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# A STUDY ON ROLE OF ARTIFICIAL INTELLIGENCE IN PROMOTING AND DEVELOPING THE FINANCIAL INSTRUMENT IN COIMBATORE CITY

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**ABSTRACT**

Artificial Intelligence (AI) is a quick creating innovation all over the world. The banking sector is one of the primary adopters of Artificial Intelligence (AI) when comparing to other sectors. Banks are investigating and actualizing innovation in different ways. Fake insights are getting way better and more astute day by day. Artificial intelligence could be a cutting-edge innovation that have been Banking sectors insurgency around the world. Owing to more noteworthy acknowledgment of unused innovative developments, fake insights division had been creating at an exceptional pace and is being connected in numerous strolls of life. Counterfeit insights frameworks have potential in changing all operations of banking industry using AI and involved with eagerness due to its capability of taking human-like choices and human-like mistakes. The primary data is required to analyse the issues at hand was collected using survey as a research strategy, the data was collected from 120 bank employees across a few selected banks in Coimbatore city. The main aim of this reseach is to gather information related to the understanding and implementation of Artificial Intelligence in banking sector and also to be aware of its impact. The data collected was also quantitatively analysed using SPSS 21.0 software.

**Keywords:** Artificial Intelligence (AI), Bank employees

## INTRODUCTION TO THE STUDY

Banking has ended up progressively subordinate on data frameworks and the utilize of most present-day innovation has too ended up progressively critical. The banks got to utilize Fake Insights based innovative applications to supply customized administrations and items to its clients as well as in Exchange Observing Artificial Intelligence (AI) is quick advancing as the go-to innovation for companies over the world to personalize encounter for people. The innovation itself is getting way better and more brilliant day by day, permitting more and more up to date businesses to adopt the AI for different applications Managing an account segment is getting to be one of the primary adopters of AI. The simple applications AI incorporate

bring more brilliant chat-bots for client benefit, personalizing administrations for people, and indeed putting an AI robot for self-service at banks

Past these fundamental applications, banks can execute the innovation for bringing in more productivity to their back-office and indeed decrease extortion and security dangers. Obviously, inquire about firms are bullish on the potential of AI in managing an account Artificial Intelligence based administrations and items in keeping money: The Manufactured Insights based administrations incorporate administrations like programmed cheque book re-order office, etc, banks inside utilize them for employees' execution assessment, credit assessment of clients etc and items like customized venture exhortation for clients after for their portfolio investigation and customized speculation arrangements after assessment the credit history as well as wage pattern

**Intelligence and Analytics in Transaction**

The exchange history of a client contains profitable data almost their acquiring and speculation inclinations In spite of the fact that this transaction-related information is accessible with banks at an person client level, need of suitable business intelligence (BI) and information analytics capabilities has brought about in a less than ideal utilize of this information in giving customized items, administrations and speculation arrangements to customers There could be a developing realization among the banks that they are sitting on a treasure trove of data approximately their clients By utilizing this data, banks can not as it were meet their customers' budgetary needs more successfully, but can too infer a major competitive advantage in a commercial centre which is getting to be increasingly competitive and globalized This realization has brought about in a drive towards expanding the part of manufactured insights based trade insights and analytics in exchange monitoring

Autonomous AI is expected to become self-aware with the ability to interact with human beings and learn on its own, thereby augmenting humans at home, outside the home, or in work environments Autonomous AI is still far from widespread commercial use due to limitations in handling irregular objects, biased decision-making involving value judgment, and an inability to learn from a few examples .Prototypes from Fetch Robotics, Boston Dynamics, and Hanson Robotics are early examples of autonomous AI. AI execution has been upgraded by a unused era of calculations named machine learning, or ML. Not at all like standard rules-based approaches, ML calculations are naturally built from information, and the wealthier the dataset, the way better they perform.

Rules-based approaches tell the calculation what to do in each state of the world. As a result, they are constrained to unsurprising results and perform ineffectively out of test. ML, by differentiate, includes the utilize of calculations to parse information, learn from it, and make a assurance or expectation as a result By learning designs from the data—including unusual ones—ML calculations by and large beat rules-based approaches. They can be classified into two wide categories concurring to the number of stages included within the learning prepare:

## STATEMENT OF PROBLEM

Artificial Intelligence AI is quick advancing as the go-to innovation for companies over the world to customize involvement for people the inovation itself is getting way better and more astute day by day, permitting more and more current businesses to receive the AI for different applications. Managing an account division is getting to be one of the primary adopters of AI. And a bit like other portions, banks are investigating and actualizing the innovation in different ways . The simple applications AI incorporate bring more intelligent chat-bots for client benefit, customizing administrations for people, and indeed putting an AI robot for self-service at banks. Past these essential applications, banks can execute the innovation for bringing in more productivity to their back-office and indeed decrease extortion and security danger.

## OBJECTIVES OF THE STUDY

- To study the area where AI is being used by the banking.
- To study about the application of AI in banking sector.
- To study the methodology of adoption of AI in banks.
- To analyze the application of AI used in the leading commercial banks in Coimbatore.

## SCOPE OF THE STUDY

The Indian banking industry is going through a period of strongly alter, where liberalized trade environment has influenced the managing an account trade by way of expanding competition, rising client desires, contracting spreads and expanding disintermediation

There are distinctive sorts of banks beginning from open segment banks to private division banks and co-operative banks . These Banks cater to the requirements of different segments of Indian society. A number of the open segment banks center and work in provincial regions whereas others are basically accessible in urban areas. Opening entryways to Private division banks in India driven to different generous monetary changes and modernization of Indian managing an account division. ICICI, HDFC, Axis bank are some nicely-identified private segment banks. Private division banks more often than not work within the cities and up and coming towns. With presentation to prevalent and way better innovation, user-friendly arrangements. Keeping money has turn out to be easier and expedient. Their client inviting arrangements and direct openness have made them in fashion and trusted among individuals.

## RESEARCH METHODOLOGY

**Type of research:** Here we using descriptive research in this project.

**Data collection:** The samples were collected using primary data.

**Primary data:** The primary data was collected using a structured questionnaire using 5 likert scaling method.

**Secondary data:** The secondary data was collected sources are books, magazines, journals, and any published.

**Type of sampling:** As no defined population has been taken in to consideration, simple random sampling method has been implemented towards the study.

**Sample size:** The sample size is only 120 so the sample may not be truly representative of the Coimbatore bank employees.

**Tools used for the study:** The collected data was analysed using percentage method, chi - square analysis, weighted average method and ranking method.

## LIMITATIONS OF THE STUDY

- The research covers only the area of Coimbatore.
- The bias of the respondents may pose as a limitation of the study.
- The sample size was confined to 120 respondents keeping in view time and cost constraints.
- This research is limited to banking sector and not applied to other sector.

## ANALYSIS AND INTERPRETATION

**Table 1: Demographic variables**

| Demographic variables | Particulars | Frequency | Percent |
|---|---|---|---|
| Gender | Male | 70 | 58 |
| | Female | 50 | 42 |
| | Total | 120 | 100 |
| Age | Below 18 Years | 25 | 21 |
| | 19- 25 Years | 35 | 29 |
| | 26-35 Years | 55 | 46 |
| | Above 35 Years | 5 | 4 |
| | Total | 120 | 100 |
| Marital Status | Married | 20 | 24 |
| | Unmarried | 100 | 76 |
| | Total | 120 | 100 |
| Family Type | Nuclear Family | 72 | 60 |
| | Joint Family | 48 | 40 |
| | Total | 120 | 100 |
| Position in bank | Asset Manager | 19 | 16 |
| | Clerk | 10 | 8 |
| | Broker Dealer | 43 | 36 |
| | Hedge Fund | 34 | 28 |
| | Other | 14 | 12 |
| | Total | 120 | 100 |
| Intention | Deployed | 17 | 14 |
| | Evaluated | 21 | 18 |
| | Intend to pursue | 62 | 52 |

| | | | |
|---|---|---|---|
| | Not planning to implement | 11 | 9 |
| | Other | 9 | 7 |
| | Total | 120 | 100 |
| Familiarity with Artificial Intelligence | Yes | 74 | 62 |
| | No | 46 | 38 |
| | Total | 120 | 100 |
| Prefer to consume AI | Stand-alone dashboards | 12 | 10 |
| | Dashboards integrated | 29 | 24 |
| | Dashboards integrated in your core banking system | 41 | 34 |
| | Through alerts | 38 | 32 |
| | Total | 120 | 100 |
| Time spend on alternative data sources | Yes | 95 | 79 |
| | No | 25 | 21 |
| | Total | 120 | 100 |
| Concerned AI in medicine | Information | 31 | 26 |
| | Not flexible | 36 | 30 |
| | Difficult to apply | 41 | 34 |
| | Developed by a specialist | 12 | 10 |
| | Total | 120 | 100 |
| Familiarity with artificial intelligence | Strongly agree | 60 | 50 |
| | Agree | 14 | 12 |
| | Neutral | 27 | 22 |
| | Disagree | 19 | 16 |
| | Strongly disagree | 0 | 0 |
| | Total | 120 | 100 |
| Benefits to combining | Yes | 102 | 85 |
| | No | 18 | 15 |
| | Total | 120 | 100 |
| Mine data for insight | Yes | 82 | 68 |
| | No | 38 | 32 |
| | Total | 120 | 100 |
| Considering third party analyses | Yes | 95 | 79 |
| | No | 25 | 21 |
| | Total | 120 | 100 |
| Role of AI in bank | Investment Banker | 10 | 8 |

| | | | |
|---|---|---|---|
| | Corporate and Institutional Banker | 22 | 18 |
| | Compliance Officer | 49 | 41 |
| | Other | 39 | 33 |
| | Total | 120 | 100 |
| AI is able to do task | Yes | 100 | 83 |
| | No | 20 | 17 |
| | Total | 120 | 100 |
| Like to receive electronic report | Yes | 37 | 31 |
| | No | 83 | 69 |
| | Total | 120 | 100 |
| AI has useful applications | Strongly agree | 5 | 4 |
| | Agree | 33 | 28 |
| | Neutral | 33 | 28 |
| | Disagree | 29 | 24 |
| | Strongly disagree | 20 | 16 |
| | Total | 120 | 100 |
| AI could replace human in future | Strongly agree | 10 | 8 |
| | Agree | 37 | 32 |
| | Neutral | 34 | 28 |
| | Disagree | 29 | 24 |
| | Strongly disagree | 10 | 8 |
| | Total | 120 | 100 |
| AI to make banking sector more flexible | Strongly agree | 18 | 15 |
| | Agree | 22 | 18 |
| | Neutral | 25 | 21 |
| | Disagree | 45 | 38 |
| | Strongly disagree | 10 | 8 |
| | Total | 120 | 100 |

**Interpretation**

The above table shows that 58% of the respondents are male , 42% of the respondents are female, 21% of the respondents age is below 18, 29% of the respondents age is 19-25, 46% of the respondents age is 26-35, , 4% of the respondents age is above 35, 24% of the respondents are Married , 76% of the respondents are Unmarried, 60% of the respondents are from Nuclear Family , 40% of the respondents are from Joint Family, 16% of the respondents were Asset Managers, 8% of the respondents were Clerk, 36% of the respondents were Broker Dealer, 28% of the respondents were Hedge Fund , 12% of the respondents were others, 14% of the respondents are deployed, 18% of the respondents are Evaluated, 52% of the respondents were Intend to pursue, 9% of the respondents are Not planning to implement , 7% of the respondents are Other, 62% of the respondents are familiar with AI.

The above table shows that 38% of the respondents are not familiar with AI, 10% of the respondents prefer standalone dashboards, 24% of the respondents prefer dashboards integrated, 34% of the respondents prefer dashboards integrated in your core banking system , remaining 32% of the respondents prefer through alerts, 95% of the respondents think time spend on alternative data sources , 21% of respondents say they don't spend time on alternative data sources, 26% of the respondents concern about information, 30% of the respondents concern about not flexible, 34% of the respondents were concern about difficult to apply , remaining 10% of the respondents were concern about developed by a specialist, 50% of the respondents were strongly agree that they were familiar with artificial intelligence, 12% of the respondents were agree that they were familiar with artificial intelligence, 22% of the respondents were neutral about familiar with artificial intelligence , 16% of the respondents were disagree that they were familiar with artificial intelligence, 85% of the respondents say it is benefited remaining 15% of the respondents feel combining data is not benefited, 68% of the respondents think mine data for insight , remaining 32% of the respondents think they are not mine data for insight, 79% of the respondents consider third party analyze , remaining 21% of the respondents are not consider third party analyze, 8% of the respondents think role of AI would be Investment Banker.

The above table shows that 18% of the respondents think role of AI would be Corporate , Institutional Banker, 41% of the respondents think role of AI would be Compliance Officer, remaining 33% of the respondents think role of AI would be Other, 83% of the respondents think AI able to do task , remaining 17% of the respondents don't think AI able to do task, 31% of the respondents like to receive electronic report products , 69% of respondents don't like to receive electronic report, 4% of the respondents strongly agree that AI has useful applications, 28% of the respondent's agree that AI has useful applications, 28% of the respondent's neutral about AI has useful applications, 24% of the respondent's were disagree that AI has useful applications , 16% of the respondent's strongly disagree that AI has useful applications, 8% of the respondents were strongly agree that AI could replace human in future, 32% of the respondents were agree that AI could replace human in future, 28% of the respondents were neutral about AI could replace human in future 24% of the respondents were disagree that AI could replace human in future , remaining 8% of the respondents were strongly disagree that AI could replace human in future, 15% of the respondents were

strongly agree that AI to make banking sector more flexible, 18% of the respondents were agree that AI to make banking sector more flexible.

The above table shows that 21% of the respondents were neutral about AI to make banking sector more flexible, 38% of the respondents were disagree that AI to make banking sector more flexible , 8% of the respondents were strongly disagree that AI to make banking sector more flexible.

**TABLE 2 : CHI-SQUARE TEST TO FIND THE SIGNIFICANT RELATIONSHIP BETWEEN AGE AND CONCERNED ABOUT AI IN MEDICINE**

| | | | | Cross tabulation | | | |
|---|---|---|---|---|---|---|---|
| | | | | **AI in medicine** | | | |
| | | | | **Information** | **Not flexible** | **Difficult to apply** | **Developed by a specialist** | Total |
| Age | Below 18 Years | | | 3 | 16 | 13 | 6 | 38 |
| | 19- 25 Years | | | 14 | 16 | 3 | 8 | 41 |
| | 26-35 Years | | | 24 | 5 | 1 | 0 | 30 |
| | Above 35 Years | | | 3 | 8 | 0 | 0 | 11 |
| Total | | | | 44 | 45 | 17 | 14 | 120 |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 50.432[a] | 8 | .000 |
| Likelihood Ratio | 49.286 | 8 | .000 |
| Linear-by-Linear Association | .319 | 1 | .213 |
| N of Valid Cases | 120 | | |

**Interpretation**

Since the calculated value is higher than the table value and our hypothesis is proved, null hypothesis is rejected. Hence alternate hypothesis is accepted. So there is significant relationship between age and concerned about AI in medicine.

**TABLE 3: CHI-SQUARE TEST TO FIND THE SIGNIFICANT RELATIONSHIP BETWEEN INTENTIONS TO USE AI IN BANKING AND BANKING ABILITY OF AI IS SUPERIOR TO THE BANKING EXPERIENCE**

| | | Cross tabulation | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ability of AI | | | | | |
| | | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
| **Intention** | Deployed | 4 | 10 | 22 | 0 | 2 | 38 |
| | Evaluated | 3 | 10 | 14 | 2 | 1 | 30 |
| | Intend to pursue | 2 | 8 | 3 | 2 | 0 | 25 |
| | Not planning to implement | 0 | 2 | 0 | 0 | 0 | 2 |
| | Other | 4 | 7 | 11 | 2 | 1 | 25 |
| Total | | 23 | 37 | 50 | 6 | 4 | 120 |

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 81.513[a] | 10 | .000 |
| Likelihood Ratio | 39.016 | 10 | .000 |
| Linear-by-Linear Association | .012 | 1 | .182 |
| N of Valid Cases | 120 | | |

**Interpretation**

The calculated value is less than tabulated value, hence we accept alternate hypothesis and there is a significant difference among respondent's motivation to start own business and women get enough support from their family in their business activities.

## RANKING ANALYSIS

**TABLE 4: RANKING INFLUENCING FACTORS OF AI**

| FACTORS | I | II | III | IV | V | TOTAL | AVERAGE | RANK |
|---|---|---|---|---|---|---|---|---|
| CRM Data | 27<br>135 | 38<br>152 | 12<br>36 | 20<br>40 | 23<br>23 | 386 | 77.2 | III |
| Knowledge Bases | 17<br>85 | 41<br>164 | 43<br>129 | 13<br>26 | 6<br>6 | 410 | 82 | I |
| News/Premium Data Sources | 19<br>95 | 28<br>112 | 17<br>51 | 33<br>66 | 23<br>23 | 347 | 69.4 | IV |
| Core Banking Systems | 6<br>30 | 11<br>44 | 26<br>78 | 49<br>98 | 28<br>28 | 278 | 55.6 | V |
| Social Media | 22<br>110 | 42<br>168 | 24<br>72 | 16<br>32 | 16<br>16 | 398 | 79.6 | II |

## INTERPRETATION

The above table shows that majority of the respondents say Knowledge Bases ranks I, Social Media ranks II, CRM Data ranks III, News/Premium Data Sources ranks IV and Core Banking Systems ranks V.

## WEIGHTED ARITHMETIC MEAN

**TABLE 5: SATISFACTION WITH ARTIFICIAL INTELLIGENT IN BANKING**

| Functions | Satisfied | Very satisfied | Neutral | Dis-satisfied | Very Dissatisfied | Mean score | Mean | Rank |
|---|---|---|---|---|---|---|---|---|
| Portfolio Manager | 25 | 42 | 22 | 20 | 9 | 423 | 28.2 | I |
| Head Trader/Trader | 16 | 22 | 38 | 14 | 30 | 340 | 22.66 | IV |
| Risk Officer | 38 | 22 | 26 | 12 | 22 | 392 | 21.13 | VII |
| Research/Analyst | 19 | 7 | 38 | 26 | 30 | 319 | 21.66 | VI |
| Trading Technology | 32 | 28 | 10 | 10 | 40 | 338 | 22.53 | V |
| Portfolio Manager | 23 | 15 | 6 | 26 | 50 | 295 | 19.66 | VIII |
| Head Trader/Trader | 26 | 21 | 15 | 37 | 21 | 354 | 23.6 | III |
| Risk Officer | 35 | 18 | 37 | 15 | 15 | 403 | 26.86 | II |

## INTERPRETATION

The above table shows that AI satisfaction level is ranked as follows Portfolio Manager Rank I, Risk Officer Rank II, Head Trader/Trader Rank III, Head Trader/Trader Rank IV, Trading Technology Rank V, Research/Analyst Rank VI, Risk Officer Rank VII and Portfolio Manager Rank VIII.

## FINDINGS

Here 58% of the respondents are male, most of the responded from the age group of 26-35 years and they were unmarried and lives in Nuclear Family. Here most of the employees are familiar with AI and part of core banking system. Bank employees think that they got benefited by AI technology.

Since the calculated value is higher than the table value and our hypothesis is proved, null hypothesis is rejected. Hence alternate hypothesis is accepted. So there is significant relationship between age and concerned about AI in medicine. There is significant relationship between intentions to use AI in banking and banking ability of AI is superior to the banking experience.

Majority of the respondents Knowledge Bases ranks I. The above table AI satisfaction level is ranked as follows Portfolio Manager Rank I, Risk Officer Rank II, Head Trader/Trader Rank III, Head Trader/Trader Rank IV, Trading Technology Rank V, Research/Analyst Rank VI, Risk Officer Rank VII and Portfolio Manager Rank VIII.

## SUGGESTIONS

- Digitization has made the long prepare of managing an account less demanding, which utilized to influence the efficiency since of arrangement of past records and sluggish reactions.
- In an endeavor to upgrade the client involvement and set themselves separated, most of the banks are building customer-centric societies with the progression of machine learning, Common Dialect Handling, and cognitive computing.
- All these are important for banks to form customer's cheerful, dodging holding up lines within the bank within the coming future.

## CONCLUSION

AI isn't unused for banks. They are as of now utilizing it for extortion location and spot spurious money related exercises. Robots are progressively getting to be able of common dialect handling, social and passionate insights, thinking utilizing rationales, design recognizable proof, self-supervised learning, physical sensors, and mobility. AI and mechanical autonomy are already being utilized within the money related division and there are a few major progresses anticipated within the range. For case, robots have cognition, control and intuitively capabilities, fair as shrewdly as people

Within the exchanging section, AI will offer assistance in prescient to prescriptive examination, hence making a difference in superior administrations with superior reaction and readiness to developing patterns . Capital Markets are already utilizing AI within the form of algorithmic triggers in high-speed exchanging.

Within the coming days, private financial specialists can moreover have way better administrations given the act of spontaneities in AI. AI will offer assistance make way better choice in case of inactive ventures and offer assistance gain more returns from dynamic ventures . It'll drive resource supervisors to reconsider almost dynamic resource finance administration.

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