INSTITUTE OF RESEARCH ADVANCES

IRA-International Journal of Management & Social Sciences
ISSN 2455-2267 Vol. 03 Issue 01 (April, 2016)
Paper DOI: https://dx.doi.org/10.21013/jmss.v3.n1.p13

Stock Price Movement through Technical Analysis: Empirical Evidence from the Information Technology (IT) Sector

[1]Shalini Singh
[2]Dr. Anindita Chakraborty
[1]Research Scholar, Institute of Management Studies, BHU, Varanasi.
[2]Asstt. Professor, Institute of Management Studies,
Banaras Hindu University, Varanasi.

Abstract

Technical analysis forecasts the future asset prices with the use of their historical prices, trading volumes, market action and primarily through the uses of charts that predicts the future price trends. Technical analysis guides the investor to track the market with different indicators which is convenient for their study. Technical indicators aids to analyse the short-term price movement of the shares, most importantly it indicates the turning point and helps in projecting the price movement. This paper is prepared to employ the technical analysis tool to IT index companies. Indicators have been analysed using share prices of companies for 1 years, i.e., from January 2015- December 2015. Study is performed using secondary data, which has been collected from NSE website. The Technical Indicators used for the study are Bollinger Bands and MACD (Moving Average Convergence and Divergence). The purpose of the study is to find the best technical indicator to analyse the share prices.

Key Words: Technical Indicators, Bollinger Bands, Moving Average Divergence and Convergences, IT Index.

INTRODUCTION

Stock Market has an important role in the allocation of resources. It is one of the important ways for companies to raise money along with debt market. This allows the businesses to publically trade and raise additional financial capital for their expansion by selling shares of companies. Historically it is proved that prices of stocks and other assets are an important part of economic activity. An economy where the stock market is on the rise is considered to be a growing economy. Technical analysis which focuses its study on historical data scouts the traders to follow up the graph and trend of the market in order to take correct decision for future. The objective is to analyse the share prices and indicate the trend. More emphasis is laid on charts, graphs and indicators, rather than on fundamental analysis related to earnings of the firm.

REVIEW OF LITERATURE

Al-Abdulqader et al. (2007) argued that charts might help investors in emerging markets to select shares because the level of disclosure and transparency in these countries was low, thus investors can study the charts of prices and volume because such information was more readily available and possibly more reliable than financial information supplied in annual reports.

Chitra (2011) examined various macroeconomic factors like Union Budget, company performance, political and social events, climatic conditions, etc to analyse the market before taking a decision of investing in stocks. Fundamental health of the shares should also be considered. Therefore, it is suggested to perform technical analysis of stock for better return of investments.

Chitra (2011) examined that Technical analysis gives investor a better understanding of the stocks and also gives them right direction to go on further to buy or sell the stocks. Health of stock exchange

is entirely dependent on the pattern of investment by the investors. As the financial market goes through brisk changes, investors should look for right opportunities keeping in tune with the dynamics of market environment.

Rajan and Parimala (2013) examined the stock price movement through technical indicators to forecast the profitable investment in FMCG sector of India. It was concluded that movement of stock prices was influenced by several factors while conducting technical analysis, Investors sentiments and forces of demand and supply influenced the stock price movement. It was also found that moving averages and Bollinger band generated remarkable results to invest in FMCG sector.

Dhutti (2014) studied the 5 selected companies of IT sector in NSE market for a year (Jan 2012-Dec 2012) and found that returns of all the companies at the start of year was comparatively equal, but later the returns of HCL and Mahindra satyam took a lead. RSI showed the overbuying position. It was suggested to risk adverse investors to stay away from highly volatile and risky stocks.

Boobalan (2014) examined the technical analysis in Indian stock market for 2011-2014 using RSI, EMA and MACD tools, and found that the analysis tools provided strong signals to buy in many cases except in few stocks. Both Technical and Fundamental analysis helped in the prediction of future trends of the selected companies of stock market, to invest.

Jayakumar and Sumathi (2014) focused on banking sector and suggested that the investor should look for right opportunities in the market environment. Technical analysis gave a better understanding of the stocks. They believed that supply and demand of stock are the factors that are depicted in technical analysis, therefore the investor should study the market trends clearly and apply the tools accordingly to earn maximum return from the investment.

Hrušová (2011) studied Central and east European market for 17 years in order to see the sustainability of profit from technical indicators and found that MACD and stochastic oscillators are highly successful for Bucharest and Prague stock exchange in terms of higher efficiency and higher liquidity. Though these technical indicators were irrelevant for some of the Central and European stock market, but result suggested that the technical trading rules are more successful for emerging markets.

Nithya and Thamizhchelvan (2014) analyzed the performance of MACD and RSI charting techniques from Jan 2013 -Feb 2014 in the banking sector scrips to predict for future investment strategy. Study found that the tools employed, performed well to generate positive signal to buy the stocks. It was also suggested to the investors to consider various factors which affect the market before making any investment.

OBJECTIVES OF THE STUDY

To analyse the price movement of shares of IT Index companies and to interpret the correction and trends by using technical analysis tools and to provide suitable suggestions to the investors.

RESEARCH METHODOLOGY

The research design is analytical in nature. (Analytical research takes information that has been gathered and looks at, what it shows such as trends.) The researcher has used facts or information already available to make a critical evaluation of the material.

1. SOURCES OF DATA: The data is collected from National Stock Exchange website.

2. METHOD OF DATA COLLECTION: Secondary data.

3. TOOLS USED FOR THE STUDY: Bollinger Bands and MACD.

In the study of share market, when analysis is done using technical analysis tools then Moving Average and Bollinger bands are the main tools which are consulted for the use of rest other tools. As we plot the data in charts then first of all main chart is prepared with Bollinger band and moving average rest all charts from the data of other tools are considered as lagging tools or supporting tools. Hence in this study analysis is made considered the MACD as initial tools for analysing the data and Bollinger Band is used as stop loss to trigger the trade.

BOLLINGER BAND

Bollinger Bands is a technical analysis tool invented by John Bollinger in the 1980s. Having evolved from the concept of trading bands, Bollinger Bands can be used to measure the highness or lowness of the price relative to previous trades. Bollinger bands are calculated based on the standard deviation of an instrument's closing price. Bollinger bands use standard deviation and a simple

moving average to help traders determine buy and sell events, or to help in confirming other patterns. A price chart that uses Bollinger bands displays four lines; price, the upper and lower Bollinger bands, and the moving average. The upper and lower Bollinger bands typically appear 2 standard deviations above and below the 20-day moving average. For shorter-term trends, some technical analysts prefer 1.5 standard deviations with a 10-day moving average. For longer-term trends, a 2.5 standard 50-day moving average may better suit their purposes.

MACD (Moving Average Divergence and Convergence)
The MACD indicates the convergences and divergence with the help of two moving average i.e. 12 days EMA which is the fast line and 26 days EMA which is a slow line, and further conveys the signal of buy and sell by the interception of the two lines either from the below or above each other at a point when histogram is either 0 or minutely above 0 or below 0.

4. PERIOD OF ANALYSIS: The analysis of IT Index companies was done between 01.01. 2015 to 31.12.2015.

5. SAMPLE SIZE: IT Index companies which comprises of 10 IT companies

6. IT Index :
The NIFTY 50 is formed covering 22 sectors of the Indian economy and grants opportunity for investment managers to get exposed to the Indian market in one portfolio. IT Index is a sectoral part of NIFTY 50, and is composed of 10 IT sector companies on the basis of Market Capitalisation.

ANALYSIS AND INTERPRETATION
BOLLINGER BAND and MACD
Nifty IT

Chart No. 1.1 [Please see the chart in Data Charts file]

The above charts no.1.1 shows the technical analysis of NIFTY IT with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing above the mid-point of Bollinger band which indicates for upside side of stocks price movements. Therefore 2 buying signals and 2 selling signals are created.

CYIENT Limited

Chart No. 1.2 [Please see the chart in Data Charts file]

The above charts no.1.2 shows the technical analysis of CYIENT with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving

lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing below the mid-point of Bollinger band which indicates for downside side of stocks price. Therefore 3 buying signals and 4 selling signals are created.

HCL

Chart No. 1.3 [Please see the chart in Data Charts file]

The above charts no.1.3 shows the technical analysis of HCL with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing at the centre of the mid-point of Bollinger band which indicates for downside of stocks price. Therefore 2 buying signals and 3 selling signals are created.

INFOEDGE (I) Limited

Chart No. 1.4 [Please see the chart in Data Charts file]

The above charts no.1.4 shows the technical analysis of INFOEDGE with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing above the mid-point of Bollinger band which indicates for upside side of stocks price. Therefore 3 buying signals and 3 selling signals are created.

INFOSYS

Chart No. 1.5 [Please see the chart in Data Charts file]

The above charts no.1.5 shows the technical analysis of INFOSYS with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing above the mid-point of Bollinger band which indicates for upside side of stocks price. Therefore 4 buying signals and 4 selling signals are created.

Just Dial

Chart No. 1.6 [Please see the chart in Data Charts file]

The above charts no.1.6 shows the technical analysis of Just Dial with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing below the mid-point of Bollinger band which indicates for downside side of stocks price. Therefore 3 buying signals and 5 selling signals are created.

Mind Tree

Chart No. 1.7 [Please see the chart in Data Charts file]

The above charts no.1.7 shows the technical analysis of Mind Tree with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is

already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing above the mid-point of Bollinger band which indicates for upside side of stocks price. Therefore 3 buying signals and 4 selling signals are created.

ORACLE FIN SERV SOFT LTD

Chart No. 1.8 [Please see the chart in Data Charts file]

The above charts no.1.8 shows the technical analysis of Oracle with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing above the mid-point of Bollinger band which indicates for upside side of stocks price. Therefore 1 buying signal and 1 selling signal are created.

TCS (Tata Consultancy Services)

Chart No. 1.9 [Please see the chart in Data Charts file]

The above charts no.1.9 shows the technical analysis of TCS with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing below the mid-point of Bollinger band which indicates for down side of stocks price. Therefore 3 buying signals and 4 selling signals are created.

Tech Mahindra

Chart No. 1.10 [Please see the chart in Data Charts file]

The above charts no.1.10 shows the technical analysis of Tech Mahindra with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it is initially used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.
Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing below the mid-point of Bollinger band which indicates for downside of stocks price. Therefore 2 buying signals and 5 selling signals are created.

Wipro

Chart No. 1.11 [Please see the chart in Data Charts file]

The above charts no.1.11 shows the technical analysis of Wipro with the help of Bollinger Band and MACD tools for the period of January 2015 to December 2015. Here in this chart the pattern of the market can be seen clearly. MACD though being a lagging indicator to Bollinger Band but it initially it is used here to create the signal to buy and sell by considering Bollinger band as the stop loss to trigger the trade. Two Moving Average lines are there one is blue line which indicates fast line and red line indicates slow line, one is divergence and other is convergences. Convergences mean that two moving lines are coming near and divergence means when the distance between the two moving lines is increased. When two moving lines intersect each other then in that case convergence is created. Histogram indicates the divergence. Sell signal is created when the fast moving average is crossing below of slow moving average and a great converges appears which is around 0, this is already shown in chart with help of histogram. Buy signal is created when the fast moving average crosses above the slow moving average, as shown in the chart.

Bollinger bands are similar to moving envelops. Bollinger bands are plotted at standard deviation levels above and below moving averages. In the Bollinger Band Upper dotted line shows upper band, the lower dotted line shows lower band and the middle line shows middle band. As it can been seen that stock price is closing below the mid-point of Bollinger band which indicates for downside of stocks price. Therefore 1 buying signal and 2 selling signals are created.

SUGGESTIONS

1. Fundamental analysis should also be suggested together with the technical analysis in order to analyze the financial strength of corporate sector, growth of earnings and profitability. As every company makes a corporate announcement during a year due which the movement of shares is affected. The trade decisions of the investors are mostly based on their risk appetite which should fetch considerable returns. During technical analysis, different indicators are used to understand and analyse the price movement of the selected stocks.
2. Before performing technical analysis, it is necessary to calculate the risk and return ratio.
3. The art of technical analysis needs to be understood carefully as it's very difficult to get the insiders' information of the company.

CONCLUSION

Technical analysis is the historical movement of share prices which interprets the data determined by the forces of demand and supply. Shares prices of companies are subject to be influenced by various micro and macro economic factors, which should be considered while performing the analysis with different indicators to interpret the flow of market.

The script prices of a company are subject to be influenced by several factors one of the important factor is investors' sentiments. Hence, it is required to consider the various factors which may affect the psychology of the investors while conducting Technical Analysis.

Various technical tools have their own concept to predict the market. It is not necessary that all the tools are equally efficient to analyse the market. Therefore only few tools are there on the basis of which rest all other tools of technical analysis are applied. In this study Bollinger band being the main, supports MACD because macd is applied to create signal with stop loss created by bollinger band. Hence, it is concluded that MACD generates best signal with the sustenance of Bollinger band and it can be employed further to predict the future price movement of shares.

REFERENCES

- Al-Abdulqader, K.A., Hannah, G. and Power, D.M. (2007). The appraisal of ordinary shares by Saudi investors. *Research in International Business and Finance, 21*(1), 69-86.
- Banz, Rolf W. (1981). The Relationship between Return and Market Value of Common Stock. *Journal of Financial Economics, 9*(3), 3 – 18.
- Boobalan, C. (2014). Technical analysis in select stock of Indian companies. *International Journal of Business and Administration Research Review, 2*(4), 26-36.
- Chitra, R. (2011). Technical analysis on selected stocks of energy sector. *IJMS, 1*(1), 42-46.
- Chitra. R. (2011). Effectiveness of Technical Analysis Using Candlestick Chart for Selection of Equity Stock in Indian Capital Market. *International Journal of Management and Business Studies*, *1*(4), 42-45.
- Dhutti, K. (2014). Stock Price Movement of Information Technology Sector through Technical Analysis. *Journal of Academia and Industrial Research, 2*(9), 524-529.
- Hrušová, M. I. (2011). How Rewarding Is Technical Analysis? Evidence from Central and Eastern European Stock Markets. *Charles University in Prague, Institute of economic studies.* Retrieved on 29th May 2015, from: https://is.cuni.cz/webapps/zzp/detail/103789/?lang=en
- Jayakumar, A. and Sumathi, K. (2014). Technical Analysis of Union Bank with Special Reference to NSE. *International Journal of Advance Research in Computer Science and Management Studies*, *2*(1), 356-360.
- Nithya, M. J., and Thamizhchelvan, G. (2014). Effectiveness of Technical Analysis in Banking Sector of Equity Market. *IOSR Journal of Business and Management, 16*(7), 20-28.
- Rajan, G. B. S., and Parimala, S. (2013). Stock Price Movement through Technical Analysis: Empirical Evidence from the Fast Moving Consumer Goods (FMCG) Sector. *INDIAN JOURNAL OF RESEARCH, 2*(2), 143-145.

Websites:

- www.moneycontrol.com (Accessed on : 19th Feb 2016)
- www.nseindia.com (Accessed on : 17th Feb 2016)
- www.chartnexus.com (Accessed on : 22nd Feb 2016)

Books

- Pring, Martin J. "Technical Analysis Explained: The Successful Investor's Guide to Spotting Investment Trends and Turning Points" Publisher: McGraw-Hill, February 20th 2002. 3rd Edition.