Technical Analysis of IT Sector Stocks

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Abstract

Technical Analysis deals with predicting the future price of the shares based on historic data related to price and volume. Charts can be used to find trading volume, price movements and Buy/Sell pattern adopted by investors in purchasing the shares. This paper is about a brief introduction to Technical Analysis, different price patterns and trends in financial markets and attempt to exploit the patterns etc.

The main objective of study is to introduce a structured approach to market analysis that will help to perform a quick top to bottom assessment of the market, to decide which actions are appropriate. The purpose of the paper is to make study on technical analysis of the top IT sector companies i.e TCS, Infosys and Wipro. The data collected for the research are secondary data. Closing prices of scripts were collected through National Stock Exchange.

Analysis is done based on the technical tools like Moving Average, Relative Strength Index, Rate of Change and inferred based on the chart patterns formed which will help the investors to come to a conclusion on whether to invest on these stocks or not to invest. This paper contains some elementary statistics which are used in calculation which help in drawing inferences.

Keywords: Technical Analysis, Relative Strength Index, moving averages, Rate of Change

Introduction

Technical analysis is a financial markets technique that claims the ability to forecast the future direction of security prices through the study of past market data, primarily price and volume. It is a study of price with chart being the primary tool. In its purest form, technical analysis considers only the actual price behavior of the market or instrument, on the assumption that price reflects all relevant factors before an investor becomes aware of them through other channels.

Even though there are some universal principles and rules that can be applied, it must be remembered that technical analysis is more an art form than a science. As an art form, it is subject to interpretation. However, it is also flexible in its approach and each investor should use only that which suits his or her style. Developing a style takes time, effort and dedication, but the rewards can be significant.

Evolution

Technical Analysis has ancient roots but the people did not know about it. It slowly gained momentum and people started using it. That's how it is widely used now and people also are using it more so that their investment gives them a better returns for short term or long term as they wish to invest in them.

It is the organized and systematic study of charts of the past price actions of a particular item with a view to ascertaining its expected future behaviour. It is the study of demand and supply in market to ascertain the trend, direction in the future. It is a systematic study of past price action to ascertain the expected future price behaviour.

Technical analysis deals in probabilities and never certainties, it is all about understanding the underlying pressures of buying and selling for a given script or market. Technical analysis is the answers of whether to BUY or SELL or HOLD or IGNORE? It also gives us the entry, exit points. Expected prices in next week, next month, and next year.

Technical analysis has become increasingly popular over the past several years, as more and more people believe that the historical performance of a stock is a strong indication of future performance. People using fundamental analysis have always looked at the past performance of companies by comparing fiscal data from previous quarters and years to determine future growth. The difference lies in the technical analyst's beliefs that securities move according to very predictable trends and patterns. These trends continue until something happens to change the trend, and until this change occurs, price levels are predictable.

Importance

- Identification of the current trend i.e. the direction of price movement and spotting any trend reversal as early as possible.
- Historical price and volume data analyzed with the help of charts.
- For currencies, shares and commodities traded on exchanges, such data is usually available but in the case of interbank currency market, volume data is not available and the analyst makes use of different indicators, which are derived from the price data. Many of these indicators have become so popular that they are used extensively even for financial assets and instruments traded on exchanges.
- More reliable in case of broad and very liquid markets than thin and shallow markets.
- Helps to judge the emotional state of the market. The market has its own collective consciousness distinct from the individual consciousness of the participants.

Methods used the paper

RELATIVE STRENGTH INDEX (RSI)

Relative Strength Index was first introduced by Welles Wilder in an article in Commodities (now known as Futures) Magazine in June, 1978. It is an extremely useful and popular momentum oscillator. The RSI compares the magnitude of a stock's recent losses and turns that information into a number that ranges from 0 to 100.

The name "Relative Strength Index" is slightly misleading as the Relative Strength Index does not compare the relative strength of two securities, but rather the internal strength of a single security. A more appropriate name might be "Internal Strength Index."

RSI = 100 – 100/1+RS

 Average Gain = (Total Gain/n)

Average loss= (Total loss/n) First

 RS = (Average Gain/ Average loss)

n = number of RSI periods

The RSI can be calculated for any number of days depending on the wish of the technical analyst and the time frame of trading adopted in a particular stock market. RSI can be calculated for 5, 7, 9 and 14 days. If the time period taken for calculation is more, the possibility of getting wrong signals is reduced. Reactionary sustained rise or fall in the price of the scrip is foretold by the RSI.

The Relative Strength Index is a price-following oscillator that ranges between 0 and 100. A popular method of analyzing the Relative Strength Index is to look for a divergence in which the security is making a new high, but the Relative Strength Index is failing to surpass its previous high. This divergence is an indication of an impending reversal. When the Relative Strength Index then turns down and falls below its most recent trough, it is said to have completed a "failure swing." The failure swing is considered a confirmation of the impending reversal.

The RSI measures the ratio of up-moves to down-moves and normalizes the calculation so that the index is expressed in a range of 0-100. If the RSI is 70 or greater, then the instrument is assumed to be overbought (a situation in which prices have risen more than market expectations). An RSI of 30 or less is taken as a signal that the instrument may be oversold (a situation in which prices have fallen more than the market expectations. The RSI compares the Magnitude of a stock's recent gains to the magnitude of its recent losses and turns that information into a number that ranges from 0 to 100.
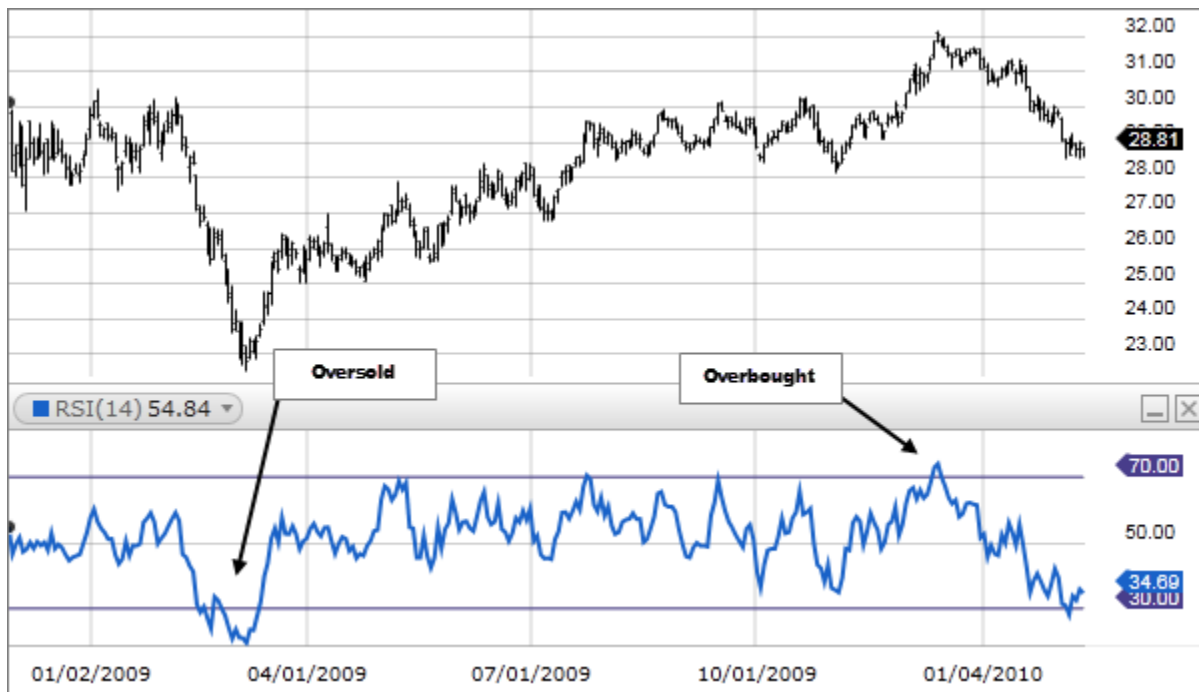
Moving Averages

Most chart patterns show a lot of variation in price movement. This can make it difficult for traders to get an idea of a security's overall trend. One simple method traders use to combat this is to apply moving averages. A moving average is the average price of a security over a set

amount of time. They smooth a data series and made it easier to spot trends, something that is especially helpful in volatile markets.

The two most popular types of moving averages are:

1. Simple moving average (SMA)

2. Exponential moving average (EMA)

Simple Moving Average (SMA) A simple moving average is formed by computing the average (mean) price of a security over a specified number of periods. For example: a 5 – day moving average is calculated by adding the closing prices for the last 5 days and dividing the total by 5.

Exponential Moving Average (EMA) Exponential moving average is the moving average that is formed by applying weight to the recent price changes.

EMA (current) = [(price (current) – EMA (prev)] * (Exponent + EMA (prev))

The formula for the smoothing constant is:

K = 2/ (1+N)

Where,

N = number of periods for EMA

The weakness of moving average buy and sell systems is that they will most likely become unprofitable when the stock or index begins moving sideways in a narrow trading range.

Under these circumstances price never moves above or below the average far enough to become profitable.

Rate of Change (ROC)

The price rate of change indicator (PROC) or simply, rate of change indicator (ROC) is a price based technical oscillator that is displayed in the sub-window. The PROC is often referred to as a purely momentum oscillator.

The price rate of change (ROC) is a technical indicator of momentum that measures the percentage change in price between the current price and the price n periods in the past.It is calculated by using the following formula:

ROC = (Most recent closing price - Closing price n periods ago) / Closing price n periods ago x 100

With some smoothing, the ROC oscillator moves around the 0-line from positive to negative. When momentum increases, the ROC oscillator moves from negative to above the 0line and

when momentum decreases, the ROC oscillator moves from positive and above the 0line to negative.

Like most momentum oscillators, the ROC appears on a chart in a separate window below the price chart. The ROC is plotted against a zero line that differentiates positive and negative values. To traders, positive values indicate upward buying pressure or momentum, while negative values below zero indicate selling pressure or downward momentum. Increasing values in either direction, positive or negative, indicate increasing momentum, and decreasing values indicate waning momentum.

The ROC is also sometimes used to indicate overbought or oversold conditions for a security. Positive values that are greater than 30 are generally interpreted as indicating overbought conditions, while negative values lower than negative 30 indicate oversold conditions.

One potential problem with using the ROC indicator is that its calculation gives equal weight to the most recent price and the price from n periods ago, despite the fact that most technical analysts consider more recent price action to be of more importance in determining likely future price movement.
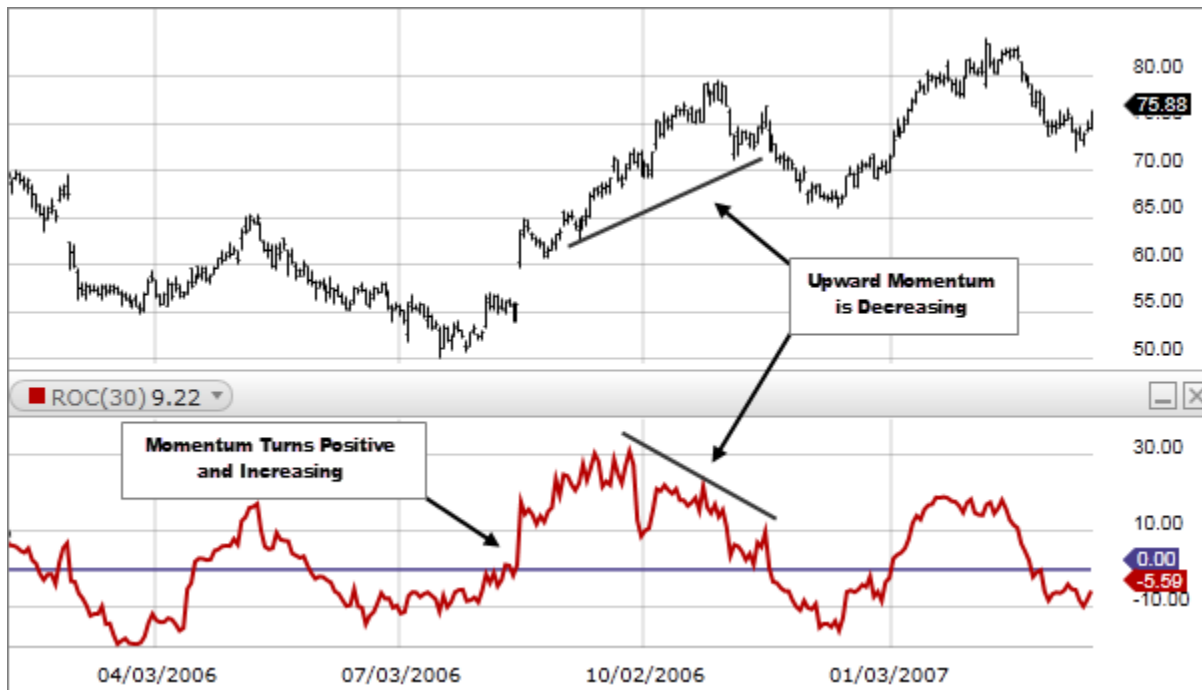
Issues and Challenges:

• Industry specific factors are not taken into consideration.

• All are competitors to each other.

• Quality of Management.

• Monetary policy is not taken into consideration.

• Inflation is not taken into consideration.

• Business cycle are not taken into consideration.

• Economic and political system are not taken into consideration.

• The demand and market position is not taken into consideration.

• Future prospects of the 3 stocks are not taken into consideration.

• Qualitative factors is not taken into consideration.

• Not using Fundamental analysis.

Analysis:Infosys

Interpretation:

- In the Moving Average chart violet line indicates 5days SMA at present it is above the price, and green line indicates 50 days SMA which is below the price whereas black line indicates 200 days SMA which is above the price.
- In the Relative Strength Index chart the red line indicates the RSI level. At present the RSI level is 50.51 and moving upwards.
- In the Rate of Change chart the blue line indicates overbought and oversold level. As per the chart the rate of change is -1.52 moving downwards.

Wipro

Interpretation:

- In the Moving Average chart violet line indicates 5days SMA at present it is above the price, and green line indicates 50 days SMA which is above the price whereas black line indicates 200 days SMA which is above the price.
- In the Relative Strength Index chart the red line indicates the RSI level. At present the RSI level is 44.61 and moving upwards.
- In the Rate of Change chart the blue line indicates overbought and oversold level. As per the chart the rate of change is 0.77 moving upwards.

TCS

Interpretation:

- In the Moving Average chart violet line indicates 5days SMA at present it is below the price, and green line indicates 50 days SMA which is below the price whereas black line indicates 200 days SMA which is above the price.
- In the Relative Strength Index chart the red line indicates the RSI level. At present the RSI level is 56.08 and moving upwards.
- In the Rate of Change chart the blue line indicates overbought and oversold level. As per the chart the rate of change is 2.08 moving downwards.

Conclusion

- The RSI of Infosys are giving sell signal whereas the SMA for 5, 50 & 200 days are giving buy signal. So it is suggested to avoid the stock.

- The RSI of TCS are giving sell signal whereas the SMA for 5, 50 & 200 days are giving buy signal. So it is suggested to avoid the stock.

- The RSI and ROC of Wipro are giving sell signal whereas the SMA for 5, 50 & 200 days are giving buy signal. So it is suggested to avoid the stock.

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