

A Study on Data Analysis in Financial Markets with Special Reference to Stock Trends, Commodity Market, and Company Valuation

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ABSTRACT

This research paper provides an extensive analysis of financial market behavior, undertaken during a 25-day internship at Pradeep Nikhil & Associates, Chartered Accountants. The study explores the practical application of data analysis techniques to understand stock price trends, commodity market fluctuations, and company valuation methods. By integrating theoretical finance concepts with hands-on analytical tasks, the research highlights how data-driven insights support accurate investment decisions in a dynamic market environment.

The internship offered exposure to essential financial tools and platforms such as Microsoft Excel, NSE data sources, Screener.in, TradingView, and Moneycontrol, enabling systematic collection, organization, and interpretation of real-time market data. The analysis involved identifying price trends, examining technical indicators, understanding macroeconomic influences on commodities, and evaluating company fundamentals through key financial ratios.

Findings reveal that market performance is closely tied to investor sentiment, global economic factors, and company-specific fundamentals. The study emphasizes that while technical and fundamental analysis individually provide valuable insights, a combined approach significantly enhances prediction accuracy and investment reliability.

The research also documents challenges encountered, including data inconsistency across platforms, interpreting volatile market movements, and applying valuation models with precision. Overcoming these difficulties strengthened analytical thinking, data interpretation skills, and financial judgment—core competencies required for careers in investment analysis and financial research.

Overall, the paper demonstrates the importance of practical data analysis in understanding market dynamics and reinforces the value of internships in bridging the gap between academic knowledge and real-world financial decision-making.

1. Introduction

Financial markets form the backbone of a nation's economic framework, influencing capital allocation, corporate growth, and investor confidence. With the rapid evolution of digital technologies, data analytics has emerged as an indispensable tool for understanding market behavior and supporting informed decision-making. In today's environment—characterized by real-time trading, algorithmic models, and global economic integration—market participants increasingly rely on analytical methods to interpret vast datasets, identify investment opportunities, and manage financial risks effectively.

During my internship at Pradeep Nikhil & Associates, Chartered Accountants, I gained first-hand exposure to the practical dimensions of financial data analysis. The firm's professional environment provided a platform to bridge academic learning with real-world financial applications. My work focused on three interconnected domains: stock trend analysis, commodity market evaluation, and company valuation. These areas form the foundation of investment research and require a balanced understanding of both technical and fundamental analysis.

The internship enabled me to work with essential analytical tools such as Microsoft Excel, the NSE website, Screener.in, TradingView, and Moneycontrol—platforms widely used by analysts and financial professionals. By collecting and organizing historical market data, interpreting technical indicators, examining macroeconomic variables, and evaluating corporate performance metrics, I was able to observe how different factors collectively shape market movements and investor sentiment.

This introduction sets the stage for a deeper exploration of how structured data analysis supports decision-making in financial markets. It highlights the relevance of analytical expertise in modern finance and underscores the importance of practical training in developing critical thinking, market awareness, and evaluation skills. Through this research, the aim is to demonstrate the significance of integrating classroom concepts with practical exposure to understand market dynamics comprehensively and to gain insights that are valuable for future roles in financial analysis, investment research, and valuation-based decision-making.

2. Objectives

1. To study stock market trends and identify key factors affecting price movements.

This includes analyzing historical prices, volume, volatility, and trend patterns to understand how markets behave over time.

2. To analyze commodity market fluctuations and their link to global economic conditions.

The objective is to assess how commodities like gold and crude oil react to inflation, currency changes, and geopolitical events.

3. To understand and apply company valuation techniques using real-time financial data.

Key financial ratios and balance-sheet metrics are evaluated to determine a company's intrinsic value and long-term performance.

4. To gain hands-on experience with financial tools and platforms used for market analysis.

This includes practical use of Excel, NSE website, Screener.in, TradingView, and Moneycontrol for data collection and interpretation.

5. To identify investment opportunities and risks through combined technical and fundamental analysis.

The aim is to merge chart indicators with company fundamentals to support accurate and balanced investment decision-making.

6. To enhance analytical and interpretative skills through real-world financial research exposure.

This objective focuses on improving the ability to convert raw data into meaningful insights relevant to market behavior.

Organization Information

Pradeep Nikhil & Associates is a reputed Chartered Accountancy firm providing comprehensive financial, auditing, taxation, and consulting services. The firm is committed to excellence, integrity, and professional ethics in all its operations. It caters to a diverse clientele, including individuals, SMEs, and corporate entities. The firm's focus on research and analytical approaches to finance provided a conducive environment for learning during the internship. As a Junior Intern, I worked under the supervision of senior professionals, engaging in projects related to financial data collection, analysis, and interpretation.

3. METHODOLOGY

The methodology adopted for this research follows a systematic blend of quantitative analysis, qualitative interpretation, and practical observation, enabling a comprehensive understanding of stock trends, commodity movements, and company valuation. The approach reflects the structured workflow practiced at Pradeep Nikhil & Associates and aligns with standard financial research procedures.

1. Research Design

A descriptive and analytical research design was used to study financial market behavior. This design allowed for:

examination of historical and real-time market data,
identification of recurring patterns and key influencing variables,
comparative evaluation of companies and commodities, and
interpretation of financial indicators for investment decision-making.

The purpose of this design was to bridge academic concepts of market analysis with practical exposure gained during the internship.

2. Data Sources

The study relied primarily on secondary data, collected from reputable financial platforms:

National Stock Exchange (NSE) Website – for historical stock prices, indices, and corporate announcements.

Screener.in – for company financials, valuation ratios, balance sheets, and comparative analysis.

TradingView – for interactive charts, technical indicators, and trend visualization.

Moneycontrol – for commodity prices, market news, and investor sentiment indicators.

Microsoft Excel – for data organization, model development, and graphical interpretation.

These sources ensured reliable, up-to-date, and verifiable market information for the study.

3. Data Collection Process

The data collection process followed multiple structured steps:

Selection of sample companies based on market relevance, sector representation, and data availability.

Extraction of historical stock prices, including daily open, high, low, close (OHLC), and volume.

Compilation of commodity prices, focusing on gold, crude oil, and agricultural commodities.

Gathering financial statements and valuation metrics (P/E ratio, EPS, ROE, ROCE, debt-equity ratio).

Recording external factors, such as market news, budget announcements, global events, and industry updates.

This process ensured a robust dataset for both technical and fundamental analysis.

4. Analytical Techniques and Tools

A multi-dimensional analytical framework was used to derive meaningful insights from the collected data.

A. Technical Analysis of Stock Trends

Technical indicators were applied using TradingView and Excel, including:

Moving Averages (SMA/EMA) for trend direction and cross-over patterns.

Relative Strength Index (RSI) to measure overbought/oversold conditions.

Support and Resistance Identification for forecasting price reversals.

Volume Analysis to assess market participation and trend strength.

These tools helped identify momentum shifts and short-term trading signals.

B. Commodity Market Analysis

Commodity data was analyzed to understand:

price volatility,

global supply-demand cycles,

sensitivity to geopolitical and macroeconomic factors,

correlation of commodity prices with currencies and indices.

This enabled evaluation of market behavior under changing economic conditions.

C. Company Valuation Analysis

Fundamental analysis involved:

assessing financial health through profitability, liquidity, and leverage ratios,

comparing peer companies using valuation multiples,

studying long-term performance trends,

identifying undervalued or overvalued stocks based on intrinsic value.

Screener.in and Excel were key tools for this component.

5. Data Processing and Interpretation

After organizing the data, a structured interpretation process followed:

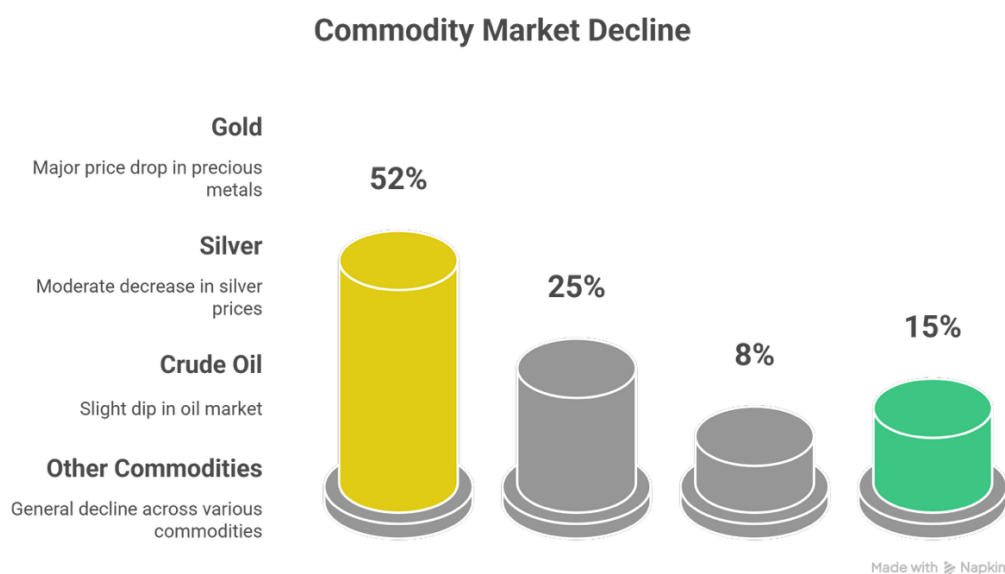
Trendlines and graphs were plotted in Excel to observe short-term and long-term patterns.

Indicator outputs were compared to validate signals and reduce false conclusions.

Market news and economic data were integrated with numerical findings to provide context.

Comparisons across companies and commodities were made to identify consistent trends and anomalies.

This step added depth and reliability to the findings, connecting numerical results with real market behavior.



Data Analysis and Interpretations

Stock trend analysis involved examining daily and weekly price movements of selected companies listed on the NSE. Using Excel, trendlines were plotted to observe patterns of price fluctuations and identify support and resistance levels. TradingView aided in visualizing technical indicators such as moving averages and RSI (Relative Strength Index). The analysis revealed how market sentiments, earnings reports, and macroeconomic factors influenced stock performance.

Commodity market analysis focused on gold, crude oil, and agricultural commodities. The study found that global supply-demand dynamics, geopolitical tensions, and currency fluctuations were major determinants of commodity prices. Data from Moneycontrol and the NSE provided valuable insights into price trends and market volatility.

In company valuation studies, Screener.in was instrumental in assessing the intrinsic value of companies. Parameters like market capitalization, debt-equity ratio, return on capital employed (ROCE), and price-to-book ratio were analyzed. The results indicated that companies with strong fundamentals and consistent cash flows tended to outperform in the long run, even amidst market fluctuations.

Findings and Discussion

The internship enabled a deeper understanding of how data-driven insights can enhance investment decisions. Key findings include:

- Stock prices are highly sensitive to market news and investor sentiment.
- Commodities exhibit cyclical trends influenced by global economic indicators.
- Financial ratios serve as powerful tools for evaluating company health and predicting growth potential.
- Integrated use of online tools simplifies the process of comparative analysis and trend visualization.

These findings reinforce the importance of continuous monitoring and analytical assessment in financial decision-making. The study also demonstrated that data analysis not only supports investment strategies but also aids in risk management by identifying potential downturns early.

SWOT Analysis

Strengths:

- Hands-on experience with real market data.
- Exposure to advanced analytical tools and financial platforms.
- Guidance from experienced professionals.

Weaknesses:

- Limited duration of internship restricted deeper project involvement.
- Dependency on secondary data sources.

Opportunities:

- Expanding analytical skills in financial modeling and AI-driven forecasting.
- Potential career advancement in data analytics and investment research.

Threats:

- Market unpredictability and data reliability issues.

- Rapid technological changes requiring constant upskilling.

4. Challenges Faced

Several challenges arose during the internship. Initially, understanding the correlation between various market factors and stock performance was complex. Interpreting large datasets demanded precision and time management. Accessing consistent data from multiple platforms also presented issues, as data formats and update frequencies varied. Moreover, learning to apply valuation models accurately required guidance and iterative learning. Despite these challenges, consistent effort and mentorship from the firm's professionals helped in overcoming the difficulties.

5. Conclusion

The 25-day internship at Pradeep Nikhil & Associates proved to be a transformative experience, bridging academic concepts with real-world financial analysis. Through practical exposure to stock trend analysis, commodity market behavior, and company valuation, I developed analytical and interpretative skills essential for the finance profession. The integration of data from platforms like NSE, Screener.in, and TradingView enhanced my understanding of market dynamics. This experience solidified my interest in pursuing a career in financial analytics and investment research, reaffirming the significance of data analysis in driving informed financial decisions.

References

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