

**The Role of Artificial Intelligence in Financial analysis and predicting the future  
Financial Performance with special reference to GOKUL (KOLHAPUR  
ZILLAH SAHAKARI DUDH UTPADAK SANGH, LTD), KOLHAPUR .**

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**Abstract**

The field of Artificial Intelligence is emerging at a faster pace. New tools of Artificial Intelligence that are being invented are shaping the way how people perform their daily operations as well as their professional work. The inclusion of Artificial Intelligence in the daily as well as the professional work gives us an idea about the multidisciplinary approach of Artificial Intelligence and the way it is shaping the lives of human beings and making the tasks that seemed to be taking a lot of time; just a matter of seconds to be completed.

Speaking about the multidisciplinary approach and the application of Artificial Intelligence in almost every field the inclusion of Artificial intelligence in performing wide range of analytical as well as predictive operations is definitely going to change the way these jobs were being earlier. The inclusion of Artificial Intelligence in the organizations can also be seen as an important event in the history as it highlights the capability of Artificial Intelligence. However as everything seems to be effortless there are also certain challenges that greatly affect the use of Artificial Intelligence in a full fledge. The hardware restrictions, lack of knowledge, reliability issues, and accountability issues of Artificial intelligence pose a serious drawback for its use.

**Keywords: Artificial Intelligence, multidisciplinary, innovation, forecasting, predictive analysis, financial analysis, predictive analysis.**

**Introduction**

Right from the very existence of the human race man has always been in search of innovations. This is the very nature of human beings to be curious about a specific thing that has led to the innovation of some of the most amazing things that we can see right now. The urge of human beings to always develop and look for new things has led man to be one of the most smartest species on this planet. The Artificial Intelligence is the part and parcel of this very nature of man to be constantly in search for innovation that are significantly responsible for shaping the very way how we used to perform the tasks. Artificial Intelligence is just not an innovation it is a ground breaking technology that is capable of doing some of the most complex tasks. The emergence and development of Artificial Intelligence has occurred in an exponential curve pattern where it is almost ready to do some of the most compound tasks in just a click and within seconds.

Looking back at the era when most of the tasks were performed manually to the introduction of computer systems and software's to perform the tasks to now the initiation of Artificial Intelligence; we can sight that we have come a long way. The traditionally performed tasks in the organizations got more speed and accuracy due to computer systems and software's. However they did not do all the analysis of the financial data alone. The involvement of humans in order to feed in the right data and to run that data through software in order to get the desired result, also was a time consuming task. Another problem posed was this was prone to errors during feeding in the data. Also some of the softwares did not have the advanced analytical capacity like predictive analysis and also they struggled to analyze patterns of complex financial data. With

these problems came the solution which is Artificial Intelligence. The integration of Artificial Intelligence in Finance marks a significant event as it has revolutionized the entire industry with this. The modern A.I driven technologies has the capability to perform the analysis on complex financial data and also perform prediction analysis on the provided data. The A.I. driven tools expedite the tasks like financial ratio analysis, variance analysis, reporting, predictive analysis, etc in a fraction of second as compared to the time previously required and also with more accuracy and efficiency. The

tools like Open AI's Data Analyst tool, Tableau, KNIME, Alteryx, etc are shaping this field. With the continuous development in this sector and the advancement of these tools the future of financial analysis is definitely going to be more efficient and with accurate predictions of the data.

### **Research Objectives**

To study the application and efficiency of Artificial Intelligence in Financial Analysis and Predictive Analysis of Gokul (Kolhapur Zillah Shakari Dudh Utpadak Sangh, LTD , Kolhapur) to analyze its Balance sheet and income statements .

### **Research Problem**

Right from the widespread application of Artificial Intelligence in every field all the industries seem to be transforming at a faster pace. However the application of Artificial Intelligence in the field of Financial Analysis still seems to be an underrated thing. Though all the capabilities of Artificial Intelligence are known still it is doubted for its reliability and accountability. As the financial data is a sensitive and the most crucial aspect of any business organization relying on just artificial intelligence to analyze and predict the data still looks like an overlooked path for many organizations. However the use of A.I. in such tasks can significantly help the business organizations to make more informed decisions based on the data predicted by Artificial Intelligence systems. This can also allow the organizations to be prepared for the future opportunities and challenges rather than focusing on being accurate to feed in the correct data into the softwares. This paper tries to demonstrate the potential of Artificial Intelligence in performing Financial Analysis and prediction analysis of a Business organization.

### **Research Methodology**

The research methodology section outlines the approach, tools and techniques used to conduct the study. The data used for this research is collected from primary sources of data like the annual reports and the financial statements and balance sheet of GOKUL. Also the data from the journals, research papers and online sources available. In order to analyze the data and perform predictive analysis the A.I tools like Open A.I's Data Analyst tools are used.

### **Literature Review**

1. **Bottazi, M. , Ruggeri, V. , and Mabilia, A.** (2023) This research highlights the application of A.I. in finance and specifically about its use in prediction analysis, risk management and financial analysis which brings out the capabilities of A.I. in financial analysis.
2. **Ruggeri, V., Bottazi, M., and Mabilia, A.** (2022) This research brings out the use of A.I. in providing financial assistance which also includes assistance in personalized finance.

3. **Ganesh, S., Kumar,S., Manoharn,P.** (2022) This research reviews the growing role of Artificial intelligence in the financial sector and also focuses on areas such as risk management, fraud detection and increasing adoption of A.I. in finance.
4. **Olha Chernysh, Olesksandr Smishko, Yullia Koverninska, Mykola Prokopenko and Ihor Pistunov** (2024) This research focuses on the widespread use if A.I. in the financial analysis . It also brings out the potential of A.I in Banking sector and financial analysis.
5. **Dr. D . Divya** (2024) This paper explores more on the topic of the use of A.I. in a specific field that is finance and also investing and its impact on the industry. It also further speaks about the power of A.I. to do analysis and its drastic effect on processes like decision making, analysis of data and risk management.

### Artificial Intelligence in Financial Analysis

Artificial Intelligence in Finance means the use of A.I. technology in performing the financial tasks with the implementation of machine learning, natural language processing, and deep learning in order to analyze and project the financial data. As there is more and more advancement in the field of artificial intelligence and more and more models of A.I. emerging at a faster rate the accuracy, efficiency and predictions of these models are also undoubtedly becoming more faster and precise. The capacity of A.I. to perform the analysis at a faster rate and with more correctness is shaping the way financial analysis is done and has significantly set up a benchmark for its comparison with the human beings and softwares capability.

Artificial Intelligence helps the organizations to achieve the results of analyzing the complex data in a fraction of second than to simply wait for days together to get results of specific analysis or also in order to carry out prediction analysis. The integration of A.I. tech in finance has provided with improved efficiency as it has automated the tedious tasks of feeding in the data and has led organizations to focus more on the task of decision making and planning due to this automation. Not only does the application of A.I. help us achieve the necessary goals and saves time it also acts as an important factor to save costs on financial analysis of the big business organizations. The use of A.I. in the business organization has in fact helped to assess risk and also predict any future risk if any. It also helps to assess the market conditions and predict market changes so that the organizations can take the necessary steps and plan the financial activities accordingly. A.I also helps to automate the analysis of financial statements and also draws the useful key takeaways from the financial statements of an organization. It also makes the calculations of the various financial ratios of the business organizations easier and helps them to benchmark against industry standards which makes it very easy task for comparison. Let us take the example of the financial ratios calculated using the Artificial Intelligence and the ones calculated manually in order to check the accuracy of

A.I systems over the traditional software and manual systems.

Sr. No	Financial Ratios	Traditional Method Calculation (F.Y. 2023)in %	Use of Artificial Intelligence for calculation (F.Y. 2023)in %	Accuracy of A.I
1.	Solvency Ratios- Debt to equity ratio	0.20	0.22	Deviation percentage 0.2%

2.	Efficiency Ratios – Asset Turnover Ratio	0.19	0.17	Deviation percentage 0.2%
3.	Profitability Ratio- 1. Profit Margin 2. Return on Assets 3. Return on equity	4.42 0.28 5.10	4.57 0.22 5.13	Deviation percentage 0.15% 0.6% 0.3%
4.	Liquidity Ratio-  1. Current Ratio 2. Quick Ratio	19.28 13.62	19.21 13.68	Deviation Percentage 0.7% 0.6%

The table compares financial ratios calculated using traditional methods and artificial intelligence (AI). It shows that AI calculations are very close to traditional ones, with only small differences. For example, in the solvency ratio and efficiency ratio, AI results differ by just 0.2%. Similarly, for profitability and liquidity ratios, the variation is minimal, ranging from 0.15% to 0.7%. This means that while AI is not 100% the same as manual calculations, the differences are very small and do not significantly impact financial analysis. As AI technology continues to improve, these small deviations will decrease, making AI an even more reliable tool for financial decision-making.

#### Artificial Intelligence in Prediction Analysis

The use of Artificial Intelligence in Predictive analysis is seen as a milestone that has been achieved by A.I. over the recent years. The A.I. models build for predictive analysis helps to forecast the future figures or data based on the available historical data sets and thus gives us results or predictions based on that data available. By devising the various Artificial Intelligence models and tools the predictions of future data is available with just a click of the button. The Artificial Intelligence uses the historical data provided to it as a base to make the predictions and then identifies the trends and patterns in the data provided which leads to the accurate predictions of the data. The Predictive Analysis gives the analysts and the management a view about the future performance which in turn helps in making proper decisions. Also, the ability of A.I systems to perform predictions based upon the analyzing the large databases is what is the most fascinating feature of these models. Also, it has the ability to perform more precise predictions given that the accurate data provided. The A.I systems can also increasing large volumes of data without compromising on the performance. The A.I systems in the predictive analysis helps to get accurate results and also has the capacity to handle the missing data and optimizing the results and making the changes accordingly. Let us see the accuracy of A.I. to predict the data of GOKUL based upon the data provided for the F.Y 2021 and F.Y 2022 as the base to predict the future trends of F.Y 2023 and F.Y 2024 and its accuracy to match with the actual data from the above table.

Sr.No	Metrics	Predicted values(in lakhs)		Actual values(in lakhs)	
		F.Y 2023	F.Y 2024	F.Y 2023	F.Y 2024
1.	Revenue	4,39,97,786	5,04,54,812	5,33,30,940	5,70,64,106

2.	Expenditure	2,29,98,636	3,03,85,660	3,03,39,765	3,21,60,151
3.	Net Profit	691.75	791.52	781	825.67

The data and graph presented analyze the predicted and actual financial performance of Gokul for FY 2023 and FY 2024 using AI-based forecasting. The predicted revenue for FY 2023 was ₹4,39,97,786 lakhs, whereas the actual revenue was significantly higher at ₹5,33,30,940 lakhs. Similarly, the predicted expenditure was ₹2,29,98,636 lakhs, but the actual expenditure was ₹3,03,39,765 lakhs. The net profit prediction for FY 2023 was ₹691.75 lakhs, while the actual net profit was ₹781 lakhs. These variations suggest that the AI model underestimated both revenue and expenses, though it closely predicted net profit. The graph visually represents this discrepancy, indicating that the actual values surpassed the predictions in all financial metrics.

It is visible that though the data predictions are not accurate still the results are close to the actual values obtained. This data is highly useful for the organization as it aids in financial planning, budgeting, and resource allocation. It helps in evaluating performance, identifying cost overruns, and improving forecasting accuracy for future financial decisions. The insights from the data assist in risk management, investment planning, and process optimization, ensuring better financial stability and growth. By analyzing deviations between predicted and actual values, the organization can refine its strategies and enhance overall efficiency.

### Findings

It is found from the above data that though the field of Artificial Intelligence seems to be emerged out and developed still it lacks to reach a certain level of accuracy to be completely being relied upon. The application of A.I in the field of financial analysis and predictive analysis gives us an overview about its wide range of applications however the main context is that it still deviates from the actual results a bit. Although, the deviations are less than even a percent but still it requires some more advancements in order to match the expected level of accuracy. However it is sited that A.I can be of great help in order to summarize the big sets of data which seems to be consuming a lot of time.

Although these deviations are minimal, enhancing AI models is essential to meet the expected levels of precision. However, AI proves to be highly beneficial in processing and summarizing large datasets, significantly reducing the time required for financial analysis.

### Opportunities of Artificial Intelligence in Finance

The future of A.I is extremely fascinating as the integration of A.I aims to transform the pace at which the financial operations are being performed in the future. The future opportunities of A.I in finance within a business Organization are:-

1. Automated Financial Reporting
2. Intelligent Accounting
3. Predictive financial planning
4. Automated Budgeting
5. A.I powered Risk Management
6. Automated Compliance
7. A.I powered Cash Forecasting
8. A.I powered financial modeling and forecasting
9. Automated treasury management

The opportunities in this field are endless and it will be fascinating to see how these systems evolve over the next coming years.

### **Challenges in Application of Artificial Intelligence in Finance**

#### 1. Data Sensitivity and Security Risks

AI systems in finance rely on vast amounts of sensitive financial data. This raises concerns about data security and privacy, as any breach or misuse could lead to financial losses, regulatory penalties, and reputational damage. Organizations must implement strong cybersecurity measures to prevent data leaks.

#### 2. Bias in AI Models

AI algorithms are trained on historical data, and if this data contains biases, the predictions and decisions made by AI can also be biased. This can result in unfair credit assessments, discriminatory loan approvals, or inaccurate risk evaluations, potentially harming individuals and businesses.

#### 3. Lack of Transparency (Black-Box Problem)

Many AI models, especially deep learning systems, operate as "black boxes," meaning their decision-making processes are not easily interpretable. This lack of transparency makes it difficult for financial analysts and regulators to understand how AI arrives at certain predictions, reducing trust in its outputs.

#### 4. Regulatory and Compliance Issues

The financial industry is highly regulated, and AI-driven decision-making must comply with legal frameworks such as GDPR (for data privacy) and financial reporting standards.

Ensuring AI aligns with evolving regulations can be complex and requires constant monitoring.

#### 5. Skill Gaps and Infrastructure Requirements

Implementing AI in finance requires skilled professionals with expertise in machine learning, data science, and finance. However, there is a shortage of such talent, making it difficult for many organizations to fully leverage AI capabilities. Additionally, AI systems require advanced computational infrastructure, which can be costly for smaller firms.

#### 6. Transparency and Trust Issues

Many financial institutions hesitate to rely entirely on AI due to concerns about its accuracy and reliability. Since financial decisions impact investments, loans, and risk management, organizations require AI models that provide clear, justifiable results rather than obscure predictions.

#### Overcoming These Challenges

To maximize AI's potential in finance, organizations can: Enhance data security through encryption and compliance with data protection laws.

Regularly audit AI models to identify and mitigate biases.

Implement explainable AI (XAI) techniques to improve transparency.

Invest in AI literacy programs to upskill employees.

Develop hybrid models where AI works alongside human experts for better decision-making.

Despite these challenges, AI continues to revolutionize finance by improving efficiency, automating processes, and enhancing predictive accuracy. With continuous advancements, AI can become a more reliable and ethical tool in financial decision-making.

## **Conclusion**

Artificial Intelligence is transforming the financial analysis and predictions and providing deeper insights to the users and also improving the accuracy and providing the automated decision making to the users. While A.I offers a significant advantage in all the other fields there are also a lot of challenges posed and also the regulatory concerns which raises the worries regarding the widespread use of A.I for various tasks. However, as the technology advances we will be able to get over it and also be able to shape the future of financial analysis and use of A.I in various fields.

## **References**

### **Literature Review**

1. (Bottazi, M. , Ruggeri, V. , and Mabilia, A. 2023) Artificial Intelligence in Finance.
2. ( Ruggeri, V., Bottazi, M., and Mabilia, A. 2022) Artificial Intelligence and Financial Inclusion.
3. (Ganesh, S., Kumar,S., Manoharn,P. 2022) Artificial Intelligence and Machine learning in Finance.
4. (Olha Chernysh, Olesksandr Smishko, Yullia Koverninska, Mykola Prokopenko and Ihor Pistunov 2024) Role of Artificial intelligence in financial Analysis and forecasting : using Data and Algorithms.
5. ( Dr. D . Divya 2024) Artificial Intelligence in Finance.