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CHATBOTS AND CUSTOMER EXPERIENCE IN BANKING INDUSTRY: A DESCRIPTIVE STUDY

Dr. Alka Pandey¹, Miss. Aakriti Sahu^{2*} and Dr. Anjali Tiwari³

¹Assistant Professor, Department of Commerce, Guru Ghasidas Vishwavidyalaya, Koni Bilaspur (C.G.)

²Research Scholar, Department of Commerce, Guru Ghasidas Vishwavidyalaya, Koni Bilaspur (C.G.)

³Ex Assistant Professor, Department of Commerce, Guru Ghasidas Vishwavidyalaya, Koni Bilaspur (C.G.)

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ABSTRACT

Artificial Intelligence has surpassed humans at completing several difficult tasks as AI is faster than humans in processing vast volumes of information. The most popular AI trend at the moment is using "Chatbots". Chatbots are an effective tool that banks use to improve customer interactions and enhance customer experience. Study takes the objective to document the effectiveness of chatbots across various parameters, including response time, accuracy, customer satisfaction, cost reduction, scalability, and data collection and customer experience with chatbots in terms of the quality of the system, the accuracy and relevance of the information provided, and the overall level of service. The study employed descriptive research design and based on secondary data from various journals, articles and websites. The study offers insights into the benefits and challenges of integrating chatbots into banking through an analysis of the corpus of research on chatbots and customer experience.

KEYWORDS: Chatbot, Banking Sector, Customer Experience, Customer Service, Chatbot effectiveness.

1. INTRODUCTION

In recent years, Artificial Intelligence has surpassed humans at completing several difficult tasks as AI is faster than humans in processing vast volumes of information (Jarrahi, 2018). It carries out human cognitive processes like perception, interpretation, learning (Gams et al., 2019) and translation between languages (Leonard, 2020). AI approaches are finding significant use in several areas (Singh & Agrawal, 2023) to improve decision-making procedures and address intricate issues because it (AI) has the potential to transform many key aspects of our daily lives and can be integrated throughout an organization's value chain (Wamba Taguimdje et al., 2020). A change in business models has resulted from the increased usage of AI in the banking industry for improving customer experience and

managing information and services (Nguyen et al., 2022) as new information channels and methods of simplification are being provided (Prokopenko et al., 2022). The most popular AI trend at the moment is using "conversational agents" or "chatbots," which are programs that replicate human conversation and engage with people conversationally (Poola I., 2017). It simplifies customer interaction management by automating communication processes as chatbots are able to comprehend spoken language and engage in speech communication. It uses Natural Language Processing to comprehend customers' inquiries which allows chatbots to comprehend one or more human languages, making them seem like intelligent beings when engaged in text or voice conversations (Khanna et al., 2015) and Machine Learning which helps chatbots to identify sentiment and form emotional connections with customers, much like human operators do (folstad et al., 2018). Introduction of chatbots has revolutionized customer communication and is the latest competitive element in the banking sector as chatbots are a means of delivering online banking services and are an effective tool that banks use to improve customer interactions, which in turn improves service quality, solidifies the reciprocity between the bank and customers, and enhances the customer experience (Chen et al., 2021). Since chatbots are capable of comprehending customer queries and are well-suited to providing services to customers, businesses must understand how chatbots affect the customer experience (Kushwaha et al., 2021). One important aspect influencing the customer experience is the chatbots' readiness to assist (Petersson et al., 2023) as chatbots are able to assist a considerably greater number of customers at any hour of the day (Tamara et al., 2024). Additionally, Factors such as system quality, accuracy and relevance of the information provided, and overall level of service affect customer experience with chatbots (Trivedi, 2019). However, these elements have a tremendous effect on customer satisfaction and their readiness to use banking chatbots in the future (Xuan et al., 2024). Moreover, according to (Peterson et al., 2023), using emojis as conversational cues can greatly enhance the customer experience since they foster a human connection with the customers. It's widely held that the future banking industry will benefit from human and technological combined strengths (Tamara et al., 2024). Even with the growing usage of chatbots in the banking industry, comprehensive documentation that addresses the customer experience with these technologies is still lacking. Thus, this study takes the objectives to document the customer experiences with chatbots and evaluating their efficacy in customer service within the banking industry.

2. LITERATURE REVIEW:

2.1 AI in banking sector:

New technologies in banking sector are expanded in financial market (Bhat et al., 2020). These technologies include use of the Artificial Intelligence. Artificial Intelligence (AI) has become an influential driver that has changed daily operations and enriched customer experience in the world financial industry (Patil et al., 2024). AI's application in banking is not new. It has been used by financial institutions to address a variety of difficult problems by streamlining manual procedures and

improving their accuracy, speed, cost-effectiveness (Marous, 2017) and the performance of repetitive jobs (Tamara et al., 2024) and reshaping the bank-customer relationship (Sharma & Gola, 2022). Additionally, AI is being used more frequently as a way to capture and analyze customer engagements with digital financial services (Sharma et al., 2023). Development in technologies will interact or integrate to alter the nature of banking and customer interaction. Three scenarios demonstrate how AI is being extensively utilized in the banking industry. Firstly, chatbots, voice banking, and robo-advice are being used to improve customer connection and experience. second, for improving the effectiveness of banking procedures by handling complaints, processing KYC (Know Your Customer) documents, reporting, process automation, and optimization. The third area is for improving security and risk management through improved risk management, compliance monitoring, assistance with data quality assurance, payment transaction monitoring, cyber risk mitigation, etc. (Shambira et al., 2020). Applications of these technologies can be found in front offices, back offices, and other platforms, including mobile banking services (Shambira et al., 2020). These days, AI is becoming more than just process optimization; it's "the new user interface" (UI) (King., 2018) named chatbots. Chatbots best exemplify AI that enables human-computer interaction (Bansal et al., 2018). Chatbots, are designed to replicate human speech and interact with users in similar ways. Understanding spoken language and conversing verbally allows them to automate communication operations. Chatbots can react intelligently in text or voice interactions by understanding client requests thanks to Natural Language Processing and Machine Learning. By identifying sentiment and building emotional ties with clients, these technologies enable chatbots to mimic human operators (Poolal I., 2017) (Khanna et al., 2015) (folstad et al., 2018). It's becoming increasingly usual for banks and fintech businesses to use chatbots to answer consumer inquiries, questions, and doubts (Dharmadhikari et al., 2024). Banks and other financial organizations may handle customers' complaints around-the-clock with the help of these chatbots (Dharmadhikari et al., 2024). Service providers may now expand their offers to more remote places since customers can conveniently receive financial services without physically visiting the bank. As a result, banks may now interact with the unbanked populace (Dharmadhikari et al., 2024).

2.2 Effectiveness of Chatbots and Customer Service:

According to Hoyer et al. (2020), service providers may better meet customer requirements by using upcoming technology like chatbots and artificial intelligence by enabling them to create immersive, personalised, and psychologically charged experiences. There are many studies that have proven that AI helped in chatbot customer support to achieve an excellent operational and organisational efficiency. AI through chatbots helps business process management by way of automation and increased process, service and customer service efficiency. According to Maedche et al. (2019) and Paschek et al. (2017), this methodology promotes the development of novel applications, transactions, processes, and solutions through constant learning and information exploration.

Chatbots are usually created with efficacy and efficiency in mind (Nordheim et al.2019). The market for chatbots is expanding, and some studies have shown that they can be quite helpful in giving clients a positive experience. A pleasant customer experience with chatbots is mostly dependent on the quality of the system, services, and information provided which ultimately leads to consumer satisfaction (Trivedi, 2019), quoting DeLone and McLean (1992). Nonetheless, a number of research revealed that consumers preferred and trusted chatbot services less than those provided by human agents. Notably, the most potent generative AI chatbots generating news are contentious for many reasons and give rise to a number of additional questions about their reliability, ethics, and accuracy (Bowman, 2023; Pegoraro et al., 2023; Jabeur et al., 2023).

Consumer sentiment surveys regarding artificial intelligence (AI) consistently reveal that consumers believe human agents are more flexible, understanding, and able to comprehend than chatbots (Li et al., 2023; Hsu and Lin, 2023; Clark, 2022; Gartner, 2018; Sheehan et al., 2020; Rese et al., 2020; Hill et al., 2015). The aforementioned studies assessed the effects of chatbots that resemble humans and identified a number of favourable and unfavourable elements affecting customer service effectiveness.

2.3 Chatbots and Customer Experience:

The customer experience has become a critical component of contemporary marketing, aiming to give customers a special, enjoyable, and unforgettable experience (Jain et al., 2017). Businesses are beginning to prioritize creating positive customer experiences over typical features-and-benefits marketing (Schmitt, 1999) because it leaves a lasting impact on the minds of the customers (Trivedi, 2019). Chatbots are revolutionizing the banking industry by improving the customer experience and enabling personalized services as it appears to have a great deal of promise for giving consumers prompt, easy service that addresses their individual inquiries (Adamopoulou et al., 2020) (Sridhar 2017). When chatbots provide customers tailored solutions, high system uptime, pertinent information, and are able to route customer inquiries to the appropriate authorities in order to deliver appropriate replies, customers have the best possible experience (Bernazzani, 2018) and result in customer happiness, trust, and a sense of security. Additionally, Consumers' faith in chatbots is influenced by aspects of the chatbot itself, such as how closely it resembles human behaviour (Adamopoulou et al., 2020). Human-likeness can be implied through imitating human speech (conversational cues), using human figures (visual cues) and names that are associated with people (Go & Sundar, 2019).

This aspect of chatbot also improve customer experience.

3. RESEARCH OBJECTIVES:

1. To describe how chatbot's effectiveness influences customer service

2. To assess how effectively chatbots enhance the customer experience.

4. METHODOLOGY:

The present study uses a descriptive research design. It is based on secondary data obtained from various journals, articles, and websites. To find relevant papers, we use Google Scholar. We used key phrases like "Use of Chatbots in Banking Sector" and "Chatbots and Customer Experience" and "Chatbots effectiveness in customer service" to find relevant papers. We thoroughly examined the current literature to come to our conclusions. After reviewing the literature, we provided insights into how chatbots can impact customer experience with its efficiency in providing customer service.

5. FINDING & DISCUSSION:

The incorporation of chatbots into customer service has transformed how businesses engage with their customers. These AI-powered tools are designed to mimic human conversation, providing personalized, immediate, and efficient responses to customer inquiries. This section offers a thorough analysis of how chatbots impact the effectiveness of customer service across various parameters, including response time, accuracy, customer satisfaction, cost reduction, scalability, and data collection.

5.1 Customer Service:

5.1.1 Response Time Improvement-

In traditional customer service settings, customers may experience delays due to high call volumes, limited staffing, or operational hours. Human agents can handle only one customer at a time, which often leads to long wait times during peak hours. Chatbots, however, can manage thousands of interactions simultaneously, ensuring that each customer receives immediate attention. This capability is particularly beneficial in sectors where quick issue resolution is critical, such as e-commerce, telecommunications, and banking. For example, in online retail, customers seeking information about product availability, order status, or return policies expect swift responses to make purchasing decisions. Delays can lead to customer frustration and potential loss of sales.

With chatbots, companies can ensure that customer inquiries are addressed promptly, regardless of the time or day. Prompt and timely replies increase customer happiness, improve an overall experience, and contribute to increased conversion rates and retention.

5.1.2 Accuracy and Consistency in Responses-

Chatbots are programmed with predefined scripts and trained using extensive datasets to provide accurate and consistent responses to customer queries. This programming allows chatbots to minimize the errors often associated with human interactions, such as providing incorrect information or

misunderstanding customer questions. Consistency in responses is a critical factor in building customer trust and reliability.

For instance, a customer asking about return policies will receive the same detailed response every time, eliminating the confusion that may arise from differing explanations provided by different human agents. Chatbots can also be updated in real-time, ensuring they always have the latest information about product offerings, pricing, promotions, or policy changes. This ability to provide up-to-date and accurate information is crucial in industries like finance, healthcare, and retail, where misinformation can lead to serious customer dissatisfaction or legal issues.

5.1.3 Enhanced Consumer Satisfaction

User satisfaction is a critical metric of success in any business, and chatbots play a significant role in enhancing this aspect. By offering personalized and interactive experiences, chatbots can engage customers in a way that feels natural and tailored to their needs. Chatbots are designed to comprehend and process natural language, enabling them to interpret and respond to customer queries more effectively. They can recognize keywords, context, and even sentiment, enabling them to provide relevant responses and solutions. For example, a customer expressing frustration can be met with empathy and appropriate actions to resolve their issue, improving their overall interaction.

Additionally, chatbots can customize interactions by using data from previous exchanges to provide customized support or relevant recommendations. For instance, if a customer frequently inquires about certain types of products, the chatbot can recommend similar items or notify the customer about related promotions.

In addition, the polite and professional demeanor of chatbots eliminates the variability in human interactions. Unlike human agents who might show signs of frustration or impatience, chatbots maintain a consistent, friendly, and helpful tone, ensuring a positive interaction every time. This predictability and consistency contribute to a more satisfying customer service interaction, resulting in improved client loyalty and retention rates.

5.1.4 Cost Efficiency

Chatbots offer a cost-effective solution for companies seeking to enhance their customer service. Businesses can cut down on the need for extensive customer service staff and lower expenses associated with recruitment and training by utilizing chatbots. Automating common and repetitive inquiries enables organizations to optimize their human resources by assigning them to more advanced tasks requiring human judgment and decision-making.

The cost savings associated with chatbot implementation go beyond just labour expenses. Chatbots reduce operational costs related to infrastructure, such as phone lines, office space, and equipment required for traditional customer service centres. These savings can be redirected towards other strategic initiatives, such as improving product quality, marketing, or expanding service offerings.

5.1.5 Scalability-

Scalability is another critical benefit of chatbots. As businesses grow and customer inquiries increase, chatbots can easily scale to accommodate higher volumes without the need for proportional increases in staffing. This scalability ensures that customer service remains efficient and responsive, even during peak periods such as holiday seasons, sales promotions, or product launches.

For example, an e-commerce platform experiencing a surge in orders during a Black Friday sale can rely on chatbots to handle the increased volume of customer inquiries about product availability, shipping, and order status. This capability allows businesses to maintain high levels of service quality and customer satisfaction without incurring additional operational costs.

5.1.6 Data Collection and Analysis-

Each interaction with a chatbot provides insights into customer behaviour, preferences, and pain points. By analyzing this data, Businesses may get a more comprehensive insight of their consumers, which can inform decision-making and strategy development. Chatbots can collect data on frequently asked questions, common issues, and customer feedback, which can be used to identify areas for improvement in products or services. For instance, if a chatbot receives a high volume of inquiries about a particular product feature, it may indicate that customers find the feature confusing or that there is a need for additional information or support.

Furthermore, chatbots can track customer sentiment, helping businesses to gauge customer satisfaction and address concerns proactively. By monitoring sentiment, companies can identify trends and respond to negative feedback before it escalates, thus maintaining a positive brand image. This data-driven approach enables businesses to optimize their customer service strategies, enhance product offerings, and improve overall customer experience.

5.2 Customer Experience with chatbots:

A new age of customer connection has begun with the introduction of conversational agents in the banking sector, this has significantly impacted client satisfaction. This section examines the effects of incorporating chatbots into financial services, emphasizing the ways in which these innovations in technology affect client happiness. It looks at things like overall user experiences, information quality, system quality, and service quality. (Hassenzahl and Tractinsky, 2006) describe how user experience

is influenced by the combination of the interaction's context, the system's design features, and the user's internal state.

5.2.1 System quality

Customers' interactions and experience with chatbot systems are greatly influenced by system quality, which is characterized by features like responsiveness, reliability, and user interface design (Oostenbrink, 2015). If chatbot quickly response to the customers' inquiry, its interface is easy to use, provide useful and reliable information, customer feels happy for getting timely and accurate services and it led to positive customer experience. If chatbots are difficult to use, deliver inaccurate information, or take a long time to respond then the user experience is certain to be adverse (Trivedi, 2019).

For example, when a customer asks a chatbot how to open a bank savings account, the chatbot promptly responds and provides the steps he needs to follow in order to open a savings account. However, the steps that chatbots provide must be dependable. Furthermore, a chatbot's user interface should be intuitive and easy to use so that users may obtain the services they require.

5.2.2 Information quality

The effectiveness of a chatbot is largely determined by the quality of the information it delivers (DeLone & McLean, 1992). The significance of information quality was elucidated by Clikeman (1999), who stated that the information that users receive must be accurate, timely, and relevant. If relevant information is not provided by chatbots when required, users may decide to give up on the technology because of their unsatisfactory experience (Trivedi, 2019).

For example, a consumer may ask a chatbot about housing loan plans, and the chatbot may direct the customer or give links so they can readily learn about the different housing loan plans. Accurate information of this kind improved customer satisfaction and encouraged continued chatbot use.

5.2.3 Service quality

Customer retention is one of the most important components of the banking sector and that makes the quality of service an utmost importance (Ghosh and Chakraborty, 2020)). Assurance, empathy, and responsiveness are significant factors that determine the quality of the service (Gorla et al., 2010). The response refers to providing services quickly, empathy to comprehend the demands and interests of users, and assurance to have knowledgeable service personnel who can resolve issues and keep customers in professional communication (Gorla et al., 2010). The categories under contact, entertainment, and problem-solving included functions aimed at "enhancing service performance," which included functions focused on the needs of the client and intended to improve the quality of the

service. (Misischia et al., 2022). It was demonstrated that empathy, openness, and a trustworthy demeanor when paired with a socially conscious communication style have proven to improve the quality of interactions and increase the efficacy of a chatbot's services (Rapp et al., 2021). Additionally, past studies have linked the humanization of chatbots to favourable consumer evaluations and their capacity to provide more human-like cues, which raises the emotional connection during service interactions (Araujo, 2018). Thus, for better customer experience human aspect in chatbots is crucial as well. Humanizing online chat bots may be done in a few different ways. First, there are visual cues, which are human-like figures that are used in images; second, there are identification cues, which are names or identities connected with people; and third, there are imitations of human language usage, which are used in conversations (Go et al., 2019). These all elements improve customer experience with banking chatbots.

5.3 Challenges and Limitations

While chatbots offer numerous advantages, they are not without challenges and limitations. One significant limitation is chatbots are useful in completing simple task and might not live up to users' high standards in terms of language proficiency (Grudin & Jacques, 2019). They could also provoke a range of (bad) emotions because of things like anger over not being understood and lead users to acquire biased opinions about the technology (Grudin & Jacques, 2019), their inability to handle complex or nuanced queries require human empathy or judgment. While chatbots can efficiently address routine questions, they may struggle with issues that are ambiguous or emotionally charged. For example, a chatbot may not fully understand a customer's frustration about a delayed order due to factors beyond its programming. In such cases, a human touch is necessary to empathize, apologize, and offer appropriate compensation or solutions. To mitigate this limitation, businesses often implement a hybrid model, where chatbots handle routine inquiries and human agents are available for escalated cases. Another challenge is the dependency on programming and data. The efficacy of chatbots is contingent upon the underlying algorithms and the calibre of the data they are trained on. If a chatbot is not regularly updated with accurate information, it may provide incorrect or outdated responses, leading to customer dissatisfaction. Businesses must invest in continuous monitoring, training, and updating of chatbots to ensure they remain effective and relevant. Privacy and security concerns also arise with the use of chatbots, as they handle sensitive customer data. businesses must make sure that their chatbots follow data protection rules and have robust security measures in place to avoid unwanted access and data breaches. Additionally, in order to preserve confidence and adhere to legal obligations, transparency in the gathering, storing, and utilization of consumer data is required to follow for businesses.

6. CONCLUSION:

When a single customer service chatbot platform is implemented within an organization, training and

expertise for agents become standardized. The platform also remains unaffected by factors that typically impair human performance, such as fatigue and memory lapses. Therefore, it's understandable that organizations are highly motivated to replace human agents with artificial intelligence (AI) chatbots for customer service (Wang et al., 2022; Sands et al., 2021). Chatbots have shown to be quite useful in increasing customer service efficiency by providing immediate responses, ensuring accuracy, enhancing customer satisfaction, reducing costs, offering scalability, and facilitating data collection. Customer experience with chatbot in banking sector can be improved by emphasizing the quality of the system, the accuracy of the information provided, and the level of service offered.

Chatbots address many of the challenges traditionally associated with customer service operations. However, their implementation must be strategically managed, with continuous updates, human oversight, and a focus on privacy and security. It is expected that chatbots will become even more effective and efficient as technology develops, hence improving customer service skills. Businesses that leverage these tools effectively are likely to see significant improvements in customer experience. The results imply that a company's profitability and survival in the financial industry depend heavily on its usage of AI, especially virtual assistants. This result is consistent with the viewpoints of Lopes (2016) and Tigre (2019), who have made contributions to the evolutionary innovation method.

Limitation & Future Scope:

This study has some limitations. First, it relies entirely on secondary data. Future research could benefit from utilizing primary data to gain deeper insights into customer experiences with chatbots. Second, this study focuses solely on the customer experience within the banking sector. Future studies could include various sectors to illustrate the relevance of chatbots across different businesses. Overall, this study is valuable for the banking industry as it aims to enhance AI efficiency, particularly in chatbots, to improve customer satisfaction.

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