does not have to.This system will help the student to be updated about.	Chatbots sound too Mechanical Chatbots are created using Natural Language Processing which is extremely popular for customer support applications. Natural Language Processing is a part of Machine Learning which can be used to interact with the users in textual form and solve their queries
6	Dr.Anil.B.Malali, Dr.S.Gopalakrishnan	Application of Artificial Intelligence and Its Powered Technologies in the Indian Banking and Financial Industry	Examine the dynamics of AI ecosystems in the banking and financial industry and how it is fast becoming a most important disrupter by looking at some of the critical unsolved problems in this area of business	AI will empower banking organizations to completely redefine how they operate, establish innovative products and services, and most importantly impact customer experience interventions.	AI and ML are replacing the human analysts in business activities since human selection involves high cost.

7	Sewoong Hwang and Jonghyuk Kim	Chatbot for Financial Sustainability using AI	This study examines technology effectiveness for industry demand in which artificial intelligence (AI) is applied in the financial sector. It summarizes prior studies on chatbot and customer service and investigates theories on acceptance attitudes for innovative technologies. By setting variables, the study examines bank revenue methodologically and assesses the impact of customer service and chatbot on bank revenues through customer age classification.	When classified by age, purchases by the majority age group in the channel positively affect bank profits. Finally, there is a tendency to process small banking transactions through the chatbot system, which saves transaction and management costs, positively affecting profits.	This isn't a disadvantage, but it's worth remembering that like all improvements implemented in a company, it takes time until everything's 100% operational and showing actual results.
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