

COVID 19 AND THE HEALTHCARE SECTOR IN DIGITAL INDIA: A CASE STUDY OF THE TOP SIX NIFTY PHARMA COMPANIES

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ABSTRACT

The stock market reflects a country's economic progress as it provides the required financial inputs for the country's development. It helps corporations to raise capital and investors to invest money. Corporates can use it for increasing EPS of shares and investors for making informed investments. Earning profit from stock market investments arises from market fluctuations. Stock market's nature being unpredictable, every incident occurring in the market or economy causes significant changes in it. The global pandemic COVID 19 has severely affected the stock markets world wide, with major indices showing negative growth, and India is no exception. The ICT thrust of the Govt. of India in this Digital India era gives another dimension to the pandemic impact. This paper on the pandemic impact on stock market volatility in India (i) studies the impact of COVID 19 on Indian healthcare industry stocks, and (ii) applies Technical Analysis on the market.

Keywords: Stock Market, Volatility, Pharma Sector, COVID 19, ICT, Digital India.

JEL Classification Number: D53, O16, P43, G4.

1. INTRODUCTION

A stock market enables companies to list their shares publicly for trade and enables them to raise capital for further expansion of business. Investors earn profits by trading such shares and other securities in the stock market. Investors and traders make stock analysis before buying or selling of stocks, and they try to earn profits by analyzing historic and current data; often by using fundamental analysis and technical analysis. Stock market being highly volatile in nature, the stakeholders must be very alert regarding the market developments. As investors are confused about their investments,

Technical analysis helps them to make wise decisions. In the COVID 19 context, this paper studies the case of Pharma companies.

2. LITERATURE SURVEY

Rjumohan, A. (2019) [4] has made a detailed review on the developments in stock market in her Paper 101855 in MPRA series. Thus, the pace of economic reforms and rapid integration with the world economy has significantly improved the importance of capital markets in India, and it has undergone fundamental institutional changes resulting in reduction in transaction costs, significant improvements in efficiency, transparency and safety. These changes have brought about economic development through stock markets. The positive attitude of banks' customers to e-CRM, ICT-based services etc. has been noted by Jojuet. al. (2017) [8] after a field study in Kerala. Jojuet. al. (2017) [9] have noted that Fintechs can greatly improve service quality of banks. A study by Jojuet. al. (2017) [10] has noted the need for branch banking, as customers prefer branch banks and 'human touch' even in this era of vast ICT adoption and use of Fintechs. Joju and Manoj, PK. (2019) [11] in their empirical study has noted the positive effect of ICT on service quality of banks. Lakshmi, and Manoj, P. K. (2017) [12] have noted that service quality at Kerala Gramin Bank (KGB) is better than Kannur District Co-operative Bank (KDCB) due to higher ICT use and customer service. Lakshmi, and Manoj, P. K. (2017) [13] has noted the positive impact of ICT in serving rural customers of by KGB and KDCB. A study of retail loans especially home loans by Manoj, P K.(2003) [14] has noted the huge development capacity of housing sector due to its linkages, and has suggested strategies for faster economic growth by investing in housing and promoting ICT, HMF, RMBS, etc. Manoj, P.K.(2004)[15]has noted the potential of housing sector to accelerate economic growth and mooted for housing investments through secondary market forhousing eg. RMBS.In his HMF (housing microfinance) studyManoj P.K.(2008)[16]has noted itskey role of HMF in providing housing finance to the poor, citing globalpractices. Abook by, Manoj, P.K (2009)[17] has noted financing models and technologies that can help the poor to fulfil their housing needs.Astudy on micro enterprises by Manoj P. K. (2012)[18], "Potential of micro enterprises in women empowerment: A critical study of micro enterprises run by women under the KudumbashreeProgramme in Kerala" has noted that Kudumbashree's MEs have potential for empowering its member women.

Monica, M. V and Manoj, P. K (2014) [19] have studied in detail the mergers and acquisitions in Indian mutual fund industry and their implications on mutual funds industry. A paper by Neeraja James & P K Manoj (2014) [20], "Relevance of E-Banking Services in Rural Area-An Empirical Investigation" has noted that as E-banking empowers rural customers,it must be promoted. A study by Nasar K K& Dr. Manoj P K (2015) [21] "Purchase Decision for Apartments: A Closer Look into the Major Influencing Factors" has noted that price, quality and location as the key factors behind the purchase decision of apartments. An HMF (housing micro finance)study byManoj, P. K. (2015) [22], "Socio-Economic Impact of Housing Microfinance: Findings of a Field based Study in Kerala, India" has noted the vast potential of HMF to empower the homeless poor. In another paper, Manoj, P. K. (2015) [23] "Deterrents to the Housing Microfinance: Evidence from a Study of the Bankers to 'Bhavanashree' in Kerala, India", has noted the deterrents to the growth of HMF in Kerala as the lack of awareness on the loan terms and conditions, expectation of 'writing of' etc. A paper by

Dr. Vasantha S, Dr. Manoj, P. K., and Jacob Joju (2015) [24], “E-CRM: A Perspective of Urban & Rural Banks in Kerala” compared the ICT experiences (E-CRM) of rural and urban customers, and has noted that both groups prefer E-CRM due to its convenience and other benefits, but have suggested separate marketing strategies for the two groups. A paper by Vidya Viswanath, & Manoj, P. K. (2015) [25], “Socio-Economic Conditions of Migrant Labourers - An Empirical Study in Kerala”, has noted the poor socio-economic conditions of migrants but high level of earnings in Kerala vis-à-vis home States. A CRM study by William George A J & P K Manoj (2013) [26] “Customer Relationship Management in Banks: A Comparative Study of Public and Private Sector Banks in Kerala” has noted the superior ICT adoption and CRM in private banks vis-à-vis public sector banks.

A study by Manoj P.K. (2016) [27] “Bank Marketing in India in the ICT Era: Strategies for Effective Promotion of Bank Products” has noted the key role of ICT in rising the competitiveness of banking services and to integrate ICT in bank marketing at all levels. A study on Real Estate Investment Trusts (REITs) by Manoj, P.K. (2016) [28], “Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI” has noted the need for promoting REITs in India for faster development of the housing sector and hence the whole economy of India. A study by Manoj, P. K. (2018) [29], “CRM in old private sector banks and new generation private sector banks in Kerala: A comparison” has noted superior CRM in private banks mainly due to higher ICT adoption as against public sector (Govt.) banks, leading to higher business, better service at lower cost of private banks. A study by Manoj, P. K. (2019) [30], “Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala based old private sector banks” has noted the changing HRM practices of banks and the need for a ‘human touch’ even in this ICT era. A paper by Manoj, P.K. (2019) [31] “Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options” has reiterated the need for social banking even today, and the need for ICT for inclusive and equitable growth. Shivam Mittal (2021) [32] has studied how COVID 19 has impacted the stock returns of healthcare sector and noted that the pandemic has affected the stocks of Indian Pharma sector. Umabhabha and Malavika (2015) [33], has used technical analysis for studying the stocks of listed pharma companies listed in NSE and pointed out the superior performance of stocks of Dr. Reddy’s, Lupin and Sun Pharma. Venkatesh P (2021) [34] has studied as to how India’s financial market reflects country’s economic growth as it supplies the necessary financial inputs for economic development. Technical analysis gives investor a better understanding of the stocks and gives them right direction in trading. So, investors should scientifically employ tools like technical analysis. Verma, D (2020) [35] has examined the impact of Covid-19 on India’s stock market, allowing for changes in volatility expectations, and also specific period effect i.e. complete lockdown down period of April’20 to May’20. Findings based on GARCH (1,1) model (16 May’2019-13 May 2020) suggest that changes in the total number of COVID 19 cases in India do not have a significant impact on mean of Nifty return. However, there is evidence of a positive impact on the conditional variance of the Nifty returns. As a continuation of the earlier studies of stock market, specifically those on pharma sector as above, this study makes a focused study of the top six pharma in India companies as per the NIFTY index.

3. Significance of the Study and Objectives

Superior performance of stock market depends on informed decisions by stakeholders, especially the investors. Use of scientific tools like Technical analysis for assessing the performance of stocks leads to informed and prudent decisions by the investing public. This enhances their earnings as well as efficiency of the market, ultimately leading to economic development of the nation. The primary objective of the study are to get a better understanding on the concept of technical analysis and to analyze the impact of COVID 19 in stock prices of different companies using different methods. The other objectives are (i) To forecast the selected stocks of pharmaceutical sector by using technical analysis; (ii) To compare the growth in Health care sector before and after Pandemic; (iii) To analyze the movements of the selected stocks of pharmaceutical sector; (iv) To understand how an investor can take sound investment decisions based on the market trends.

4. METHODOLOGY OF THE STUDY

The research is empirical in nature, and it examines six pharmaceutical companies based on their market capitalization on the NSE. The data was collected from April 1, 2016 through March 1, 2021. We use monthly open, close, high, and low share prices in our study. Individual shares are analyzed using technical indicators in order to find buying and selling signals. These signals are generated using procedures that are performed well ahead of the actual motions. The tools used are Moving Average Analysis, and Oscillators, as follows:

- a) MACD (Moving Average Convergence and Divergence): MACD is the difference between short-term moving average and long-term moving average. This difference helps in identifying whether prices have moved upward or downward in the recent past.
- b) ROC (Rate of Change): The rate of change is the most used metric for finding how much a security's price has changed over time. This is also known as price rate of change (ROC). By subtracting the price of a security at time B from the price of the same security at time A and dividing the result by the price at time A, the price rate of change can be calculated.
- c) RSI (Relative Strength Index): RSI is a powerful oscillator that indicates market movement much before such movements takes place. Under RSI, gains and losses of prices over the immediate previous day's price for a certain period is calculated. Using a formula, RSI is calculated and plotted on a graph to identify over bought and over-sold market.

(d) Chart Patterns: These can depict the trend in the performance of stocks. Equations used for finding MACD and RSI are as follows:

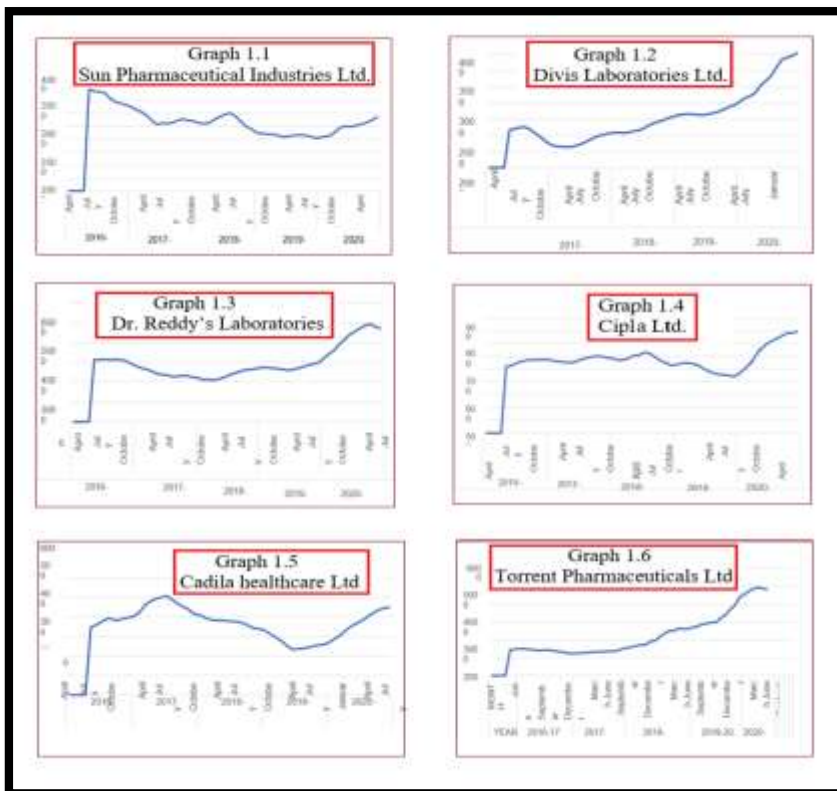
- (1) $MACD = [Short\ Period\ Moving\ Average - Long\ Period\ Moving\ Average]$
- (2) $ROC = [(B - A) / A]$ where, B = Price at current time, A = Price at previous time.
- (3) $RSI = [(Average\ of\ 'n'\ day's\ Advance) / (Average\ of\ 'n'\ day's\ Declines)]$

5. ANALYSIS AND DISCUSSIONS

Using simple moving average method, the stock of Sun Pharmaceutical Industries Ltd. is studied. An uptrend is noted in 2016-17 and then the graph moves downtrend till 2020-21. No clear change is noted in this trend for periods before and during COVID pandemic. From the 5-months' simple moving average analysis of Divis Laboratories Ltd., a clear uptrend is noted during the period 2016-2021. The graph shows a clear

difference in stock movements during the periods before and during COVID 19 pandemic of Divis Laboratories Ltd. In respect of Dr. Reddy’s Lab, a slight downtrend trend is noted from 2017 Jan. to 2018 July, and thereafter there is a clear uptrend till January 2021, thus suggesting that COVID 19 has increased the stock value of Dr. Reddy’s Laboratories. In the case of Cipla Ltd, there are fluctuations in stock prices throughout the period of study. The graphs suggest stable price movement of stocks till the mid of 2018, thereafter stock prices move downward till April 2020, and thereafter the stock prices show an uptrend. It is noted that before and after the pandemic there is some difference in the stock prices of Cipla Ltd. and it is an upward trend. An analysis of 5-months’ simple moving average of Cadila Healthcare Ltd reveals a clear downtrend in the price of the stock from mid of 2017 to mid of 2019. From 2019 to 2021 there is a small increase in the price of shares, and it may be noted that the pandemic has helped to improve its prices to some extent. In respect of Torrent Pharmaceuticals Ltd, there is a clear upward trend in the stock prices from the mid of 2018 to 2021. (Figure I).

Figure I: Moving Average of Stock Prices – Top Six NIFTY Pharma Companies

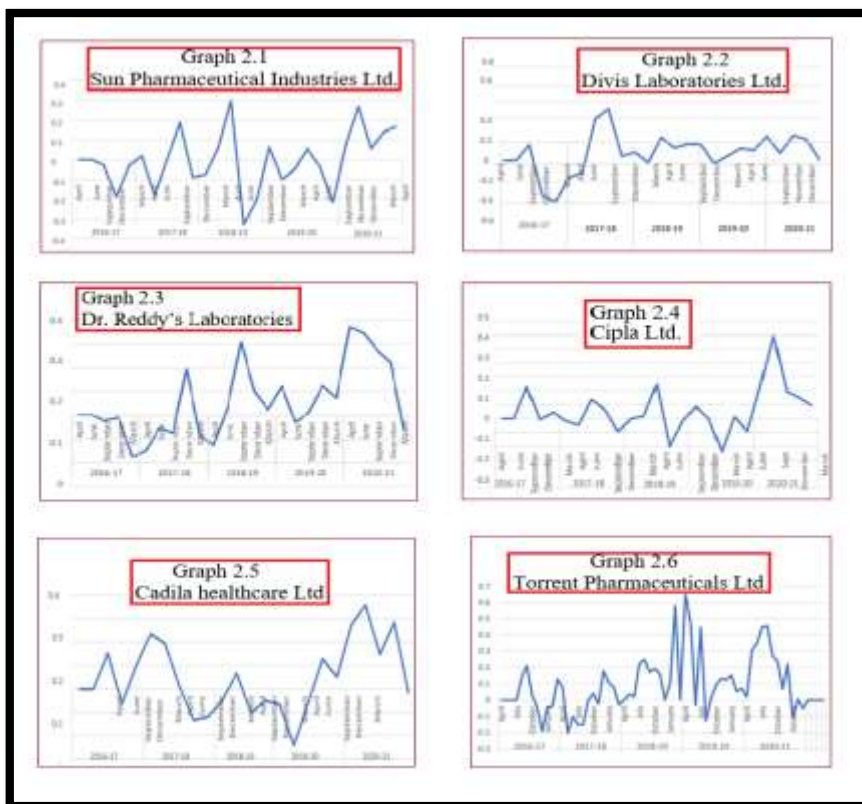


Source: Based on Share Prices (Stock Exchange Data) (2016-2021).

In 2016-17, the Rate of Change (ROC) of Sun Pharmaceutical Industries Ltd. shows negative value which suggests a downtrend. From 2017 June onwards it shows positive value suggesting its better but again it starts falling. Overall, its ROC shows consolidation. The ROC of Divis Laboratories Ltd shows a clear downtrend in 2016, but

from 2017 June there is a positive trend. The ROC of Dr. Reddys Laboratories Ltd shows a positive trend, but when it reached 2021 March it starts a negative trend. The ROC of Cipla Ltd. There is a positive trend for the stock till 2018 Sept. Thereafter ROC fluctuates between ROC = 0.1 to -0.2 till March 2020. Then there is a positive (bullish) trend in this stock. The ROC of Cadilla Healthcare Ltd. shows volatility throughout the period. A bullish trend is noted in the year 2017. By the end of Sept. 2018, it has started a clear downtrend. After just one year (in Sept. 2019) a bullish trend is noted again. The same pattern is shown by Torrent Pharma Ltd also. A bullish trend is noted in the mid of the year 2018 to 2019. By mid-2019 July, it has started showing negative values suggesting a clear downtrend. Again, after one year (Sept. 2020) the bullish trend is noted and again a downtrend in 2021 also. (Figure II).

Figure II: ROC of the Top Six NIFTY Pharma Companies.



Source: Based on Share Prices (Stock Exchange Data) (2016-2021).

The Relative Strength Index (RSI) is considered as overbought when above 70 and as oversold when below 30. The RSI of Sun Pharmaceutical Industries Ltd. reveals that there is a positive impact on the share price over the last 3 years. The RSI of Divis Laboratories Ltd shows that there is no overbought and oversold or undervaluation or over valuation. In the year 2016-17 RSI has come closer to 30 but in the later years the stock price increased. Over the last years Divis shows a clear uptrend. In 2020-21, RSI

value is nearing to 70 percent, so there are chance for overbought condition to happen for Dr. Reddys Laboratories Ltd. The RSI of Cipla Ltd. shows 'Over 70' in 2020-21 suggesting that the stocks are overbought (overvalued) and there is a chance for trend reversal or corrective pull back. The RSI of Cadilla Healthcare Ltd in 2019-20 has 'Lower than 30' suggesting that the stocks are oversold (undervalued) but in the year 2020-21, there is a trend reversal, clearly depicting that the stocks might be overbought (overvalued). For Torrent pharma Ltd., in 2017-2018, the RSI being 'Less than 40' the stocks were oversold (undervalued) but in 2018- 2021, there is a trend reversal that clearly shows that the stocks might be overbought (overvalued).

5. SUGGESTIONS AND CONCLUDING REMARKS

The following are the suggestions based on the findings of this study.

(i) Investigate Using a Variety of Tools: It is recommended that an investor does not rely on a single tool, but rather chooses from a variety of options. Other chart patterns can be used to confirm buy or sell signals. For instance, consider RSI, ROC, and so on.

(ii) Analyzing Market Fluctuations: Given its dynamic and volatile nature, investors must be alert. Only after analyzing market trends and profitability they should invest in stocks.

(iii) Long-Term Investors Will Benefit from this Investment: Long-term investors were able to gain profits from the market's lower volatility. Long-term investors can foresee when the share will rise as there is less movement in the shares compared to the market and its price.

(iv) Long-Term Investment: Keep shares as a long-term investment as these can be used to invest in specific variables, industries, or even countries, as per the investor's preferences.

(v) Consciousness About Stock Market: In order to secure a positive return and profitability, it is recommended that investors obtain essential information from reliable sources.

(vi) Do Appropriate Supervision: As both internal and external factors significantly impact on investment decisions, investors should conduct thorough due diligence prior to making a decision. The stock market can be influenced by political and economic considerations.

As a conclusion to this study it may be stated that investors can use technical analysis as a short term investment tool. This analysis offers an entirely different approach; it is not concerned about a company's 'worth' and only the price movements are taken for analysis. Even though COVID19 had a negative impact on stock market, most stocks of healthcare sector had a positive impact on their market prices. This suggests that investing on pharma companies stock is beneficial to the investors. Use of technical analysis for making investment decision is advisable for short or medium term investments. As areas of further exploration, similar studies be done in Housing and Real Estate Players (especially Affordable Housing) as there is very high linkages for this sector as noted in the literature. Similar is the case of tourism sector, and ICT sector has key significance in 'Digital India'.

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