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USE OF ARTIFICIAL INTELLIGENCE IN FINANCIAL MANAGEMENT

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Abstract:

This research paper is designed regarding to the influence of Artificial Intelligence (AI) in the financial management Sector and investigating of multiple effect and impact of AI on the financial management. This research involved a pervasive analysis of Artificial Intelligence and its related various applications used. It is focusing on its transformative effect on the operating processes, decision-making, and the overall flow of the finance and financial sector. The primary objective of this research is to dissect the different applications of AI within the finance, ranging from the risk management and alert from fraud detection to algorithmic trading and customer service also. By delving into the specific used cases and implementations, the aims of research is to provide a clear understanding about how AI technologies are reshaping the traditional practices and augmenting the capabilities of financial institutions.

Keywords: *Artificial intelligence, Finance, Algorithmic Trading, Fin Tech, Machine Learning, Customer Service*

Introduction:

The history of Artificial Intelligence is that the dates back to 1950s when the term "artificial intelligence" was found by Pioneers like Alan Turing and John McCarthy devoted the groundwork for the field; their aim was that to create machines more capable of simulating human intelligence. They would like to efforts focused on symbolic AI early, by using logic and different rules to represent knowledge of people and solve related problems.

Today's stressful life, humans created artificial intelligence to challenge the intellectual wisdom of human beings. In the actual decision -making process, you can see this artificial intelligence. Artificial intelligence has helped to relieve the power of the traders, professionals, investors, and every human being, by analyzing the information, by processing the information with the help of different machine languages.

Artificial intelligence helps to invest in businesses, make decisions to traders, and make decisions by providing accurate and timed indicator information to investors in the capital market. You can see that there have been rapidly changes in trading strategies, marketing analysis, stock selection, investment, portfolio construction, etc. with artificial intelligence.

Artificial intelligence is being used to make effective financial decisions. Artificial intelligence has emerged as a very important and faithful assistant to make decisions on the allocation of intelligent property and the selection of stock, as well as to signal investment, as well as capture the inherent relationship in the big data.

Impact of the Artificial Intelligence in Financial Sector :

In the recent years, artificial intelligence (AI) has big emerged as a transformative application in the financial sector. It is used for revolution of traditional practices

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and starting new opportunities for growth, development and innovation of application. From algorithmic trading to the risk management and customer service also, AI is giving reshape for every aspect of finance & financial sectors, its offering different insights, grow more efficiency, and create competitive advantage. Following are the points explore the profound impact and benefits of AI in the financial sector.

Algorithmic Trading: Definition and Meaning of Algorithmic trading, also known as 'black-box trades', involves the use of computer programs to trade based on predefined rules and principles. The computer program uses a set of instructions that help make trading decisions and generate profits at a speed that is difficult for a human trader. In addition to providing profit opportunities for traders, algorithmic trading also makes the market more liquid and trading more orderly by removing the effects of human emotion on trading. It is one of the most visible impacts of AI in finance is in algorithmic trading. AI-powered algorithms analyze big amounts of market data with high speed and accuracy, enabling traders to implement complex strategies and capitalize on transitory opportunities in the real time. High-capacity trading firm's use leverage AI to conduct millions of transactions within milliseconds, to getting profit from minute price contradiction and market inefficiencies as like fluctuations.

Risk Management: AI has remodelled risk management practices in the financial sector by improving the ability to assess and deduct risks for investor. Machine learning algorithms analyze multiple data sources, including in that market trends, historical data, and macroeconomic indicators also. To identify patterns and anticipate the potential risks. Now a day's most of the financial institutions use AI to detect fraud, assume market movements, verify credit risks, and protect regulatory compliance, as the last safeguarding investor's assets and minimizing their losses.

Customer Service: AI-powered one more facility that is chatbots and effective online assistants has transformed customer's service in the financial sector. These intelligent systems interact with the customers in the natural language, it is providing personal recommendations, answering the any inquiries, and facilitating essential transactions. By activate automatic routine tasks plan and providing 24/7 support to investor's, AI-carrying customer service solutions to improve efficiency of customer's, helping to reduce operational costs, and to improve the overall customer experience.

Fraud Detection: Fraud detection is another special area where AI had an important impact in financial sector. An M L algorithm is to analyze transaction data in the real-time, by detecting doubtful patterns and exception that may indicates fraudulent activity. Bankers and credit card provider companies use AI to identify the unauthorized transactions, to prevent identity theft, and fight against money laundering cases, thereby protecting both the parties themselves and their customers from financial harm and harassment.

Portfolio Management: AI-powered self portfolio management platforms to leverage advanced analysis and machine learning technologies to improve the investment strategies and construct portfolios to optimize individual preferences and risk patience. These platforms are analyzed different market trends, different economic indicators, and investor's behaviour to make data-carrying investment decision, to maximize returns and minimize risks. By providing suggestion personally investors to investment advice and automated their portfolio rebalancing, Artificial Intelligence-driven portfolio management solutions.

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AI Influence in Decision-Making of the Finance Sector :

In the finance sector, the decision-making is leading as it directly impacts on the allocation of different resources, to risk management, to maintaining profitability, and achieving overall company success. If financial decisions are made by individuals, as businesses, or institutions, to carry significant affect that can help to shape their financial health and future prospects. The decisions are taken in finance sector a wide range of activities such as investment decisions, financing decisions, risk management decisions, and strategic decisions. For example, investment decisions involve evaluation of various assets and securities to assume and determine the most suitable opportunities for investment that align with specific objectives and risk patience. Financing decisions are on the other hand; involve selecting the appropriate sources of funding and capital structure to support business operations and growth initiatives.

Effective decision making in financial sector requires careful analysis of relevant information, consideration of potential outcomes and risks, and alignment with overarching goals and objectives. Moreover, decisions must be made in a timely manner to capitalize on opportunities and mitigate potential threats. Overall, AI is revolutionizing decision making in the finance sector by providing actionable insights, automating processes, and enhancing efficiency. By leveraging AI technologies, financial institutions can make more informed decisions, reduce operational costs, and better serve their customers, ultimately driving sustainable growth and competitive advantage in the dynamic and evolving landscape of finance.

Objectives of Study:

1. To study the AI's Effect on the Financial Industry.
2. To study the Influence of AI on Decision-Making Prototype in Finance.

Hypotheses :

Certain hypotheses were developed for this study:

(H0): There is no significant relationship between the level of understanding of AI technologies and the perception of AI's effect on the financial Sector.

(H1): There is a significant relationship between the level of understanding of AI technologies and the perception of AI's effect on the financial Sector.

Literature Review :

- Bottazzi, M., Ruggeri, V., &Mabilia, A. (2023). Artificial Intelligence in Finance: A Comprehensive Review Through Bibliometric and Content Analysis. SN Business & Economics, conducts a comprehensive analysis of AI's applications in market prediction, risk management, and Robo-advisors. Emerging ethical concerns, data security, and explainability require attention for responsible AI integration.
- Ruggeri, V., Bottazzi, M., &Mabilia, A. (2022). Artificial Intelligence and Financial Inclusion: A Systematic Literature Review. Journal of Business Ethics, explores AI's potential to offer personalized financial services and improve credit scoring for underserved populations. Ethical considerations and digital literacy gaps must be addressed for equitable financial access
- Ganesh, S., Kumar, S., &Manoharan, P. (2022). Artificial Intelligence & Machine Learning in Finance: A Literature Review. Retrieved from Research Gate, reviews AI's increasing role in finance, focusing on risk management, fraud detection, and personalized finance solutions. It highlights the growing adoption of AI and machine learning technologies in the financial sector.

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Research Design:

The research study is made by descriptive in nature. The convenience sampling approach was used in this study. The data was obtained by questionnaire approach. There are total of 50 questionnaires were issued out of that with 40 survey's responded to fill the questionnaire this is 80%. The incomplete surveys are removed from the research study. Secondary data used for this study for that purpose various sources used such as journals, news sources etc. The questionnaire was divided into two categories. The first category comprises the demographic questions, and the second category covers Artificial intelligence in finance sector. The statistical tool like Chi square and simple average was used to assess the acquired data

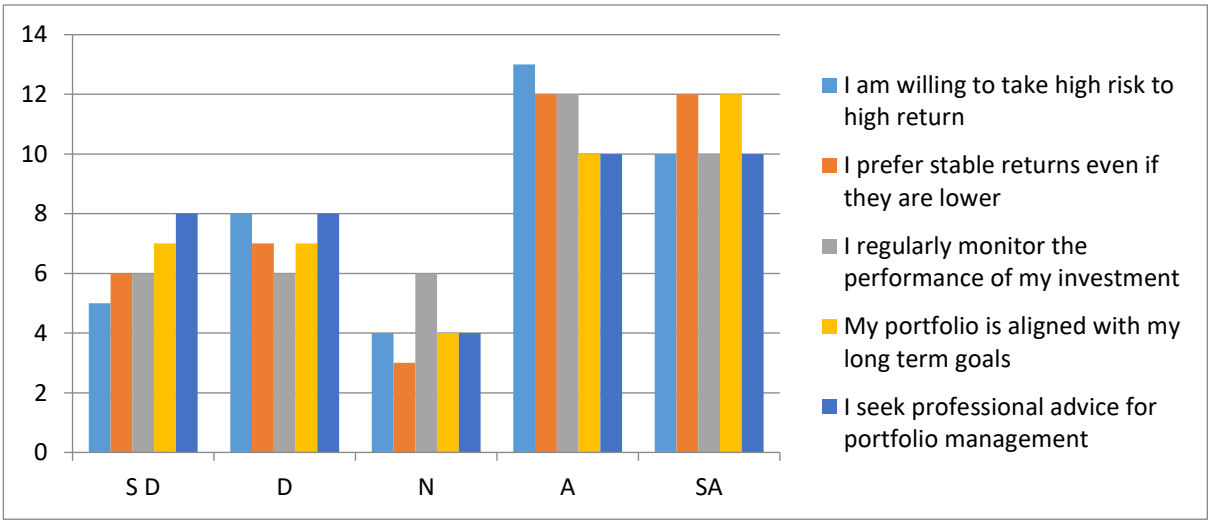
.

Data Analysis :

Taken assistant from AI in the Financial Management?

Statement	S D	D	N	A	SA
I am willing to take high risk to high return	05	08	04	13	10
I prefer stable returns even if they are lower	06	07	03	12	12
I regularly monitor the performance of my investment	06	06	06	12	10
My portfolio is aligned with my long term goals	07	07	04	10	12
I seek professional advice for portfolio management	08	08	04	10	10

Statement	S D	D	N	A	SA
I am willing to take high risk to high return	12.5%	20%	10%	32.5%	25%
I prefer stable returns even if they are lower	15%	17.5%	07.5%	30%	30%
I regularly monitor the performance of my investment	15%	15%	15%	30%	25%
My portfolio is aligned with my long term goals	17.5%	17.5%	10%	25%	30%
I seek professional advice for portfolio management	20%	20%	10%	25%	25%



Findings:

1. 32.5 % respondents are agreed to take assistance of AI in the decision making about high risk and high return at the same time 10% respondents shown neutral about taking assistance.
2. 30 % respondents are agreed and strongly agreed to take assistance of AI in the decision making about

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stable returns even if they are lower at the same time 7.5% respondents shown neutral about taking assistance.

3. 30 % respondents are agreed to take assistance of AI in the decision making about regularly monitor the performance of his investment.
4. 30 % respondents are strongly agreed to take assistance of AI in the decision making about align portfolio for long term goals at the same time 10% respondents shown neutral about taking assistance.
5. 25 % respondents are agree and strongly agreed to take assistance of AI in the decision making about to seek professional advice for portfolio management at the same time 10% respondents shown neutral about taking assistance.

Suggestions:

- Enhance the awareness and education about AI technologies and their applications in finance sector to address concerns and improve acceptance.
- Encourage investor's organizations to invest more in AI-powered solutions by showcasing their high potential benefits in improving efficiency, accuracy, and decision-making in investment.
- Prioritize addressing ethical considerations such as bias, transparency, and accountability in AI algorithms used in finance to build trust and decrease risks.
- Offer training programs and resources to up skill professionals in AI technologies and their applications in financial sector to meet the demands of the evolving industry.

Conclusion:

The findings highlight a generally positive perception of AI's role in the financial industry, with high confidence in its predictive abilities and potential benefits such as fraud detection. However, there are concerns regarding ethical implications, job displacement, and the adequacy of professional training. To leverage the potential of AI in finance effectively, it is essential to address these concerns, invest in education and training, and foster collaboration between stakeholders to ensure responsible and beneficial integration of AI technologies in the financial sector.

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