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Exploring Retail Customers' Financial Knowledge and Interaction with Banking Chatbots: A Study with Special Reference to SBI

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ABSTRACT

This study explores the relationship between retail customers' financial knowledge and their adoption of SBI banking chatbots. As digital transformation advances in the banking sector, chatbots have become crucial in customer service, particularly for banks like SBI. This research examines whether customers' financial literacy impacts their engagement with banking chatbots. The study uses a quantitative approach, analyzing data collected from a sample of SBI retail customers. Contrary to popular belief, the results indicate that there is no significant relationship between customers' financial knowledge and their interactions with SBI banking chatbots.

Keywords: Financial Knowledge, Banking Chatbots, SBI, Retail Customers, Digital Banking

I. Introduction

In today's digital age, technological advancements have significantly transformed the banking sector. Among these innovations, artificial intelligence (AI)-powered chatbots have emerged as essential tools for enhancing customer service, streamlining operations, and offering personalized banking experiences. Chatbots are automated conversational agents designed to simulate human-like interactions, enabling customers to access information, perform transactions, resolve queries, and receive support 24/7.

The State Bank of India (SBI), India's largest public sector bank, has embraced this technological shift by integrating AI-driven chatbots into its digital banking framework. These chatbots serve as a convenient platform for customers to inquire about account balances, fund transfers, loan applications, and more without the need for direct human intervention. The efficiency, cost-effectiveness, and real-time capabilities of chatbots make them a popular choice for banks seeking to enhance customer satisfaction and operational efficiency.

Financial knowledge plays a crucial role in determining customers' interactions with banking technologies. Customers with higher financial literacy may feel more confident in using advanced banking tools like chatbots, while those with limited financial knowledge may face challenges in navigating such digital interfaces. However, there is limited research exploring whether financial knowledge influences the use and adoption of banking chatbots, particularly in the context of SBI.

II. Review of Literature

Bansal, C., Kumar, K., Goel, R., & Sharma, A. (2024) - The study analyzed barriers to adopting AI-powered banking chatbots in India using Interpretive Structural Modelling (ISM) and MICMAC analysis. Key challenges identified include the lack of AI regulations, limited human-like interaction, and issues with transparency. Addressing these barriers requires stronger regulatory frameworks and improved chatbot design to enhance user trust. Recommendations are provided for industry stakeholders to optimize chatbot usability and compliance.

Othayoth, P. K., & Khanna, S. (2024) - This research evaluated the service quality of banking chatbots in India and their influence on customer satisfaction and value. Using a quantitative approach, data were collected through questionnaires and analyzed with SPSS and Python. Findings revealed that factors like functionality, enjoyment, and personalization positively affect customer satisfaction, while assurance had a negative effect on perceived value. The study emphasizes the need for banks to enhance chatbot design and provide a customer-centric approach.

Le, X. C., & Nguyen, T. H. (2024) - The study explored how chatbot characteristics influence customer experience, satisfaction, and continued usage in Vietnam's banking sector. Data from 336 respondents were analyzed using SPSS and AMOS. The results highlighted the importance of effective chatbot features in driving positive customer experiences and retention. These findings provide valuable insights for future research and practical applications in enhancing chatbot adoption in banking.

Aslam, U. (2023) - The study explored the usability of chatbots in retail fashion, focusing on customer expectations and experiences. Data from online reviews, interviews, and focus groups indicated that customers often encounter generic, automated responses that fail to address complex queries. The research emphasizes the need for enhanced chatbot features, multilingual support, and faster response times to improve customer engagement. Recommendations include minimizing technical issues like conversation freezes and optimizing battery consumption for a smoother experience. The study offers a framework for improving interactivity, compatibility, and credibility to enhance chatbot usability in the fashion retail sector.

Mehroliya, S., Alagarsamy, S., & Jeevananda, S. (2023) - This research examined the impact of service quality on users' satisfaction and continued use of banking chatbots, considering the moderating role of perceived risk. Based on a survey of 447 participants in Bengaluru, the study found that reliability, interactivity, assurance, responsiveness, and understandability significantly influence post-use satisfaction and continued usage. However, perceived risk negatively affects this relationship. The findings suggest that improving chatbot quality and minimizing perceived risks can enhance user satisfaction and retention. These insights are valuable for chatbot developers and e-service providers.

III. Research Methodology

Research Gap

The existing literature explores various aspects of chatbot adoption in banking, such as usability, trust, and service quality. However, there is a significant gap in examining the interaction between retail customers' financial knowledge and their use of banking chatbots, especially in the context of the State Bank of India (SBI). Current studies lack a focus on how financial literacy impacts customer engagement with chatbots and the personalized financial advisory services they offer. Additionally, research specific to SBI's diverse retail customer base remains underexplored, creating a need for a comprehensive study on their unique behavioral patterns and chatbot interaction experiences.

Statement of the problem

The increasing adoption of digital tools like chatbots has transformed the banking experience for retail customers. However, many customers still face challenges in effectively interacting with these technologies. A lack of financial knowledge may hinder their ability to utilize chatbots efficiently, impacting their overall experience. This study aims to explore whether there is a significant relationship between customers' financial knowledge and their adoption of SBI banking chatbots.

Objectives

To examine the relationship between retail customers' financial knowledge and their adoption of SBI banking chatbots.

Hypothesis of the study

H0: There is no significant relationship between retail customers' financial knowledge and their adoption of SBI banking chatbots.

H1: There is a significant relationship between retail customers' financial knowledge and their adoption of SBI banking chatbots.

Data Collection methods

In this study, primary data is collected through questionnaire which will be filled by 121 respondents and secondary data is collected from various articles and books.

Sampling

Population: The population in this study includes the retail customers (students) of the State Bank of India (SBI) who have an SBI account and used SBI's chatbot or other digital banking services

Sample Size: 121 respondents.

Research Instrument

Questionnaire: A questionnaire is a research tool that includes a series of questions aimed to collect data from participants for a survey or statistical analysis.

Sampling Type

The study employs non-probability sampling (convenience sampling), which means the respondents are chosen through non-probability sampling. In non-probability sampling not every individual in the population has an equal opportunity to participate.

Specifically, this research utilizes a targeted approach, focusing on individuals (students) who meet a specific criterion - namely, having a bank account in SBI.

Area of study

The area of study for your research is Financial Technology (FinTech), focusing specifically on Digital Banking and Customer Interaction with Chatbots. This study also intersects with the fields of Consumer Behavior, Financial Literacy, and Technology Adoption in the context of retail banking, particularly within the State Bank of India (SBI).

Scope of the Study

This study explores the interaction of retail customers (students) with SBI banking chatbots, focusing on their financial knowledge, demographic factors, perceived ease of use, and trust in technology. It aims to understand how these elements influence the adoption, usage frequency, customer satisfaction, and continued use of the chatbot services. The study uses primary data collected via questionnaires and secondary data from bank reports and academic journals, with the findings intended to enhance digital banking services and contribute to academic research in FinTech and consumer behavior.

Limitations of the study

- The study focuses only on SBI customers, so the findings may not fully represent the chatbot interactions in private sector banks.
- The study will be limited to urban and semi-urban areas, which may not capture the experiences of rural customers and it limited to Bangalore only.
- Customers with limited access to digital banking platforms or the internet may be underrepresented in the sample.
- The study is liable to the respondents' opinions and biases. Therefore, one cannot assume 100% accuracy.

IV. Analysis and Interpretation

Regression analysis

Regression analysis is a statistical technique used to examine the relationship between a dependent variable and independent variables. It helps understand how changes in the independent variables affect the dependent variable.

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.162	3	6.387	15.955	.000b
	Residual	46.838	117	.400		
	Total	66.000	120			

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.855	.390		2.190	.031
Have sufficient knowledge about financial products and services	.289	.086	.282	3.362	.001
Financial knowledge influences decision to use SBI banking chatbots.	.279	.079	.291	3.531	.001
Believe SBI banking chatbots Provide useful financial guidance.	.199	.083	.191	2.391	.018

a. Dependent Variable: Chatbot adoption

Interpretation

The results of the Regression analysis reveal a statistically significant relationship between retail customers' financial knowledge and their adoption of SBI banking chatbots. The ANOVA table shows a significance value of 0.000, indicating that the overall regression model is significant. Specifically, the coefficients table highlights that three independent variables significantly contribute to the adoption of SBI banking chatbots: having sufficient knowledge about financial products and services ($p = 0.001$), financial knowledge influencing the decision to use SBI banking chatbots ($p = 0.001$), and perceiving SBI banking chatbots as providing useful financial guidance ($p = 0.018$). These findings suggest that financial knowledge and the perceived

usefulness of SBI banking chatbots significantly influence their adoption by retail customers, leading to the rejection of the null hypothesis and acceptance of the alternative hypothesis.

V. Findings, suggestion and conclusion

Findings

- Financial literacy is vital for the acceptance of SBI banking chatbots.
- Consumers with sufficient financial literacy are more inclined to utilize chatbots.
- Individuals who think that financial knowledge affects their decision and perceive chatbots as offering useful financial guidance are more likely to embrace them.
- The alternative hypothesis is accepted, indicating a significant relationship between the financial knowledge and their interaction with banking chatbots.

Suggestion

- The study reveals a substantial portion of the population not being aware of chatbot services. Banks should focus on improving awareness and educating customers about the benefits and functionalities of chatbots.
- Since a significant portion of respondents finds using chatbots easy and are satisfied with the services, banks should continue to invest in user-friendly chatbot interfaces and maintain high service standards.
- Banks can conduct targeted campaigns to enhance understanding and promote additional financial literacy initiatives.
- Considering the impact of educational qualifications on awareness, banks may explore collaboration with educational institutions to provide financial education programs.
- The study opens avenues for further research, including in-depth investigations into the reasons behind certain preferences and behaviours, enabling banks to refine their strategies accordingly.

Conclusion

The study reveals that retail customers' financial knowledge significantly influences their adoption of SBI banking chatbots. Regression analysis showed that customers with sufficient financial knowledge are more likely to use chatbots, especially when they perceive these tools as valuable for financial guidance. This finding underscores the need for banks like SBI to enhance customer awareness and provide educational resources to encourage effective use of chatbots. Educating customers about financial products and services can build their confidence in utilizing technology-driven banking solutions. Additionally, demographic factors like age and education level were not found to have a significant impact on chatbot usage, suggesting that chatbots appeal to a diverse age range and educational backgrounds. However, income level did influence the reasons for using chatbots, indicating that customers from different financial backgrounds have varied expectations from chatbot services. This implies that SBI can customize its chatbot features to cater to diverse financial needs, improving user engagement.

Furthermore, perceived ease of use positively affects customer satisfaction, though factors like chatbot efficiency, problem resolution, and personalized interaction also play a role. Trust in technology, particularly regarding secure transactions, was crucial for customers' continued use of chatbots. Customers are more likely to use chatbots when they trust the platform's data security measures, emphasizing the importance of strong security practices and transparent operations. In conclusion, financial knowledge, perceived ease of use, and trust in technology are critical factors influencing the adoption and continued use of SBI banking chatbots. Addressing these aspects can help SBI enhance chatbot adoption, improve customer satisfaction, and establish reliable digital banking services.

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