

A Study on the Application of Technical Analysis in the Indian Stock Market

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Abstract

Research on technical analysis and its applicability to the Indian stock market is presented in this article. It all began with an analysis of stock prices and future movements in the Indian stock market by traders and investors. Technical analysis makes the assumption that past price and volume information may be utilized to forecast future changes in price. Different literature reviews were read to get authenticated data. This paper also helped me in understanding the technical analysis of Indian stock and predicting stock prices. At the end of this paper, it includes my findings during the process of this research paper and a conclusion derived from my understanding of the technical analysis of the Indian stock market.

Keywords: Authenticated, Indian stock market, stock market, technical analysis, understanding

INTRODUCTION

The Indian stock market has experienced significant growth and development over the years, attracting a large number of investors and traders seeking opportunities for financial gains. As the market becomes increasingly complex and volatile, investors are constantly seeking effective tools and strategies to make informed investment decisions [1]. Technical analysis, a method of evaluating securities based on historical price and volume data, has gained popularity among market participants as a potential tool for predicting future price movements. This study aims to explore the usefulness of technical analysis in the Indian stock market and evaluate its effectiveness in providing valuable insights for investment decision-making [2].

The title of this study, “A study on technical analysis and its usefulness in the Indian Stock Market,” accurately reflects the core focus and scope of the research. It highlights the investigation of technical analysis as a tool for predicting stock price movements and emphasises its relevance and applicability

within the Indian Stock Market context [3]. The title encompasses the main objective of the study, which is to evaluate the usefulness of technical analysis, and indicates that the study specifically focuses on the Indian Stock Market. The inclusion of “technical analysis” in the title highlights the central theme of the study. Investors and traders utilize technical analysis, a technique that examines past price and volume data of assets to forecast future price changes [4]. To find trends, patterns, and market signals, it makes use of a variety of technical indicators, chart patterns, and statistical methods. By specifying the “Indian Stock Market,” the title emphasises the specific context in which the study is conducted [5]. The Indian stock market is renowned for its varied industries, fast

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development, and dynamic character. It is an attractive avenue for investors seeking opportunities for financial gains. Considering the unique characteristics and market dynamics of the Indian Stock Market is crucial for assessing the applicability and effectiveness of technical analysis. The research aims to delve into the practicality and usefulness of technical analysis as a tool for investment decision-making in the Indian Stock Market [6]. It goes beyond a theoretical examination and seeks to assess the real-world impact of technical analysis on investment outcomes.

Important markets like the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) reflect the Indian Stock Market, which is vital to the nation's economic growth. It gives businesses a venue to raise money and gives investors a chance to take part in the expansion of these businesses. Nevertheless, investors find it difficult to manage the stock market due to its inherent dangers and uncertainties. Investors have historically relied on fundamental research, which assesses a company's inherent worth by analyzing its financial standing, industry position, and market dynamics. While fundamental analysis provides a valuable perspective on long-term investment prospects, it may not capture short-term price fluctuations and market sentiment [7]. This limitation has led to a growing interest in technical analysis as a complementary approach to investment decision-making in the Indian Stock Market. Comprehending the value of technical analysis in the Indian Stock Market is crucial for traders, investors, and other market players. Technical analysis offers a different lens to analyse and interpret market data, focusing on historical price patterns, trends, and market signals. By applying various technical indicators and charting techniques, investors can potentially identify buying and selling opportunities, manage risks, and optimise their investment returns [8].

The significance of this study lies in its potential to shed light on the effectiveness of technical analysis as a tool for predicting stock price movements in the Indian Stock Market [9]. By examining the empirical evidence and evaluating the performance of different technical indicators, this study aims to provide insights that can inform investment strategies and enhance decision-making processes.

OBJECTIVES OF THE STUDY

- *To assess the effectiveness of technical analysis in predicting stock price movements:* By analysing historical price and volume data, this study seeks to determine the extent to which technical analysis can provide reliable signals for predicting future price movements in the Indian Stock Market.
- *To identify the most reliable technical indicators and patterns:* This study aims to identify and evaluate the performance of various technical indicators commonly used in technical analysis, such as moving averages, relative strength index (RSI), moving average convergence divergence (MACD), Bollinger bands, and stochastic oscillator. By comparing their effectiveness, the study aims to highlight the indicators that are most useful in the Indian Stock Market context.
- *To examine the applicability of technical analysis across different market conditions and sectors:* The study recognizes the diverse nature of the Indian Stock Market, with multiple sectors and varying market conditions. By analysing the performance of technical analysis indicators across different sectors and market conditions, the study aims to provide insights into the applicability and limitations of technical analysis in different contexts.
- *To understand the limitations and challenges associated with technical analysis:* While technical analysis offers potential benefits, it is not without limitations and challenges. This study aims to identify and discuss these limitations, such as the impact of market manipulation, sudden news events, and the subjectivity of interpretation. Investors can reduce risk and make well-informed selections by being aware of these restrictions.

NEED OF THE STUDY

Technical analysis is a widely used technique by traders and investors to forecast stock price movements based on past price and volume data. Technical analysis is widely used in the Indian Stock

Market, but its effectiveness in predicting price movements is still a subject of debate among market participants. A research on the applicability of technical analysis in the Indian Stock Market is thus necessary. The study can provide insights into the effectiveness of technical analysis in predicting price movements of stocks in the Indian Stock Market [10]. Traders and investors who use technical analysis to guide their investments may find this material helpful. Moreover, a vast array of firms are listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE), making the Indian Stock Market one of the biggest and busiest in the world. The study can provide insights into the effectiveness of technical analysis for different sectors and companies in the Indian Stock Market. The study can also contribute to the academic literature on technical analysis by examining the effectiveness of different technical indicators and trading strategies in the Indian Stock Market. Scholars and researchers who are interested in technical analysis and financial markets may find this material helpful [11]. In conclusion, a study on technical analysis and its usefulness in the Indian Stock Market is needed to provide insights into the effectiveness of technical analysis in predicting price movements of stocks and to contribute to the academic literature on technical analysis and financial markets. The study can be useful for investors, traders, researchers, and academics [12].

LITERATURE REVIEW

1. Kumar A and Raj M. (2021): *Technical analysis versus fundamental analysis: Evidence from Indian Stock Market. Journal of Management and Research*. This study evaluated the effectiveness of technical analysis in predicting stock prices in the Indian Stock Market. The study found that technical analysis was effective in predicting price movements in the short and medium-term. The study also found that technical analysis was more effective than fundamental analysis in predicting stock prices [1].
2. Goyal A and Khan S. A. (2021): *Technical analysis's effectiveness in the Indian Stock Market is evaluated. Indian Journal of Finance*. The performance of technical analysis techniques in the Indian stock market is assessed in this study. It compares the profitability of different trading rules based on technical indicators and investigates the impact of transaction costs on trading strategies. The findings suggest that technical analysis can generate positive returns, but transaction costs significantly affect overall profitability [2].
3. Srinivasan K and Rajagopal S. (2021): *Technical analysis and its applicability in the Indian Stock Market. Journal of Business Management & Social Sciences Research*. The authors examine the uses and drawbacks of technical analysis as they relate to the Indian Stock Market. They stress that in order to make better investing decisions, technical and fundamental analysis should be combined [3].
4. Kumar S and Garg V. K. (2021): *Technical analysis in the Indian Stock Market: A review. Journal of Business Studies Quarterly*. This review paper provides a comprehensive analysis of technical analysis in the Indian Stock Market, examining its applicability and profitability. The authors emphasise the need for proper risk management and cautious interpretation of technical analysis indicators [4].
5. Nayak N and Sahoo R. K. (2021): *A review of the empirical evidence for technical analysis in the Indian Stock Market. International Journal of Economics and Finance*. This review article provides empirical evidence on the effectiveness of technical analysis in the Indian Stock Market. The authors evaluate the profitability of technical indicators and discuss the challenges associated with implementing technical analysis strategies [5].
6. Patel R and Shah S. (2021): *An empirical review of technical analysis in the Indian Stock Market. International Journal of Financial Research*. This empirical review examines the application of technical analysis in the Indian Stock Market, evaluating the performance of various indicators and trading strategies. The authors highlight the need for robust risk management when using technical analysis for investment decisions [6].
7. Swain S. K. and Das S. (2021): *Technical analysis and its effectiveness in the Indian Stock Market: A review. Journal of Advanced Research in Dynamical and Control Systems*. This

review paper explores the effectiveness of technical analysis in the Indian Stock Market, discussing its role in decision-making and profitability. The authors emphasise the importance of using technical analysis as a supplementary tool alongside fundamental analysis [7].

8. Mohanty P and Bhuyan S. (2020): *An empirical study of technical analysis on Indian Stock Market. Research in Finance and Management: An International Journal*. The usefulness of technical analysis in the Indian Stock Market is investigated in this empirical research. It investigates the performance of moving averages, RSI, and MACD indicators in predicting price movements. According to the study, technical analysis may not be as helpful for long-term investing strategies as it is for making short-term trading judgments [8].
9. Chandan P and Shukla R. (2020): *Technical analysis in the Indian Stock Market: A review of empirical studies. Indian Journal of Finance*. This review paper presents a comprehensive analysis of empirical studies conducted on technical analysis in the Indian Stock Market. It looks at the results pertaining to how successful trading rules and technical indicators are. The review also discusses the impact of market efficiency, trading volume, and market volatility on the performance of technical analysis strategies [9].
10. Sethi A and Agarwal V. (2020): *Technical analysis in the Indian Stock Market: An empirical analysis. Journal of Applied Economics and Business Research*. This empirical study evaluates the performance of technical analysis in the Indian Stock Market, considering profitability and different technical indicators. The authors find that technical analysis strategies can generate positive returns, albeit with variations across stocks and time periods [10].
11. Verma M and Bala R. (2020): *Technical analysis in the Indian Stock Market: A systematic review. Journal of Advances in Management Research*. This systematic review provides an overview of technical analysis in the Indian Stock Market, examining its effectiveness and applications. The authors highlight the need for further research to enhance understanding and practical application of technical analysis [11].
12. Mahalakshmi R and Rajesh G. (2020): *Technical analysis in the Indian Stock Market: A systematic literature review. Theoretical and Applied Economics*. This comprehensive assessment of the literature assesses the usefulness of technical analysis in the Indian Stock Market while taking risk and profitability into account. The authors discuss the role of behavioural biases and market efficiency in technical analysis strategies [12].
13. Mithun M and Venkataramana K. (2019): *An empirical investigation of technical analysis in Indian Stock Market. International Journal of Financial Management*. This study found that technical analysis was effective in predicting price movements in the Indian Stock Market. The study used various technical indicators such as moving averages, RSI, and MACD to analyse stock prices and found that these indicators were effective in predicting price movements [13].
14. Kumar V and Jain P. (2019): *An empirical investigation on the efficacy of technical analysis in the Indian Stock Market. Journal of Financial Studies and Research*. This study found that technical analysis was effective in predicting price movements in the Indian Stock Market. The study used various technical indicators such as moving averages, RSI, and MACD to analyse stock prices [14].
15. Pundir P and Pundir S. (2019): *An empirical examination of technical analysis's performance in the Indian Stock Market. Journal of Financial Economic Policy*. This study found that technical analysis is effective in predicting short-term price movements in the Indian Stock Market. The study used various technical indicators such as moving averages, RSI, and MACD to analyse stock prices [15].

METHODOLOGY

Research Design

This study employed a quantitative technique with secondary data as part of its research strategy.

Type of Study

The data of the study has been collected through secondary data.

Sampling Technique

The ten equities that are part of the BSE and NSE comprise the sample that was used in this research.

Data Collection

The data used in this study was collected from the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) websites. The NSE and BSE provide historical data on stock prices, which is publicly available on their websites.

Data Analysis

The study is used to analyse stock prices. The effectiveness of the technical indicators in predicting price movements is measured using statistical methods.

Analytical Tool

The tools for data analysis are tabulated in the form of candlestick graphs.

RESULTS

Axis Bank Technical Analysis

The technical analysis of Axis Bank indicates the variation in different prices like open, close high and low in respect to different days, which altogether have been taken into consideration for the period of 1 year starting from June 2022 to May 2023 (Figure 1). Moving average analysis indicates an uptrend as prices of shares close above the moving averages. Notwithstanding the adjustments, it has continued to rise [13]. Another observation here is that the trend during the same time by being in an overbought region. Total return after a year was 37.57% [14, 15].



Figure 1. Chart analysis of Axis Bank.

(Source: Marketscreener.com)

Sun Pharma

The candlestick chart of Sun Pharma represents sideways trends for the year Jan. 2023 to May 2023 (Figure 2). The shares prices of Sun Pharma are moving along with the moving average lines. On the

basis above crossover investors can make decisions whether to go long or short on the shares, and book profits accordingly. RSI also confirms the signal generated by moving averages. Investors gained a profit of 1.26%.

HDFC Bank

The candlestick chart of HDFC represents bullish trends for the year Jul. 2021 to May 2022 (Figure 3). Moving average analysis indicators show a strong position of trading, as the closing prices are above the EMA. The annual one-year return on the stock is 24.65%. RSI also indicates the major resistance level @ 1476 and the major support lower side @ 1266.



Figure 2.

Chart analysis of Sun Pharma.

(Source: MarketScreener.com)



Figure 3. Chart analysis of HDFC Bank.

(Source: equitypandit.com)

Tata Motors

The candlestick chart of Tata Motors represents a bearish trend for the year June 2022 to May 2023 (Figure 4). The share price of the company witnessed a high peak on 15 May 2023, the shares were

overbought, indicating a sell signal to the investors, volume traded being 537.4. Investors have gained profit of 25.6% till now.

Bharti Airtel

The candlestick chart of Bharti Airtel represents a bearish trend for the year May 2022 to May 2023 (Figure 5). The share price of the company witnessed a high peak on 25 Nov 2022 and lowest on 11 Jul 2022, the shares were overbought on 25 Nov, indicating a sell signal to the investors, volume traded being 851. Investors gained profit of 16.89% till now.



Figure 4. Chart analysis of Tata Motors.
(Source: marketscreener.com)



Figure 5. Chart analysis of Bharti Airtel.
(Source: marketscreener.com)

ONGC (Oil and Natural Gas Corporation) Limited

The candlestick chart of ONGC represents a bearish trend for the year Jun 2022 to May 2023 (Figure 6). Moving average analysis indicates uptrend as prices are closed above EMA's 20 and 50 for most of the time, generating sell signal, which means investors can sell the investment. RSI also indicates sell signal during the same time, indicating the investor to sell the investment unit if it leaves the overbought region. The annual return on the stock is 1.67%.

Wipro

The candlestick chart of Wipro represents a bearish trend for the year Jun2022 to May 2023 (Figure 7). The share price of the company witnessed a high peak on 3 Feb 2023, shares were oversold, indicating buy signal to the investors, volume traded being at 414.5. Investor gained an annual return (loss) of -16.04% till now.



Figure 6. Chart analysis of ONGC (Oil & Natural Gas Corporation) Limited.

(Source: marketscreener.com)



Figure 7. Chart analysis of Wipro.

(Source: marketscreener.com)

Adani Ports

The candlestick chart of Adani Ports represents a sideways trend for the year June 2022 to May 2023 (Figure 8). There is a close association between EMA 20 and 50 and closing prices. The shares of Adani Ports are moving along with moving average lines. Moving average indicates a weak trend. Investor can either buy or can sell the shares accordingly. RSI indicates that the shares were in oversold region. Investor incurred annual loss of -9.97%.

Gail

The candlestick chart of Gail represents bearish trends for the year Jun 2022 to May 2023 (Figure 9). Moving average analysis also indicates an uptrend as the prices are closed above the EMA 20 & 50, generating sell signal. Investors sell the investment until it leaves overbought region. The investor gained annual of 0.77%.



Figure 8. Chart analysis of Adani Ports.
(Source: marketscreener.com)



Figure 9. Chart analysis of Gail.
(Source: Marketscreener.com)

Infosys

The candlestick chart of Infosys represents a bearish trend for the year Jun 2022 to May 2023 (Figure 10). The share price of the company witnessed a high peak on 1 Dec 2022 and lowest on 26 Sep 2022, the shares were overbought on 1 Dec, indicating a sell signal to the investors, volume traded being at 1669. Investors incurred an annual loss of -12.79% last year.



Figure 10. Chart analysis of Infosys.

(Source: marketscreener.com)

FINDINGS

- **Axis Bank:** Moving average analysis indicates an uptrend as prices of shares close above the moving averages. It has shown a steady climb despite the corrections. Another observation here is that the trend during the same time by being in an overbought region. Total return after a year was 37.57%.
- **Sun Pharma:** On the basis of above crossover, investors can make decisions whether to go long or short on the shares and book profits accordingly. RSI also confirms the signal generated by moving averages. Investors gained a profit of 1.26%.
- **HDFC Bank:** The annual one year returns on the stock is 24.65%. RSI also indicates the major resistance level @ 1476 and major support lower side @ 1266.
- **Tata Motors:** The share price of the company witnessed a high peak on 15 May 2023, the shares were overbought, indicating a sell signal to the investors, volume traded being 537.4. Investors have gained profit of 25.6% till now.
- **Bharti Airtel:** The share price of the company witnessed a high peak on 25 Nov 2022 and lowest on 11 Jul 2022, the shares were overbought on 25 Nov, indicating a sell signal to the investors, volume traded being 851. Investors gained profit of 16.89% till now.
- **ONGC:** Moving average analysis indicates uptrend as prices are closed above EMA's 20 and 50 for most of the time, generating sell signal, which means investors can sell the investment. RSI also indicates sell signal during the same time, indicating the investor to sell the investment unit if it leaves the overbought region. The annual return on the stock is 1.67%.
- **Wipro:** The share price of the company witnessed a high peak on 3 Feb 2023, shares were oversold, indicating buy signal to the investors, volume traded being at 414.5. Investors gained an annual return (loss) of -16.04% till now.

- *Adani Port*: There is a close association between EMA 20 and 50 and closing prices. The shares of Adani Ports are moving along with moving average lines. Moving average indicates a weak trend. Investor can either buy or can sell the shares accordingly. RSI indicates that the shares were in oversold region. Investor incurred annual loss of -9.97%.
- *Gail*: Moving average analysis also indicates an uptrend as the prices are closed above the EMA 20 & 50, generating sell signal. Investors sell the investment until it leaves overbought region. The investor gained annual return of 0.77%.
- *Infosys*: The share price of the company witnessed a high peak on 1 Dec 2022 and lowest on 26 Sep 2022; the shares were overbought on 1 Dec, indicating a sell signal to the investors; volume traded being at 1669. Investors incurred an annual loss of 12.79% last year.
- *Technical analysis techniques*: (technical indicators) like RSI, moving averages, MACD (Moving average convergence/divergence) is helpful for investors in predicting stock prices and to maximise their returns.

CONCLUSION

Technical analysis has its merits. The study found that technical analysis can be a useful tool for traders and investors in the Indian Stock Market. It provides valuable insights into price trends, patterns, and market sentiment, which can help in making informed trading decisions. While technical analysis can be a useful tool for traders and investors in the Indian Stock Market, it should be used in conjunction with other analytical methods. By combining technical analysis with fundamental analysis and considering market participants can enhance their decision-making process and potentially improve their trading outcomes. Price can be predicted in the stock market through technical analysis. Technical analysis helps to analyse the stock so that investor could form a pattern in stock prices with the help of data of past stock prices.

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