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Impact of AI in Consumer Finance – A Study with Special Reference to Chennai City

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Abstract:

This study looks at how the introduction of innovative technologies, often marketed as "artificial intelligence", in the consumer finance sector can impact the customer service experience. The goal of this report is to explain how financial institutions use chatbot technology and the related challenges faced by their clients.

Working with customers to solve problems or answer questions is a core function of financial institutions – and the foundation of relationship banking. Customers look to their financial institutions for help with financial products and services and expect quick and easy answers, regardless of the process or technology used. For decades, banks have used customer data such as income, credit scores and spending habits to promote, cross-sell and upsell their products to increase revenue. But today's technologies allow financial institutions to access more data and increase revenue in new ways.

For example, a few years ago banks tracked consumers' credit behaviour through traditional databases and their monthly credit scores. But something has failed – the terabyte trail of behavioural and interest data it leaves behind through digital journeys and payment behaviour across products and services outside of relationships with customers. financial institutions. By using artificial intelligence and machine learning for faster, more granular analysis, financial institutions can proactively address the underlying needs of their customers by extracting compelling insights. from their digital footprint and payment behaviour. Many senior industry executives believe that AI is creating and will continue to generate the greatest business benefits by leveraging data and analytics and making better predictions.

Keywords: Machine Learning, Predictive Analytics, Personalization, Robo-Advisors

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Introduction:

Artificial intelligence (AI) in consumer finance is a transformative technology that uses machine learning algorithms to analyse large amounts of data and provide personalized financial solutions to individuals. Using AI, financial institutions can improve customer experience, streamline processes, detect fraudulent activity, and make personalized recommendations for investments, budget books and savings. The integration of AI consumer credit aims to make financial services more efficient, accessible and secure for customers.

Artificial Intelligence (AI) is revolutionizing the consumer finance industry by integrating advanced algorithms and machine learning techniques into various financial processes and services. The inclusion of AI in consumer credit has brought many benefits, including increased efficiency, personalized customer experiences, better fraud detection, and more accurate risk assessment. By analysing large amounts of data, AI-powered systems can make data-driven decisions, optimize investments, offer tailored financial products, and even provide Real-time financial advice. This technology continues to evolve, shaping the future of consumer credit and changing the way individuals interact with their financial institutions.

STATEMENT OF PROBLEM

The widespread adoption of artificial intelligence (AI) technologies has transformed many industries, and consumer finance is no exception. AI has presented numerous opportunities and challenges that significantly affect the way individuals provide and use financial services. Understanding the implications of AI in consumer credit is crucial for financial institutions and consumers.

OBJECTIVES

1. To find whether AI can replace human financial advisors in the consumer finance

2. To find how important it is for the financial institutions to be transparent about their use of AI in consumer finance

3. To find whether AI driven decisions in consumer finance causes negative consequences or financial losses

4. To find how people are familiar with AI driven financial services

Review of literature:

To investigate the main hypothesis and determine the underlying causal mechanisms influencing consumer investment decisions, between-subjects experimental designs were used in two trials. According to the findings of two studies, when customer involvement is high, they are more likely to trust financial advice given by a human financial advisor than by a robo-advisor. Customers' perceptions of the bank's "customer focus" and their belief in the accuracy of the information are both cited by the authors as causative processes that affect customers' investment intentions. The impact of receiving financial advice from a human advisor (as opposed to a robo-advisor) on investment intentions in a retail banking scenario is being investigated for the first time in this study. High participation is also a crucial border condition that modifies the effects on investing intention and behaviour according to this study.

ANALYSIS AND INTERPRETATIONS

Table 1: Analysis of people using AI-powered financial services if they were regulated more strictly to ensure transparency and accountability

Chi square:

X^2	0.000765
Df	1
P-VALUE	0.977929

X^2	1.58474253
Df	1
P-VALUE	0.45276988

Interpretation:

From the above table the significant p-value is 0.977929 which is greater than 0.05, so the alternative hypothesis is rejected. There is no significant relation between gender and comfort to use AI in consumer finance.

Table 2: Analysis of people's confidence in the regulatory measures currently in place to ensure the ethical and fair use of AI in consumer finance

PARTICULAR	VERY CONFIDENT	SOMEWHAT CONFIDENT	NOT CONFIDENT	TOTAL
MALE	8	16	9	33
FEMALE	3	10	2	15
TOTAL	11	26	11	48

Interpretation:

From the above table the significant p-value is 0.45276988 which is less than 0.05, so the Alternative hypothesis is rejected. There is significant relation between gender and regulatory measure and fair use of AI in consumer finance.

Table 3: Examining whether AI driven financial services causes any financial loss or negative consequences

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	368.16	5	63.21	3.531531531	0.038663705	2.544081102
Within Groups	140.4	22	13.25			
Total	508.20	27				

Interpretation:

H0: AI driven financial services causes financial loss or negative consequences

H1: AI driven financial services does not cause financial loss or negative consequences

From the above analysis, the significance value is below 0.05. therefore, reject the Null hypothesis and accept the Alternate hypothesis. Hence, AI driven financial services does not cause financial loss or negative consequences

Table 4: Determining whether AI can provide better financial advices than human advisors

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	167.3666667	5	31.4922222	2.677011393	0.013628451	1.630644248
Within Groups	368.2	22	13.7			
Total	535.5666667	27				

Interpretation

H0: AI can provide better financial advices than human advisors

H1: AI cannot provide better financial advices than human advisors

From the above analysis the significance value is below 0.05, therefore reject Null hypothesis and accept Alternate hypothesis. hence, people believe that AI cannot provide better financial advices than human advisors.

Findings & Suggestions of the Study:

- The research study suggests that AI driven financial services does not cause financial services as it is free from the human interruption
- The study evidently shows that AI driven financial services can accessed more comfortably if it ensures more transparency and accountability
- The study also shows that many people are yet to be introduced to the AI driven financial services

- The study suggests that the use of AI powered financial services among the public is very rare
- The above study shows that people are neutral in AI making financial decisions on their behalf
- AI in consumer finance is yet to make its relevance in the financial sector
- The study evidently shows that people are concerned about their privacy in AI driven financial services
- The study also finds that AI driven financial services may cause biased or discriminatory outcomes
- AI can be utilised more in financial services if it ensures less reliance in algorithms leading to limited human oversight

CONCLUSION:

In summary, the impact of AI on consumer credit is profound, revolutionizing operations, customer experience, risk assessment, and cost structure. While opportunities abound, addressing regulatory, privacy, and ethical concerns is critical to harnessing the full potential of AI and shaping the future of consumer credit.

While AI offers significant benefits, human expertise is still essential. A hybrid approach that combines AI capabilities with human judgment is critical for building trust and making complex financial decisions.

Reference:

1. Makada Henry (2019): How artificial intelligence affects financial consumers, Brookings.

2. Janin Karoli Hentzen, Arvid Hoffmann and Rebecca Dolan (2021): Artificial intelligence in customer-facing financial services: a systematic literature review and agenda for future research, Emerald Insight, pp 1299-1366.

3. Monica o'Reilly & deron Weston (2023): Using AI to Improve Customer Experiences in Finance, Deloitte US.

4. Longbing Cao (2021): AI in Finance: Challenges, Techniques and Opportunities, https://arxiv.org/abs/2107.09051.

5. Arthur bachinskiy (2019): The Growing Impact of AI in Financial Services: Six Examples, Towards Data Science, https://towardsdatascience.com/the-growing-impact-of-ai-in-financial-services-six-examples-da386c0301b2.

QUESTIONARRIE:

1. Name:

2. Gender:
    - Male
    - Female

3. Age:

- 18-25
- 26-35
- 36-45
- 45+

4. Qualification:
    - UG
    - PG
    - Professional
    - Other

5. How familiar are you with the use of AI in the context of consumer finance?

    - Very Familiar
    - Familiar
    - somewhat Familiar
    - Not familiar at all

6. What are the main reasons you choose to use AI-powered financial services over traditional ones?

    - Faster and more efficient processes
    - Personalized recommendations
    - Lower fees and costs
    - Enhanced security measures
    - Better customer service and support

7. What concerns do you have about the use of AI in consumer finance?

    - Data privacy and security
    - Lack of transparency in decision-making
    - Potential for biased or discriminatory outcomes
    - Difficulty in understanding how AI-based decisions are made
    - Overreliance on algorithms leading to limited human oversigh
8. How comfortable are you with AI making financial decisions on your behalf?

    - Very comfortable
    - somewhat comfortable
    - neutral
    - somewhat uncomfortable,
    - Very uncomfortable

9. Do you believe that AI can provide better financial advice than human advisors?

    - Yes
    - No
    - Unsure

10. How important is it for financial institutions to be transparent about their use of AI in consumer finance?
    - Very important
    - somewhat important
    - Not important
11. Would you be willing to provide more personal data to financial institutions if it meant receiving more personalized and accurate AI-driven financial services?
    - Yes
    - No
    - It depends
12. How frequently do you review or question the AI-generated financial recommendations you receive?
    - Very frequently
    - somewhat frequently
    - rarely
    - never
13. How confident are you in the regulatory measures currently in place to ensure the ethical and fair use of AI in consumer finance?
    - Very confident
    - somewhat confident
    - Not confident
14. Would you be comfortable using AI-powered financial services if they were regulated more strictly to ensure transparency and accountability?
    - Yes
    - No
15. Have you ever experienced financial losses or negative consequences due to AI-driven decisions in consumer finance?
    - Yes
    - No
16. How often do you use AI-powered financial services or applications (e.g., robo-advisors, chatbots, AI-driven budgeting tools)?
    - Daily
    - Weekly
    - Monthly
    - Rarely
    - Never

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