

**ARTIFICIAL INTELLIGENCE IN FINANCIAL ACUMEN: CHALLENGES
AND OPPORTUNITIES**

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Abstract

Businesses, more than ever, are faced with rapid change, disruption, and intensified expectations. Your managers, emerging leaders, individual contributors, and leaders, many of whom have no business or financial background, need to fully understand the implications of their business decision-making and how they can directly affect your company's performance metrics and drive for shareholder value.

Technology advances especially data analysis and artificial intelligence can further play an important role for decision making on financial analytics based on machine learning but final decision would be taken by human being. For that such a training module will help to make rational financial decision.

Further Analyses of impact of financial market anomalies and personality traits on financial decision making, so that financial acumen will improve and new methods of financial acumen will develop for the betterment of the individuals and the society.

This study will analyze how individuals processes financial information in their brain and how & what decisions arise within the brain. So that we will able to develop such a training module based on Artificial Intelligence which will minimizes the impact of biases and improves the decision making of an individual, whether investor or advisor or manager.

Keywords: Financial Acumen, Artificial Intelligence, Psychological Biases, Financial Decision, Natural Language Generation.

Introduction

Artificial intelligence has become a true game changer within the world of finance. An AI system will examine millions and billions of knowledge points, and realize patterns and trends that individuals might miss, and even predict future patterns. Artificial Intelligence, along with natural language processing, can even be used to create conversational trees that let customers converse and perform specific actions, whether by chat or voice application. Here are five uses cases for AI in financial applications.

1. Automation through AI in Banking

With AI technology, it's feasible to automate methods to manipulate obligations like know-how new regulations and guidelines or growing customized financial reviews for individuals. For example, IBM's Watson can apprehend complicated guidelines, inclusive of extra reporting necessities of the Markets in Financial Instruments Directive and the Home Mortgage Disclosure Act. Rather than asking financial professionals to research answers to questions, which can take hours and days, Watson can find the answer in mere moments. [1]

Similarly, wealth managers can use AI to generate more detailed status reports for this or her customers quicker, which allows them to offer individualized recommendation to more customers. Not only that, they could do it quicker and show the facts in manner that's less complicated to understand.

Finally, AI helps bankers to make loan decisions faster in seconds, now no longer months, reviewing risks and payments patterns, and even looking at alternative sources of data, such as payment history of rent and utilities. By automating the assessment process, bankers could diminish their risk of default loans, as well as improve customer experience by reducing the number of abandoned applications from frustrated borrowers who are tired of the long process. [3]

2. AI-Based Reporting and Analysis

Just ten short years ago, if you wished to know your bank balance, you had to log onto your laptop, visit your bank's website, and access yourself. If you wanted to know the state of your household budget, you had to look at the spreadsheet you created for yourself.

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Now with mobile banking apps and web portals, financial service AI - specifically Envestnet | Yodlee's® AI Fincheck - can analyze consumers' individual account data to see what they have, how they're performing financially, make recommendations on future actions based on the results, and then help with automation for savings and budgeting for better financial health and behavior. [4]

In the finance industry, to examine cash accounts, credit accounts, and investment accounts we could use AI to know the individual's overall financial health, following with real-time adjustments and then providing customized recommendations based on new incoming requests. Envestnet Intelligence, advanced analytics for financial institutions, enables financial institutions to easily get answers in real-time to key business questions across desktop, mobile, and Amazon Alexa-enabled devices. Providing interactive, predictive, and conversational capabilities, Envestnet Intelligence extracts information from comprehensive financial data sets to ensure financial institutions have an easy way to answer crucial questions anywhere, anytime, on any device.

3. Transaction Data Enrichment

Transaction Data Enrichment is a financial management tool for both financial institutions and consumers. By using machine learning and artificial intelligence, TDE interprets incomprehensible strings of characters into readable text which represent transactions and merchants that shows each merchant's name and lists their address and city.

TDE turns hard-to-understand data into easy-to-read information. Banks and customers both are able to understand each other in such a way so that costs on both customer service calls and fraud research reduced. Even banks are able to know where they spent their money and with whom. Fewer calls means less fraud research, which reduces costs.

Most importantly, these clear descriptions help developers put financial data into context so they can more easily categorize and analyze purchases. This helps with things like budgeting, analyzing spending habits, credit scoring and being able to predict future earning and spending issues.

4. Predictive Analytics

When it comes to financial advice, many consumers want some help. They want to be advised when they should and shouldn't make purchases, not be sent an alert when they've accidentally overdrawn their accounts.

For example, our OK to Spend financial forecasting tool tells users when they can actually spend money, based on their income, bank balances, upcoming obligations.

The tool uses AI and machine learning, predictive analytics, and even user feedback to predict future outcomes. It helps users make smart decisions based on their financial picture at the moment. This way, consumers who ask about a purchase - "Can I buy this today?" - can get a yes or no answer that will help them avoid problems like overdrafts, late fees, and end-of-the-month shortfalls.

These artificial intelligence use cases have revolutionized the financial industry and changed the way we access, analyze, and understand information. Banks and third-party developers who want to take advantage of these advancements can offer exciting new products and features to their users. [10-11]

Artificial Intelligence, Technology in Banking and Finance

- Personalized Financial Services Personalized interface will arrive at new statures as robotized budgetary guides and organizers give mastery in settling on money related choices. They examine advertise disposition against the client's money related objectives and individual portfolio and prescribe stocks and securities.
- "Smart Wallets Digital wallets are touted as the fate of true installment innovations, with significant players like Google, Apple, Paypal and others, getting on board with the fleeting trend and building up their installment passages. This reductions the reliance on physical money, subsequently growing the range of cash to more prominent levels."
- "Underwriting The protection part is additionally thinking of a tempest as they are moving towards compatible mechanization. By using AI frameworks that computerize the guaranteeing procedure, the associations come furnished with increasingly granular data to engage their choices."
- "Voice Assisted Banking Physical nearness is gradually blurring endlessly as innovation engages clients to utilize banking administrations with voice directions and contact screens. The regular language innovation can process inquiries to respond to questions, discover data, and associate clients with different financial administrations. This decreases human mistake, systemizing proficiency."
- "Data-driven AI applications for loaning choices Applications implanted in end-client

gadgets, individual robots, and monetary establishment servers are equipped for investigating a colossal volume of information,” giving tweaked budgetary guidance, figurings and gauges. These applications can likewise create money related plans and techniques through research, with respect to different redid venture openings, advances, rates, charges, and so forth and track the advancement.

- Customer support As discourse preparing and regular language handling advancements develop, we are moving nearer to the day, when PCs could deal with most client care questions. This would stamp a conclusion to holding up in line and henceforth bring about more joyful clients.
- “Digitalization rather than branch lines Banking is an extensive procedure, with records of long lines and languid reaction defacing efficiency. In any event, opening a ledger was seen in negative terms as harried buyers would run column to post while getting the important documentation finished. Digitization of documentation facilitates that agony and makes an exhaustive stage, where the purchasers and suppliers interface.”
- Blockchain rushing installments The client base that banks serve is experiencing a significant move as far as purchasing practices and inclinations, driven by the advanced unrest, especially online networking and versatile. Expanded interest for increasingly decision and control by they way they associate with a bank is on an ascent. Drowsy installment procedures will be a relic of times gone by asBlockchain is set to instill the benefit of the ongoing installment process, hurrying up the technique of installment, accordingly expanding help and satisfaction.

The Challenges Facing India's AI Development

1. AI-based applications to date have been driven to a great extent by the private segment and have been centered fundamentally around customer products. The emanant scale and ramifications of the innovation make it basic for policymakers in government to pay heed.
2. Early exercises of AI achievement in the United States, China, South Korea, and somewhere else offer open and private financing models for AI look into that India ought to consider.
3. “The successive arrangement of training and work is obsolete in the present financial condition as the idea of occupations moves quickly and aptitudes become important and out of date in only years.”

Benefits of AI For Banking Segment Misrepresentation Identification

Inconsistency location can be utilized to expand the precision of Visa misrepresentation identification and hostile to illegal tax avoidance.

- Customer Support and Help-work area: Humanoid Chatbot interfaces can be utilized to build effectiveness and diminish the expense for client connections.
- “Risk Management :Tailored items can be offered to customers by taking a gander at chronicled information,” doing hazard investigation, and wiping out human blunders from hand-created models.
- Security: Suspicious conduct, logs examination, and deceptive messages can be found to forestall and conceivably anticipate security ruptures.
- Digitization and computerization in back-office preparing: Capturing records information utilizing OCR and after that utilizing AI/AI to create bits of knowledge from the content information can extraordinarily reduce office handling times.
- Wealth the executives for masses: “Personalized portfolios can be overseen by Bot Advisors for customers by considering way of life,” hunger for hazard, anticipated degrees of profitability, and so on.
- ATMs: Image/face acknowledgment utilizing ongoing camera pictures and propelled AI systems, for example, profound learning can be utilized at ATMs to distinguish and anticipate fakes/violations.
- “State Bank of India (SBI) SBI propelled a national hackathon called Code For Bank' for engineers, new businesses and understudies to think of inventive thoughts and answers for the financial part that spotlights on advancements, for example, prescient investigation, blade tech/blockchain,” computerized installments, IoT, AI, AI, BOTS and mechanical procedure mechanization. “The bank is right now utilizing an AI-based arrangement created by Chapdex (the triumphant group from its first hackathon), that catches the outward appearances of the clients and encourages them in understanding the conduct of its clients.”
- “HDFC bank has been built-up an artificial intelligence based chatbot called Eva' (Electronic Virtual Assistance),” implemented by Senseforth a Bengaluru-based company that has tended to over 2.7 million client questions, collaborated with more than 530,000 extraordinary clients, and held 1.2 million discussions. The gadget can give answers in under 0.4 seconds and has in the initial couple of days of its dispatch addressed in excess of

100,000 inquiries from a large number of clients from 17 nations. The bank is additionally working on Intelligent Robotic Assistant for other supporting services.

- ICICI bank has been conveyed programming mechanical autonomy in more than 200 business forms crosswise over different elements of the organization. Considering human activities to robotize and perform redundant, high volume and tedious business undertakings through these programming, they claim it to be the first in the nation and amongst not many on the planet to convey this innovation.

- Axis Bank as of late propelled for conversational banking by empowered the application of an artificial intelligence and natural language processing to assist customers with money related and non-monetary exchanges, answering FAQs and connecting with the bank for advances. Peculiarity location can be utilized to build the precision of charge card extortion recognition and against tax evasion.
- Below we are demonstrated top risks of artificial intelligence ranked by the each respondent segment that are early starters, followers and recent starters.

Table 1: Top Risks of AI that each Respondent Segment is Most Concerned About

S.No.	AI Risk	Early Starters	Followers	Recent Starters
1.	Cyber security Vulnerabilities of AI/Cognitive.	1	2	1
2.	Making the Wrong Strategic Decisions Based on AI/Cognitive Recommendations.	2	1	3
3.	Regulatory Noncompliance Risk.	3	3	4
4.	Erosion of Customer Trust from AI/Cognitive Failures.	4	5	7
5.	Ethical Risks of AI/Cognitive	5	4	6
6.	Legal Responsibility for Decisions/Actions made by AI/Cognitive Systems	6	6	2
7.	Failure of AI/Cognitive System in a Mission Critical or Life&Death Context.	7	7	5
8.	We have No Concern about Potential Risks of AI/Cognitive.	8	8	8

Further based on growth of implementation of artificial intelligence in financial sector amongst early starters, followers and recent starters, we got

the following skills required for implementing artificial intelligence.

Table 2: Skills Required for Implementing AI Programs

S.No.	Skills for AI Efforts	Early Starters	Followers	Recent Starters
1.	Data Scientists	28%	23%	32%
2.	Software Developers	36%	28%	18%
3.	AI Researchers	25%	28%	35%
4.	Business Leaders	16%	22%	18%
5.	Project Managers	22%	23%	18%
6.	User Experience Designers	45%	25%	23%
7.	Subject Matter experts	16%	28%	41%
8.	Change Management/Transformation Experts	21%	32%	29%

Conclusion

Man-made reasoning has numerous advantages to offer for the financial division. Man-made brainpower is changing business procedures and client confronting administrations in the financial segment in India. It is additionally being utilized to meet administrative consistence, identify misrepresentation, and survey singular financial soundness. The use of AI can possibly make

increasingly effective business forms, offer customized administrations, and aid bigger objectives, for example, money related incorporation. There is no uncertainty that the ongoing push towards digitalization is quickly impacting the conventional financial models. Be that as it may, it has additionally presented the establishments to expanding cyber security dangers.

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