

Study on Use of Technical Analysis in Forecasting Price Moments of Selected Companies of NSE & BSE

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Abstract: *Technical analysis has roots dating back to the 18th century when Munehisa Homma, very successful rice merchant from Japan, began recording price movement/trading activity with images that evolved into what we now call candlestick charts. Technical Analysis deals with predicting the future price of the shares based on historic data related to price & volume. Charts can be used to find trading volume, price moments & Buy/Sell pattern adopted by the investors in purchasing shares. The purpose of this paper is to make a study on the technical analysis on the randomly selected stocks of eight companies from NSE & BSE. On the basis of analysis of secondary data collected from website one can develop buy & sell strategy. Exponential Moving Average, MACD, Relative Strength Index & Rate of Change are the tools used for analysis. On the basis of analysis one can buy stock of Pharma Company, Bank and FMCG but have to take short or hold position in scrip of reality sector.*

Keyword: *Stock Exchange, Charts, Technical Indicators & Investment.*

1) INTRODUCTION

As more & more people are getting aware about share market and due to various incentives taken by SEBI and GOI for educating people regarding investment avenues in stock markets large number of people is investing their surplus money in shares of the companies to get good amount of returns from stocks but at same time they have to bear both systematic and unsystematic risk of fluctuations in earnings due to volatility. So as to minimize the effect of risk various models and theories had been formulated, among them one is technical analysis. Technical analysis has roots dating back to the 18th century when Munehisa Homma, very successful rice merchant from Japan, began recording price movement/trading activity with images that evolved into what we now call candlestick charts. Technical Analysis is the study of various forces at work in the market place and their effects on stock prices. Technical Analysis deals with predicting the

future price of the shares based on historic data related to price & volume. Charts can be used to find trading volume, price moments & Buy/Sell pattern adopted by the investors in purchasing shares. According to technical analysis prices are dependent on demand and supply in the market place and have little correlation with the intrinsic value. Technical analysis is a useful tool for speculators who buy shares to earn profit only and not for long term holding. Helps in analysing crowd and investor psychology.

The purpose of technical analysis is to identify trend changes that precede the fundamental trend and do not (yet) make sense if compared to the concurrent fundamental trend. Analysis is used to predict the short term price travels. Investor can make money intraday by using technical analysis. A fundamental principle of technical analysis is that a market's price reflects all relevant information, which was reflected in the security's trading pattern based on historical data rather than external drivers such as economic, fundamental and news events.

Technical Analysts can use various models and ratios based on price and volume such as RSI, MACD, Charts, and Bollinger Band etc to forecast prices of company stocks. Only drawback in technical analysis is that analysis ignores actual data related to economic, Industry and company factors which can be gathered through fundamental analysis and rely on charts only.

Assumptions of Technical Analysis:

- a) Share price reflect every kind of information that could affect the company.
- b) Share prices will follow certain trend and waves & move in same direction.
- c) There will be a trend reversal due to shift in demand and supply factors.
- d) History repeats itself.
- e) Price of securities is determined by the interaction of demand and supply.

Technical Conditions within the market:

a) **Market Volume:** Volume can be measured by demand and supply condition in the market. Volume is useful in accessing strength and weakness of the market based on volume & market condition.

b) **Market Breadth:** Breadth means advance and decline ratio of the market. If no of shares in advances are more than decline than market will rise and this indicate strong market condition.

c) **Short Interest:** Short interest means number of borrowed stocks sold short in the market at any given time.

d) **Odd Lot trading:** It signals that might be bull or bear market is ending soon. When odd lot purchases are more than odd lot sales than there is a bull condition prevailing in the market.

e) **Technical Analysis** is 90% based on psychological factors.

2) REVIEW OF LITRETURE

Matthew C Roberts (2003) Paper highlights the role of technical analysis in calculating risk and return in commodity market. Paper uses a genetic programming algorithm to generate optimal technical trading rules for agricultural futures market. By using methods one can identify periods of high, low & negative returns. Rule do produce high returns but not in the case of soybeans & corns due to transaction cost and little profits for wheat future. Daily variance of profits can be reduced by maximizing the profit/drawdown ratio.

Yingzi Zhu & Guofu Zhou (2009) By using exploratory study in paper researcher had studied the use of technical analysis in efficient allocation of resources in single risky assets. When returns are predictable technical analysis add value to asset allocation and wealth maximization. Paper provide theoretical explanation to the use of moving average in allocating money in different stocks and how to add value to the investment by using technical analysis. People invest fixed amount of money in different stocks on the basis of risk and random walk theory.

Venkatesh. C. K and Madhu Tyagi (2011) Use of Fundamental & Technical analysis by brokers/fund managers to forecast share price moments of the large cap, mid cap & small cap companies. Researcher found that while investing in all sectors and companies brokers will use both technical and fundamental analysis but while evaluating companies from Banking, Cement, Pharmacy and Steel industry they rely on fundamental analysis to forecast price. Technical Analysis will be used to analyse stock from FMCG, Real Estate, Telecom and IT sector. Crux is that both methods are equally important and can be used as a compliment to other investing strategies.

R. Chitra (2011) Technical analysis of selected stocks of energy sector and interpret on whether to buy or sell them by using different techniques of technical analysis. Researcher had used secondary data to calculate Beta, RSI & Moving average which will help investors to identify current trend. Researcher found out that for 10 company's beta is less than and equal to one but stocks are close to oversold region on the basis of RSI. Moving average was showing sell signals in short term and buy signals in long term as price line is above the moving average analysis.

G.B. Sabari Rajan & S. Parimala (2013) Apply technical analysis tools and techniques on selective stocks of FMCG sector. Researcher had used techniques such as Bollinger Band & Simple Moving Average to take decision on whether to buy or sell the stocks. Prices of the scripts are influenced by investor sentiments and hence one has to take in to consideration all the factors that may affect investor psychology while conducting technical analysis.

Sreemoyee Guha Roy (2013) Fundamental analysis focuses on identifying micro, macro factors and company analysis that influence the security prices whereas technical analysis deals with analysing market factors in forecasting share prices. Researcher had conducted fundamental analysis of IT companies and gave suggestions regarding which shares to buy or sell on basis of EPS, PE ratio & Price to sales ratio.

Suresh A.S (2013) Paper highlights the investment pattern and role of fundamental and technical analysis in analysing the investment instruments for both risky and risk averse investors. Methods can be used to find out overvalue and undervalue of securities. Investment has both risk and return component and some people invest their money only for speculation purpose and to earn supernormal profits. Investor can use fundamental and technical analysis to choose a suitable where he gets optimum result in terms of maximum returns and minimum risk.

Jinwooke Lee, Joonhee Lee & Andras Prekopa (2013) Paper describes the use of price bands in construction of an upper & lower bounds for buying and short selling of shares. Price bands had been constructed by using a stochastic programming i.e. binomial moment problem and stock price follow a Gaussian process. A Price band plays a helpful role in deterring the investor from taking investment decisions on the basis of feelings & emotions.

Gang LI & Jin Zhu (2014) Effectiveness of technical indicator by choosing the volume weighted moving average based on four criteria i.e. sensitivity, reliability, risk & benefits. Researcher found that if technical indicators can be used with volume rather than with pure price index then reliability enhanced, investment risk and losses will be reduced and increase in returns.

A Jayakumar & K. Sumathi (2014) Paper describes the use of technical analysis for buying and selling of stocks of union bank listed on NSE. Investor can also identify risk and return of the stock while investing money in the shares of union bank. Researcher had calculated weekly average and standard deviation of EPS to take decision regarding buying and selling of stocks.

A Senthil Kumar & M. Kulothungan (2014) Paper highlights the use of technical analysis in finding profitable investment opportunities in Pharma & Reality sector comprising of 20 selected companies. The study is empirical in nature. Analysis of one year secondary data reveals that investor can choose 50% of shares from Pharma & 70 % from reality to invest their money for one year. Researcher had recommended to buy shares of company like Cipla, Glenmark, Lupin, DLF & Godrej etc. And dispose of the shares of following companies Cadila, Dr Reddy & Unitech etc as they have low ROC & trading in overbought region.

3) OBJECTIVES

- a) To study pattern in stocks by using Technical Analysis.
- b) To study price moments by using different techniques.
- c) To take buy or sell decisions by interpreting trend.

4) RESEARCH METHODOLOGY

- a) Research Design: Study is based on Descriptive and Analytical research design
- b) Data Collection: Study is based on secondary data which were collected from stock exchange website, Books, Journal & other website.

5) Analysis & Findings

- a) **Abbott India**

c) Sampling: Random sampling technique had been used to select 8 companies from various segments of Bombay Stock Exchange & National Stock Exchange.

The selected companies are:

- 1) Canara Bank
- 2) Cadila
- 3) Abbott India
- 4) Andhra Bank
- 5) Tata Coffee
- 6) Unitech Ltd
- 7) Britannia
- 8) GMR Infra

d) Analysis: Stocks will be analysed by using methods such as

1) Exponential Moving Average

EMA is a weighted moving average. Recent prices are given more weights than older prices. A 200-day long term simple average gives equal weightage to price data that are more than six months old.

$EMA = (\text{Current day close} - \text{Previous Day EMA}) * \text{Exponent} + \text{Previous day EMA}$.

2) Relative Strength Index

It is an oscillator used to identify the inherent technical strength & weakness of a particular scrip or market. RSI is calculated for 5, 7, 9 & 14 days.

3) Rate of Change

ROC measures the rate of change between the current price & price n number of days in the past. ROC helps in determine the overbought & oversold position in scrip. It is also helpful in identifying the trend reversal.

4) Moving Average Convergence & Divergence.

Moving Average Convergence & Divergence is the difference between two exponential moving averages. It measures the convergence & divergence between two exponential moving averages of varying periods. Short term & long term EMA are calculated using the closing price. 12 day & 26 day exponential moving averages are common among traders.

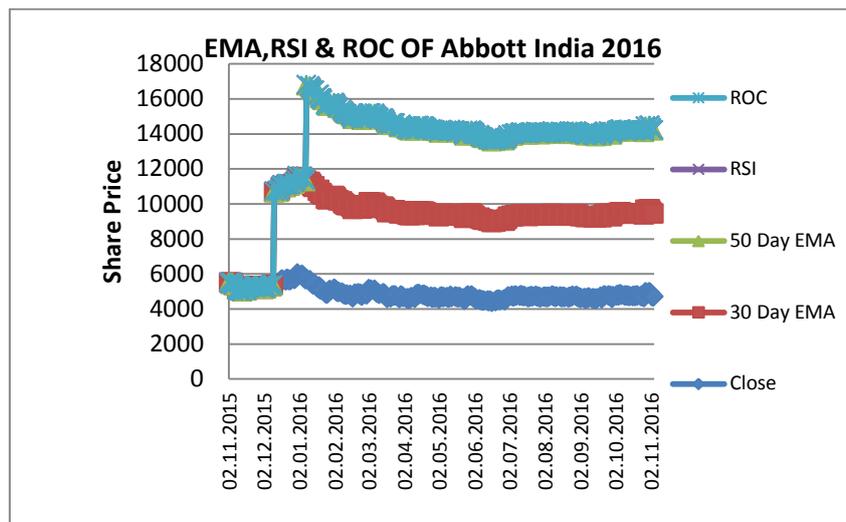


Fig 1: Chart Showing 30 & 50- Day EMA, RSI & ROC of Abbott India

- It was found from EMA that 30 days EMA is greater than 50 days EMA i.e. 4750.16 & 4729.71 which was giving bullish signal so it is good to buy the scrip.
- It was found that MECD Line crosses the signal line from below & giving bullish signal MACD is positive i.e. 17.12 which is showing rising trend for

the scrip & giving bullish signal so it is good to buy the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.

- It was found that RSI ranges between 30 & 70 which indicate that the prices may rise in future so it is good to buy the scrips.

b) Andhra Bank

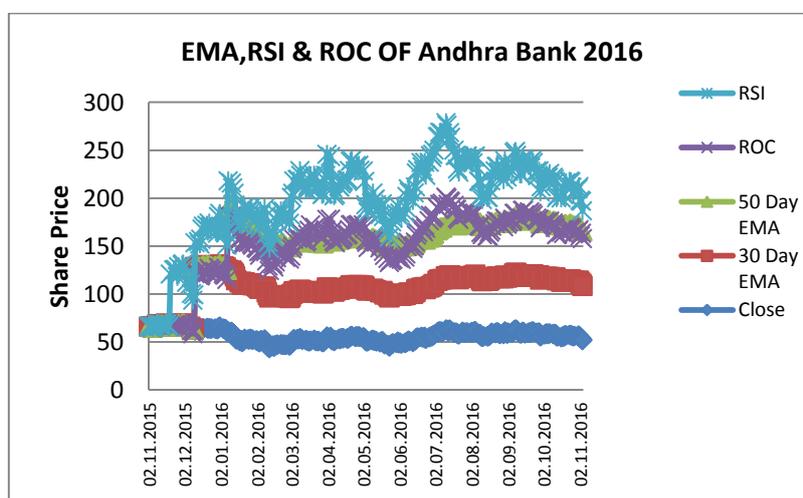


Fig 2: Chart Showing 30 & 50- Day EMA, RSI & ROC of Andhra Bank

- It was found from EMA that 30 days EMA is less than 50 days EMA i.e. 56.57 & 57.17 which was giving bearish signal so it is good to sell the scrip.
- It was found that SEMA is less than LEMA i.e. -1.13 which is showing declining trend so it is good to sell the scrip.

●It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.

- It was found that RSI is below 30 which indicate that the prices may fall in future so it is good to buy the scrips.

c) Britannia

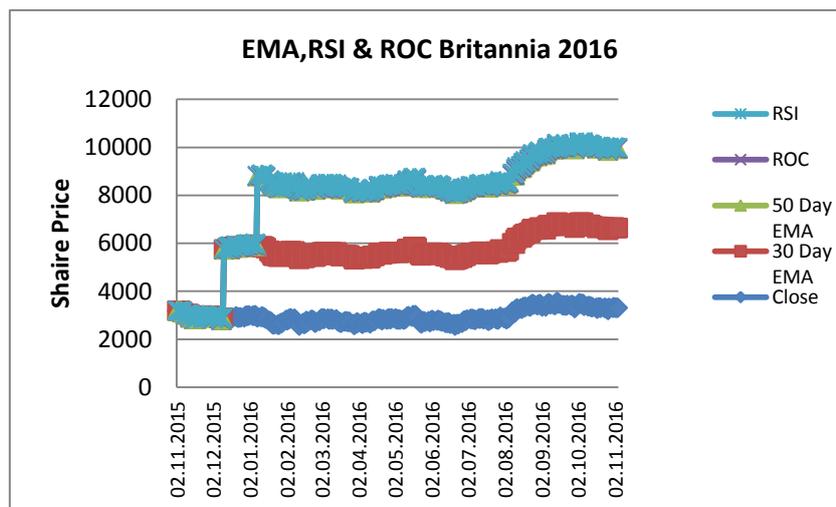


Fig 3: Chart Showing 30 & 50- Day EMA, RSI & ROC of Britannia.

- It was found from EMA that 30 days EMA is greater than 50 days EMA i.e. 3328.00 & 3309.81 which was giving bullish signal so it is good to buy the scrip.
- It was found that MECD Line crosses the signal line from above & MACD is giving bearish signal but at the same time SEMA is less than LEMA i.e.

-19 which is showing declining trend so it is good to sell the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI ranges between 30 & 70 which indicate that the prices may rise in future so it is good to buy or ho

d) Cadila Healthcare.

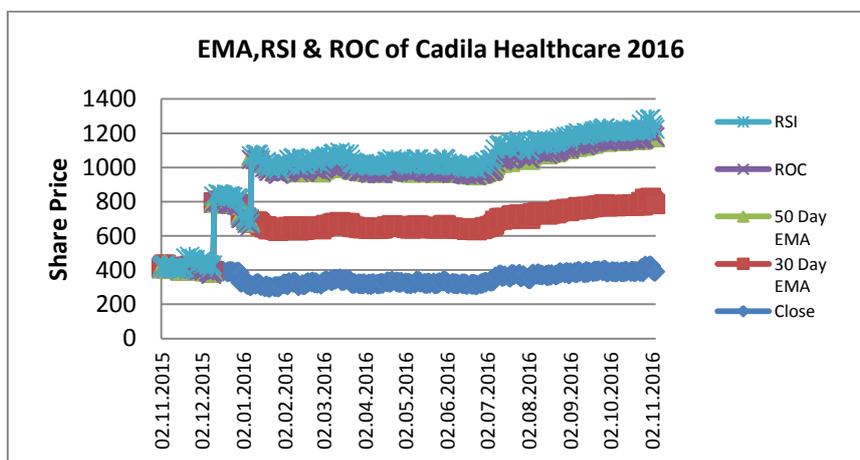


Fig 4: Chart Showing 30 & 50- Day EMA, RSI & ROC of Cadila Healthcare.

- It was found from EMA that 30 days EMA is greater than 50 days EMA i.e. 396.25 & 390.39 which was giving bullish signal so it is good to buy the scrip.
- It was found that MECD Line crosses the signal line from below & MACD is giving bullish signal but at the same time SEMA is more than LEMA

i.e. +4.19 which is showing rising trend so it is good to buy the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI is little above 30 which are giving bullish signal so it is good to buy or hold the scrip.

e) Canara Bank

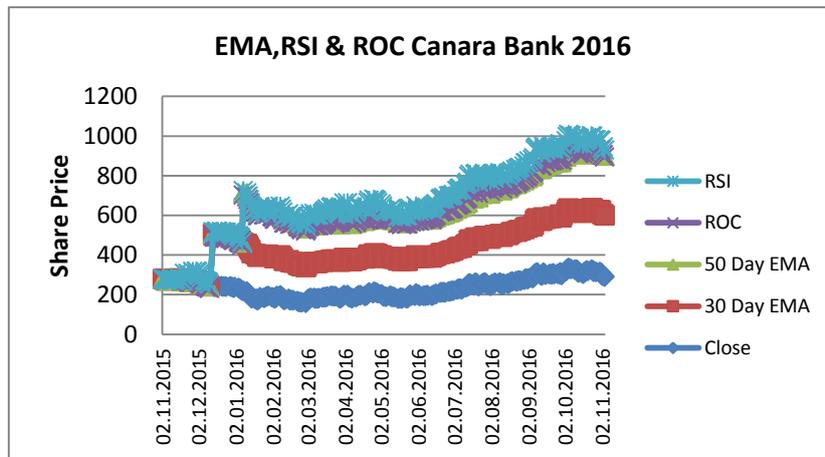


Fig 5: Chart Showing 30 & 50- Day EMA, RSI & ROC of Canara Bank.

- It was found from EMA that 30 days EMA is greater than 50 days EMA i.e. 308.68 & 301.50 which was giving bullish signal so it is good to buy the scrip.
- It was found that SEMA is less than LEMA i.e. - 2.53 which is showing declining trend so it is good to sell the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI ranges between 30 & 70 which indicate that the prices may rise in future so it is good to buy or hold the scrip.

f) GMR Infra

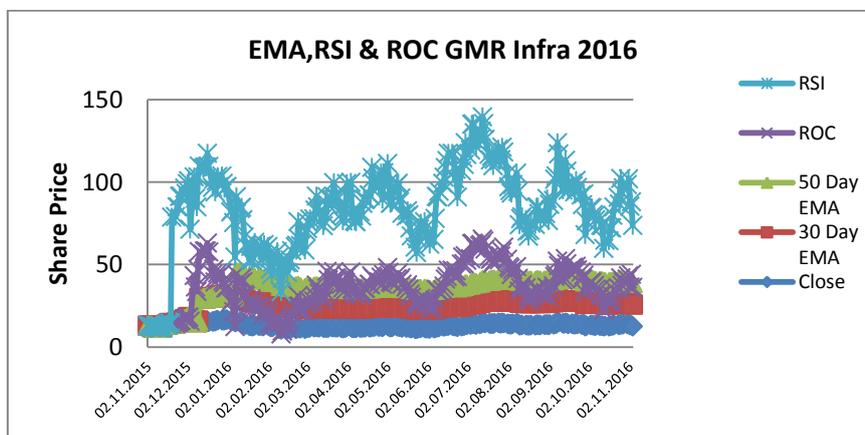


Fig 6: Chart Showing 30 & 50- Day EMA, RSI & ROC of GMR Infra.

- It was found from EMA that 30 days EMA is less than 50 days EMA i.e. 13.22 & 13.27 which was giving bearish signal so it is good to sell the scrip.
- It was found that SEMA is less than LEMA i.e. - 0.04 which is showing declining trend so it is good to sell the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI is little above 30 which are giving bullish signal so it is good to buy or hold the scrip.

g) Tata Coffee

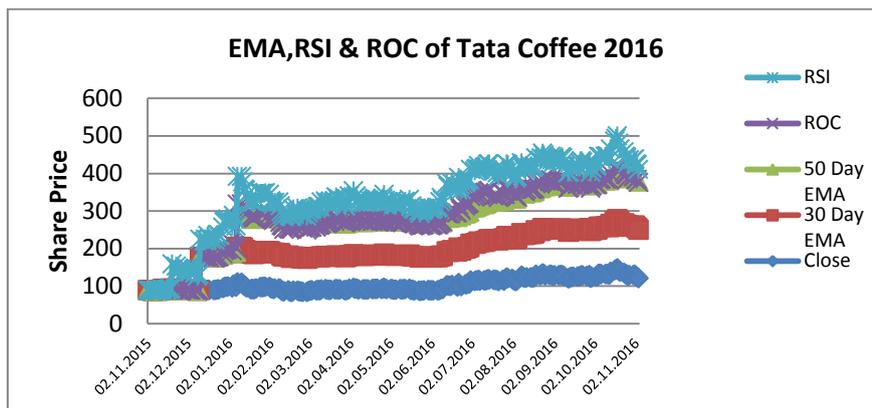


Fig 7: Chart Showing 30 & 50- Day EMA, RSI & ROC of Tata Coffee.

- It was found from EMA that 30 days EMA is greater than 50 days EMA i.e. 129.60 & 127.94 which was giving bullish signal so it is good to buy the scrip.
- It was found that MECD line is crossing the signal line from below and giving bullish signal so it is good to buy the scrip.

- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI ranges between 30 & 70 which indicate that the prices may rise in future so it is good to buy or hold the scrip.

h) Unitech

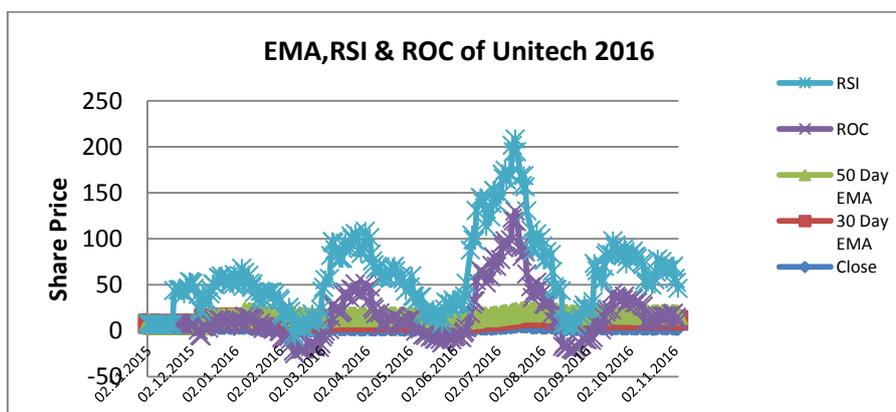


Fig 8: Chart Showing 30 & 50- Day EMA, RSI & ROC of Unitech.

- It was found from EMA that 30 days EMA is less than 50 days EMA i.e. 5.91 & 5.94 which was giving bearish signal so it is good to sell the scrip.
- It was found that SEMA is less than LEMA i.e. -0.05 which is showing declining trend so it is good to sell the scrip.
- It was found that ROC is approaching low value, so falls in oversold region and rise in scrip prices will be anticipated so it is good to buy the scrip.
- It was found that RSI ranges between 30 & 70 which indicate that the prices may rise in future so it is good to buy or hold the scrip.

Coffee because these shares are giving good amount of returns in terms of ROC & Average. Canara Bank is going to benefit from demonetisation as reserves of bank will increase and they can lend to individual at low rate of interest. It is beneficial to buy Britannia because government had reduced import duty on wheat & oil, with the introduction of seventh pay commission, GST & good monsoon income of consumers will increase and net profit of company will rise. Cadila healthcare also be a good option to invest money as all the litigations related to patents related to Anti Seizure Drug & Livalo tablets had been resolved.

6) SUGGESTIONS AND DISCUSSIONS

Investor can invest their money in scrips of Britannia, Cadila Healthcare, Canara Bank, Tata

But at the same time risk averse investors can sell or buy shares of GMR Infra as EPS of the company is in negative & reported net profit is also declining year by year. Due to demonetisation people are left with little money to spend on infrastructure and reality sector which leads to decline in demand for few months to one year. But from positive point of view GMR inks deal with Goa govt to develop Mopa airport which will reap long range profits. It is advisable to sell shares of Unitech because of fall in demand for reality sector, internal payment issues with LIC, Project delays and change in delivery schedules and weak financial position.

Investor must take into account various fundamentals related to company i.e. SWOT and environment i.e. PEST before investing their money in scrips of a particular company because small change on these factors can leads to large change in share prices. The scrip should also be fundamentally good. So it's advisable to use both technical & fundamental analysis before investing money.

7) CONCLUSION

From the above analysis it can be concluded that stock market is very volatile, with small change investor can lose large amount of savings and to minimize impact of risk technical analysis can be used as a tool to predict the direction of share prices with accuracy in future. To gain maximum profits from the stock market one has to be well verse with all the methods and charts of technical analysis. Out of the four methods used Exponential Moving Average & Moving Average Convergence & Divergence is most accurate method and give clear results but sometime create confusion due to minor difference in MACD Line, Signal Line and Long & Short Exponential Moving Average. Investor can take buy & sell decisions correctly with the help of technical analysis. Therefore investor can rely on techniques of technical analysis before making investment and should not make any investment decisions blindly.

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