International Journal of Engineering Technology and Management Sciences
Website: ijetms.in Issue: 3 Volume No.9 May - June – 2025
DOI:10.46647/ijetms.2025.v09i03.008 ISSN: 2581-4621

Fundamental Data-Driven Investment Analysis Platform

Prof.S.C.Puranik[1], Tagad Nikhil[2], Karale Ganesh[3] ,Gaikwad Krushna[4]
[1]*Associate professor, Dept. Department of Computer Engg., Ahmednagar, Maharashtra, India*
[2]*UG Scholar Dept. Department of Computer Engg., Ahmednagar, Maharashtra, India*
[3]*UG Scholar Dept. Department of Computer Engg., Ahmednagar, Maharashtra, India*
[4]*UG Scholar Dept. Department of Computer Engg., Ahmednagar, Maharashtra, India*

Abstract
Investment analysis platforms utilizing fundamental analysis have transformed the investment decision making landscape by providing investors with tools to evaluate the intrinsic value of companies through metrics such as earnings, cash flow, and debt levels. This literature survey synthesizes research on platforms that integrate fundamental analysis, exploring advancements in data integration, predictive analytics, and user experience. While such platforms have become invaluable in assisting both institutional and retail investors, they face ongoing challenges with data standardization, model transparency, and usability. This review highlights key findings, discusses existing gaps, and suggests directions for future research, aiming to contribute to the development of more robust, user-friendly investment analysis platforms
Keywords: Investment, Stock, Finance, Prediction, Cash flow, Fundamental analysis, Predictive analysis

1. INTRODUCTION

In an increasingly complex financial environment, investors require reliable tools to assess potential investments and navigate market volatility. Investment analysis platforms have emerged to fill this need, providing investors with a wide range of financial data, analytical tools, and insights into market trends. Among the various approaches to
investment analysis, fundamental analysis remains one of the most widely used methods. Fundamental analysis examines a company's value by analyzing its financial statements, growth prospects, and market position, allowing investors to make informed decisions based on company fundamentals rather than market fluctuations alone. These platforms are crucial for institutional and retail investors alike, as they present data in a structured and accessible manner, supporting decision-making through real-time insights, financial ratios, and sometimes even predictive analytics. However, despite their growing popularity, investment analysis platforms face numerous challenges. Integrating multi-source financial data, ensuring data accuracy, maintaining usability, and addressing model transparency are just some of the hurdles developers and researchers encounter. Moreover, the increasing incorporation of artificial intelligence (AI) and machine learning introduces additional complexities related to model explainability and user trust.
This literature survey examines the current state of research on investment analysis platforms, focusing on those that integrate fundamental analysis to provide investment insights. Through a review of ten selected studies, this paper will explore advancements in platform development, identify existing challenges, and suggest future research directions aimed at enhancing the robustness and accessibility of these platforms.

1.1. Figures

The proposed Investment Analysis Platform leverages fundamental financial data to help investors make informed decisions. It integrates multiple data sources—such as financial APIs, corporate

International Journal of Engineering Technology and Management Sciences
Website: ijetms.in Issue: 3 Volume No.9 May - June – 2025
DOI:10.46647/ijetms.2025.v09i03.008 ISSN: 2581-4621

filings, and market websites—and automates the entire data pipeline, including cleaning, validation, storage, and transformation into a structured, queryable database. The platform performs comprehensive fundamental analysis by calculating key financial ratios and performance metrics, such as P/E ratio, ROE, debt-to-equity, and cash flow indicators. Additionally, it offers optional machine learning capabilities for predictive analytics, enabling forecasting of stock performance, risk assessment, and anomaly detection.

Users access these insights through an interactive and intuitive dashboard that displays financial summaries, company profiles, sector comparisons, interactive charts, and downloadable reports. Real-time monitoring and automated alerts notify users of critical financial changes, such as earnings announcements or significant stock movements. The platform supports personalized watchlists, peer comparisons, and scenario analysis to help investors evaluate multiple strategies. Furthermore, the machine learning module leverages historical trends and macroeconomic indicators to provide forward-looking insights, supporting both short-term trades and long-term investment planning. Enhanced security and data encryption ensure that sensitive financial data remains protected, while the scalable architecture allows seamless expansion to include new markets or datasets.

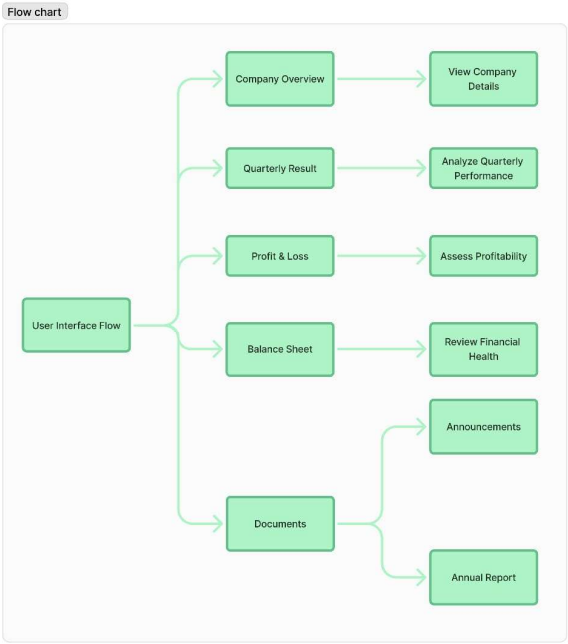

Fig: Investment Analysis Platform using Fundamental Data

MODULES-

1.DATA COLLECTION MODULE
2.DATA PROCESSING LAYER
3. DATA ANALYSIS MODULE
4.DASHBOARD/UI

FEATURES-

1. User-Friendly
2. Data-Driven Decision Making
3. Automated Data Processing
4. Scalability

International Journal of Engineering Technology and Management Sciences
Website: ijetms.in Issue: 3 Volume No.9 May - June – 2025
DOI:10.46647/ijetms.2025.v09i03.008 ISSN: 2581-4621

5. Integration with Machine Learning
6. Comprehensive Data Visualization
7. Real-Time Monitoring and Alerts

2. RESULTS AND DISCUSSION

2.1. Results

Based on a review of the literature, investment analysis platforms that utilize fundamental analysis have evolved significantly, yet they face several ongoing challenges. Fundamental analysis metrics such as price-to-earnings (P/E) ratios, return on equity (ROE), and debt-to-equity ratios remain core components of these platforms. These metrics provide valuable insights into a company's intrinsic value, helping investors make informed decisions.

However, the integration and presentation of these metrics vary widely across platforms, with differences in calculation methods and regional financial reporting standards. Such inconsistencies can complicate comparisons between companies, particularly on a global scale (Chen & Sharma, 2021; Li & Xu, 2019).

Data standardization and integration also pose significant challenges. Investment platforms increasingly aggregate data from multiple sources, including financial statements, news feeds, and industry reports. This integration is essential for delivering comprehensive, accurate, and timely information to users. However, the technical demands of ensuring data consistency and accuracy are substantial, particularly when dealing with real-time data updates. Cloud-based solutions have shown promise in facilitating data integration, yet concerns about data security and privacy remain prevalent, especially with sensitive financial information at stake (Rao, 2021; Chen & Sharma, 2021).

2.2. Discussion

These observations underline the need for a more well-rounded solution that can address these gaps. Based on the insights from this research, the proposed "Investment Analysis Platform" will be developed to offer a more comprehensive tool for investors. By integrating fundamental analysis with machine learning, this new system aims to standardize data, provide transparent AI-driven insights, deliver customizable alerts, and offer a user-friendly experience for investors of all levels. This platform will be designed with both experienced investors and beginners in mind, focusing on usability, security, and the ability to provide timely and personalized investment insights.

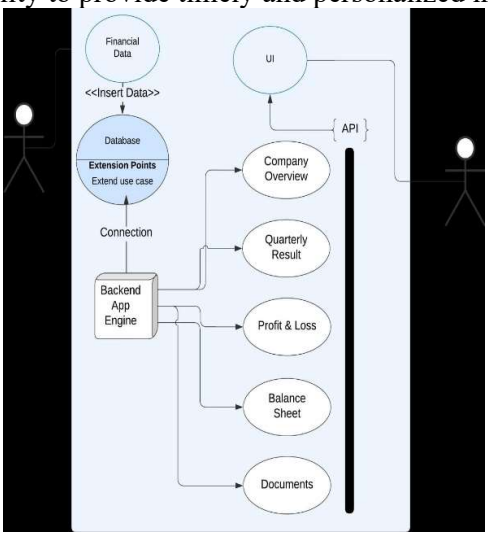

FIGURE 2. System Architecture

DOI:10.46647/ijetms.2025.v09i03.008 ISSN: 2581-4621

CONCLUSION

The literature survey on investment analysis platforms that use fundamental analysis sheds light on both the progress and the challenges in this area. It highlights that while there have been significant advances in providing investors with essential tools, certain limitations remain. Investors increasingly rely on metrics like P/E ratios, ROE, and other key financial indicators, and they benefit from platforms that can provide real-time data, intuitive interfaces, and even predictive insights through AI. However, many platforms still struggle with issues such as inconsistent data from various sources, lack of transparency in AI driven predictions, limited options for setting up customized alerts, and interfaces that may be too complex for beginners. Additionally, as more platforms use cloud technology, security and privacy become even more critical concerns.

ACKNOWLEDGEMENTS

The authors express sincere gratitude to all contributors, researchers, and institutions whose work laid the foundation for this research. Special thanks to the project guide for insightful feedback and guidance, and to the supporting institution for infrastructure and research support. The authors also acknowledge peer reviewers for their constructive critiques, which greatly enhanced the quality of this work.

REFERENCES

[1] Chen, J., & Sharma, R. (2021). Integrating Multi-Source Financial Data for Investment Analysis Platforms. Journal of Financial Analytics,
15(3), 45-58.
[2] Deng, X., & Huang, Y. (2023). Predictive Analytics and AI in Investment Decision-Making. International Journal of FinTech Research,
22(1), 13-26.
[3] Dixon, T., & Morgan, P. (2019). Financial Analytics Platforms for Retail Investors: A User-Centric Approach. Journal of Investment Research, 9(4), 85-99.
[4] Johnson, M., & Park, S. (2020). Visual Analytics in Investment Platforms: Enhancing Decision-Making with Interactive Dashboards. Journal of Financial Technology, 14(2), 102-116.
[5] Li, W., & Xu, H. (2019). Fundamental Analysis and Investment Decision Support Systems. Financial Insights Quarterly, 11(3), 78-90.
[6] Liu, J., & Zhao, L. (2023). The Role of Hybrid Models in Investment Platforms: Combining Fundamental and AI Analysis. Journal of Financial Analytics, 25(2), 59-73.
[7] Mehta, S., & Singhal, R. (2021). Usability Challenges in Investment Analysis Platforms: An Empirical Study. Journal of UX Research in Finance, 10(1), 33-49.
[8] Patel, K., & Zeng, L. (2022). Machine Learning in Financial Analytics: Predicting Market Trends. Machine Learning for Finance, 8(2), 98-111.
[9] Rao, S. (2021). Cloud-Based Financial Data Integration in Investment Platforms. Journal of Financial Data Management, 13(3), 51-63.
[10] Sun, Y., & Clarke, D. (2022). Limitations of Historical Data in Fundamental Analysis. Journal of Economic Analysis,
18(4), 64-78.