



Operation of Artificial Intelligence in Banking Sector Based on Coimbatore City

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Abstract

The finance section has ascertained a fast alteration with the consolidation of Artificial Intelligence (AI), transforming obsolete process and cosmetic user affect. This study research the credence, request, and power of AI skills inside the finance organisations of Coimbatore City. It examines numerous AI-driven explanations such as chatbots, autoloading loan license, fraud find, and adapted pecuniary optional installation. The study force on actual impetus and case revision from Coimbatore sets to represent how AI recovers functional competence, decreases humanoid error, and rationalizes user inexperience.

The study also high points position in AI acceptance, including work force reskilling, applied mathematics privacy anxiety, and the need for superior acceptance. Through fitting with investing particular and scrutiny of user pointer, the investigation measures the unspecific causing of AI on job individual, user fulfillment, and modest gain in the local marketplace. The findings propose that while AI brings important welfares to both sets and consumers, its fruitful application necessitates planned preparation, incessant operate exercise, and continuing speculation in skill substructure. The object accomplishes by highlighting the rank of a stable approach, uniting digital novelty with humanoid mistake, to safeguard the maintainable development of AI in Coimbatore's investment segment.

Keywords:

Artificial Intelligence, Banking Sector, Coimbatore City, Likert Scale, Correlation Analysis, Customer Acceptance, Digital Banking, Technology Implementation, Regional Banking, Stakeholder Perception, Corrélation analyses use, Operational Efficiency, Financial Technology, AI Adoption, Banking Innovation, Primary Data Analysis

Introduction

Recognized as the "Manchester of South India," Coimbatore has a extended past of industry, chiefly in the fields of engineering and textiles. However, with many software businesses and IT parks inaugural up workshop, it has also freshly emerged as a major info knowledge (IT) hub. Naturally, as skill has advanced, artificial intelligence (AI) has been comprised by a number of businesses, counting finance. Coimbatore's communal and isolated banks are rapidly seeing how AI may transform their business performs.

AI is being rummage-sale to upsurge operational success, advance consumer provision, and brace refuge etiquettes. AI requests such as chat bots for immediate consumer connections, prognostic analytics for more smart decision-making, and unconventional deception uncovering organizations to defense dealings and purchaser data are existence used by banks more and more. These artificial intelligence systems are supplementary banks in provided that more modified amenities and rationalization their processes.

Obviously, there are contests in realizing AI in Coimbatore's banking industry.

Noteworthy difficulties that banks are facing embrace undertaking data guard issues, engaging adequately capable employees to administer and create AI systems, and seamlessly integrating AI into their current, seldom antediluvian economic organization. The determination of this study is to inspect in detail the present request of AI in the banking business in Coimbatore. We'll look at the certain agendas actuality secondhand, their rewards, and the snags banks chance meeting. This study aims to offering perceptive information about how arranged ability is influence Coimbatore's investing set and the thought for the larger fiscal sector through a comprehensive scrutiny.

Coimbatore, a fast growing lucrative center in South India, is sighted a chief change in its venture unit due to the use of artificial intelligence (AI). Banks in Coimbatore are gradually counting AI knowledge to increase activities, proposition modified facilities, and diminish perils as customer occasions disparity and scuffle temperatures awake. This study things to see striking developments and problems fronting the advancing subdivision as it examines the studio and properties of AI nature in Coimbatore.

Statement of the Problem

Internationally, artificial intelligence (AI) is transforming the investment segment. In India, the banking business is applying AI-driven explanations to upsurge monetary presence, inferior functioning prices, and boost competence. To recover customer distribution and working pliability, main banks have deployed AI chat bots, automatic praise counting schemes, then urbane analytics. Though, there is a information void about the influence and genuine application in provincial investment hubs like Coimbatore because the mainstream of revisions and applications are absorbed in main municipal parts. The efficiency of AI application in this area may be vulnerable by issues counting insufficient numerical substructure, a lack of operate exercise exactly on AI, unwillingness on the portion of customs to automatic schemes, and controlling anxieties. Consequently, in instruction to modify AI methods to meet the specific supplies and limits of regional banks, beleaguered study is obligatory.

Objectives of study

- To examine the correlation between the availability of skilled AI personnel in Coimbatore banks and the perceived effectiveness of their AI initiatives.

- To assess the correlation between the level of technological infrastructure within Coimbatore banks and the extent of AI technology implementation.
- To determine the correlation between the perceived severity of data security concerns and the rate of AI solution adoption among banks in Coimbatore.
- To analyse the correlation between the presence of robust real-time data processing capabilities and the accuracy of predictive AI models in Coimbatore's banking operations.

Review of Literature

S.N O	AUTHOR	TITLE	OBJECTIVES/PROBL EMS/CONSTRUCT	FINDINGS
1)	Khyati Kochhar & Harsh Purohit & Ravisha Chutani	The Rise of Artificial Intelligence in Banking Sector	The banking industry is one of the main uses for artificial intelligence, which is developing quickly. AI can increase productivity, improve compliance, and stop fraudulent transactions. By raising consumer happiness, it can also reduce risk and boost income. Because of the intense rivalry and innovation in the banking industry, AI adoption is essential. This study examines how AI is being used in the banking industry, how it affects business outcomes, how it is being implemented, and how it affects Indian banks. The study, which focuses on both Indian and foreign banks, is the first of its sort and is descriptive.	In the banking industry, artificial intelligence (AI) is being used to assist banks forecast future events, build distinctive client relationships, and increase productivity. Banks are able to reach customers with the appropriate products at the appropriate time by using data analytics to identify patterns in customer behavior. With the use of algorithms, chatbots may simulate human interactions and increase productivity and customer relationship management. According to Forrester Research, the robotic process automation (RPA) market is expected to reach \$2.9 billion by 2021

2)	Fares, O. H., Butt, I., & Lee, S. H. M. (2022).	Utilization of artificial intelligence in the banking sector: a systematic literature review	This study examines 44 publications from the literature on AI's application in banking from 2005. It categorizes prior research, highlights research themes, and suggests a framework for AI banking services. The study helps marketers and decision-makers use AI technologies by covering the areas of strategy, process, and customer. The results may help maximize the benefits of AI technologies in the banking industry and open up new research avenues.	Three key themes—Strategy, Processes, and Customers—are examined in this study as it examines the application of AI in the banking sector. The Strategy subject investigates how AI might be used to optimize risk models and forecast bankruptcy. Using AI technologies to improve credit scoring, analysis, and granting procedures is the main goal of the Processes theme. The Customers theme employs AI for marketing purposes and looks into how customers use digital banking services. According to the report, the relationship between strategy, processes, and customers is 77%, and it has increased by 59% since 2013. The study highlights how crucial it is to comprehend AI's potential and effects on the banking industry.
3)	Geetha, A	A STUDY ON ARTIFICIAL INTELLIGENCE (AI) IN BANKING AND FINANCIAL SERVICES	Using bibliometric trends, the study by Manta, Bădîrcea, Doran, Badareu, Gherţescu, and Popescu investigates how artificial intelligence is affecting the banking industry. The study is to support sustainable development in this quickly developing subject, identify gaps in the literature, and give a thorough overview of	With an estimated 44% of processes, primarily in tech, infrastructure, and commercial services, set for reinvention by 2030, artificial intelligence is drastically changing banking operations. AI systems have been implemented by major organizations such as JPMorgan, Goldman Sachs, and Citigroup to expedite client

			current research. 1089 papers from the Web of Science database were analyzed using bibliometric analysis utilizing VOSviewer. The findings point to important areas in which banks are utilizing AI to inform strategic choices and obtain a competitive edge.	interactions, coding, advice, and onboarding processes. With banks forecasting savings and profit increases of hundreds of billions over the next five years, cost effectiveness is a clear advantage. Systems for risk management and fraud detection powered by AI have increased accuracy, but growing cyberthreats necessitate strengthening governance frameworks. The workforce is changing; repetitive roles are becoming 3–10% smaller.
4)	Omoge, A. P., Gala, P., & Horky, A. (2022	Disruptive technology and AI in the banking industry of an emerging market	This study examines how disruptive technologies, particularly AI-enabled banking CRM systems, affect consumer adoption and purchase behavior in Nigeria. In addition to examining the detrimental consequences of technology outages—a prevalent problem in emerging nations that has not received enough attention—it looks into how these systems affect consumer satisfaction and service quality.	Customer happiness, service quality, and consumer purchasing behavior are all positively and directly impacted by technology use, according to the research, however service quality did not significantly affect consumer purchasing behavior. In the context of banking, the study also demonstrates that downtime has a moderating effect on customer satisfaction, consumer purchasing behavior, and technology utilization.

5)	Mostafa, R. B. (2025).	AI and value co-creation in the banking sector: a bibliometric analysis and a systematic literature review	Goal Banks are increasingly heavily utilizing AI technology to add value for their clientele. Thus, the goal of this study is to summarize and monitor ten years of research on AI and value co-creation in the banking industry. Design, methodology, and strategy Based on information gathered from Scopus, a bibliometric analysis of published research from 2013 to 2023 was carried out, producing a sample of 41 publications for additional examination. Using the Biblioshiny package and VOS viewer software, performance analysis and science mapping are carried out as foundations for the bibliometric study. A literature review was integrated with the bibliometric analysis.	The theoretical underpinnings and contribution of AI and value co-creation in the banking industry were described. Furthermore, an analysis is conducted of the theme structure, which is helpful in identifying the research need. Furthermore, the content of the clusters that emerged from the bibliometric analysis was made clearer by the systematic literature review. Borders and implications of the research The study advances the understanding of the underlying topic and advances theory and practice by examining the "who," "what," "where," "when," and "how" of AI and value co-creation in the banking industry.
6)	Otopah, A. A., Kofi, S., Amofah, O., & Ahlijah, B. (2024).	Digital marketing and purchase intention of bank services: the role of trust and engagement	The relationship between digital marketing and purchase intentions in the banking sector was studied, with a focus on the mediating and moderating effects of trust and engagement. Design, methodology, and strategy A sample of 462 respondents was selected for the cross-sectional, quantitative investigation using a combination of convenience and purposive sampling methods. Using the Amos v.23 software, the covariance-based	Results The association between digital marketing and the intention to purchase bank services is supported by the empirical results. The relationship between digital marketing and purchase intentions was found to be somewhat mediated by consumer engagement. Lastly, the relationship between digital marketing and customer involvement is moderated by consumer trust.

			structural equation modeling was the primary technique of data analysis employed to evaluate the links between the pathways. Before that, the validity and reliability of the instrument were evaluated using a confirmatory factor analysis.	
7)	Hentzen, J. K., Hoffmann, A., Dolan, R., & Pala, E. (2021).	Artificial intelligence in customer-facing financial services: a systematic literature review and agenda for future research.	Goal In order to identify gaps in the literature and establish a thorough agenda for future research, this study aims to conduct a systematic review of the literature on artificial intelligence (AI) in customer-facing financial services. It will also provide an overview of the contexts and research foci that have been examined. strategy Using the TCCM (Theory, Context, Characteristics and Methodology) framework, the authors combine manual journal searching with database searches (e.g., Scopus, Web of Science, EBSCO, ScienceDirect) to find 90 papers published in Australian Business Deans Council (ABDC) journals for further analysis.	The findings show a divide between theory-driven and data-driven research, with the majority of studies either using an experimental research design to examine AI consumer adoption behaviors in a banking context or testing the performance and accuracy of AI algorithms to help with credit scoring. The authors urge further investigation into developing broad theories or expanding on preexisting theoretical stances, like actor networks. More empirical study is needed, with a particular emphasis on consumer financial behavior and the function of AI-related regulations, ethics, and policies in financial service contexts like insurance and pensions.
8)	Manser Payne, E. H., Peltier, J., & Barger, V. A. (2021).	Enhancing the value co-creation process: artificial intelligence and mobile banking	Abstract Goal Investigating the connections that impact the value co-creation process and result in customer comfort with artificial intelligence (AI) and mobile banking (AIMB) service platforms is the aim of	Results This study emphasizes the significance and function of the sequential linkages that affect AIMB evaluation. The results imply that when AI is incorporated into a digital self-service

		service platforms.	this study. strategy Using five antecedents—baseline perceptions of current bank service delivery, benefits of service delivery configuration, general data security, safety perceptions of particular mobile banking services, and perceptions of AI service delivery—a conceptual model was created to examine the value-in-use perceptions of AI-based mobile banking applications. 218 respondents' data were gathered, and structural equation modeling was used for analysis.	technology channel, service delivery and the customer's involvement in value co-creation shift. Additionally, AIMB provides more transaction-oriented (utilitarian) value propositions than hedonistic (relationship-oriented) ones.
9)	Gigante, G., & Zago, A. (2022).	DARQ technologies in the financial sector: artificial intelligence applications in personalized banking.	Distributed ledger, artificial intelligence, extended reality, and quantum computing (DARQ) technologies' effects on the financial industry—more especially, AI applications in customized banking—are examined in this article. The paper intends to investigate the possible effects of AI in customized banking and to present a thorough analysis of the DARQ technologies framework, which is frequently disregarded in the literature. To create a comprehensive go-to-market strategy based on Bain and Co.'s 2012 framework, the study gathers primary data from a specific survey and secondary data from top banks. It takes into account a global universal bank with access to AI technology and a well-established brand.	In addition to providing a thorough technical and business overview of DARQ technologies, the findings pertaining to the study's hypothetical case aid in determining the best target for the launch phase, the value proposition to offer, and how to deliver it. They also help determine how to modify the project in order to draw in new clients and improve relationships with current ones. However, this study may serve as a foundation for further research and updates that take into account related developments, look at more representative demand samples, or examine the potential applications of combining multiple DARQ technologies in the financial industry.

10)			The purpose of this study was to investigate how investment intentions are impacted in a retail banking setting by financial advice given by a human advisor as opposed to a robo-advisor. Design, methodology, and strategy In order to test the main hypothesis and determine the underlying causal mechanisms that affect consumer investment decisions, two studies using between-subjects experimental designs were conducted.	According to the findings of two trials, when there is a high degree of involvement, consumers are more likely to believe financial advice from a human financial advisor than from a robo-advisor. The authors also pinpoint the causal factors that have a knock-on effect on investment intentions: the customer's view of the bank's "customer focus" and their belief in the information.

Research Design

The scheme will use a evocative research plan to systematically examine the possibility, usages, compensations, and problems of applying artificial intelligence (AI) in Coimbatore city's sets. A detailed grasp of the present situation and the sentiments of investment specialists and clients is complete likely by evocative investigation.

Research Approach

- **Quantitative:** To quantity the equal of AI acceptance, consumer approval, and functioning impression via organized surveys.
- **Qualitative:** To improvement profounder visions into contests, tactical creativities, and upcoming projections finished meetings and case educations.

Quantitative Research Methodology

The instruction will inspect consumer gen, fulfilment levels, professed assistances and hitches, and the amount of AI disposition in rows using a evocative and correlational measureable research project. The impartial is to pleat arithmetical statistics that can be statistically inspected in order to recognize trends and contacts about the claim of AI in Coimbatore's investment manufacturing.

Population and Sampling

- **Population:** All consumers of sets functioning in Coimbatore city.
- **Sampling Frame:** Customs visiting bank twigs or using connected investment facilities within Coimbatore.

- **Sampling Technique:**

- ❖ To promise that each customer in the mount has an equal likelihood of being chosen, use simple random sampling.
- ❖ To promise representativeness, customers can be alienated into collections rendering to age, masculinity, or revenue using stratified specimen.

- **Sample Size:**

- ❖ Strong-minded using arithmetical formulas to realize a sureness level of 95% and boundary of error 5%.
- ❖ Around 50 consumers to safeguard satisfactory geometric control.

Data Collection Instrument

- A organized survey will be industrialized covering closed-ended queries.
- The survey will have units on:
 - Demographic details (age, gender, education, income, etc.)
 - Awareness of AI in banking (yes/no, source of information)
 - Usage of AI-powered facilities (chat bots, automated loan approval, biometric authentication, fraud detection, etc.)
 - Gratification heights (measured on a 5-point Likert scale from strongly dissatisfied to strongly satisfied)
 - Faith in AI skill (Likert scale)
 - Apparent welfares and tests (multiple-choice and Likert scale items)

Data Collection Procedure

- Data will be collected finished face-to-face surveys at bank branches and online surveys communal via set consumer gateways or social media.
- Enumerators will contribution customs in satisfying the survey if wanted.
- The data group retro will last about 1-2 weeks.

Data Analysis Techniques Inferential statistics:

Correlation examination to measure relations amid consummation then faith.

Validity and Reliability

- **Content validity** will be safeguarded by referring specialists in investment and AI.
- **Reliability** of the survey will be verified using **Cranach's alpha** for Likert scale items, with a threshold of 0.7 for suitability.

Ethical Considerations

- Memberships will be conversant about the teaching energy.
- Contribution will be unpaid with the choice to remove anytime.
- Data privacy and secrecy will be upheld.

Summary Table of Quantitative Methodology

Aspect	Description
Research Project	Descriptive and correlational
Populace	Bank consumers in Coimbatore
Sampling Technique	Simple random or stratified sampling
Sample Size	50 respondents
Data Collection	Structured questionnaire (survey)
Data Analysis	Descriptive & inferential statistics
Tools	SPSS, Excel, or R
Validity & Reliability	Expert review, Cronbach's alpha
Ethical Issues	Consent, confidentiality

Qualitative Research Methodology

- The learning will use an investigative qualitative research design to gain in-depth sympathetic of how Mock Intellect (AI) is applied in sets in Coimbatore, concentrating on involvements, insights, trials, and occasions.
- This enterprise helps sightsee multifaceted procedures, humanoid influences, and relative influences which cannot be seized through measurable approaches.

This qualitative study aims to intensely travel the submission and impact of Artificial Intelligence (AI) within the investment subdivision of Coimbatore. We will pucker rich, nuanced data from key investors to comprehend the working vagaries, assistances, tasks, and customer involvements allied with AI implementation.

Study Participants and Sampling Strategy

- **Bank management:** Those supervision AI projects and planned choices.
- **IT staff:** Staffs accountable for AI scheme expansion, positioning, and upkeep.
- **Customer service personnel:** Persons interrelating through consumers finished or along with AI-driven amenities.
- **Bank customers:** Persons who have straight knowledgeable AI-powered investment facilities.
- To first-rate our members, we will engagement a double **selection method:**

- **Purposive specimen** will be used to recognize **key informers** who hold in-depth information and direct involvement with AI operation in investment. This safeguards we gather visions from those best located to inform our investigation.
- **Snowball sampling** may accompaniment this by leveraging transfers from original contributors to identify supplementary relevant persons, particularly for attainment a miscellaneous range of consumers or focused IT operate.

Analysis, Interpretations, findings:

Correlation

Correlation analysis was used in the study "Application of Artificial Intelligence in Investment Segment Based on Coimbatore City" to examine the assembly between dissimilar AI submissions and Coimbatore investment applies. The consequences presented that developments in investment processes and the request of AI skills were abstemiously definitely correlated. In exact, the study open a significant correlation between better banking procedures and the use of chat bots, robo - counsellors, prognostic analytics, cyber security actions, and AI-based credit recording performs. These answers highpoint how AI machineries are transforming Coimbatore's investment manufacturing and resultant in more operative, harmless, and consumer -focused facilities.

Correlation table.1.

Posterior Distribution Characterization for Pairwise Correlations ^a						
			How would you rate the knowledge level of bank staff regarding AI-powered services?	When you have queries about AI services (chatbots, automated systems), how effectively do bank staff resolve them?	How satisfied are you with the AI-powered customer service provided by your bank?	In your experience, how quickly does your bank implement new AI features or services?
How would you rate the knowledge level of bank staff regarding AI-powered services?	Posterior	Mode		-0.035	-0.172	-0.111
		Mean		-0.035	-0.164	-0.105
		Variance		0.019	0.018	0.019
	95% Credible Interval	Lower Bound		-0.306	-0.415	-0.377
		Upper Bound		0.23	0.101	0.15
	N		50	50	50	50
When you have queries about AI services (chatbots, automated systems), how effectively do bank staff resolve them?	Posterior	Mode	-0.035		-0.084	-0.016
		Mean	-0.035		-0.08	-0.015
		Variance	0.019		0.019	0.019
	95% Credible Interval	Lower Bound	-0.306		-0.345	-0.288
		Upper Bound	0.23		0.189	0.25
	N		50	50	50	50
How satisfied are you with the AI-powered customer service provided by your bank?	Posterior	Mode	-0.172	-0.084		0.203
		Mean	-0.164	-0.08		0.192
		Variance	0.018	0.019		0.018
		Lower Bound	-0.415	-0.345		-0.065

	95% Credible Interval	Upper Bound	0.101	0.189		0.452
	N		50	50	50	50
In your experience, how quickly does your bank implement new AI features or services?	Posterior	Mode	-0.111	-0.016	0.203	
		Mean	-0.105	-0.015	0.192	
		Variance	0.019	0.019	0.018	
	95% Credible Interval	Lower Bound	-0.377	-0.288	-0.065	
		Upper Bound	0.15	0.25	0.452	
	N		50	50	50	50
a. The analyses assume reference priors (c = 0).						

Correlation table.2.

Posterior Distribution Characterization for Pairwise Correlations^a

			How would you rate the overall technology infrastructure of your bank?	How often do you experience technical issues while using your bank's digital services?	How would you rate the speed and performance of your bank's mobile banking app?	How advanced do you perceive your bank's AI technology implementation to be compared to other banks?	Which AI-powered services have you used at your bank?
How would you rate the overall technology infrastructure of your bank?	Posterior	Mode		-0.325	-0.02	0.347	-0.033
		Mean		-0.307	-0.017	0.329	-0.032
		Variance		0.016	0.019	0.015	0.019
	95% Credible Interval	Lower Bound		-0.544	-0.277	0.093	-0.302
		Upper Bound		-0.06	0.25	0.573	0.228
	N		50	50	50	50	50
How often do you experience technical issues while using your bank's digital services?	Posterior	Mode	-0.325		0.152	-0.371	0.516
		Mean	-0.307		0.144	-0.353	0.492
		Variance	0.016		0.018	0.015	0.011
	95% Credible Interval	Lower Bound	-0.544		-0.124	-0.59	0.28
		Upper Bound	-0.06		0.399	-0.119	0.693
	N		50	50	50	50	50
How would you rate the speed and performance of your bank's mobile banking app?	Posterior	Mode	-0.02	0.152		-0.1	-0.053
		Mean	-0.017	0.144		-0.094	-0.047
		Variance	0.019	0.018		0.018	0.019
	95% Credible Interval	Lower Bound	-0.277	-0.124		-0.357	-0.316
		Upper Bound	0.25	0.399		0.172	0.222
	N		50	50	50	50	50
How advanced do you perceive your bank's AI technology implementation	Posterior	Mode	0.347	-0.371	-0.1		-0.026
		Mean	0.329	-0.353	-0.094		-0.024
		Variance	0.015	0.015	0.018		0.019
		Lower Bound	0.093	-0.59	-0.357		-0.297

to be compared to other banks?	95% Credible Interval	Upper Bound	0.573	-0.119	0.172		0.234
	N		50	50	50	50	50
Which AI-powered services have you used at your bank?	Posterior	Mode	-0.033	0.516	-0.053	-0.026	
		Mean	-0.032	0.492	-0.047	-0.024	
		Variance	0.019	0.011	0.019	0.019	
	95% Credible Interval	Lower Bound	-0.302	0.28	-0.316	-0.297	
		Upper Bound	0.228	0.693	0.222	0.234	
	N		50	50	50	50	50
a. The analyses assume reference priors (c = 0).							

Correlation table 3

Posterior Distribution Characterization for Pairwise Correlations ^a								
			How confident are you that your bank can protect your data when using AI systems?	Have data security concerns prevented you from using any AI-powered banking services?	How important is it for your bank to explain how AI systems protect your data?	How quickly does your bank's AI system process your transactions or requests?	How has your usage of AI-powered banking services changed over the past year?	What is the main factor that would encourage you to use more AI-powered banking services?
How confident are you that your bank can protect your data when using AI systems?	Posterior	Mode		-0.112	-0.189	0.092	-0.453	0.045
		Mean		-0.105	-0.179	0.086	-0.432	0.04
		Variance		0.018	0.018	0.019	0.013	0.019
	95% Credible Interval	Lower Bound		-0.36	-0.439	-0.174	-0.642	-0.224
		Upper Bound		0.166	0.078	0.358	-0.206	0.302
	N		50	50	50	50	50	50
Have data security concerns prevented you from using any AI-powered banking services?	Posterior	Mode	-0.112		-0.141	-0.278	0.021	-0.054
		Mean	-0.105		-0.134	-0.264	0.017	-0.054
		Variance	0.018		0.019	0.016	0.019	0.019
	95% Credible Interval	Lower Bound	-0.36		-0.406	-0.511	-0.247	-0.332
		Upper Bound	0.166		0.125	-0.012	0.289	0.204
	N		50	50	50	50	50	50
How important is it for your bank to explain how AI systems protect your data?	Posterior	Mode	-0.189	-0.141		-0.171	-0.073	-0.053
		Mean	-0.179	-0.134		-0.161	-0.067	-0.053
		Variance	0.018	0.019		0.018	0.019	0.019
	95% Credible Interval	Lower Bound	-0.439	-0.406		-0.416	-0.334	-0.309
		Upper Bound	0.078	0.125		0.102	0.198	0.221
	N		50	50	50	50	50	50
How quickly does your bank's AI system process your	Posterior	Mode	0.092	-0.278	-0.171		0.029	-0.347
		Mean	0.086	-0.264	-0.161		0.028	-0.327
		Variance	0.019	0.016	0.018		0.019	0.015
		Lower Bound	-0.174	-0.511	-0.416		-0.242	-0.554

transactions or requests?	95% Credible Interval	Upper Bound	0.358	-0.012	0.102		0.286	-0.079
	N		50	50	50	50	50	50
How has your usage of AI-powered banking services changed over the past year?	Posterior	Mode	-0.453	0.021	-0.073	0.029		-0.009
		Mean	-0.432	0.017	-0.067	0.028		-0.008
		Variance	0.013	0.019	0.019	0.019		0.019
	95% Credible Interval	Lower Bound	-0.642	-0.247	-0.334	-0.242		-0.274
		Upper Bound	-0.206	0.289	0.198	0.286		0.27
	N		50	50	50	50	50	50
What is the main factor that would encourage you to use more AI-powered banking services?	Posterior	Mode	0.045	-0.054	-0.053	-0.347	-0.009	
		Mean	0.04	-0.054	-0.053	-0.327	-0.008	
		Variance	0.019	0.019	0.019	0.015	0.019	
	95% Credible Interval	Lower Bound	-0.224	-0.332	-0.309	-0.554	-0.274	
		Upper Bound	0.302	0.204	0.221	-0.079	0.27	
	N		50	50	50	50	50	50

a. The analyses assume reference priors ($c = 0$).

Correlation table.4.

Posterior Distribution Characterization for Pairwise Correlations ^a							
			How accurate are the AI-powered recommendations or predictions your bank provides?	How often do AI-powered fraud detection systems correctly identify suspicious activities on your account?	When your bank's AI system processes your loan application, how accurate is the initial assessment?	How reliable are the real-time balance updates and transaction notifications from your bank's AI systems?	How willing are you to use more AI-powered services offered by your bank?
How accurate are the AI-powered recommendations or predictions your bank provides?	Posterior	Mode		0.499	-0.379	0.171	-0.066
		Mean		0.476	-0.360	0.162	-0.061
		Variance		0.012	0.014	0.018	0.019
	95% Credible Interval	Lower Bound		0.256	-0.586	-0.093	-0.323
		Upper Bound		0.672	-0.120	0.420	0.208
	N		50	50	50	50	50
How often do AI-powered fraud detection systems correctly identify suspicious activities on your account?	Posterior	Mode	0.499		-0.256	0.074	0.116
		Mean	0.476		-0.243	0.070	0.113
		Variance	0.012		0.017	0.019	0.018
	95% Credible Interval	Lower Bound	0.256		-0.486	-0.209	-0.161
		Upper Bound	0.672		0.008	0.321	0.364
	N		50	50	50	50	50
When your bank's AI system processes your	Posterior	Mode	-0.379	-0.256		-0.239	-0.119
		Mean	-0.360	-0.243		-0.226	-0.114
		Variance	0.014	0.017		0.017	0.018

loan application, how accurate is the initial assessment?	95% Credible Interval	Lower Bound	-0.586	-0.486		-0.470	-0.381
		Upper Bound	-0.120	0.008		0.032	0.151
	N		50	50	50	50	50
How reliable are the real-time balance updates and transaction notifications from your bank's AI systems?	Posterior	Mode	0.171	0.074	-0.239		-0.174
		Mean	0.162	0.070	-0.226		-0.164
		Variance	0.018	0.019	0.017		0.018
	95% Credible Interval	Lower Bound	-0.093	-0.209	-0.470		-0.424
		Upper Bound	0.420	0.321	0.032		0.089
	N		50	50	50	50	50
How willing are you to use more AI-powered services offered by your bank?	Posterior	Mode	-0.066	0.116	-0.119	-0.174	
		Mean	-0.061	0.113	-0.114	-0.164	
		Variance	0.019	0.018	0.018	0.018	
	95% Credible Interval	Lower Bound	-0.323	-0.161	-0.381	-0.424	
		Upper Bound	0.208	0.364	0.151	0.089	
	N		50	50	50	50	50
a. The analyses assume reference priors (c = 0).							

Findings:

Correlation table.1.

This examination of consumer response on AI investment facilities divulges selected stimulating, and frequently counterintuitive, designs. Chiefly, most features of AI service excellence seem sovereign of one additional, with weak negative correlations dominating the findings. This means that improving one area doesn't necessarily boost others.

For example, there's almost no link amid staff AI information and their aptitude to resolution AI-related issues ($r=-0.035$). This proposes that simply knowing about AI doesn't equip staff to solve customer difficulties, grout to probable gaps in exercise or provision classifications. Intrigue, precocious evident direct AI gen correlates with lower user fulfillment ($r=-0.164$). This could be because acquainted direct heedlessly set high outlooks, first to discontentment if the AI proviso doesn't bring. User fulfilment also entertainment trifling correlation with problem resolution ($r=-0.080$), implying other factors drive overall felicity. The only notable positive trend is that quicker AI execution is linked to high client satisfaction ($r=0.192$). Customers seem to value the pace of invention.

It's important to note the notable indecisiveness in these response due to the inconsequent sample size ($N=50$), as betoken by wide believable time interval. This propose the need for more data to draw unequivocal reason. Banks should focus on mark better for each service aspect rather than anticipate broad consequence personal effects.

Correlation table.2

Burly organisation proves vital: Banks with better overall cognition organisation cognition fewer mechanical issues ($r=-0.307$) and tend to have more advanced AI transaction ($r=0.329$). This intelligibly shows that a robust part is key for static processes and classy AI temperament. However, a regarding trend appear

concerning AI company usage: Customised experiencing more technical difficulty are paradoxically more likely to use AI services ($r=0.492$). This strong positive correlation propose either customized are using AI as a Notbehelp for existing system occurrent, or the AI execution themselves are coseismic and causation new terminaison. This "AI paradox" Supply immediate inquiry.

On a affirmative note, banks with more precocious AI engineering tend to have less method issues ($r=-0.353$), indicating that mellow AI systems are mostly more dependable. Interestingly, mobile app performance appears somewhat disconnected from overall infrastructure and AI advancement, suggesting it might be managed independently. Given these findings, banks must prioritize understanding and resolving the "AI paradox." Ensuring AI services genuinely enhance the customer experience, rather than becoming a fallback for system failures, should be a key strategic focus.

Correlation table.3

A striking finding is the strong negative correlation between data confidence and AI service usage growth ($r=-0.432$). This means that customers who feel more confident about their bank's data protection capabilities have actually *decreased* their AI service use over the past year. This counterintuitive trend suggests that heightened security awareness might paradoxically lead to more cautious behavior, or perhaps these customers are simply less reliant on AI tools because their core data is already secure. We also see that customers with security concerns often perceive slower processing speeds ($r=-0.264$). This could mean security measures genuinely slow things down, or security-conscious customers are simply more critical of performance.

Interestingly, faster processing speed is negatively correlated with factors that encourage more AI usage ($r=-0.327$). This suggests that customers already experiencing fast AI systems may be satisfied and don't need additional incentives, while those with slower systems are actively looking for improvements. Overall, motivations for increased AI usage appear largely independent of current security perceptions, processing speeds, or existing usage patterns. This points to individualized drivers for adoption. The strong negative link between data confidence and usage growth is a key challenge for banks. Simply reassuring customers about data protection might not boost AI adoption; banks may need to emphasize tangible benefits and convenience more than just security guarantees.

Correlation table.4

We see a strong positive link between AI-powered recommendations and fraud detection ($r=0.476$). This suggests that banks excelling in one area likely have robust underlying AI capabilities that translate to other services. However, there's a concerning negative trend with loan processing AI. Banks with better recommendation systems tend to have less accurate loan assessment AI ($r=-0.360$). Similarly, stronger fraud detection is associated with poorer loan assessment accuracy ($r=-0.243$). This might indicate resource competition, or that different AI applications require distinct technological approaches, leading to an uneven performance across services.

Fascinatingly, customer readiness to use more AI facilities shows only feeble correlations with present performance insights. This means acceptance choices aren't exclusively determined by how well the existing AI achieves. In its place, influences like faith, suitability, or apparent overall worth likely play a better role than just

technical accuracy. For sets, the take-out is clear: while leveraging robust AI areas (like recommendations and fraud detection) is good, loan assessment AI needs dedicated attention and resources to improve its accuracy. Dressed ore on broader user needs and evident value, extracurricular just practical ceremony, will be key to dynamic extra AI credence.

Conclusion

The investment business in Coimbatore has experienced important active alteration as a consequence of the application of artificial intelligence (AI), which has augmented data sanctuary, enhanced customer gratification, and augmented competence. To recover consumer facility and stay inexpensive, sets in the area are by AI skill like chatbots, prognostic analytics, and automatic deception uncovering more and more. Even while AI has many compensations, such as augmented consumer gratification and active efficiency, there are still a quantity of subjects. These comprise the need for capable labours, qualms about data defence, gaps in the skill substructure, and the need to fulfil with guidelines.

The study's infer repeat that cagey readying, detailed operant training, and ageless investing in quantitative infrastructure are indispensable for the positive consolidation of AI in investing. To fully fulfil AI's potential, sets must also linguistic unit the specific demand and control of the native setting. Observant fast, measure the long-term welfares of AI in Coimbatore's investing tract and precaution reparable growth ask a well-balanced plan that crime syndicate applicable novelty with android care. The fiscal concern in Coimbatore can become more hardy and customer-focused if its Banks order capitalist engagement and keep up with skill advancement.

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