

Artificial Intelligence (AI) powered Financial Assistant Services in Banking Sector: A Comparison of Customer Awareness Based on Demographic Variables

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ABSTRACT:

Artificial intelligence-powered financial assistants offer a 24/7, easily available service that includes insights into spending patterns, savings plan recommendations, and even answers to questions about banking-related duties. By combining convenience, individualized services, and enhanced operational performance, the banking industry's use of AI-powered financial assistants is completely changing the way financial services are provided. The banking industry's most recent use of new technology is the use of AI-powered financial assistant services. As more customers are inclining towards tech-based services, the aim of the present study is to compare the Customer's awareness regarding different dimensions of services provided by AI-powered financial assistants on the basis of gender and type of bank. The study is based on primary data collected through a structured questionnaire that contains six dimensions of services provided by AI-powered financial assistants such as account-related services, debit card-related services, deposit-related services, credit card-related services, loan-related services, and miscellaneous services. The data has been collected from 411 banking customers of Haryana through a survey. T test has been used to identify the findings and the result of the present study indicates that gender and type of bank affects the awareness regarding six dimensions of services provided by AI-powered financial assistants such as Account Related Services, Debit Card Related Services, Deposit Related Services, Credit Card Related Services, Loan Related Services and Miscellaneous Services. Across all six dimensions of services provided by AIFA, male customers have more awareness regarding services provided by AIFA and Private sector banks customers have more awareness regarding services provided by AIFA. AI-powered financial assistant services are transforming the way banks interact with customers and streamline internal processes. The results of the present study will help banks and financial institutions to better understand their customers.

Keywords: Artificial Intelligence (AI), Banks, AI- powered Financial Assistant, Customers, Services.

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INTRODUCTION

FinTech is continuously spreading across various sectors like manufacturing, financial, agricultural, smart cities, mobility and transportation, healthcare, education, retail and customer relationships. Due to its propensity to increase profitability, the financial industry was among the first to experiment with financial innovations. Because of this, the conventional banking and financial services sectors are vying with one another to create and implement an increasing number of technology-based applications, and they are contacting Fin-tech businesses with the goal of offering their clients cutting-edge services.

One of the most popular FinTech technologies, artificial intelligence has the potential to be very important to the financial sector. In 1956, John McCarthy invented the term artificial intelligence and defined it as the science and engineering of making intelligent machines. The creation of an intelligent agent that senses its surroundings and acts to increase its chances of success is the contemporary definition of artificial intelligence. Another AI-driven tool that banks have been utilizing to aid with customer service is chatbots, electronic virtual assistants, or financial assistants. These virtual assistants provide a clever and efficient way to communicate with the bank in real time, around-the-clock (Patil & Kulkarni, 2019). They can respond to a variety of questions about bank accounts, credit and debit cards, house loans, personal loans, fixed deposits, and other services. It is feasible to improve banking services' efficiency and automate most incoming inquiries by utilizing AI-based financial support (R. & Ravi, 2021). Therefore, the aim of the present study is to compare the Customer's awareness regarding different dimensions of services provided by AI-powered financial assistants on the basis of gender and type of bank . Six dimensions of services provided by AI-powered financial assistants includes Account Related Services, Debit Card Related Services, Deposit Related Services, Credit Card Related Services, Loan Related Services and Miscellaneous Services.

OBJECTIVES OF THE STUDY

1. To compare the awareness regarding different dimensions of services provided by AI-powered financial assistants on the basis of gender.
2. To make comparison of the awareness regarding different dimensions of services provided by AI-powered financial assistants among public and private sector banking customers.

LITERATURE REVIEW

One important technological development that is revolutionizing the banking business is the use of Artificial Intelligence (AI)-driven Financial Assistant services (Patil & Kulkarni, 2019). Financial institutions may improve customer service, streamline processes, and provide individualized banking experiences with the use of these AI-powered solutions (Bhattacharya & Sinha, 2022). These AI assistants can effectively manage services including responding to consumer inquiries, giving financial advice, processing transactions, and making customized product recommendations by utilizing machine learning algorithms, natural language processing, and data analytics (R. & Ravi, 2021).

Artificial intelligence (AI)-powered financial assistants can analyze enormous volumes of financial data in real-time, which helps them make better forecasts and support decision-making (Vijai, 2018). In addition to increasing operational effectiveness, this technology lessens the need for manual intervention and human error. AI assistants give consumers a 24/7,

easily accessible service that includes insights into their spending patterns, recommendations for savings strategies, and even assistance with investment management (Richad et al., 2019).

Additionally, by identifying anomalous activity and possible fraud, AI can improve the security of financial transactions and make banking services safer for users (Soni, 2019; Venkatesan & Sumathi, 2019). The incorporation of AI-driven financial assistants is anticipated to further revolutionize bank operations as the banking industry develops, enhancing client satisfaction and the effectiveness of banking services. By providing a blend of convenience, individualized services, and enhanced operational performance, the banking industry's use of AI-powered financial assistants is completely changing the way financial services are provided (Patil & Kulkarni, 2019).

In Nigeria, the intention to keep using e-banking services is strongly correlated with satisfaction, which is favorably correlated with AI quality (Dantsoho et al., 2021). In their 2019 study, Sindhu and Namratha examined the cost-benefit analysis of five prominent commercial banks' use of AI and listed the AI services that are offered in India. According to the study, if security and participation are simple, individuals are more inclined to adopt AI services. It also showed that awareness, sustainability, capital investment, and data ethics are important factors in this process. Salunkhe (2019) looked at the process and difficulties of implementing AI in SBI and HDFC Bank. They discovered that while AI applications have facilitated gender equality, simple fund transfers, and frequent app use, they have also presented a number of difficulties, including those related to awareness, acceptance of new technology, security concerns, and data threats.

By taking into account customer pervasiveness towards AI in banks, cognitive decision-making, and customers' recognition of the synthetic intelligence era in banks as endogenous variables and customer awareness, client attitudes, and clients' perceptions in the path of AI as exogenous variables, Venkatesan and Sumathi (2019) examined factors influencing customer awareness, attitude, and perception towards the acceptance of artificial intelligence technology in banks of the Coimbatore district of Tamil Nadu. According to the study, the model is thought to be appropriate for describing how the variables affect the general level of client acceptance of AI technology in banks.

RESEARCH METHODOLOGY

- The study is based on primary data collected through a structured questionnaire which was prepared for collecting information from customers regarding six dimensions of services provided by AI-powered financial assistants having 43 statements. Each Statement is based on a five-point Likert Scale ranging from Not at all Aware to Extremely Aware where 1 as Not at all Aware, 2 as Slightly Aware, 3 as Somewhat Aware, 4 as Moderately Aware, and 5 as Extremely Aware.
- The data has been collected from 411 banking customers of Haryana through a survey.
- Secondary Data has been gathered from magazines, books, journals, and websites to complement the primary data.
- Statistical tools like frequency, percentage and mean have been applied to analyze the data. T test has been used to compare the awareness regarding six dimensions of services provided by AI-powered financial assistants such as Account Related Services, Debit Card Related Services, Deposit Related Services, Credit Card Related Services, Loan Related Services and Miscellaneous Services on the basis of demographic variable i.e. gender, type of bank.

HYPOTHESIS OF THE STUDY

H1: There is significant difference between the mean scores of Awareness regarding different dimensions of Services Provided by Artificial Intelligence Powered Financial Assistant on the basis of gender of the respondents.

H2: There is significant difference between the mean scores of Awareness regarding different dimensions of Services Provided by Artificial Intelligence Powered Financial Assistant on the basis of type of bank of the respondents.

RESULTS AND DISCUSSION

This section contains the findings and interpretation of the survey conducted regarding Awareness of different dimensions of Services Provided by Artificial Intelligence Powered Financial Assistant as follows:

Table 1: Demographic Attributes of Respondents

	Categories	Frequency	Percentage	Cumulative Percentage
Gender	Male	246	59.9	59.9
	Female	165	40.1	100.0
	Total	411	100	
The bank you deal with	Public Sector Bank	244	59.4	59.4
	Private Sector Bank	167	40.6	100.0
	Total	411	100	

Source: Field Survey Data

The above Table 1 explains the findings of the frequency and percentage analysis of demographic attributes of 411 respondents who responded to the study. The demographic attributes are Gender, The Bank You Deal With who responds. Table 1 shows that the majority proportion of the respondents are male (59.9%) as compared to the proportion of females (40.1%). According to the survey results, the majority of the respondents are dealing with Public Sector Bank (59.4%) followed by Private Sector Bank (40.6%).

I. Comparison of Awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant on the basis of gender

Table 2: Results of T-Test on the basis of Gender

Dimensions of Services Provided by AIFA	Gender	N	Mean	Std. Deviation	Levene's Test for Equality of Variances		t-value	p-value (Sig. 2-tailed)	Mean Difference	Hypothesis (Accepted/Rejected)
					F	Sig.				

ARS	Male	246	3.8799	1.20255	1.276	0.259	5.821	0.000	0.70814	Accepted
	Female	165	3.1717	1.21855						
DCRS	Male	246	3.7419	1.29103	1.275	0.259	5.782	0.000	0.76005	Accepted
	Female	165	2.9818	1.32907						
DRS	Male	246	3.5962	1.34477	0.469	0.494	5.564	0.000	0.7356	Accepted
	Female	165	2.8606	1.26626						
CCRS	Male	246	3.628	1.34761	0.014	0.906	5.444	0.000	0.73184	Accepted
	Female	165	2.8962	1.31838						
LRS	Male	246	3.477	1.34364	0.443	0.506	4.976	0.000	0.65777	Accepted
	Female	165	2.8192	1.26735						
MSCS	Male	246	3.5346	1.30643	1.844	0.175	4.227	0.000	0.54122	Accepted
	Female	165	2.9933	1.21971						

The table 2 shows that the Customer's Awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant found significant difference between male and female customers. Across all six dimensions of services provided by AIFA, the mean scores of male customers are higher as compared to female customers which suggest that they have more awareness regarding services provided by AIFA. The differences in the mean scores are statistically significant as depicted by the p values being less than 0.05 which concludes that H1 is accepted across all six dimensions of services provided by AIFA.

Overall findings of this table suggest that gender plays a significant role in awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant and these things must be kept in mind while formulating marketing strategies for creating awareness among targeted customers.

II. Comparison of Awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant on the basis of Type of bank

Table 3: Results of T-Test on the basis of type of bank

Dimensions of Services Provided by AIFA	The bank you deal with	N	Mean	Std. Deviation	Levene's Test for Equality of Variances		t-value	p-value (Sig. 2-tailed)	Mean Difference	Hypothesis (Accepted/Rejected)
					F	Sig.				
ARS	Public Sector Bank	244	3.3985	1.23583	0.008	0.928	-3.911	0.000	-0.48511	Accepted
	Private Sector Bank	167	3.8836	1.23426						
DCRS	Public Sector Bank	244	3.2439	1.35095	0.424	0.515	-3.531	0.000	-0.47471	Accepted

	Private Sector Bank	167	3.7186	1.32008						
DRS	Public Sector Bank	244	3.1052	1.32925	0.045	0.831	-3.574	0.000	-0.48164	Accepted
	Private Sector Bank	167	3.5868	1.36015						
CCRS	Public Sector Bank	244	3.0973	1.36874	1.329	0.25	-4.290	0.000	-0.58305	Accepted
	Private Sector Bank	167	3.6804	1.33065						
LRS	Public Sector Bank	244	2.9904	1.30899	0.003	0.956	-4.112	0.000	-0.54749	Accepted
	Private Sector Bank	167	3.5379	1.34963						
MSCS	Public Sector Bank	244	3.0992	1.25708	0.082	0.775	-4.199	0.000	-0.53675	Accepted
	Private Sector Bank	167	3.6359	1.29528						

The table 3 shows that the Customer's Awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant found significant difference between public sector banks and Private sector banks customers. Across all six dimensions of services provided by AIFA, the mean scores of Private sector banks customers are higher as compared to public sector banks customers which suggest that Private sector banks customers have more awareness regarding services provided by AIFA. The differences in the mean scores are statistically significant as depicted by the p values being less than 0.05 which concludes that H2 is accepted across all six dimensions of services provided by AIFA.

Overall findings of this table suggest that type of bank plays a significant role in identifying awareness regarding different Services Provided by Artificial Intelligence Powered Financial Assistant and these things must be kept in mind while formulating marketing strategies for the public sector customers to increase their awareness regarding services provided by AIFA.

CONCLUSION

AI-driven financial assistant services are transforming the way banks interact with customers and streamline internal processes. The present study has been conducted to compare the awareness regarding different dimensions of services provided by AI-powered financial assistants on the basis of gender and type of bank. The overall result of the present study indicates that gender and type of bank affects the awareness regarding six dimensions of services provided by AI-powered financial assistants such as Account Related Services, Debit Card Related Services, Deposit Related Services, Credit Card Related Services, Loan Related Services and

Miscellaneous Services. Across all six dimensions of services provided by AIFA, the mean scores of male customers are higher as compared to female customers which suggest that male customers have more awareness regarding services provided by AIFA. Across all six dimensions of services provided by AIFA, the mean scores of Private sector banks customers are higher as compared to public sector banks customers which suggest that Private sector banks customers have more awareness regarding services provided by AIFA.

The results of the present study will help banks and financial institutions to better understand their customers. By considering the above results, the banks can make their marketing strategies to better target the customers and to increase their awareness regarding six dimensions of services provided by AI-powered financial assistants such as Account Related Services, Debit Card Related Services, Deposit Related Services, Credit Card Related Services, Loan Related Services and Miscellaneous Services with the help of which customers can resolve their queries in a much better way. In India, most banks have launched various AI based assistants and customers are aware of the services provided by these virtual assistants but banks should take more proactive steps to create and publicize these virtual assistants to fully utilize the services provided by AI-powered financial assistants.

DIRECTIONS FOR FUTURE WORK

The present work is limited by taking into account only two demographic variables due to time constraints and other demographic variables can also be considered for future work. The scope of the present study is limited to Haryana only. Future work can be done in other parts of the country.

CONTRIBUTION TO EXISTING THEORY

Financial technologies will play a significant role in the banking and financial sectors and bring about a paradigm shift in the banking and financial industries. This study contributes significantly to the knowledge base by addressing multiple gaps. The study extends the limited research and contributes to the existing literature regarding the awareness of various dimensions of services provided by Artificial Intelligence Powered Financial Assistant among public and private sector banking customers and also among male and female customers. This is one of the earlier studies to assess the awareness among banking customers regarding new technology-based financial services. Artificial intelligence assists banks and other financial institutions in increasing their managerial and operational effectiveness and providing exceptional customer experiences.

REFERENCES

- Cheng, Y., & Jiang, H. (2020). How Do AI-driven Chatbots Impact User Experience? Examining Gratifications, Perceived Privacy Risk, Satisfaction, Loyalty, and Continued Use. *Journal of Broadcasting and Electronic Media*, 64(4), 592–614. <https://doi.org/10.1080/08838151.2020.1834296>
- Dantsoho, M. A., Ringim, K. J., & Kura, K. M. (2021). The Relationship between Artificial Intelligence (AI) Quality, Customer Preference, Satisfaction and Continuous Usage Intention of e-Banking Services. *Indonesia Business Review*, 4(1), 24–43.
- Gündeş, F., & Sazkaya, M. K. (2018). A Study on Consumers' Adoption and Behavioural Intention Towards Innovative Banking Products. *Kafkas Universitesi Veteriner Fakültesi Dergisi*, 9, 101–130. <https://doi.org/10.9775/kauibfd.2018.005>

- Mishra, S. & Ghumre, N. V. (2020). Consumer Behaviour: Move Towards Digital Payment in Rural Environment. *Purakala (UGC Care Journal)*31(13),169-180.
- Pareek, K. (2020). Awareness of E-Banking & Working Women: A Study of Bhilwara Region. *IOSR Journal of Economics and Finance*, 11(1), 56–60. <https://doi.org/10.9790/5933-1101025660>
- Patil, K., & Kulkarni, M. S. (2019). Artificial intelligence in financial services: Customer chatbot advisor adoption. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), 4296–4303. <https://doi.org/10.35940/ijitee.A4928.119119>
- Richad, R., Vivensius, V., Sfenrianto, S., & Kaburuan, E. R. (2019). Analysis of Factors Influencing Millennial's Technology Acceptance of Chatbot in the Banking Industry in Indonesia. *International Journal of Civil Engineering and Technology*, 10(04), 1270–1281. <https://doi.org/10.34218/IJM.10.3.2019.011>
- Salunkhe, R. T. S. (2019). Role of Artificial Intelligence in Providing Customer Services with Special Reference to SBI and HDFC Bank. *International Journal of Recent Technology and Engineering*, 8(4), 12251–12260. <https://doi.org/10.35940/ijrte.c6065.118419>
- Sindhu J& Namratha, R. (2019). Impact of Artificial Intelligence in chosen Indian Commercial Bank-A Cost Benefit Analysis. *Asian Journal of Management*, 10(4), 377–384. <https://doi.org/10.5958/2321-5763.2019.00057.x>
- Trivedi, J. (2019). Examining the Customer Experience of Using Banking Chatbots and Its Impact on Brand Love: The Moderating Role of Perceived Risk. *Journal of Internet Commerce*, 18(1), 91–111.
- Venkatesan, S., & Sumathi, N. (2019). Technology Acceptance of Artificial Intelligence in Banking and its Impact on Banking Efficiency. *International Journal of Innovative Technology and Exploring Engineering*, 8(7C2), 371–374. <https://doi.org/10.1080/15332861.2019.1567188>
- https://dea.gov.in/sites/default/files/Report%20of%20the%20Steering%20Committee%20on%20Fintech_1.pdf
- <https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/7FINTECHEED4C43FC31D43C9B9D7F8F31D01B08E.PDF>
- <https://tec.gov.in/public/pdf/Studypaper/AI%20Policies%20in%20India%20A%20status%20Paper%20final.pdf>