

ANALYSING THE EFFECTS OF AI-POWERED CHATBOTS IN FINANCIAL SERVICES ON USERS

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ABSTRACT

The advent of AI-powered chatbots in the financial services industry has opened up a new era of customer interaction. This study examined how customers perceive AI-driven dialogue in the financial sector. Evaluating frequency of use, user experience, problems encountered by users and suggested improvements is the focus of this research. However, as banks and other financial institutions deploy AI-driven conversations to enhance customer engagements, understanding frequency of use has become critical. Analyses made from this study are based on your shopping patterns and issues identified from these patterns. Indeed, our interactions with such chatbots underscore how human-bot interactions can change financial services. Customer satisfaction and retention are influenced by user experience which is a core component in AI-based dialogues. This research looks at the user experience aspects including navigation, responsiveness and general efficiency of the AI empowered finance conversations. However, there still remain impediments to integrating AI-enabled conversations into financial services despite these advantages. Users face transparency related matters as well as privacy concerns and technical difficulties. This study identifies and analyses these problems, providing insights into the obstacles that customers face while interacting with AI-powered financial chatbots. In response to these challenges, the paper presents innovative approaches to improve the performance and customer happiness of AI-enabled chatbots in financial services. This study provides important findings for financial institutions looking to optimize their AI chatbot deployments for improved customer interactions and satisfaction by thoroughly assessing usage frequency, user experience, and challenges encountered.

Keywords: Financial Services, AI, Chatbots, Experience, Challenges, Improvements.

1. INTRODUCTION

In the 21st century, our society is experiencing a technological revolution driven by artificial intelligence (AI). Especially in financial services, AI has begun to change the way we live, from banking transactions and stock investing to insurance and loan services. However, while AI brings tremendous convenience and efficiency gains, it also raises some new ethical and policy issues. Artificial intelligence, simply put, is a technology that simulates and implements human intelligence. It includes various methods and techniques such as machine learning, deep learning, natural language processing, and more. In financial services, AI can help financial institutions process large amounts of data, make faster and more accurate decisions, provide 24/7 customer service, and predict and manage risk. However, with the widespread application of AI in financial services, we are also starting to face some new problems. The issue of data privacy and individual rights is a major concern. Because AI often needs to deal with large amounts of personal and sensitive data, how to protect the privacy and security of this data has become an important ethical issue. In addition, AI's decision-making process is often a "black box", which raises questions of transparency and accountability: when AI makes wrong decisions, how can we hold them accountable? Finally, AI may replace some people's jobs, which also raises questions about employment and social equity. Advancements in Artificial Intelligence (AI) are steadily changing the way financial firms operate and interact with customers. In fact, chatbots have now become the new normal in the delivery of financial services to the extent of removing the need for long queues and hassles of visiting the office. The use of financial services chatbots is projected to save businesses \$7.3 billion in the next two years. The conversational AI and multi-channel features of bots, customers can accept easy access to services that were once limited to apps. As the line between human and machine support is blurring by the day, the finance industry will need more chatbots to deliver great customer experiences and keep pace with new-age demand. This is why the BFSI sector needs to find ways to implement financial services chatbots in their processes to achieve a new dimension in customer service. According to a Markets and Markets report, the global chatbot market achieved a valuation of \$4.7 billion in 2022 and projected growth to \$15.5 billion by 2028. Financial institutions leveraging advanced AI-based chatbots witness accelerated communication with clients, effective information gathering, and a heightened awareness of client

needs. Presently, finance entities employ finance chatbots to provide clients with round-the-clock support and address frequently asked questions, alongside managing multiple requests simultaneously. This research paper primarily focuses on studying the frequency of use of AI-enabled chatbots for financial services, customer experiences, challenges faced by them, and a few recommendations to improve the services.

2. PROBLEM STATEMENT

The increasing integration of AI-enabled chatbots in the financial services sector has prompted a need for comprehensive research to understand their usage frequency, customer experiences, and the challenges encountered. As organizations strive to enhance customer interactions through technological advancements, it becomes imperative to scrutinize the effectiveness and potential drawbacks of employing AI chatbots in financial services. This research aims to address the following key issues:

Usage Frequency: Evaluate the prevalence and adoption rates of AI-enabled chatbots in financial institutions and assess their impact on customer engagement and operational efficiency.

Customer Experiences: Investigate the quality of interactions and satisfaction levels among users engaging with AI chatbots for financial services, exploring both positive and negative experiences.

Challenges Faced: Identify and analyze the obstacles and challenges faced by organizations in implementing and maintaining AI chatbots, including technical limitations, privacy concerns, and potential biases.

Recommendations for Improvement: Propose practical recommendations and strategies to enhance the performance and user experience of AI chatbots in financial services, aiming to address identified challenges and improve overall effectiveness in customer interactions.

3. REVIEW OF LITERATURE

AI-enabled chatbots have a significant impact on financial services. They are being widely used in the banking sector to improve customer satisfaction and retention. Chatbots act as a communication tool between customers and banks, handling customer requests promptly and providing tailored services. They also serve as a listening channel for banks to better understand customer reactions (Jinhao, Chen., 2023). The adoption of AI-driven chatbots in banking is influenced by factors such as attitude, behavioral intention, perceived risk, performance expectations, and effect expectancy. The positive relationship between attitude and behavioral intention towards chatbot usage leads to its adoption in banking. Additionally, subjective norms and facilitating conditions play a role in influencing the behavioral intention to use chatbots. The use of chatbots in banking is particularly beneficial in developing countries, where facilitating conditions strongly influence the behavioral intention of banking services users (Sandeep, Prabhu., 2023).

The use of AI-enabled chatbots in the financial services industry has significantly transformed customer interactions, with a particular focus on the banking sector (Quah, 2019). These chatbots have been found to positively impact bank revenues, especially for existing products and small transactions, and are more suitable for certain types of purchases (Hwang, 2021). However, the adoption of chatbots in the financial sector is still relatively low, with user desires for human-like chatbots playing a significant role in their adoption (Sugumar, 2021). This is further supported by the finding that while customers generally have positive experiences with chatbots, they still prefer human interactions (Bhatti, 2019). Text-based chatbots are implemented in the financial sector to enhance the relationship between the customer and services provided by the sector, and also to address external challenges and customer requirements (Wube et.al. 2022).

According to Insider Intelligence's analysis on artificial intelligence in banking, the vast majority of financial institutions (80%) see the possibilities afforded by AI as mentioned in this paper, and technological progress, rising user acceptability, and altering regulatory frameworks will all hasten financial institutions' choice to employ AI (Rachel, K., Surowiec. 2023). A text-based and audio-based chat and voice assistant for a banking application that is powered by artificial intelligence and does conversions that are designed to resemble human conversations. Chat and voice assistants have come a long way from their humble beginnings, with advances in machine learning and natural language processing enabling them to learn from their interactions and hold conversations in a human-like manner (Ajmeera et.al. 2023).

4. RESEARCH OBJECTIVES

In the evolving landscape of financial services, AI-enabled chatbots have emerged as pivotal tools for customer engagement. This research aims to delve into customer insights regarding the impact of AI chatbots, spanning their usage frequency, experiences, valued aspects, encountered challenges, and recommendations for enhancements.

- Assess frequency of AI chatbot usage in financial services.
- Examine user experiences with AI chatbots in finance.
- Identify most valued aspects of AI in financial interactions.

- Explore challenges faced with AI chatbots in finance.
- Gather suggestions for enhancing AI chatbot financial services.

5. RESEARCH METHODOLOGY

The research employs a quantitative approach using a structured questionnaire as the primary data collection tool. The questionnaire is designed to gather demographic information from respondents and elicit quantitative data on key variables such as the frequency of AI chatbot use in financial services, customer experiences, perceived value, encountered challenges, and suggestions for improvements. The survey will be distributed online to a diverse sample of financial service users, ensuring representation across various demographics. The collected data will be analyzed through descriptive statistics to provide a comprehensive overview of the respondents' characteristics and their perceptions of AI chatbots. Cross-tabulations will be conducted to explore relationships between different variables, unveiling insights into how demographic factors may influence the frequency of use, experiences, and opinions. The findings will be presented using charts and graphs to enhance the clarity and visualization of the research outcomes. This methodological approach aims to provide a robust quantitative analysis of customer insights regarding AI-enabled chatbots in financial services.

6. DATA ANALYSIS AND RESULTS

Table 1: Demographic Profile of the Respondents:

Category	Details	Count	Percentage
Gender	Male	78	63%
	Female	46	37%
Age	Below 20 Years	32	26%
	21 - 40 Years	47	38%
	41 - 60 Years	25	20%
	Above 61 Years	20	16%
Education	High School or Below	12	10%
	Bachelor's Degree	65	52%
	Master's Degree	36	29%
	Professional	11	9%
n=124.			

Source: Author(s) Calculation.

The results of the demographic analysis indicate that 63% of the sample's respondents are men, while the remaining 37% are women. The age distribution shows that most people are between the ages of 21 and 40 (38%), then under 20 (26%), 41 to 60 (20%), and above 61 (16%). In terms of education, the largest percentage has a bachelor's degree (52%), followed by professionals (9%), those with just a high school education (10%), and people with a master's degree (29%). These results point to a demographic representation that is varied but somewhat skewed, with a noticeable concentration in the age range of 21 to 40 and a high frequency of bachelor's degree holders. For the purpose of comprehending the ensuing research of AI chatbot use trends, experiences, and preferences within certain demographic categories, it is important to comprehend these demographics.

Table 2: Frequency of Use of Financial Services

Gender	Frequency of Use				
	Daily	Weekly	Monthly	Rarely	Never
Male	22	36	15	4	1
Female	12	20	5	3	6

The examination of how often people use financial services based on their gender reveals interesting trends. Among men, the majority frequently engage with financial services on a weekly basis (36%), followed closely by daily (22%), monthly (15%), infrequently (4%), and never (1%). On the other hand, women predominantly utilize financial services once a week (20%), with significant frequencies of daily (12%) and monthly (5%) also observed. It is important to note that a higher percentage of women express 'never' (6%) compared to men. These findings suggest that while both genders

use financial services frequently on a weekly basis, men tend to have a higher level of involvement overall. The difference in the 'never' category may indicate that a small portion of women completely abstain from any interaction with financial services. Understanding these gender-specific usage patterns is crucial in tailoring financial service offerings and communication strategies to effectively meet the preferences and behaviors of diverse user groups.

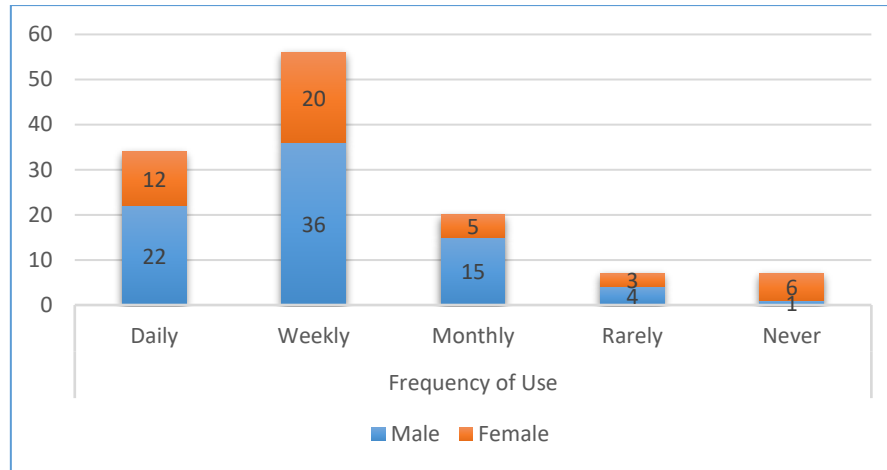


Figure 1. Frequency of Use

Table 3: Experience with AI Chatbots and Usage

Experience	Use of AI Chatbots			
	Frequently	Occasionally	Rarely	Never
Very Positive	22	8	6	1
Positive	16	7	2	0
Neutral	22	8	2	2
Negative	7	3	2	1
Very Negative	8	4	3	0

The examination of respondents' interactions with AI chatbots and their corresponding usage patterns reveals significant findings. A large majority of individuals who reported highly positive interactions show a tendency to engage with AI chatbots frequently, including 22 respondents in this category. Similarly, those with positive experiences also demonstrate a strong inclination to regularly use AI chatbots, with 16 individuals in this group. Interestingly, a significant number of respondents with neutral experiences also engage in frequent interactions with AI chatbots, totaling 22 individuals in this classification. Notably, individuals with negative or very negative experiences also show some level of engagement, although to a lesser degree. This interesting observation suggests that while positive experiences are associated with frequent usage, a notable portion of individuals with neutral or negative experiences continue to interact with AI chatbots.

Table 4: Valuable Aspects of AI Chatbots in Financial Services

Aspects	Count	Percentage
Quick responses	16	13%
24/7 availability	32	26%
Accuracy	36	29%
Convenience	22	18%
Personalization	18	15%

A number of important conclusions are drawn from the examination of the perceived benefits of AI chatbots in the financial services industry. According to the respondents, accuracy is considered the most significant feature; 29% of them said it was important. The 24/7 accessibility of AI chatbots comes in second, with 26% of the replies. Efficient replies are also valued, albeit not as highly—13% think this is an important factor. The respondents highlighted convenience and personalisation with 18% and 15% of the total, respectively, suggesting a modest degree of relevance. According to these results, consumers emphasise the need of accuracy and constant availability and put a high value on the dependability and accuracy of AI chatbots in financial transactions.

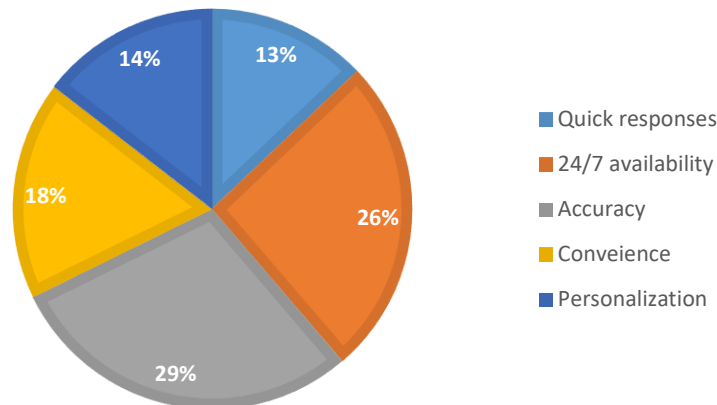


Table 5: Challenges encountered using AI Chatbots in Financial Services

Challenges	Count	Percentage
Lack of understanding user queries	10	8%
Limited Problem-solving capabilities	18	15%
Data privacy and Security	7	6%
Frequent technical issues	8	6%
Inadequate personalization	43	35%
Difficulty in accessing human support	38	31%

The examination of difficulties experienced in utilizing AI chatbots in the financial services sector uncovers several noteworthy discoveries. The most common challenge mentioned by participants is the lack of personalization, accounting for 35% of the responses. This emphasizes a critical worry regarding the tailoring of AI chatbot interactions to individual user requirements and preferences. Proximity in accessing human support follows closely, with 31% of participants encountering obstacles in seeking human assistance when necessary. Restricted problem-solving capabilities and lack of comprehension of user queries are mentioned by 15% and 8% of participants, respectively, indicating the necessity for enhanced functionality and comprehension in AI chatbots. Furthermore, concerns related to data privacy and security, as well as frequent technical problems, are acknowledged by 6% of participants each.

Table 6: Suggestions for improvements on AI enabled Chatbot Financial Services:

Suggestions	Count	Percentage
Improved chatbots with user queries	14	11%
Better Training to handle	11	9%
Human agents integration	40	32%
Transparent data handling	8	6%
Faster response times	17	14%
More personalized responses	34	27%

Examining suggestions to improve financial services AI-based chatbots will provide relevant suggestions. The most popular recommendation, expressed by 32% of respondents, emphasized the integration of human agents, highlighting the importance of maintaining a balance between AI-based automation and human intervention. Human intervention for better user support. More personalized feedback was identified as an important improvement by 27% of respondents, highlighting the need for interactions to be better tailored to individual user preferences. Faster response times (14%) and improved chatbots with better ability to handle user queries (11%) were also identified as key areas for improvement, highlighting the importance of efficiency and precision in user interaction. Additionally, 9% of respondents recommended better training for chatbots to handle queries effectively, emphasizing the importance of continuously learning and honing AI capabilities. Transparent data management was suggested by 6% of respondents, highlighting growing concerns about transparency and security in user data management.

7. MAJOR FINDINGS AND DISCUSSIONS

Comprehensive data analysis reveals significant insights into the usage and awareness of AI-powered chatbots in financial services. The demographic profile shows that the respondent base is predominantly male and educated, with significant representation in the 21-40 age range. Regarding AI chatbot experiences, a notable trend emerging is that positive and very positive experiences correlate with frequent use. Surprisingly, even neutral and negative experiences did not deter a significant portion of users from interacting with AI chatbots, suggesting a complex relationship between satisfaction and frequency of use. Valued Aspect Rating shows users place high priority on accuracy, 24/7 availability, and quick response, highlighting core user expectations of AI chatbots in services finance. However, the challenges encountered highlight important areas for improvement, with inadequate personalization, difficulty accessing human support, and limited problem-solving capabilities being concerns. great concern. Recommendations for improvements tailored to these challenges, focusing on the integration of human agents, more personalized feedback, and improved training to better handle user queries. The overall theme of these findings is the delicate balance required between automation and the human touch in financial services interactions. This in-depth understanding is essential for financial services providers looking to optimize the functionality of AI chatbots, ensure alignment with user expectations, and promote positive user experiences. amid the rapid development of AI-based financial services.

8. CONCLUSION

At last, the study gives a full knowledge of the existing environment of AI-enabled chatbots in financial services, including user demographics, experiences, views of useful elements, encountered problems, and ideas for development. The results highlight the dynamic interaction between user happiness, use frequency, and the individual aspects that consumers value. Notably, the study emphasises the crucial need of improving personalisation, resolving difficulties linked to human assistance accessibility, and honing problem-solving skills in AI-driven financial services to optimise the overall user experience. The findings from this research may help financial service providers adjust their AI chatbot services, strike the correct balance between automation and human involvement, and ultimately improve the effectiveness and acceptability of AI technology in the financial arena.

Future study should go further into the precise elements impacting user experiences and preferences, including subtleties within demographic groupings. Furthermore, studying the influence of technology breakthroughs, such as improved natural language processing and enhanced integration with other developing technologies, on user perceptions and interactions with AI chatbots might provide useful insights. Furthermore, longitudinal studies that follow user experiences over time and evaluate the changing environment of AI-enabled financial services may help to provide a more dynamic knowledge of user behaviours and expectations. The study provides the groundwork for future studies that will drive the continuous expansion and integration of AI technology in the financial services industry.

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