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A study on the price fluctuation in equity it stocks with reference to NSE

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Abstract
The article is about the chart pattern formation using technical analysis as to how it plays an important role in secondary market, analysis of stocks and its usefulness towards buying and selling the shares. Technical analysts do not attempt to measure a security's intrinsic value, but instead use charts and other tools to identify patterns that can suggest future activity. "A Study on the Price fluctuation in Equity IT Stocks with Reference to NSE" was done based on historical prices of IT stocks. Analysis is done based on the technical tools like Stochastic Oscillator and Rate of Change and inferred based on the formation of chart patterns.

Keywords: Equity IT Stocks, NSE

1. Introduction
Technical analysis is all about studying stock price graphs and a few momentum oscillators derived thereof. It must be understood that technical studies are based entirely on prices and do not include balance sheets, P&L accounts (fundamental analysis), the assumption being that the markets are efficient and all possible price sensitive information is built into the price graph of a security/index.
Therefore, technical analysis supports the efficient market theory as against the "random walk theory" which supports the belief that stocks can be bought / sold on random events like flipping a coin. Technical analysis is more dynamic as compared to fundamental analysis based on one simple argument - fundamental analysts depend on corporate events like quarterly results and special announcements like earnings guidance and policy changes in operations to generate a buy/sell recommendation.

1.1 statement of the problem
The major problem in the firm was to give technical advice to investors based on technical analysis. The study will provide an insight into the different aspect of technical analysis which will help to guide the investors.

1.2 Objectives of Study
- To analyze the price fluctuations in the IT stocks.
- To analyze the demand and supply of a script influencing the price.
- To identify the market trend of IT stocks.
- To compare the price difference in NSE of IT stocks.

1.3 Limitations of the study
- Technical analysis may not hold good always.
- Technical analysis does not consider the economy of the country, performance of the company etc.,
- The study is limited to cost and time constraints.

2. Review of literature
1. KhageshAgarwal, VaibhavSahu, Artificial Neural Networks - Empirical Analysis of Predictive Accuracy in the Indian Stock Market, 2011. Stock market movement is driven by numerous factors, both at national and international levels, and because of the multiplicative effect of these factors, the market movement has been majorly random and very less predictable. A number of research studies have been undertaken in the past to model the stock market movement. Research analysts are continuously charting data and conducting fundamental analyses to identify stocks so as to design multi-bagger portfolio's which can outperform the benchmark index. Any model, which can predict the stock market movement would be helpful to investors to reduce their risk exposure, increase hedging effectiveness and maximize returns.
2. Goutam Dutta, Pankaj Jha, Arnab Kumar Laha, Neeraj Mohan, Artificial Neural Network Models for Forecasting Stock Price Index in the Bombay Stock Exchange, 2007. In this article we discuss the modelling of the Indian stock market (price index) data using ANN. We study the efficacy of ANN in modelling the Bombay Stock Exchange (BSE) SENSEX weekly closing values. We develop two networks with three hidden layers for the purpose of this study which are denoted as ANN1 and ANN2. ANN1 takes as its inputs the weekly closing value, 52-week moving average of the weekly closing SENSEX values, 5-week moving average of the same, and the 10-week Oscillator for the past 200 weeks. ANN2 takes as its inputs the weekly closing value, 52-week moving average of the weekly closing SENSEX values, 5-week moving average of the same and the 5-week volatility for the past 200 weeks. Both the neural networks are trained using data for 250 weeks starting January 1997. To assess the performance of the networks we used them to predict the weekly closing SENSEX values for the two-year period beginning January 2002. The root mean square error (RMSE) and mean absolute error (MAE) are chosen as indicators of performance of the networks. ANN1 achieved an RMSE of 4.82 per cent and MAE of 3.93 per cent while ANN2 achieved an RMSE of 6.87 per cent and MAE of 5.52 per cent.
3. T. P. Madhusoodanan, Long-Term Dependence in the

Indian Stock Market, 1998. The purpose of this paper is to test the long-term dependence in the Indian stock market returns. The study apply the variance ratio tests under the hypotheses of homoscedasticity as well as heteroscedasticity, and use the data both at the aggregate level of market indices and disaggregate level of individual stocks. The results show statistically significant short -run dependencies, but there is no evidence of departures from random walk in the very long-run. When we used the modified test procedures of Lo and MacKinlay (1988) and Chow and Denning (1993), the evidence was stronger against rejecting the random walk hypothesis in the long-run. However, at disaggregated level of individual stocks, the dependence was stronger compared to the aggregate level.

4. K.S. Ravichandran, P. Thirunavukarasu, R. Nallaswamy, R. Babu, Estimation of return on investment in share market through ANN, 2005. The stock market is one of the most popular investing places because of its expected high profit. Traditionally, technical analysis approach, that predicts stock prices based on historical prices and volume, basic concepts of trends, price patterns and oscillators, is commonly used by stock investors to aid investment decisions. Advanced intelligent techniques, ranging from pure mathematical models and expert systems to fuzzy logic networks, have also been used by many financial trading systems for investing and predicting stock prices. In recent years, most of the researchers have been concentrating their research work on the future prediction of share market prices by using Neural Networks. But, in this paper we newly propose a methodology in which the neural network is applied to the investor's financial decision making to invest all type of shares irrespective of the high / low index value of the scripts, in a continuous time frame work and further it is further extended to obtain the expected return on investment through the Neural Networks and finally it is compared with the actual value. The proposed network has been tested with stock data obtained from the Indian Share Market BSE Index. Finally, the design, implementation and performance of the proposed neural network are described.
5. R H Patil, Current state of Indian capital market, 2006. In the early 1990s, India figured low in the global ranking of the state of capital markets. The adoption of sophisticated IT tools in trading and settlement mechanisms has now placed India in the lead. The National Stock Exchange has played an important role in this transformation. Shorter settlement periods and dematerialisation have been other major developments. But all is not entirely positive. The introduction of individual stock futures poses a major risk; so also the large inflow of funds through participatory notes.
6. Uma B Devi, D. Sundar, Dr. P. Alli, A study on stock market analysis for stock selection – naïve investors' perspective using Data mining Technique, 2011. An insight of stock market trends has been an area of vast interest both for those who wish to make profit by trading stocks in the stock market. Generally there is an opinion about stock market like high risk and high returns. Even though we have a huge number of potential investors, only very few of them are invested in the stock market. The main reason is the inability of risk taking skill of investors. Though get low returns they want to save their money. One important reason for this problem is that, they don't have a proper guidance for making their portfolio. In this paper we focus the real world problem; we had selected three indices such as CNX Realty, BANK NIFTY and MIDCAP 50. The analysis is purely based on the data collected from past three years. The Data mining technique, Time series interpretation is applied for the Data analysis to show the ups and downs of a particular index. The correlation and Beta are the tools which gives the suggestion about the stock and its risk. The correlation tool is used to identify the relationship between the index and company individually. This Beta is used to identify the risk associated with the stock

3. Research Methodology

This is an analytical study based on the secondary data collected from NSE India of five IT stocks. Data was collected by means of historical prices of IT Company Stocks for the five months given in the website. The study focuses on the investors' usage of technical analysis in share trading, price fluctuations and the usefulness of it. Non probability sampling was used for the study and the sample selected was to the convenience of the researcher. Analysis is done based on the technical tools like Stochastic Oscillator and Rate of Change and inferred based on the chart patterns formed.

4. Analysis and Interpretation

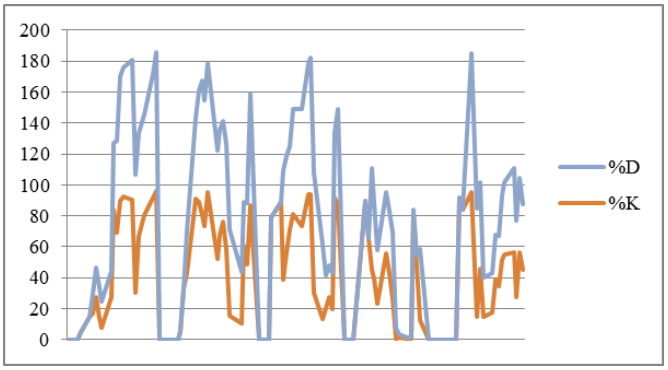

Fig 1: showing Stochastic of HCL Tech Limited for the month of December 2015-April2015

4.1 Interpretation

In the stochastic oscillator chart, buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. For the months of December 2015 - April '16 the stochastic oscillator for the HCL Technologies shows that, between Decembers to March months it has the signal to sell the shares. In the rest of the months it has the signal to buy the HCL Tech shares.

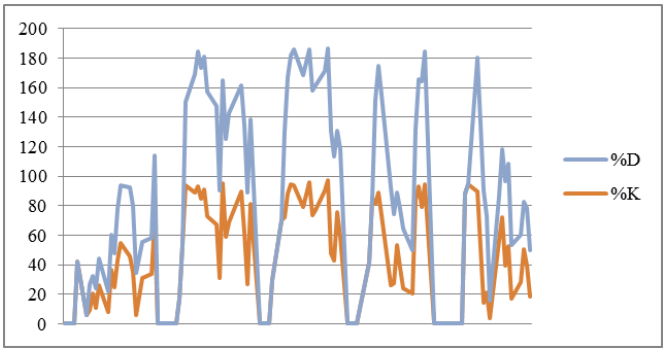

Fig 2: Showing Stochastic of Hexaware Limited for the months of December 2014-April 2015

4.2 Interpretation

In the stochastic oscillator chart, buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. For the months of December2015-April'16 the stochastic oscillator for the HEXAWARE shows that, between March and April months it has the signal to sell the shares. In the rest of the months it has the signal to buy the shares.

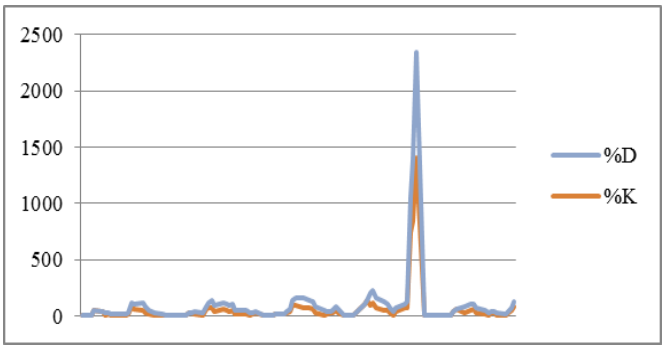

Fig 3: Showing Stochastic of Polaris Limited for the months of December 2015-April 2016

4.3 Interpretation

In the stochastic oscillator chart, buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. For the months of December2015-April'16 the stochastic oscillator for the Polaris shows that, between December to March months it has the signal to sell the shares. In the rest of the months it has the signal to buy the Polaris shares.

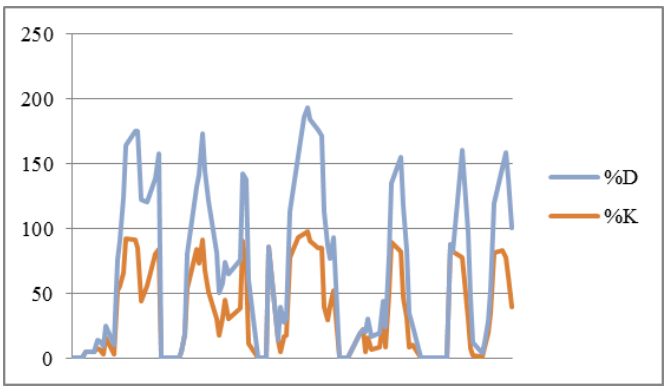

Fig 4: Showing Stochastic of TCS Limited for the months of December 2015-April 2016

4.4 Interpretation

In the stochastic oscillator chart, buy when the %K line rises above the %D line and sell when the %K line falls below the %D For the months of July - December2015 the stochastic oscillator for the TCS shows that, between Decembers to February and March to April months it has the signal to sell the shares. In the months of February to march it has the signal to buy the TCS shares.

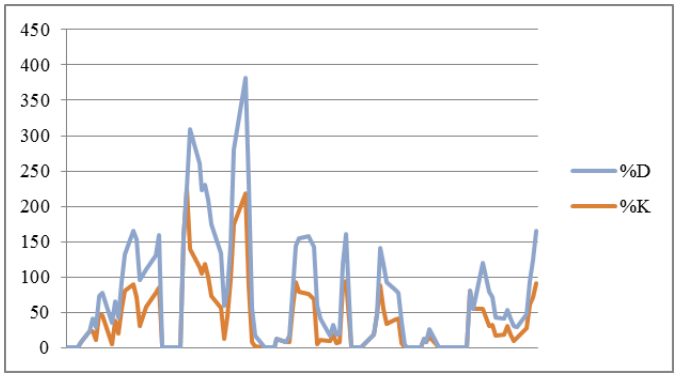

Fig 5: Showing Stochastic of Tech m for the months of December 2015-April 2016

4.5 Interpretation

In the stochastic oscillator chart, buy when the %K line rises above the %D line and sell when the %K line falls below the %D line. For the months of December2015-April'16 the stochastic oscillator for the TECH M shows that, between December and January and from March to April months it has the signal to sell the TECH M shares. In the months of January to February it has the signal to buy the TECH M shares.

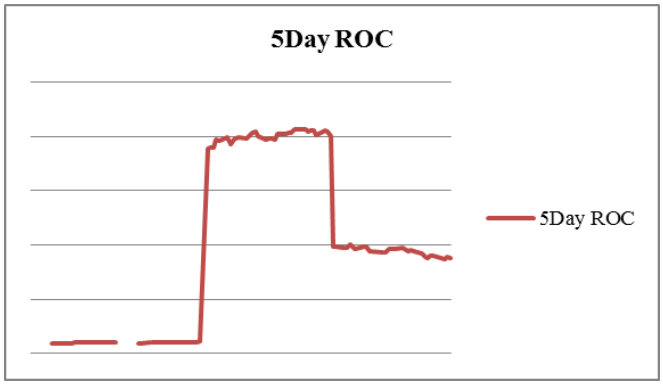

Fig 6: Showing Rate of Change of HCL Tech limited for the months of December 2015-April 2016

4.6 Interpretation

The major use of the rate of change is to identify the overbought and oversold zones. The overbought zone is identified when the ROC is above the100 and the oversold zone is identified when the ROC is below the 100. In the month of December five day's rate of change for the HCL TECH shows that December'15 to 1st Feb'16 is the oversold zone and 1st Feb'16 to 1st April'16 shows over bought zone. It is advised to the investor that they can buy when ROC is in over sold zone because the price will be low and they can sell when the ROC is in over sold zone.

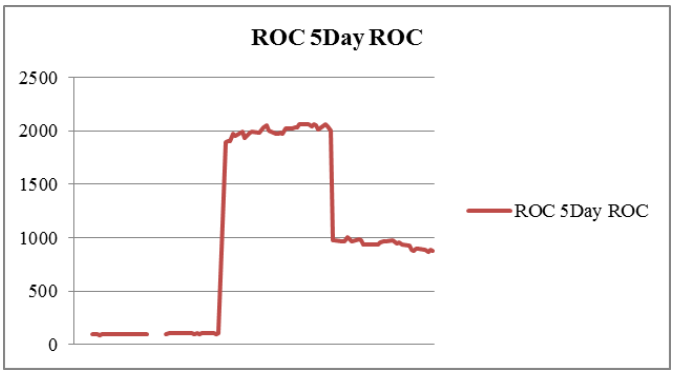

Fig 7: Showing Rate of Change of Hexaware Limited for the months of December 2015-April 2016

4.7 Interpretation

The major use of the rate of change is to identify the overbought and oversold zones. The overbought zone is identified when the ROC is above the100 and the oversold zone is identified when the ROC is below the 100. In the month of December five day's rate of change for the HEXAWARE shows that December'15 to 1st Feb'16 is the oversold zone and 1st Feb'16 to 1st April'16 shows over bought zone. It is advised to the investor that they can buy when ROC is in over bought zone because the price will be high and they can sell when the ROC is in over bought zone.

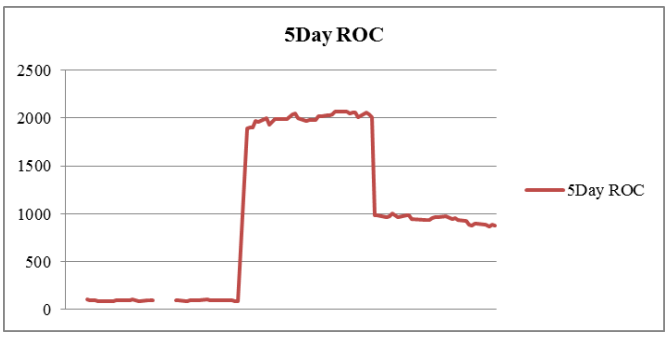

Fig 8: showing Rate of Change of Polaris Limited for the months of December2015 - April2016

4.8 Interpretation

The major use of the rate of change is to identify the overbought and oversold zones. The overbought zone is identified when the ROC is above the100 and the oversold zone is identified when the ROC is below the 100. In the month of December five days rate of change for the POLARIS shows that December'15 to 1st Feb'16 is the oversold zone and 1st Feb'16 to 1st April'16 shows over bought zone. It is advised to the investor that they can buy when ROC is in over brought zone because the price will be high and they can sell when the ROC is in over bought zone.

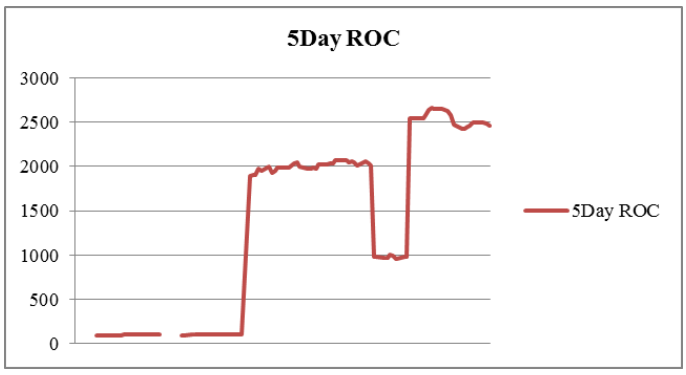

Fig 9: Showing Rate of Change of TCS Limited for the Months of December 2015-April 2016

4.9 Interpretation

The major use of the rate of change is to identify the overbought and oversold zones. The overbought zone is identified when the ROC is above the100 and the oversold zone is identified when the ROC is below the 100. In the month of December five day's rate of change for the TCS shows that December'15 to 1st Feb'16 is the oversold zone and 1st Feb'16 to 1st March'16 and March end to 1st April'16 shows over bought zone. It is advised to the investor that they can buy when ROC is in over bought zone because the price will be high and they can sell when the ROC is in over bought zone.

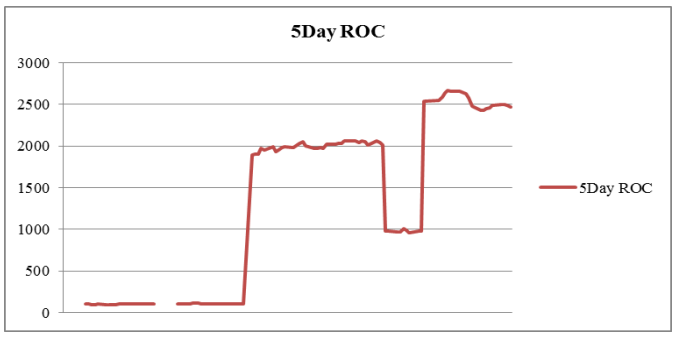

Fig 10: Showing Rate of Change of Tech M Limited for the months of December 2015-April 2016

4.10 Interpretation

The major use of the rate of change is to identify the overbought and oversold zones. The overbought zone is identified when the ROC is above the100 and the oversold zone is identified when the ROC is below the 100. In the month of December five days rate of change for the HCL TECH shows that December'15 to 1st Feb '16 is the oversold zone and 1st Feb '16 to 1st April '16 and then rise from mid-April that's shows over bought zone. It is advised to the investor that they can buy when ROC is in over bought sold zone because the price will be high and they can sell when the ROC is in over bought zone.

Table 5: Findings, suggestions and conclusions

Company	HCL		Hexaware		Polaris		TCS		Tech Mahindra	
Months	Stochastic oscillators	ROC	Stochastic oscillators	ROC	Stochastic oscillators	ROC	Stochastic oscillators	ROC	Stochastic oscillators	ROC
Dec'15	Buy	Over sold	Buy	Over sold	Sell	Over sold	Over sold	Sell	Sell	Over sold
Jan'16	Buy	Over sold	Sell	Over sold	Sell	Over sold	Over sold	Buy	Buy	Over sold
Feb'16	Sell	Over bought	Buy	Over bought	Sell	Over bought	Over bought	Buy	Buy	Over bought
Mar'16	Buy	Over sold	Buy	Over sold	Sell	Over sold	Over bought	Buy	Sell	Over bought
Apr'16	Buy	Over bought	Buy	Over bought	Buy	Over bought	Over bought	Sell	Sell	Over bought

- Each and every IT company has its own significance.
- The technical tool helps the investors to get clear idea about the value of the shares of particular company.
- For a short term investment decision technical analysis will suite best to give buy and sell signal based on the trend the price movement follows during that particular period.

By using the chart patterns from the technical analysis the investors can come to know about the price fluctuations and market trend of a particular IT company.

5. Conclusion

The present study was done with the technical analysis of five IT companies using the technical tools ROC and Stochastic Oscillators. From the study it is found that after the Recession the IT companies provided short term investment gain to its investors. It also found that the market trend of IT industry tends up with gradual price fluctuation. It is concluded that investors can invest in the IT stocks in future also with the consideration of country's economic scenario and the short term investors can rely on the technical charts for their investment decisions. Technical charts hold good for short term movement than the long term investment decisions.

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