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Investment Decision Using Technical Analysis: A Study on Selected Stocks in Indian Stock Market

R. Logambal*Assistant Professor, Department of Management Studies**Gobi Arts and Science College (Autonomous), Coimbatore, Tamil Nadu, India***G. Kanagasabapathy***Research Scholar, Department of Management Studies**Gobi Arts and Science College (Autonomous), Coimbatore, Tamil Nadu, India***Abstract**

Technical analysis is a methodology in financial markets that asserts its capability to predict future stock directions by scrutinizing historical market data, patterns in price movements, and correlations between price and volume. Traders widely utilize these data in their decision-making processes. The approach also takes into account the real-time behavior of market prices and volumes, operating under the assumption that these are the most influential factors in determining a stock's or market's future trajectory. Investors often grapple with decisions regarding which stocks to buy, the optimal purchase quantities, and when to execute selling or holding actions to maximize profits in the trading period. This research delves into these considerations, offering insights for short-term traders by analyzing the stock price trends of twelve companies across three distinct sectors over the 2020-2022 period.

Keywords: Relative Strength Index, MACD, Simple Moving Average.**Introduction**

The examination of securities and subsequent investment decisions can be categorized into two approaches: Fundamental analysis and technical analysis. Fundamental analysis involves a theoretical assessment of a company's value for long-term investment, considering detailed information on the economy, industry, and the company itself. On the other hand, technical analysis exclusively delves into studying market demand and supply. It concentrates on short-term investments, particularly in intraday trading, where transactions are executed within a single day. Utilizing various databases, technical analysis aims to study technical indicators, employing diverse tools to predict market activities. Through the use of charts, it visually represents data, facilitating the identification of patterns for future market activity. This methodology aids investors in evaluating the strengths and weaknesses of securities.

Need of the Study

The rationale for this study lies in employing the technical analysis method to assess stocks, utilizing tools such as the 7-day and 14-day simple moving averages, along with MACD and RSI. This approach is designed to aid day traders and short-term investors in making informed investment decisions by evaluating stock price movements. The study focuses on comparing price fluctuations through the application of the mentioned techniques.

The chosen tools, including monthly monitoring of price movements, play a crucial role in providing insights for individuals navigating the complexities of the stock market. This research seeks to empower investors by offering a systematic analysis that facilitates sound decision-making in the dynamic realm of stock trading.

Technical Analysis

Technical analysis is a crucial methodology employed in financial markets, enabling a profound understanding of historical stock price movements to project future share price trends. The dynamic nature of stock prices in the market is intricately tied to the delicate balance between demand and supply forces. This study employs a diverse array of tools and techniques, including the examination of simple moving averages like the 7-day and 14-day, as well as indicators such as MACD and RSI. These tools play a pivotal role in providing insights to day traders and short-term investors, guiding them in making judicious decisions regarding stock investments.

In the vast landscape of stock market analysis, two primary methods come to the forefront: fundamental analysis and technical analysis. While fundamental analysis delves into the financial and nonfinancial aspects of a business, technical analysis focuses on historical price and volume data. This approach operates on the premise that market movements are influenced significantly by psychological factors (90%) and to a lesser extent by logical considerations (10%).

The study not only seeks to unravel the intricacies of technical analysis but also applies these principles to a selection of companies. By doing so, it aspires to predict future trends by deciphering the intrinsic value of shares and unraveling the behavioral patterns of stock prices. Signals generated through this analysis emerge as critical indicators, pinpointing major turning points in market prices. This comprehensive exploration aims to empower investors with a nuanced understanding of technical analysis, facilitating well-informed decisions in the ever-evolving landscape of stock trading.

Literature Review

(Khan et al.) Selections of stocks that are suitable for investment are always a complex task. The

main aim of every investor is to identify a stock that has potential to go up so that the investor can maximize possible returns on investment. The reare many conventional techniques being used and these include technical and fundamental analysis. The main issue with any approach is the proper weighting of criteria to obtain a list of stocks that are suitable for investments.

(Chitra) The study of research are made on analysis the technical basis of stock market which help to understand value of share which shows the undervalue and overvalue indicator. The investor will able to analyse the turning point in which stage it be invest.

(Ayyappan and Sakthivadivel) The study is on the private investment sector are increasing their service area and product in to different part of country and there are actual competition to public sector bank. The study analysed that development and movement of certain financial parameter of public and private bank sector.

(Naved and Srivastava) The study has been used to analyse the technical analysis to evaluate the market nifty stock of India, they are used to examine the average moving of stocks in nifty market to know profit from their trading. The measures which have been used in this study are Moving Averages, Moving Averages cross rules and Moving Averages Convergence/Divergence. Later this study also includes the usage and application of Moving Average on Nifty stocks.

(Hemalatha) the study is conducted about the equity holding in canara bank. To know the price movement in market they were used future analysis trend which may collect data from secondary information. The research analysis the price movement of company and compare between the market price in future.

Objectives of the Study

1. To identify the trend of the stock prices of selected IT companies which are listed in NSE by using Technical Analysis.
2. To analyse price movements of data in 5 selected IT companies (TCS, Wipro, HCL, Tech M, Infosys) by using Relative Strength Index (RSI) for the period of 01.01.2020 to 01.12.2022 (36

Months)

3. Simple Moving Average (SMA) and Moving Average Convergence and Divergence (MACD).
4. To assist the investors in making investment decision based on the line chart indicator.

Role of Information Technology

Information Technology (IT) has played a pivotal role in the development of the Indian economy, ushering in transformative changes across various sectors. Its multifaceted contributions have not only accelerated economic growth but have also positioned India as a global player in the technology landscape. The economic significance of IT in India is most apparent in its substantial contribution to the Gross Domestic Product (GDP). Accounting for over 8% of the GDP, the IT sector has become a key driver of economic output, underlining its indispensability to the nation's financial health.

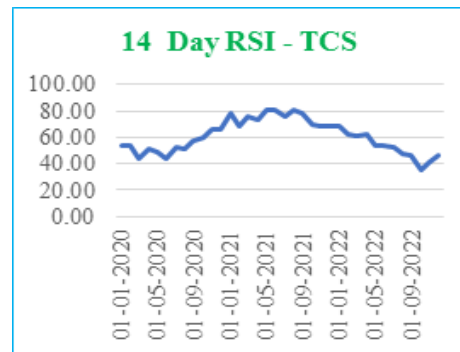
One of the most remarkable aspects of the IT sector's impact is its role as a major employment generator. With millions of direct and indirect jobs, it has significantly contributed to reducing unemployment and fostering a skilled workforce. This has led to an enhancement of the country's human capital, supporting sustained economic development. The export of IT services has been a linchpin in India's foreign exchange earnings. The country has evolved into a global outsourcing hub, attracting projects from around the world. The resultant foreign currency influx has not only strengthened India's economic position but has also contributed to a favorable balance of payments.

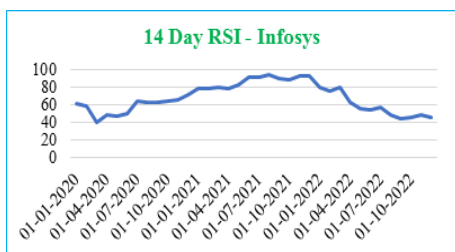
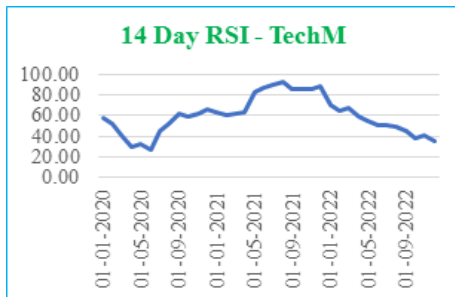
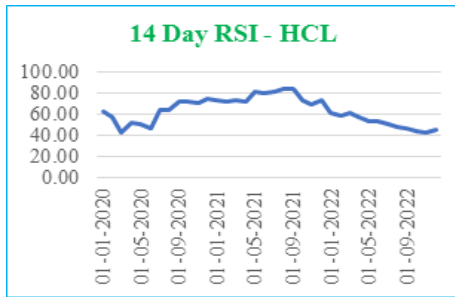
Innovation lies at the core of the IT sector's contribution to India's development. The continuous emphasis on research and development has propelled the nation into the forefront of technological advancements. The increasing number of patents filed and research publications originating from Indian IT companies underscores their commitment to pushing the boundaries of innovation. Digital transformation, facilitated by IT, has been a game-changer across industries. From governance to healthcare and from education to business, the adoption of digital technologies has streamlined processes, improved efficiency, and facilitated greater accessibility, contributing to overall economic development.

Government initiatives and policies have played a crucial role in fostering the growth of the IT sector. Supportive measures, coupled with incentives for research and development, have created an environment conducive to innovation and entrepreneurship. The positive correlation between government support and sectoral growth is evident in the statistical data.

Analysis and Interpretation of Selected Information Technology Companies (TCS, Wipro, HCL, Tech M, Infosys) using Relative Strength Index (RSI) for the period from 01.01.2020 to 01.12.2022

The Relative Strength Index (RSI) is a momentum oscillator that identifies overbought and oversold conditions in stocks. It helps traders spot potential reversals, confirms trends, and detects divergence between price and momentum. RSI values above 70 suggest overbought conditions, below 30 suggest oversold conditions. It's used to make informed decisions on buying or selling, providing insights into trend strength and potential reversals. Use RSI alongside other indicators and adapt to market conditions for effective analysis.





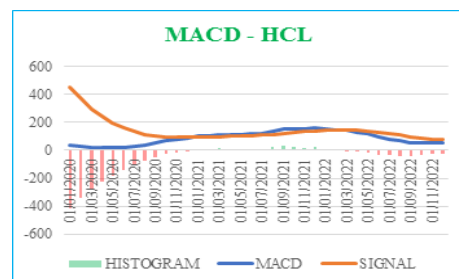
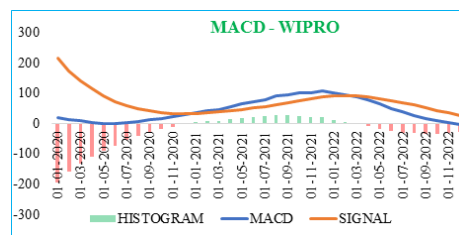
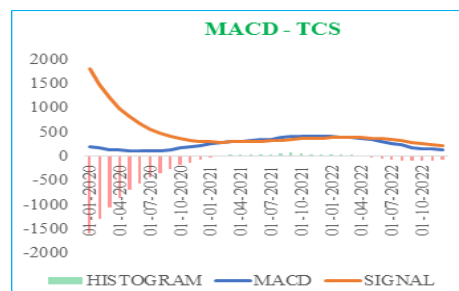
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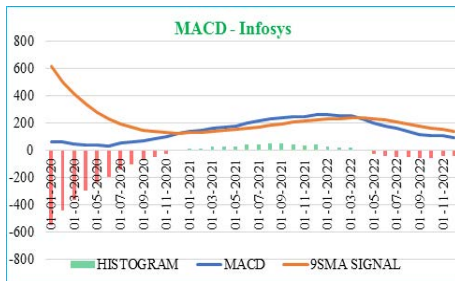
Interpretation

Examining Chart 1 with the Relative Strength Index (RSI) tool provides key insights into the selected company's stock performance. In 2020, a downtrend dominated, transforming in January 2021 as RSI signaled a bullish reversal, aligning with increasing prices. Notably, the RSI surged to overbought levels from June to December 2021, indicating potential over valuation. This coincided with a peak in stock prices. Subsequently, from January 2022, a downtrend unfolded, mirroring shifts in the economic landscape. The RSI's role as a leading indicator proved instrumental, offering timely signals of market sentiment and aiding investors in navigating the dynamic fluctuations of the analyzed stock.

Analysis and Interpretation of Selected Information Technology Companies (TCS, Wipro, HCL, Tech M, Infosys) using Moving Average Convergence and Divergence (MACD) for the period from 01.01.2020 to 01.12.2022

The Moving Average Convergence Divergence (MACD) is a versatile technical indicator used to analyze stock prices. It consists of two moving averages and a signal line, indicating trend direction and momentum. Bullish crossovers (short-term MA crossing above long-term MA) suggest upward momentum, while bearish crossovers indicate a potential downtrend. The MACD histogram visualizes the difference between the two moving averages. Traders use MACD to identify trend changes, gauge the strength of price movements, and generate buy or sell signals, making it a valuable tool for analyzing stock prices and informing strategic trading decisions.





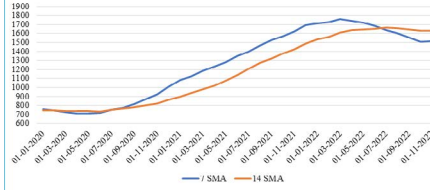
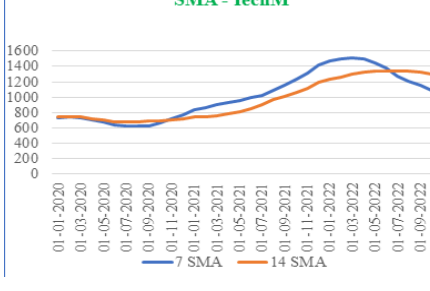
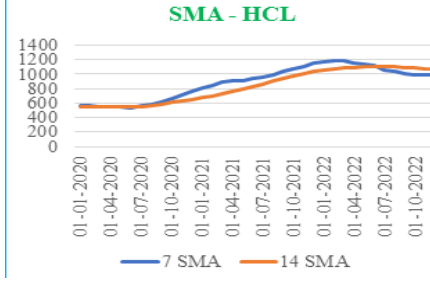
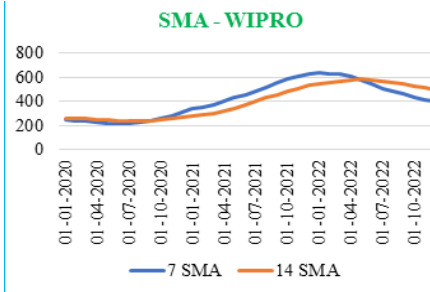
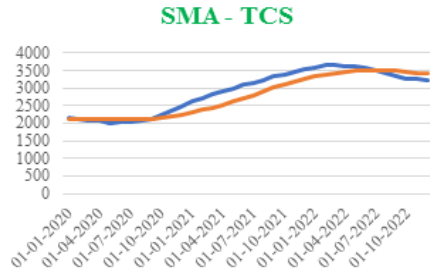
Source: yahoofinance.com

Interpretation

In Chart – 2, The Moving Average Convergence and Divergence (MACD) tool, comprised of a short-term and long-term exponential moving average, along with a signal line, yielded insightful interpretations. In 2020, a bearish crossover indicated a downtrend, transforming in January 2021 with a bullish crossover signaling an uptrend. The MACD histogram reflected this momentum shift. From June to December 2021, the histogram’s expansion suggested intensified upward momentum, reaching overbought conditions. Post-January 2022, a bearish crossover correlated with the stock’s decline, aligning with economic changes. The MACD’s dynamic interplay illuminated trend reversals and strength, aiding in timely decision-making for investors in the analyzed stock.

Analysis and Interpretation of Selected Information Technology Companies (TCS, Wipro, HCL, Tech M, Infosys) using Simple Moving Average for the period from 01.01.2020 to 01.12.2022

The Simple Moving Average (SMA) is a fundamental tool for analyzing stock prices. It calculates the average closing prices over a specified period, providing a smoothed trend line. SMAs help identify trends, whether bullish or bearish, by mitigating short-term price fluctuations. Crossovers between short-term and long-term SMAs signal potential trend reversals. The SMA acts as a baseline for evaluating the stock’s current price relative to its historical performance. Traders use SMAs to confirm trends, define support and resistance levels, and make informed decisions, making it a valuable tool for technical analysis in understanding and predicting stock price movements.



Source: yahoofinance.com

Interpretation

Analyzing Chart 3 using the 7-day and 14-day Moving Average (MA) tools provides valuable insights into the selected company's stock trends. In 2020, a declining trend prevailed, transforming in January 2021 as the 7-day MA crossed above the 14-day MA, signaling a bullish reversal. The overbought phase from June to December 2021, as indicated by the MAs, aligned with potential market exuberance. Following this, a downtrend emerged from January 2022, coinciding with shifts in the economic landscape. The MAs' crossover dynamics highlighted trend reversals. Additionally, incorporating RSI could further validate these movements, offering a comprehensive perspective on the analyzed stock's performance.

Findings

Amid the turbulent backdrop of the COVID-19 pandemic, the IT sector grappled with an initial downturn in stock prices throughout the early months of 2020. The widespread disruption to global supply chains, the abrupt shift to remote work, and uncertainties surrounding the duration and severity of the pandemic collectively contributed to a challenging environment for IT companies.

As the world gradually adapted to the new normal, characterized by increased reliance on technology and digital solutions, the IT sector saw a remarkable rebound in 2022. Organizations and individuals alike embraced digital transformation, leading to heightened demand for IT services, software, and hardware. This surge in demand, coupled with the sector's reputation for resilience, acted as a catalyst for the recovery observed in IT stocks during this period.

However, the latter part of 2022 brought about renewed challenges for the IT sector, as stock prices once again began to trend downward. The precise causes of this reversal are multifaceted, encompassing unpredictable economic conditions that reverberated through global markets. Supply chain disruptions, inflationary pressures, and shifting investor sentiments are among the factors that likely played a role in the observed decline.

This dynamic interplay of events underscores the vulnerability of the IT sector to external forces and

the broader economic climate. Investors navigating this landscape are faced with the task of discerning the nuanced factors at play and adapting their strategies accordingly. The need for a balanced and adaptive approach to investment decision-making is evident in the sector's response to the fluid economic conditions during this period.

Conclusion

The trajectory of IT sector stock prices from the initial pandemic-induced downturn to the subsequent recovery and subsequent decline in late 2022 is a testament to the sector's resilience and susceptibility to external factors. The journey highlights the pivotal role of technological adaptation in the face of global challenges and emphasizes the importance of astute and agile investment strategies in navigating the ever-evolving landscape of the IT sector.

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Author Details

Dr. R. Logambal, Assistant Professor, Department of Management Studies, Gobi Arts and Science College (Autonomous), Coimbatore, Tamil Nadu, India.

G. Kanagasabapathy, Research Scholar, Department of Management Studies, Gobi Arts and Science College (Autonomous), Coimbatore, Tamil Nadu, India, **Email ID:** sabha512@gmail.com.