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Original Article

Customers' Perception Towards the Benefits and Services of Banking Chatbots: An Analysis

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Abstract: *The rapid integration of artificial intelligence in the banking sector has significantly transformed digital financial services through the adoption of chatbots. This study examines customer perceptions of chatbot benefits and compares the services perceived with the services actually used by customers. Primary data were collected from 384 respondents to analyze chatbot usage patterns and evaluate the perceived importance of various chatbot features. The findings reveal that customers increasingly value advanced features such as personalization, multilingual support, proactive service, and omnichannel support, while traditional features like 24/7 availability and faster response time are now perceived as standard system capabilities. The study also shows that chatbots are primarily used for informational and basic banking activities such as answering FAQs and checking account balances. In contrast, advanced services, including financial product assistance and security-related functions, remain underutilized. The results highlight a perception–usage gap and indicate that chatbot adoption follows a gradual trust-building process in digital banking services.*

Keywords: *Artificial Intelligence, Banking Chatbot, Chatbot Service Usage, Customer Perception, Digital Banking, Perception–Usage Gap, User Experience.*

I. INTRODUCTION

In modern banking, the role of the banking chatbot has become inevitable in providing digital financial services. The banking chatbots have transformed the way in which banking services are provided to customers. The emergence of chatbots has helped the customer to access banking services 24/7, which were once available only to customers who were able to visit the banks personally. The Government's Digital India policies along with RBI initiatives towards providing proactive banking services for customers and with the rapid increase of smartphone usage with high-speed internet connection across both urban and rural areas, the chatbots role of providing digital financial services as a supplementary channel has increased substantially to an extent that it can no longer be considered as a supplementary channel (Huang & Rust, 2021). According to the last survey report released by RBI in 2023, almost 75% of the financial institutions in the banking and non-banking financial sectors have deployed chatbots for providing customer services. (Todupunuri, 2024). The report also states that 11 out of 12 public sector banks, 15 out of 21 private sector banks and a total of 26 out of 33 banks have deployed chatbots as a form of supplementary service provider. Even though the chatbot adoption rate is higher in Indian banks, a recent economic survey states that only 21% of the banks and financial institutions have adopted chatbots with advanced AI systems, which emphasizes that integration of advanced AI systems into chatbots is at an early stage. (Marak et al., 2025). Despite the technology limitations, the number of queries handled by chatbots has increased by multifold in recent years. The above increase in the number of queries handled by chatbots has led to the necessity of studying the adoption and usage pattern of banking chatbots across various demographic characteristics like age, gender, education and occupation. Prior studies, such as Chen et al. (2023), have examined demographic differences in chatbot usage. Studying the usage pattern helps the bank to understand the customers' perception with respect to the services offered by the bank and its quality, which can help banks to design chatbots that can handle queries effectively.

II. LITERATURE REVIEW

With the quick integration of artificial intelligence in the banking sector, chatbots are among the most revolutionary customer service tools. Chatbots leverage automated interactive response capabilities, so unlike in traditional service models, they can help clients immediately and without direct human interaction, empowering banks to increase user engagement at a fraction of the cost. #Chatbots - The Importance of AI-powered chatbots sending messages is not the end here; The real importance of chatbots lies in their ability to add value by making them available 24/7, multilingual, customized services, etc. (Ameen et al., 2021). These advantages are part of a wider set of changing expectations among banking customers who want both convenience and inclusivity, along with tailored interactions. (Park et al., 2024). The understanding of chatbots' perceived benefits is essential for financial services institutions in aligning their digital strategy with customer expectations. For example,

while some consumers value faster response time and omnichannel support, others desire personalization and proactive service more. When a benefit looks like this (variations in perception between segments), segment the benefit to find out which benefits are the biggest 'drivers' of end-user outcomes. Furthermore, understanding customer perspectives regarding these dimensions helps banks identify core chatbot features versus higher-level functionalities that could further enhance user experience and drive greater satisfaction and loyalty. (Kaakandikar et al., 2025). Not only does this insight highlight the need for chatbots in reimagining customer experience, but it also aids banks in better understanding how they can best design and deploy a chatbot that maximises effectiveness.

A) Evolution of Chatbots:

The idea of chatbots dates back to the early 1960s as an element of research into human–computer interaction. While the underlying technology was introduced years earlier, useful applications in business and commercial settings began in the mid-1990s. As we have made progress with artificial intelligence, machine learning and natural language processing (NLP), the capabilities of chatbots have also improved greatly over time. Chatbots started gaining widespread adoption post-2015 with their integration into several industrial and commercial applications. The banking industry, in particular, has been early to embrace chatbots to improve customer engagement and service. The usage in Banking started slowly in the early 2010s and grew sharply post-2015, owing to the high adoption of Digital banking platforms like internet banking and mobile banking. Chatbots work as automated aides, giving immediate answers to customer inquiries, helping facilitate transactions and enhancing service effectiveness. That is why they are a significant additional service tool in contemporary digital banking systems.

B) Early Chatbots

Theoretical basis of conversational AI: Alan Turing introduced the concept of conversation as a test for machine intelligence in 1950. (Adamopoulou & Moussiades, 2020). The first chatbot, ELIZA, was created by Joseph Weizenbaum in 1966. It was a simulation of a psychotherapist, generating responses through pattern-matching techniques on a static database. Later on, Kenneth Colby created PARRY in 1972, which impersonated the chatting of a patient with paranoid schizophrenia. Such programs effectively established the concept of dialogue between humans and computers as a possibility, providing the foundation on which more advanced chatbots would be built. (Caldarini & Jaf, 2022).

C) Rule-Based NLP and Adaptive Learning Chatbots

Then came a major breakthrough in technology, as chatbots began to learn from previous conversations. They used a dynamic database so the program could learn from past conversations and hopefully have more natural interactions. The A.L.I.C.E (Artificial Linguistic Internet Computer Entity) was invented by Richard Wallace in 1995, one of the notable milestones. It employed simple heuristics, AI Markup Language (AIML), and early Natural Language Processing (NLP) techniques to generate more relevant responses (Adamopoulou & Moussiades, 2020).

D) Hybrid and Data-Driven Chatbots

In the early 2000s, hybrid chatbots combining rule-based NLP with external data sources appeared. One of the first versions of consumer chatbots available on instant messaging services, SmarterChild, was created by ActiveBuddy Inc. in 2001 and returned information on weather, sports and stock quotes. In 2008, Rollo Carpenter created and co-wrote a new chatbot called Cleverbot that adapted to conversations through machine learning techniques on a vast database of previous interactions. More advanced intelligent assistants were formed by their learning approach.

E) Voice-Activated Intelligent Assistants

Voice-based assistants represent the next evolution of chatbots. Apple released Siri in 2011, which leveraged speech recognition and NLP to process and respond to voice commands. This was later followed by Amazon's introduction of Alexa (2014) and Google Assistant (2016). These assistants went beyond a typical chatbot by allowing voice interaction and integration with digital services and smart devices (Følstad & Brandtzæg, 2017).

F) Generative AI Chatbots

The new generations of chatbot technology are based on Large Language Models (LLMs). OpenAI released the first version, GPT-1, in 2018, and upgraded it with GPT -2 in 2019 and GPT-3 in 2020. Similar advances included Google's Meena and Facebook's BlenderBot. 2022 was a landmark year with the release of ChatGPT, built on GPT-3. 5 model. ChatGPT can respond convincingly, perform reasoning tasks, and hold conversations on various topics thanks to reinforcement learning from human feedback (RLHF) and robust NLP techniques. (Khosravi et al., 2023). Generative AI chatbots have revolutionized conversational systems, allowing for intelligent and context-aware interactions, as well as extending the domains of these systems to various sectors, including banking, education, healthcare and customer service.

The above historical evolution shows that chats have evolved from a simple communication tool into the backbone of banking. Technological advances from the early ELIZA to today's ChatGPT have enabled banks to improve their customer

service and provide 24/7 seamless and personalized solutions (Park et al., 2024). Although this technological continuum has reduced gaps in banking services, Users' attitudinal and experiential challenges have not yet been fully explored. Therefore, a comprehensive study of the use of modern-day banking chats and customer attitudes toward them is necessary.

III. RESEARCH METHODOLOGY

The study was carried out using a Descriptive Research Design to find out the attitudes and experiences of customers using banking chatbots. A structured questionnaire was used for data collection. Data was collected through a structured questionnaire, which consisted of sections (demographic characteristics and awareness, usage and experience with banking chatbots). The survey framework was divided into several stages, and respondents at each stage were filtered based on eligibility; thus, only responses from real users were included in the final analysis. Out of 816 primary data collected using Convenience Sampling, 384 eligible users who regularly use chatbots were selected for final analysis through a multi-level filtering process. Data collected was used to find out the distribution of data using frequency analysis and percentage analysis; To determine the priority factors, Ranking Analysis was carried out. Finally, all the statistical results related to the study objectives were clearly explained through tables.

IV. RESULTS

A) Ranking Analysis

A ranking analysis was conducted to assess users' perceptions of the benefits of banking chatbots. Seven key factors, including 24/7 service and multilingual support, were ranked by 384 users on a scale from "most important" to "least important." The consolidated data reveals the overall importance that respondents attribute to various benefits of banking chatbots. The data thus collected are analyzed in terms of their priority and percentage and are detailed in Table 1.

Table 1. Perception of the Respondents towards the Benefits of Chatbots

Response Category	24/7 Availability	Easy Checkout	Proactive Customer Service	Faster Response Time	Omnichannel Support	Multilingual Support	Better Personalization	Average (%)
Least Important	105 (27.3)	64 (16.7)	33 (8.6)	50 (13.0)	46 (12.0)	41 (10.7)	45 (11.7)	56.3 (15.7%)
Minimally Important	70 (18.2)	77 (20.1)	45 (11.7)	59 (15.4)	46 (12.0)	52 (13.5)	35 (9.1)	55.7 (14.9%)
Slightly Important	51 (13.3)	66 (17.2)	66 (17.2)	64 (16.7)	62 (16.1)	39 (10.2)	36 (9.4)	55.7 (14.1%)
Moderately Important	46 (12.0)	49 (12.8)	64 (16.7)	80 (20.8)	58 (15.1)	54 (14.1)	33 (8.6)	55.7 (14.1%)
Important	43 (11.2)	36 (9.4)	77 (20.1)	44 (11.5)	67 (17.4)	57 (14.8)	60 (15.6)	54.9 (14.1%)
Very Important	28 (7.3)	47 (12.2)	63 (16.4)	43 (11.2)	58 (15.1)	73 (19.0)	72 (18.8)	52.3 (14.4%)
Most Important	41 (10.7)	45 (11.7)	36 (9.4)	44 (11.5)	47 (12.2)	68 (17.7)	103 (26.8)	55.7 (15.2%)
Total	384 (100)	384 (100)	384 (100)	384 (100)	384 (100)	384 (100)	384 (100)	384 (100%)

Source: *Primary Data*

a. 24/7 Availability for Customers

Out of 384 respondents, a large proportion 27.3% rated round-the-clock availability as “Least Important,” and another 18.2% as “Minimally Important.” This means almost half the sample did not see 24/7 availability as a strong benefit. Only 10.7% felt it was the “Most Important” benefit, while another 18.5% (Important + Very Important) acknowledged its usefulness. Overall, respondents perceive continuous availability as less critical compared to other chatbot features. This suggests that customers value *quality and relevance of interaction* more than mere presence at all hours.

b. Easy Checkout

In this case, 20.1% marked it as “Minimally Important” and another 16.7% as “Least Important,” indicating that a considerable portion of customers do not associate checkout ease with chatbot value. However, 11.7% considered it the

"Most Important" factor, and 12.2% rated it as "Very Important." Together with "Important" (9.4%), about one-third of respondents acknowledged this benefit. The result shows that while chatbot-assisted checkout is appreciated by some, it is not a top-priority feature for most respondents.

c. Proactive Customer Service

Here, the responses lean more positively. Only 8.6% considered it "Least Important," while a significant 20.1% rated it as "Important," and another 16.4% as "Very Important." Additionally, 9.4% marked it "Most Important." Together, more than 45% of respondents valued proactive service highly. This indicates that customers appreciate chatbots that can anticipate their needs and resolve issues without being prompted, making it one of the strongest benefits.

d. Faster Response Time

For response speed, opinions were mixed. Around 29% of respondents considered it "Least Important" or "Minimally Important." Meanwhile, 20.8% rated it as "Moderately Important," showing that many see it as a mid-level expectation rather than a top priority. Still, about one-third (34.2%) rated it as Important to Most Important. This suggests that quick replies are valued, but they are often taken for granted as a basic chatbot function, not a differentiator.

e. Omnichannel Support

A fairly balanced response was observed here. About 17.4% rated it as "Important," 15.1% as "Very Important," and 12.2% as "Most Important," making up 44.7% positive ratings overall. In contrast, only 24% rated it in the bottom two categories (Not Important/Minimally Important). This indicates that respondents value the ability of chatbots to provide seamless support across multiple platforms, such as apps, websites, and social media.

f. Multilingual Support

This feature received strong positive endorsement. About 36.7% rated it as either "Very Important" (19.0%) or "Most Important" (17.7%). Including "Important" (14.8%), over half the sample (51.5%) viewed multilingual support as essential. Only 24.2% considered it among the two Minimally Important categories. This indicates that inclusivity and accessibility across different languages play a major role in enhancing chatbot adoption and satisfaction.

g. Better Personalization

This feature emerged as the highest-rated benefit. More than one-quarter of respondents (26.8%) rated it as the "Most Important" benefit. In addition, 18.8% rated it as "Very Important" and 15.6% as "Important," together accounting for 61.2% of respondents in the top categories. Only about 20.8% placed it in the bottom two categories. This demonstrates that users highly value chatbots that can tailor interactions, adapt to preferences, and provide customized solutions.

The following table depicts the overall importance assigned to various benefits of banking chatbots by respondents. At the level of mean frequency and percentage across all generated benefits, it can be seen that category "Most Important" has an average frequency (15.2%), equal to 56, which represents a major importance of every benefit that at least one respondent considers highly critical from the chatbots' aspect. Individual benefits have a top three rankings dominated by "Better Personalization" as the most valuable feature, with 103 (26.8%) participants voting it on top of their list in other words, respondents are seeking an individual layer rather than generic defaults when it comes to the service provided for them. Scoring within the "Very Important" category average of 52 (14.4%) suggests that many respondents rate benefits such as multilingual support and improved personalization, to name a few, highly, indicating an appreciation amongst users for advanced functionality aligned with enhanced convenience and inclusivity. Combining the two, Categories "Moderately Important," (14.0%) + "Slightly Important" (14.1%), and "Important" (14.7%) computes to an overall average of approximately 55 respondents reflecting a moderate level of perceived benefit for faster response time, omnichannel support or proactive customer service valued slightly less than personalization or availability A considerable minority of respondents (15.7%) also did not view any of the benefits as important, and a slightly smaller proportion made up those in the second least important category ("Minimally Important"), giving an average score of 55.7 (14.9%); suggesting that perhaps certain features may be less relevant based on user experience or mastery of underlying technology, and this is impacting our findings. In conclusion, enhanced personalization, the ability to interact in multiple languages and round the clock service are three benefits influencing users towards engaging with chatbots. The basic benefits, such as ease of check-out and quicker response to complaints or queries, are important, but those who respond seem to value features that more closely improve user experience, make it easier for people and are inclusive. The even distribution across categories indicates that some users are more excited than others about the prospect of chatbots, which suggests that while banks need to implement fundamental functionality, they also need to focus on value-added, user-centric features.

B) Analysis of perceived services and services used:

To this understanding, it is necessary to analyse both the services that customers tend to consider important and the ones that are used in practice. The perceived services pertain to how respondents view the appropriateness and potential usefulness

of common chatbot features, including addressing FAQs, executing basic banking functions, preemptive support or personalized help (Parasuraman et al., 1988). The current viewpoint emphasizes customer expectations and the location in which it is assumed that chatbots would provide value by improving service quality. Alternatively, an analysis of services actually used by respondents yields insight into real-world adoption patterns and the extent to which chatbots have been incorporated into typical banking activities. In comparing perceptions to actual usage, the study not only identifies features most and least valued by customers but also highlights discrepancies between what a customer expects versus real-world engagement, providing deep insight into chatbot effectiveness in modern banking (Lemon & Verhoef, 2016).

Table 2: Perception of the Respondents towards Services Provided by Chatbot

Services Provided by Chatbot	Frequency	Percent (%)
Assist with essential banking activities	75	19.5
Answering FAQs	175	45.6
Provide proactive support	58	15.1
Assist customers in buying financial products	53	13.8
Resolve suspicious activities	21	5.5
All the above	2	0.5
Total	384	100.0

Source: *Primary Data*

Based on the above table on services offered by banking chatbots, respondents had many features in mind while indicating how they feel about them. The most cited service belongs to the category of "Answering FAQs," selected as the main function they use or value by 175 respondents (45.6%). It points towards an instance of users using chatbots for quick and simple information and common queries, showing that the helpfulness of instant help in banking works at a day-to-day level. The second most preferred service was "Help with essential banking activities" by 75 respondents (19.5%), highlighting what seems to be consumer appreciation for chatbots in handling minimum transactions and account-related operations smoothly. "Cover proactive support" and "Assist customer in making purchases of financial products" were optional out of 58 responses (15.1%) or 53 responses (13.8%), indicating users would also like proactive guidance and assistance when they are considering exploring or purchasing a service from any fintech provider, although not as high as general knowledge-based information nor transactions directly. The service "Resolve suspicious activities" is considered by only 21 respondents (5.5%), indicating that security-related functions are available, but less frequently used or perceived to be hard benefits for the customers. In fact, only 0.5% (2 respondents) claimed "All the above", meaning that chatbots do not range sufficiently for most users and hardly cover all the services possible. In general, this distribution indicates that the banking chatbots are mainly appreciated for offering fast and reliable responses for routine inquiries, followed by improving straightforward banking actions and product advisory assistance; however, it shows that more specific or security-related services play a minor role, for which users benefit.

Table 3. Perception of the Respondents towards Services Used by Customers

Services Used by Customers	Frequency	Percent (%)
Account opening / Account balance	171	44.5
Transfer money	45	11.7
Finding ATMs	62	16.1
Paying bills	56	14.6
Setting payment reminders	4	1.0
Setting transaction alerts	7	1.8
Buying financial products	8	2.1
Access transaction reports	8	2.1
Blocking ATM & Credit cards	15	3.9
All the above	8	2.1
Total	384	100.0

Source: *Primary Data*

Unfortunately, though, the table on services of the banking chatbot that respondents have ever used is also limited in applicability, as it offers some visibility on what they actually use these digital tools for. Account opening / Account balance appears as the most used service selected by 171 respondents (44.5%) in our chatbot because users mainly utilize chatbots to handle basic account management activities, which are core functions in their everyday banking activities. The next most commonly used service is "Finding ATMs", with 62 respondents (16.1%), again pointing to the fact that customers use chatbots as an easy way to find physical banking facilities. Following them are "Paying bills" and "Transfer money," with 56 (14.6%) reporting to have done so, followed by 45 (11.7%), demonstrating that financial transactions through chatbots are quite tertiary – accountability services take precedence when working with account information. On the lesser-used side, features like "Blocking ATM & Credit cards" (15 respondents, 3.9%), "Buying financial products" (8 respondents, 2.1%) and

"Accessing transaction reports" (8 respondents, 2.1%) are more specialized or security-related functions that are of less value to the average user. Services such as "Setting payment reminders" and "Setting transaction alerts" are the least used of all, with only 4 (1.0%) and 7 (1.8%) respondents, respectively, suggesting that some such auxiliary features remain underused. Only a few (8 respondents, 2.1%) answered all the above questions, and therefore, very few users use the entire range of functions of banking chatbots. The majority of banks appear to be introducing baseline functionality with chatbots for simple day-to-day task management or surface-level information gathering, but advanced transactional use cases and those requiring security are still underutilized. This suggests that banks can do more to educate users on the full spectrum of chatbot capabilities and drive broader engagement across services.

V. DISCUSSIONS

The results of this study offer valuable insights regarding customers' perception and usage intention for banking chatbots. The findings suggest that, while users are aware of the benefits related to chatbot technology, their preference is progressing from simple operational functionalities to communication and personalized features. Features like 24/7 availability, speedy response time and easy checkout have become basic system capabilities rather than unique selling propositions. By contrast, proactive customer service, omnichannel support, multilingual capability and especially better personalization are seen as much more important, indicating an increasing expectation for convenient, inclusive and customer-centric digital banking services. The study reveals that customers primarily see chatbots as answers to FAQs and help with basic banking tasks, but their usage is focused on simple actions like checking account balances, opening accounts, finding ATMs, bill payment and money transfers. The gap between perceived services and actual usage implies a perception-usage gap where consumers are still skeptical about using chatbots for complex or high-risk financial tasks. (Alagarsamy & Mehrolia, 2023). In general, the findings indicate that the adoption of a chatbot follows a gradual process of building trust, whereby users initially engage with low-risk informational services before transitioning toward more risky transactional functions. And, banks must hone in on utilizing personalization, multilingual assistance, proactive messaging, and greater customer understanding of advanced chatbot features to improve engagement levels and better utilize the power of chatbot technology for a future defined by digital banking.

VI. CONCLUSION

The study examined two approaches in which this study investigated banking chatbot usage, including customer perception and the actual use of banking chatbots. The survey's results showed that chatbots are mostly used for information questions, basic services, answering FAQ questions and checking account balance. The implication here is that customers still primarily see chatbots as information + tools rather than the end-to-end banking assistants they are being marketed to become. Advanced features like proactive support, financial product assistance and security-related functions are used infrequently, suggesting that users have not yet engaged with the wider capabilities offered by chatbot technology. This difference between the perception and usage indicates how crucial awareness of features, risk perception and trust creation are in enhancing chatbots. In summary, the findings indicate that trust in chatbots is built through a step-wise process, whereby users engage first with non-transactional functions using reduced-responsibility informational slips before entering transactions. But the shift toward advisory and security-related services is still slow-moving. Thus, while chatbot technology is receiving extensive application within banks, customers have not yet fully capitalized on this development.

VII. RECOMMENDATIONS

Based on the findings of the study, the following recommendations can be proposed to enhance the effectiveness and adoption of banking chatbots. In order to increase the usability of banking chatbots, it is necessary to improve the underutilized services such as proactive support, alerts and financial preparation assistance through personalized awareness campaigns and in-app guidance (Cao et al., 2021). In the context of such initiatives, we propose to strengthen customer trust by ensuring two-factor authentication and transparent security communications and providing opportunities for human support escalation in times of need (Alagarsamy & Mehrolia, 2023). Furthermore, this study indicates that improving user experience through clear conversational interfaces and context-aware responses can take customer engagement from the current level to the next level (Jain et al., 2024). Finally, banks should implement continuous monitoring and feedback mechanisms to evaluate chatbot performance and analyze user feedback regularly, which will help reduce the gap between customer perception and actual usage of chatbot services.

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