A Study on Artificial Intelligence in Using Customer Service Banking Bots

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Abstract

This article explores customer satisfaction and services in using banking bots. It addresses two questions: First, will customers perceive banking bot technology as a reliable and efficient alternative to traditional banking practices? Second, will the banking bot save customers' time. Data was collected via a survey of 150 customers from six major Indian banks: State Bank of India, Axis Bank, Punjab National Bank, HDFC Bank, Indian Overseas Bank, and Bank of India. This diverse dataset ensures a broad understanding of customer perceptions across different banking institutions. Banking bots improve banking customers' experiences by making banking more accessible and enjoyable. Satisfied customers are quick to use cutting-edge bot tools. However, human service is more satisfying than digital service. Bots have great potential but work alongside humans rather than replacing them. Even though bots novel architecture is helpful, human bankers are still needed in enhancing customer satisfaction. Banking bot integration in Indian banking, propelled by customer satisfaction, foresees a transformative landscape. This study covers bots role in saving time and improving customer satisfaction; bots revolutionise financial processes; their harmonious coexistence with human expertise emphasises personalised and efficient services. This study provides insights for optimal bot utilisation in shaping the future of banking.

Introduction

The rapid advancement of technology has significantly transformed industries, including the banking sector, where digital innovations are reshaping traditional practices. Among these innovations, banking bots—powered by artificial intelligence (AI) and machine learning (ML)—have emerged as tools for enhancing customer service and streamlining financial processes. These bots provide a range of services, including query resolution, transaction processing, and financial advice, aiming to improve efficiency, reduce operational costs, and enhance customer experiences. While their adoption is growing, the debate continues about whether banking bots can effectively replace or complement human-driven services.

This study focuses on understanding customer satisfaction with banking bot usage, particularly their potential as reliable alternatives to traditional banking and their role in saving customers' time. Two key research questions guide the analysis: (1) Do customers view banking bots as effective substitutes for human services? (2) Can bots significantly reduce transaction times? Data was collected

via a survey of 150 customers from six major Indian banks: State Bank of India, Axis Bank, Punjab National Bank, HDFC Bank, Indian Overseas Bank, and Bank of India. This diverse dataset ensures a broad understanding of customer perceptions across different banking institutions.

The findings reveal a dual impact of banking bots on customer satisfaction. On one hand, bots enhance accessibility and convenience, offering time-saving solutions that appeal to customers. Many users adopt these tools quickly, appreciating their efficiency in handling routine tasks. On the other hand, human interaction remains essential, as personalized service and emotional connections significantly contribute to customer satisfaction. This highlights the value of a hybrid approach where bots and human expertise coexist to deliver optimal customer experiences.

The study emphasizes the growing importance of customer relationship management (CRM) in banking. A CRM banking bot enhances trust and delivers exceptional customer service by leveraging advanced technologies such as AI and natural language processing. These bots streamline communication and improve interactions by offering personalized, 24/7 assistance for account inquiries, transaction details, loan applications, and financial advice. They also reduce response times and operational costs, fostering stronger customer relationships. This, in turn, boosts customer satisfaction, loyalty, and retention, ultimately driving business growth in the competitive financial industry.

This study contributes to the literature on AI-driven financial services by analying the practical application of banking bots in India. It underscores the importance of balancing automation with human interaction to meet customer needs effectively. By advocating for a collaborative approach between bots and human bankers, the study provides strategic recommendations for deploying banking bots to enhance customer satisfaction while preserving personalized service.

As the banking industry evolves, technology will play an increasingly significant role in shaping customer experiences. This study sheds light on the current state of banking bots in India and envisions their future potential in revolutionizing financial processes. By emphasizing the synergy between automation and human interaction, it calls for a customer-centric approach to technological integration in banking.

Objectives

- To understand how the customer benefits of banking bot.
- To identify customer satisfaction on banking bot
- To study an customer expectation bot.

Literature Review

Chatbots in the Banking Sector

Chatbot technology is being applied in various businesses and industries like banking, hospitality, tourism, and healthcare. With the help of these conversational chatbots, different businesses can collect and store larger sets of data in terms of variety, while assisting them to become more cost effective and sustainable (Campbell et al. 2020; Um, Kim & Chung 2020). With the help of appropriate coding, programming, and algorithms, chatbots are trained to identify similar customer queries and respond to them in a specific pattern (Campbell et al. 2020). Belanche et al. (2020) highlighted that robots (chatbots) are being considered as frontline employees for most of the businesses, as they can easily communicate with the customers, receive and store larger data of information, and are cost effective. Chatbots are well-equipped with intuitive and empathetic skills, which is helping them in replacing all kinds of jobs performed by humans in various industries, particularly those of customer service representatives (Belanche et al. 2020; Huang & Rust 2020a, b). However, Um, Kim and Chung (2020) contended albeit chatbots make work easier for organisations to utilise them, they still have drawbacks; failure to understand and provide appropriate service to the customer, incur additional costs; maintenance, installation and training.

Extant Literature on Chatbots

John McCarthy; the father of “artificial intelligence” coined this term first in 1956 during a summer research project (Haenlein & Kaplan 2019). Since the research in the field of AI-enabled systems (chatbots) is still in its infancy stage, the following Table 1 is devised based on the key information provided by various journal articles.

Customer Satisfaction

The word “satisfaction” is derived from Latin “satis” meaning “enough”, and “facere” meaning “make or to do”. Hence, the combined meaning of these words mean to provide the products and services which have the capacity to be “enough” (Oliver 2010). The meaning of the word satisfaction is also dependent on the context. For instance, if “sat-is faction” is used in a marketing context, its

meaning becomes more specific (Parker &Mathews 2001). Soderlund (1998) defined customer satisfaction as, “the value one receives after purchasing or using a product or service”. It is worth mentioning here that the context in which customer satisfaction is mentioned is very important, since the meaning changes from one context to another.

Interpretation

Customers using banking bot services are often a highly group of respondents. it shows the most common frequency for Interaction with the banking bot.

Survey results indicating customer perceptions of chatbot efficiency and satisfaction levels.

Comparison of satisfaction rates before and after chatbot implementation were satisfactory

Impact of chatbots on call center workload and service delivery shows the operational efficiency of banking bots

Common challenges faced in the implementation of AI chatbots (e.g., technical issues, customer resistance

The data shows the growing role of banking bots but suggests some kind of improvement in encouraging adoption among less frequent users.

The banking bot responds to the queries and understands the queries of the customer.

Future

The future of customer service in banking is increasingly driven by advancements in artificial intelligence, particularly through AI-powered bots. These bots are transforming how banks interact with customers by delivering faster, more personalized, and more efficient services. By leveraging data analytics, they provide tailored recommendations, financial advice, and product suggestions based on individual customer needs and behaviors, improving satisfaction and engagement.

One of the key advancements is the rise of conversational AI, enabling bots to engage in more natural, human-like interactions. With sophisticated Natural Language Processing (NLP), these bots can understand complex queries, detect customer sentiments, and manage multi-step processes, making them capable of addressing a wide range of customer issues effectively. Moreover, these bots will integrate seamlessly across multiple platforms, including mobile apps, websites, and messaging services, ensuring consistent and convenient service regardless of the channel.

The 24/7 availability of AI bots significantly reduces wait times and enhances accessibility, especially for routine inquiries like account balances, loan applications, and transaction monitoring. As technology evolves, bots will also handle more complex tasks, such as fraud detection and financial planning, reshaping the future of customer service in banking by prioritizing efficiency, personalization, and seamless user experiences.

Conclusion

The banking sector can benefit greatly from banking bots in several ways based on the result, it can be said that bots helping banking for consumer service. The banking sector is undergoing a significant transformation due to advancements in technology. Artificial intelligence, particularly through the use of chatbots, has revolutionized customer service by providing instant support and assistance to clients. This study seeks to understand how AI-driven banking bots enhance the customer experience, streamline operations, and respond to the evolving demands of digital consumers.

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