Chapter 4

DATA ANALYSIS

LONG TERM AND SHORT TERM PRICE BEHAVIOUR USING CANDLESTICK CHARTS

This Chapter deals with long-term and short-term price behaviour of select equities. The secondary data has been collected from the National Stock Exchange (NSE) which is the barometer of the Indian stock market. The same collected data is analyzed with the help of Candlestick Charts to know the price behaviour of the select stock from five different sectors. Further the analysis is done in two ways i.e., Long Term and Short Term. For analysis of long term price behaviour 5 years data has been taken and weekly average prices are considered. For analysis of short term price behaviour one year data is taken and daily closing prices are considered. All the charts have been prepared by NSE’s TAME Software and Chart Patterns are identified manually.

- Long Term Price Behaviour of Select Equities

- Short Term Price Behaviour of Select Equities
4.1 Long Term Price Behavior of Select Equities

In this section data analysis and interpretation on long term price behaviour of select equity are shown.

4.1.1 Bajaj Auto Limited - Long Term Price Behaviour

The Chart 4.1 reveals long term price behaviour of the Bajaj Auto Limited Company for the financial years 2009-14.

It is observed from the Chart that there are ten different Candle Patterns numbered from 1 to 10 which are shown as below.

1. Doji (8 Times)
2. Shooting Star (2 Times)
6. Inverted Hammer (1 Time) 9. Gravestone Doji (1 Time)
7. Dragonfly Doji (1 Time) 10. Hammer (1 Time)

The numbering which is shown in the parenthesis after the pattern name indicates that the pattern has repeated that many times in the chart. For example in the 3rd pattern Bearish Harami has repeated for 8 Times. Out of 10 patterns, three patterns have appeared on the chart for more than 3 times and rest of the patterns have appeared for 3 or less times. It is observed from the chart that the Bearish Engulfing Candle Pattern has repeated for 13 times which is the highest in number.

In addition, The Uptrend has formed between April, 2009 and August, 2010. It has continued for almost 16 months where it starts at Rs.607, ends closely at Rs.3000 and it has reached the highest point of the price. Immediately after the first Sideways trend, the prices moved little higher and continued in the Sideways trend till the end of the chart. The Moving Averages in the Uptrend moved with ups and downs but no crossover has taken place. It indicates that there is continuous growth in the price. Hence, one can buy the stock or hold the stock, if already bought the stock. But in the first Sideways trend there are many crossovers which can be observed. When the prices are moving in Sideways trend these Moving Averages will not give clear indication to investor whether to buy or sell the stock, in such case investor can take the help of the Candle Pattern or other indicators and can make a decision accordingly.

The prices of Bajaj Auto Limited moved in between Rs.607 and Rs.2028 which results in net change of Rs.1421. The overall growth of the Bajaj Auto Limited during 2009-14 is 234%. Average annual growth of the company is 46.8% which means it is above the normal growth rate.
4.1.2 Hero Motor Corporation Limited - Long Term Price Behaviour

The Chart 4.2 is of Hero Motor Corporation Limited which shows the long term trend from Mid of 2011 to March, 2014.

![Chart 4.2 Hero Motor Corporation Limited - Long Term Price Behaviour](image)

In the chart there are 5 different colored flags numbering from 1 to 5, which are as follows:

1. Doji (5 Times)
2. Hammer (3 Times)
4. Bearish Harami (3 Times)
5. Bullish Engulfing (7 Times)

Out of 5 patterns, Hammer and Bearish Harami appeared for 3 times each, Bearish Engulfing pattern appeared for 4 times, Doji pattern appeared for 5 times and Bullish Engulfing pattern is repeated for maximum number of times in the chart.
It is found that the Inverted Head & Shoulders pattern appeared twice in the chart. The first Inverted Head & Shoulders formed between November, 2011 and April, 2012. The neck line is leaning from the left shoulder to right shoulder where it crosses the break out candle which is in blue color. Before the break out candle, two crossovers have taken place i.e., the 5 days Moving Average line crossovers the 13 days Moving Average line and 26 days Moving Average line from below, the prices are supposed to move in the upward direction. But as one more crossovers has taken place, instead of prices going upward they went down. In the month of June and July the Moving Average crossovers appeared twice, once from the above and once form the below the 5 days Moving Average crossed the 13 and 26 days lines. From then there are no Moving Average crossovers that is why there is no change in the direction of the prices, it continued in the down trend till the second Inverted Head & shoulders pattern formed.

In the second Inverted Head & Shoulders pattern, before break out candle there one crossover has taken place, after that there is no crossover till the end of Uptrend. The prices end up with Uptrend only. The decision can be taken with the help of Moving Averages where 5 days Moving Average crossovers 13 & 26 days Moving Average lines from below gives the investor to buy the stock and if the same repeats from above indicates the investor to sell the stock. The Volume touched the highest point in the month of November, 2011 and majority of trading sessions Volume closed below 3 Million line.

The trend started at Rs.1066.45 on 6th April, 2009 and ends at Rs.2250.9 on 31st March, 2014 where the net change Rs.1184.45. The overall growth rate of the Hero Motor Corporation Limited is 111% for the long term and average yearly growth rate is more than 22% which is good performance.
4.1.3 Mahindra & Mahindra Limited - Long Term Price Behaviour

The Chart 4.3 shows the long term price movements of Mahindra & Mahindra automobiles for the period of 2009-14.

Chart 4.3 Mahindra & Mahindra Limited - Long Term Price Behaviour

It is observed that there are 7 Candle Patterns formed which are shown as follows.

1. Doji (17 Times)
2. Bearish Engulfing (9 Times)
3. Hanging Man (2 Times)
4. Inverted Hammer (1 Time)
5. Bullish Engulfing (6 Times)
6. Dragonfly Doji (2 Times)
7. Bearish Harami (3 Times)

Out of the 7 Candle Patterns formed, Hanging Man, Dragonfly Doji appeared for 2 times each, Inverted Hammer has appeared for one time, Bearish Harami appeared for 3 times,
Bullish Engulfing and Bearish Engulfing patterns appeared moderately for 6, 9 and Doji pattern has repeated for 17 times on the chart and is the highest in number of times it appeared.

The chart reveals three types of patterns they are Uptrend, Sideways trend and Inverted Head & Shoulders patterns. It is observed that the formation of sharp Uptrend between the month of May & December 2009, where the starting price was around Rs 600 and end price of the trend touched nearly Rs.1200 there is a net change of Rs.600 over a period of 7 months. The prices have suddenly fallen below Rs.600 line in the month of April 2010 and then slowly recovered and moved in the Sideways trend for a long period of 2 years. In this 2 years period the chart looks like waves with ups and downs but never crosses the support and resistance levels. Last part of the chart shows the Inverted Head & Shoulders pattern started forming in the month of March 2013 and ends in the month of March 2014. The change in price from neck line to the lowest point of Head is around Rs.200. When the neck line is being crossed by the break out candle the prices tend to move upward.

The neck line is broken by break out candle which indicates the confirmation of the pattern. It is observed that there is only one Moving Average crossover that took place before break out candle. Here the investor has to decide to buy the stock or to hold the stock to maximize the profits till the next Moving Average crossovers takes place. The Volume of the shares traded during the five years has reached all time record on 30th January, 2012.

The overall performance of the Mahindra & Mahindra is positive where the trend starts at Rs.436.4 and ends at Rs.999 and the net change is Rs.562.6. The growth percentage is 128% for 5 financial years which means annual growth is above 25%.
4.1.4 Maruti India Limited - Long Term Price Behaviour

The chart 4.4 describes the long term trend of the Maruti India limited for the period of 2009-14. Six different colored flags on the chart indicates that there are 6 different Candle Patterns numbering from 1 to 6.

Chart 4.4 Maruti India Limited - Long Term Price Behaviour

The same numbering for the respective Candle Patterns were shown as below.

1. Doji (13 Times)
2. Bearish Engulfing (6 Times)
3. Hammer (1 Time)
4. Bullish Engulfing (5 Times)
5. Bearish Harami (4 Time)
6. Shooting Star (1 Time)

Among the 6 Candle Patterns hammer appeared one time on October 4th 2010 and Shooting Star appeared one time on January 7th 2013. Bearish Engulfing, Bullish Engulfing and Bearish
Harami patterns appeared for 6, 5 and 4 times respectively, Doji appeared 13 times which is highest repeated pattern on the chart.

It is observed from the chart there are two kinds of trends forming i.e., Uptrend, Down trend and Inverted Head & Shoulders pattern at end of the chart. The Uptrend is formed between April and September 2009 where the price movement is moving upward from Rs.809 to Rs.1655 over a period of 6 months, it shows 100% growth rate in Uptrend. From September, 2009 to October, 2010 almost for 13 months period of time the trend continued in Sideways trend with fluctuations around the 1.5k price line. Down trend is formed between October, 2010 and December, 2011 The movement of prices started at Rs.1500 and ends below Rs.1000 with multiple ups and downs. The overall price decrease in Downtrend is more than Rs.500.

On right side of the chart it is observed with Inverted Head & Shoulders pattern forming from January, 2013 to March, 2014. The neckline is drawn between the peak points of the two shoulders, the left side shoulder is bigger than the right side shoulder in size.

The Volume in the chart has moved below the 5 Million line except few trading sessions, in January, 2014 the volume crossed 15 Million line which is maximum Volume.

Prices started at Rs.809.1 and ended at Rs.1927.2 the net change is Rs.1118.1. The overall growth rate of the company is observed as 138.19 % during the period of 2009-14. The annual growth is 27.63% which is seen as above normal growth.
4.1.5 Bank of Baroda - Long Term Price Behaviour

Chart 4.5 Shows the long term price behavior of Bank of Baroda for 5 financial years 2009-14. Seven Candle Patterns are appeared on the chart which are shown below.

Among 7 patterns, Hammer appeared for one time, Shooting Star and Inverted Hammer appeared for 2 times each, Bullish Engulfing pattern appeared for 3 times, Bearish pattern repeated for 4 times and Bearish Engulfing pattern appeared for 6 times on the chart. The highest number of times appeared pattern is Doji for 8 times.
The Chart also reveals Up Flags and Inverted Head & Shoulders. The price starts nearly from Rs.200 and moved in upward direction for 15 months. During the Last week of June, 2010 the Up Flag is formed which consists of three parts which are one is sharp upward movement of prices indicated with pole, an Sideways trend movement covered with rectangular box is called flag cloth. This cloth is covered in such a way that maximum closing prices of candle should be inside the cloth. Break Out candle with green colour crosses the upper line of the cloth where the volume is high compared to previous trading session, resulting in the formation of the pattern. This pattern is formed on the chart for a period of 7 months. It is also observed that the 5 days Moving Average line crossed 13 days Moving Average line from below, it gives indications to the investor to buy signal.

From July, 2011 to Dec 2012, almost one and half year the prices moved in Sideways trend with high ups & downs. This Sideways trend will not give any signal to the investor to buy or hold the stock. But, last part of the chart shows the Inverted Head & Shoulders pattern. Left shoulder of the pattern looks like curvy shape with the falling and rising in the prices, further falling in prices makes head, the right side of the shoulder is made up of sudden rise in prices. The break out candle with green colour appeared in the last week of March, 2014 which breaks the neck line. Then the prices tend to move upward direction and investor can take decision to buy the shares. The chart also shows that the Volume of stock traded very low in between July, 2010 and September, 2011 and traded very high from March, 2012 to March, 2014 which is in the right side of the chart.

The overall growth of Bank of Baroda for long term is 193%, where it starts at Rs.257 and ends at Rs.755 in five consecutive years and the net change is Rs.498.1. The average annual growth rate is more than 38% which is the above normal growth rate.
4.1.6 State Bank of India - Long Term Price Behaviour

The Chart 4.6 reveals the long term price behavior of State Bank of India for the financial years 2009-14.

There are 6 Candle Patterns formed which are listed as below.

1. Doji (17 Times)
2. Dragonfly Doji (2 Times)
4. Shooting Star (2 Times)
5. Bullish Engulfing (3 Times)

Out of six Candle Patterns, 3\textsuperscript{rd}, 4\textsuperscript{th}, 5\textsuperscript{th} patterns belong to Bearish Pattern, 2\textsuperscript{nd} & 5\textsuperscript{th} patterns belong to Bullish Patterns and only one Neutral Pattern is Doji.
Out of Bearish kind of patterns, Bearish Engulfing pattern repeated for 15 times. It is also seen that Doji pattern appeared for 17 times, Bullish Engulfing pattern repeated for 3 times and least number of appeared patterns are Dragonfly Doji and Shooting Star for 2 times each.

Further the Candlestick Chart shows Head & Shoulders Pattern which is very small in formation. The trend starts from 1K price line and ends around 2K price line, starts formation of Head & Shoulders patterns. The left and right shoulders are not in perfect shape. The head is formed when the prices touches the pinnacle point on the chart. The broken neckline gives the picture of downfall of prices. The Moving Average lines crossover left shoulder of first Head & Shoulders pattern, and it crossovers again just before the break out candle. It does not cross for next 7 months. These 7 months period is significant for price loss, until the next cross over appeared there is no change in the direction of trend, the prices move in Sideways trend in between two Head & Shoulders patterns.

The second Head & Shoulders pattern gives indication to the investor about the price fall after the break out candle, he is advised to sell the stock immediately and not to buy the stock till March, 2014 unless the trend changes its direction in upward movement. The Volume is observed on the lower part of the chart, the length of each vertical line indicates the quantity of stock traded on that particular day. During the period the average volume traded was around 15 Million line and highest recorded Volume crossed 20 Million line for few trading sessions.

The overall growth for long term during 2009-14 is 66.86% where the price starts at Rs.1140.3 and ends at Rs.1902.8 and the net change in price is Rs.762.5. The average growth is about 13% per annum which is very low.
4.1.7 HDFC Bank - Long Term Price Behaviour

From the Chart 4.7, it is observed that there are 10 Candle Patterns on the chart of HDFC Bank for long term. These are numbered from 1 to 10 on the chart and shown below in the same manner.

![Chart 4.7 HDFC Bank - Long Term Price Behaviour](chart.png)

1. Doji (13 Times)
2. Dragonfly Doji (2 Times)
3. Hammer (3 Times)
4. Hanging Man (1 Time)
5. Dark Cloud Cover (1 Time)
7. Bearish Engulfing (9 Times)
8. Inverted Hammer (1 Time)
10. Shooting Star (3 Times)
Out of 10 patterns, Hanging Man, Dark Cloud Cover, and Inverted Hammer patterns appeared for one time on the chart and Hammer, Shooting Star patterns appeared for 3 times, Dragonfly Doji appeared for 2 times and Bullish Engulfing, Bearish Engulfing, Bearish Harami and Doji patterns repeated for 4, 9, 8 and 13 times respectively on the chart. It is further observed that the Uptrend is formed in first two years of time, next Inverted Head & Shoulders and finally Sideways trends are formed on the chart. The Uptrend formed between April, 2009 and September, 2010 for a period of 18 months, where prices moved gradually from Rs.1000 to Rs.2500 and the net difference is Rs.1500.

After Uptrend pattern is completed Inverted Head & Shoulders pattern is formed which is very small in shape. It is observed during September, 2010 and June, 2011 that the left shoulder of pattern is not in clear shape, but right shoulder is little clear. This Inverted Head & Shoulders is observed in between the support and resistance levels of Rs.2000 and Rs.2500. when the break out candle crosses the neck line the normal tendency of prices are expected to rise. But two Moving Average lines being crossed by 5 days Moving Average line from above, which results the prices fallen from Rs.2500 to Rs.500 the net loss of Rs.2000.

From then the prices moved in Sideways trend till end of March, 2014. It is seen that all candles have very small real body, which means there is not much difference between opening and closing prices of stock. These movements are with less variations in rise and fall of prices and movement of prices have moved along with Rs.500 line on the chart.

As there are no Moving Average crossovers found in the Uptrend the prices continued to move in Uptrend direction. In the Inverted Head & Shoulders pattern after break out candle is seen, 5 days Moving Average line crossovers 13 and 26 days Moving Average lines from
above which resulted in the price crash on the vertical line of July 2011. The distance among the Moving Average lines is very high on the vertical line, and no clear vision of the crossovers in the Sideways trend from July 2011.

In addition, the below part of the chart indicates Volume of stock and the volume never crossed the 10 Million line during the first 25 months period. But from July 2011 the volume has increased suddenly which is abnormal in nature, one trading session volume crossed 20 Million line also. First part of the chart shows the low trading volume and second part of the chart shows abnormal trading volume.

The price starts at Rs.1044 and ends at Rs.725 the net change is Rs.- 319 The overall growth rate of the HDFC Bank is - 30% which is worst condition in the industry.
4.1.8 ICICI Bank - Long Term Price Behaviour

The Chart 4.8 indicates the behaviour of ICICI Bank for long term during the period 2009-14 financial years. It is observed that there are 10 Candle Patterns as shown below:

1. Doji (17 Times)  
2. Gravestone Doji (3 Times)  
3. Dragonfly Doji (2 Times)  
4. Hanging Man (2 Times)  
5. Dark Cloud Cover (2 Times)  
7. Bearish Engulfing (8 Times)  
8. Inverted Hammer (2 Times)  
9. Shooting Star (1 Time)  

Out of 10 Candle Patterns, 6 patterns belong to Bullish reversal pattern and 3 patterns belong to Bearish reversal pattern and one pattern belong to Neutral pattern. Bullish Engulfing and
Bearish Harami patterns repeated for 4, 6 times respectively. Dragonfly Doji, Hanging Man, Dark Cloud Cover and Inverted Hammer patterns repeated for 2 times. Gravestone Doji and Shooting Star appeared for 3, 1 times respectively. Doji and Bearish Engulfing patterns repeated for 17 and 8 times respectively on the chart.

It is observed that two patterns have formed on candlestick chart, first one is Head & Shoulders and second one is Inverted Head & Shoulders pattern which appeared twice on the chart.

Each candle on the chart is constructed with weekly average opening, closing, high and low prices. The price starts below 400 line and moved in upward direction for 9 months period. then starts forming Head & Shoulders pattern, the left side of the shoulder is formed as the prices move significantly high and low and with an increase in the price Head has formed. The right side of the shoulder is very small in shape. The neckline is drawn from left to right side shoulder. It is drawn in such a way as to support line in the month of June 2011, the neck line is broken by break out candle which is in red colour. On the day of breakout of candle the volume of stock is increased as compared to previous closing volume. With all these indications the pattern is said to be completed. As neck line is being broken which indicates the investor to sell the stock because, there is a indication for fall in price from the broken point.

The next candle pattern is formed during July, 2011 and September, 2012. This formation has completed in more than one year period. It is clearly observed the path, that left side shoulder is formed in less period and right side shoulder is formed for long period. The neck line in this pattern is drawn little upward movement to right shoulder.
The third pattern is also a Inverted Head & Shoulders pattern. Where the break out candle crosses the neck line in the month of March, 2014.

It is further observed that the Moving Averages cross overs occurs, in Head & Shoulders pattern the cross overs are from left to right of the head and in the second Inverted Head & Shoulders pattern cross overs are on right shoulder, then in third pattern it is on the right side shoulder. The Volume of the stock is very high in the left side of the candlestick chart and suddenly rises in middle for a movement and rest is normal.

The growth of the ICICI Bank for long term 2009-14 is 209% where price starts at Rs.397.8 and ends at Rs.1230.45 and the net change is Rs.832.65. The annual growth rate is 41.8% which is considered to be above average growth rate.
4.1.9 Gas Authority of India Limited - Long Term Price Behaviour

The long term price behaviour of Gas Authority of India Limited (GAIL) is observed on the Chart 4.9 during 2009-14 financial years.

Chart 4.9 Gas Authority of India Limited - Long Term Price Behaviour

The 10 Candle Patterns belong to three kinds of patterns which are Bullish reversal patterns, Bearish reversal patterns and Neutral patterns as shown below.

1. Hanging Man (1 Time)
2. Doji (14 Times)
3. Gravestone Doji (1 Time)
4. Dragonfly Doji (1 Time)
5. Hammer (1 Time)
7. Bearish Engulfing (10 Times)
8. Inverted Hammer (3 Times)
10. Shooting Star (1 Time)
Out of 10 patterns, Hanging Man, Gravestone Doji, Dragonfly Doji, Hammer and Shooting Star patterns appeared only one time on the chart, Inverted Hammer and Bearish Harami patterns appeared for 3, 4 times respectively, Bullish Engulfing pattern repeated for 7 times, Bearish Engulfing pattern repeated on the chart for 10 times which is second highest in number after the Doji for 14 times.

GAIL has shown the profit during April, 2009 to December, 2010. The price movement starts from Rs.268 to highest peak Rs.524 which results in 100% growth rate. But from January, 2011 the trend has changed its direction and the price value has fallen to Rs. 328 on 24th may 2012, again price raised to certain level and continued in Sideways trend.

Three Moving Average lines never cross among them in Uptrend or Down trend. But two Moving Average 5 days and 13 days lines came closely but not crossed each other. But in Sideways trend there are many crossovers. Moving Average lines support the investor in decision making to buy or sell in Uptrend or Down trend not in Sideways trend, they are indecisive mode, in such Sideways trend investor should depend on other indicators to make decisions.

The price moved in three different trends finally resulting in 35% of growth rate for long term, the price moved between Rs.268.2 and Rs.362.2 and net change is Rs.94. The annual growth rate is only 7% which is below the normal growth rate.
4.1.10 Oil & Natural Gas Corporation Limited - Long Term Price Behaviour

The Chart 4.10 reveals long term price behaviour of Oil & Natural Gas Corporation (ONGC) during 2009-14 financial years.

From the Chart, 9 Candle Patterns are observed which are indicated with numbers from 1 to 9 and are shown as follows.

1. Doji (16 Times)
2. Gravestone Doji (1 Time)
3. Dragonfly Doji (3 Times)
4. Hammer (1 Time)
5. Hanging Man (1 Time)
7. Bearish Engulfing (10 Times)
8. Bearish Harami (5 Times)
9. Shooting Star (1 Times)
Out of 9 patterns, Gravestone Doji, Hammer, Hanging Man and Shooting Star patterns appeared for one time, Dragonfly Doji and Bearish Harami patterns appeared 3, 5 times respectively, Bullish Engulfing and Bearish Engulfing patterns appeared for 11, 10 times respectively. The Doji pattern formed 16 times which is highest in number on the chart.

Candlestick chart also reveals Head & Shoulders pattern followed by Sideways trend, the volume is shown below the chart with small vertical thin lines. By looking the chart, it is described that the candle have very small real body which means that there is very small variation between the opening and closing price of stock.

The movement of price trend starts around Rs 800 mark, slowly moves up side and forms Head & Shoulders patterns. The Head & Shoulders pattern is very small in size, the left and right shoulders are not clear, the height of the Head is very less. The neck line is drawn from left shoulder to right shoulder.

The break out candle breaks on the neck line on 2011 vertical line. Here after the prices go down sharply, there a long red candle appeared on the chart which is made up of change in the price of open and close of the session. At that point prices have crashed below Rs.500 line and move the prices in Sideways trend till the end of March, 2014. All these candles appeared on the chart look very small and the distance between two support and resistance levels are very narrow. The point where the prices are crashed, the selling pressure is more and Volume of share are being traded more. So, the thin lines some time crossed 4 Million line.

The price started at Rs.884.5 and ended at Rs. 325.65 and net change is Rs. -558.85. The overall growth rate of ONGC for long term during 2009-14 is negative by -63.18%, the average annual growth rate is above -12%.
4.1.11 Bharat Petroleum Corporation Limited - Long Term Price Behaviour

Chart 4.11 shows the long term price behaviour of Bharat Petroleum Corporation Limited for 2009-14. Eight Candle Patterns are recognized which are shown as below:

1. Doji (13 Times)
2. Hammer (1 Time)
3. Hanging Man (3 Times)
4. Bullish Engulfing (5 Times)
5. Bearish Engulfing (7 Times)
6. Inverted Hammer (3 Times)
7. Bearish Harami (1 Time)
8. Shooting Star (3 Times)

From the above list of patterns recognized on the chart, they are categorized into three groups based on the trend characteristics. Out of 8 patterns, Hammer and Bearish Harami appeared for one time each, Hanging Man, Inverted Hammer and Shooting Star appeared for 3 times each, Bullish Engulfing, Bearish Engulfing and Doji patterns 5, 7 and 13 respectively.
In addition to this recognized Candle Patterns, Head & Shoulders, followed by Sideways trend are formed. By observing the chart it is understood that initial movement of price is very slow in upward direction, then after that sharp rise and fall in the prices helps to form a big size of Head & Shoulders pattern. This pattern appeared over a period of two years i.e., from 2010-12. From the starting point of the pattern there is less variation which resulted in the formation of small left shoulder, right side of the shoulder is very big. The neck line which joins the two bottoms of the left and right shoulders lifted up from horizontal. On the day of 8th November 2011 the neck line is broken by break out candle which makes the prices move downward. But, interestingly prices have not fallen much, soon after the falling in price it rose again from Rs.500 to Rs.800. The Sideways trend is formed between July, 2012 and March, 2014 for a period of 21 months in around Rs.400 Million line, there are three Moving Average lines crossed among them for 5 times in Sideways trend which means no indication to investor to buy or hold the stock.

On 9th July, 2012 the prices suddenly crashed from Rs.767 to Rs.386 this price change is indicated by long red candle on the chart but there is no such difference in the Volume of stock, this is major effect on prices. From here prices never shoot up to the previous point, but slowly move with rise and fall, at last ends up in Uptrend. The volume suddenly rose twice in the months of July 2010 and Jan 2013, remaining period it is quite normal.

The trend starts at Rs.384.3 and ends at Rs. 443.6 on 31st March, 2014. The net change is Rs.59.3, the growth rate of Bharat Petroleum Corporation Limited is 15.4% for long term and average annual growth rate is around 3% which is very negligible growth rate.
4.1.12 Reliance Industries Limited - Long Term Price Behaviour

The Chart 4.12 of Reliance Industries Limited shows different kinds of patterns for long term price behaviour during 2009-14 financial years. 8 Candle Patterns which are shown below.

1. Doji (15 Times)
2. Gravestone Doji (1 Time)
3. Hanging Man (1 Time)
4. Piercing Line (1 Time)
5. Bullish Engulfing (6 Times)
7. Inverted Hammer (1 Time)
8. Bearish Harami (3 Times)

The Bullish patterns gives the buying pressure to the stock, so the prices move upside, Bearish pattern give selling pressure through which price moves in downward, but the third kind of patterns cannot be taken for decision because they are Neutral patterns. The Neutral patterns
will not give any indication to investor whether to buy or sell the stock, hence the Neutral patterns are called Indecessive patterns.

Out of 8 patterns, Gravestone Doji, Hanging Man, Inverted Hammer and Piercing Line patterns appeared for one time each, Bullish Engulfing, Bearish Engulfing and Bearish Harami patterns appeared for 3, 5 and 6 times respectively. The Doji pattern is repeated for 15 times on the candlestick chart which is Neutral pattern and cannot be taken for decision.

The movement of prices started little above from 1.5K price line and moves up to nearly 2.5K line, then after the price sharply falls for few weeks then recovers slowly in the month of November, 2009. Here the price has crashed suddenly and falls to 1K line. It is identified by long length red candle which is appeared on the chart. Further 13 days and 26 days Moving Average lines crossover by 5 days Moving Average line from the above which indicates the fall in prices, at this point the three lines move very distantly, this is the point where new trend is started. It is surprise to notice that all the prices move in Sideways trend for a long period 4 and half years Sideways trend. The candles have small real body which indicates small change in opening and closing prices, the trend ends on 31st March, 2014.

It is clearly shown that there is no abnormal change in the Volume of stock, more than 60 Million stock is traded in the month of January, 2010 which is all time recored in the study period.

The growth of Reliance Industries limited for long term behaviour is negative by -45.5% where the prices moved between Rs.1735.75 and Rs.944.25 and the net change is Rs.-791.5. The average yearly growth rate is above -9% which is pathetic.
4.1.13 Britannia Limited - Long Term Price Behaviour

It is understood by observing the Chart 4.13 which reveals the price behaviour of Britannia Limited for long term during the financial years 2009-14. These flags denote the Candle Patterns which are shown below.

1. Doji (20 Times)
2. Gravestone Doji (1 Time)
3. Dragonfly Doji (3 Times)
4. Hammer (1 Time)
5. Hanging Man (1 Time)
8. Inverted Hammer (3 Times)
Out of the 9 Candle Patterns, Doji is repeated 20 times and Gravestone Doji, Hammer, Hanging Man patterns appeared only one time each. Bearish harami repeats 7 times and Bearish Engulfing repeated for 11 times and Dragonfly Doji, Bullish Engulfing, Inverted Hammer repeated for 3 times each on the candlestick chart.

It is further observed that the candles have small real body and belong to three kinds of trends, Sideways trend twice and Uptrend for one time are formed on the chart. The price movement starts at Rs. 1.5K line moves in rise and falls by the end of June 2011, after the trend small growth in price is observed for few months. In Sideways trend period, the quantity of stock traded is very negligible.

In September 2011, the prices have crashed suddenly below Rs.500 Million line. Then after the trend continue in Sideways trend for more than 3 and half years. Out of the 5 years chart, the prices majorly moved in Sideways trend. All the candles in Sideways trend have small real body where the difference between opening and closing prices of each trading session is very small and hard to recognize the candles formed, many crossovers take place in Sideways trend which gives no input to investor in decision making. Interestingly, during Sideways trend the volume is recorded very high compared to previous trend. The volume touches high point in between two Sideways trends.

Lastly, Uptrend is formed between July, 2013 and March, 2014 with small rise and fall in prices. The Volume has touched 3 million line which is highest point on the chart.

Britannia limited shows the negative growth of -40.4% where the prices moved between Rs.1446.9 and Rs. 860.95 ant net negative change is Rs. 585.95. The annual growth rate is negative above -8%.
4.1.14 Godrej CP Limited - Long Term Price Behaviour

It is observed from Chart 4.14 of Godrej CP Limited for long term during 2009-14, eight Candle Patterns observed on the chart which are indicated with numbers, the Candle Patterns formed are as follows.

1. Doji (21 Times)
2. Gravestone Doji (3 Times)
3. Hanging Man (3 Times)
4. Bullish Engulfing (3 Times)
5. Bearish Engulfing (16 Times)
6. Inverted Hammer (2 Times)
7. Bearish Harami (5 Times)
8. Shooting Star (3 Times)

Out of 8 patterns, Gravestone Doji, Hanging Man, Bullish Engulfing and Shooting Star patterns appeared for 3 times each, Inverted Hammer and Bearish Harami patterns appeared 2,
5 times respectively on chart, Bearish Engulfing appeared for 16 times on the chart which is second highest and Doji appeared for 21 times.

It is further studied that Uptrend has appeared twice on the chart, the price starts from below Rs.200 price line and move in upward direction, the movements of prices are gradually in growth mode. The Moving Average crossovers have taken place for many times in the trend and Uptrend has continued till December, 2011.

Second trend is also an Uptrend, in this trend the price moves very sharply in upward direction, the real body of the candles are little big compared to first Uptrend and Moving Average lines which move in parallel but never crossed each other, it indicates continuous growth in the prices till the trend changes its direction. Even though there are small ups and downs but overall trends are in between two support and resistance level. From July, 2013 onwards the prices moved in Uptrend with ups and downs.

In addition, even the prices moved continuously in Uptrend and there is no considerable change in Volume of the stock in each trading session, only in the month of June, 2012 the volume reached the peak point on the chart.

The price starts at Rs.130.35 and ends at Rs.835.65 and the net change in price is Rs.708.3. The price growth of Godrej is 543% for long term and average annual growth is 108.4% which has a abnormal growth rate in industry.
4.1.15 Hindustan Unilever Limited - Long Term Price Behaviour

The long term price behaviour of Hindustan Unilever Limited is observed on Chart 4.15 for a period of 2009-14 financial years. 7 Candle Patterns are identified on the chart, and they are with colored flags numbered from 1 to 7 which are shown as follows.

Chart 4.15 Hindustan Unilever Limited - Long Term Price Behaviour

1. Doji (16 Times)
2. Gravestone Doji (1 Time)
3. Hanging Man (1 Time)
4. Bullish Engulfing (2 Times)
5. Bearish Engulfing (9 Times)
7. Shooting Star (3 Times)

Out of 7 Candle Patterns, Gravestone Doji and Hanging Man patterns appeared for one time each, Bullish Engulfing, Shooting Star and Bearish Harami patterns appeared 2, 3, 5 times
respectively. The Bearish Engulfing is repeated for 9 times, Doji is appeared for 16 times on the chart.

In addition to the Candle Patterns, Sideways trend and Uptrend are identified on the chart. Price of first week of April, 2009 starts at Rs.233 and continues in Sideways trend till July 2011, it is longest trend on the chart which shows very less growth for the period and all the trading sessions witnessed for small difference in opening and closing prices which result in all candles in the trend have small real body, many Exponential Moving Average crossovers in Sideways trend which will not give any indication to investor in taking decision of buying, selling stock. Other way of taking decision is depended on other patterns or tools.

Immediately after end of the Sideways trend price begins start Uptrend, this upward movement looks very sharp and it starts from below Rs.400 line and touches nearly 0.6K, nearly Rs 150 shoot-up in the prices during August, 2011 to October, 2012. It is further observed that the Moving Average lines never cross among them. Before the Uptrend it is happened but not later, during the Uptrend the Moving Average comes closely but no crossover is taken placed, this scenario gives indications to the investor that there will be increase in the price.

In addition to the trends, the Volume is also equally important, the average volume of the stock is around 10 Million line, few lines crossed 20 Million line and 30 Million line. The volume of 5 sessions crossed 40 Million line which is highest points on the chart.

The price change of Hindustan Unilever Limited is from Rs 233 to 605 in 5 years, results in net change of Rs 372.3. The overall growth is 159.7% and average annual growth rate is nearly 32% which is above average growth rate in industry.
4.1.16 ITC Limited - Long Term Price Behaviour

The ITC limited Chart 4.16 shows the price behaviour for long term which is considered to study during 2009-14 financial years.

Total 9 patterns are identified in 5 years period, these are marked with numbers from 1 to 9, list of the patterns are shown below.

1. Doji (17 Times)
2. Gravestone Doji (1 Time)
3. Dragonfly Doji (1 Time)
4. Hammer (3 Times)
5. Hanging Man (2 Times)
8. Inverted Hammer (1 Time)
The numbers which are shown in the parenthesis is the pattern repeated the number of time on the chart. Out of 9 Candle Patterns, Gravestone Doji, Dragonfly Doji and Inverted Hammer patterns appeared for 1 time each, Hanging Man and Bullish Engulfing patterns repeated for 2 times each, Hammer, Bearish Harami and Bearish Engulfing repeated for 3, 8, 13 times and Doji is appeared for 17 times on the chart.

First, Uptrend is observed for nearly one and half year where it starts from Rs.187 and close at Rs.308 which results in growth more than 60%. Further the price suddenly dropped to Rs 158, which is lower than the starting price.

After this price crash, again prices started moving upward and continued till April, 2013, in the trend the price touched high point of Rs.328 and made a positive growth. The growth rate of particular trend is more than 100% where the price changed from Rs 158 to 328. The stock has lost almost half of its value on the day of 2nd August, 2010 in between two Up trends from Rs.309 to Rs.158.

The prices move in Sideways trend where the chart ends on 31st March, 2014. The entire Sideways trend move between the highest and lowest prices which are Rs.369 and Rs.308.

The Moving Average crossovers are not seen in first Uptrend but there are some crossovers in second Uptrend and Sideways trend, the stock is traded with high volume in the entire chart for long term and touched highest point of 7.64 Million mark.

The price of the ITC Limited starts at Rs.187.15 on 6th April and ends at Rs. 344.75 on 31st March, 2014 and net change in is Rs.157.6. The overall growth rate for 5 years is 84.2% and annual growth rate is 16.84% which is below normal in industry.
4.1.17 HCL Technologies Limited - Long Term Price Behaviour

It is observed the Chart 4.17 of HCL Technologies Limited shows long term price behavior during 2009-14 financial years.

Chart 4.17 HCL Technologies Limited - Long Term Price Behaviour

Five Candle Patterns were identified on the candlestick chart with numbers 1 to 5 which are as follows:

1. Doji (14 Times)  
2. Hanging Man (2 Times)  
3. Bullish Engulfing (2 Times)  
5. Bearish Harami (10 Times)

Out of 5 Candle Patterns, Hanging Man and Bullish Engulfing pattern appeared one time each, Doji, Bearish Engulfing and Bearish Harami patterns repeated for 14, 11, and 10 times respectively.
It is observed that two types of trends are formed, they are Sideways trend and Uptrend. First, the price of HCL Technologies started from Rs.122, moved upward and continued in Sideways trend and ends at June, 2012. The movement of prices in Sideways trend goes on with less variation in the formation of ups and downs, the real body of candles is very small. The Moving Averages lines moved very closely and many crossovers are identified.

Secondly, the Uptrend starts from July, 2012 to July 2013, the Moving Averages are going in parallel way and have not met among them, but from July, 2013 onwards prices moved much sharply in Uptrend. The price starts at Rs.0.5K and reaches 1.5K line, it is observed from the trend, the growth rate is 200% in almost 21 months period of time.

The Volume of the stock moves below 10 Million line. But in more number of sessions the volume moved around 5 Million line the highest point where volume has touched 15 Million line.

In addition to the above, the growth rate of HCL is 1043% for long term where price moved between Rs. 122 and Rs.1397, the net change in the price is Rs. 1275. The average annual growth is 208% which is very abnormal growth in the industry.
4.1.18 Infosys Technologies Limited - Long Term Price Behaviour

It is observed from the Chart 4.18 of Infosys Technology depicts the long term price behavior during 2011-2014 financial years.

Chart 4.18 Infosys Technologies Limited - Long Term Price Behaviour

Eight Candle Patterns were identified on the Candlestick Chart and are shown below with respective numbers.

1. Doji (18 Times)  
2. Gravestone Doji (3 Times)  
3. Dragonfly Doji (2 Times)  
4. Hammer (1 Time)  
5. Hanging Man (1 Time)  
6. Bullish Engulfing (1 Time)  
7. Bearish Engulfing (4 Times)  
8. Bearish Harami (4 Times)
The 8 Candle Patterns belong to three different kinds of categories which are Bearish Reversal Pattern, Bullish Reversal Pattern and Neutral Pattern. Further, Hanging Man, Bullish Engulfing, Hammer patterns appeared for one time each, Bearish Engulfing and Bearish Harami four times each, Gravestone Doji, Dragonfly Doji repeated for 3, 2 times respectively and Doji repeated for 18 times on the chart. Further it is observed that two types of trends are formed on the chart which are Sideways trend and Uptrend.

The Sideways trend started in July 2011 just below 3K price line, the entire Sideways trend has fluctuated in between 3K and 2K lines, the Sideways trend has significant for many Moving Average crossovers which have not given any future price indication to investor to take decision whether to buy or sell stock. The candles have very small real body where less difference in opening and closing price of stock and fluctuation in trend also very meager (low or small).

The second is Uptrend which starts from the month of July, 2013 and ends at March, 2014. It is seen that, a sudden increase in price starts the Uptrend from July, 2013 where no crossovers are seen, prices have lost its value at end of the Uptrend which result in change in the direction of trend.

Further the Volume of the stock moves below 5 Million line. But considerably sometimes, the volume of the stock is above 10 Million line, and the pinnacle point of the volume is above 15 Million line.

It is observed that the overall growth of the stock for long term is 364.75% where price moved from Rs.713.50 to Rs.3316.05 and net change is Rs.2602.55. The average annual growth rate is 72.95% which is a rapid growth rate in the industry.
4.1.19 Tata Consultancy Services - Long Term Price Behaviour

It is observed from the Chart 4.19 Tata Consultancy Services Limited shows the Candle Patterns which appeared on the chart with small flags are listed below.

Chart 4.19 Tata Consultancy Services - Long Term Price Behaviour+

1. Doji (19 Times)
2. Dragonfly Doji (2 Times)
3. Hanging Man (3 Times)
4. Bullish Engulfing (1 Time)
5. Bearish Engulfing (11 Times)
7. Shooting Star (2 Times)

Candle Patterns give price indications to the investor, out of seven patterns 2nd, 3rd and 7th patterns repeated on the chart for 2, 3 and 2 times respectively. Bullish Engulfing pattern seen only once, Bearish reversal patterns, Bearish Engulfing and Bearish Harami appeared for 11 and 10 times respectively which are repeated for maximum number of times. Further the Doji
pattern is seen for 19 times but this pattern is neutral, and cannot give any signal to investor it is called as Indecisive pattern.

Apart from the Candle Patterns, the chart also shows trend of the prices, the Uptrend is observed twice on the chart with different rate of movement in prices. The chart start on 6th April, 2009 just above the 0.5K line and few months later the prices falls, where it is observed with big red colour candle. From here the prices moves continuously Uptrend with rise and falls till June, 2013. It is such a long trend covered over four years of time, in any particular year it shows the positive growth, such a continuous positive growth is observed even though there are many Moving Average crossovers took place, the prices move in Uptrend and as which positive growth is observed.

Last part of chart is from July, 2013 to 31st March 2014, in this period the trend moves in upward direction which is much sharper than previous Uptrend and it shows the growth about 60% just in one month.

It is further observed that even though the trend is continuous Uptrend the volume has not increased in proportionate with price. The Volume movement is quite normal but few sessions show the rise in volume. The average movement of volume is above and below 10 Million line.

The trend started at Rs.602.55 and ended at Rs.2138.85 where the net change in price is Rs.1536, the overall growth rate of Tata consultancy is around 255% for 5 years and annual growth rate is around 51% which is considered to be above normal growth rate in the industry.
4.1.20 Wipro Technologies Limited - Long Term Price Behaviour

It is observed that the Chart 4.20 reveals the long term price behaviour of WIPRO Technologies during 2009-14. Seven Candle Patterns have appeared and shown as follows.

Chart 4.20 Wipro Technologies Limited - Long Term Price Behaviour

1. Doji (18 Times)
2. Dragonfly Doji (2 Times)
3. Bullish Engulfing (3 Times)
4. Bearish Engulfing (7 Times)
5. Inverted Hammer (1 Time)
7. Shooting Star (3 Times)

Out of 7 patterns, Inverted Hammer appeared only one time on the chart, Dragonfly Doji is appeared twice, Bullish Engulfing and Shooting star appeared for 3 times each, Bearish Harami and Bullish Engulfing appeared 6 & 7 times respectively and Doji pattern repeated for 18 times on the chart.
In addition to Candle Patterns, two kinds of trends are observed, twice Uptrend formed on right and left side of the chart and one Sideways trend is observed in the middle of chart. The Uptrend starts from 6th April, 2009 and ends in the month of February, 2011. The Moving Average lines are going up with parallel to support and resistance lines, no crossovers are seen in the trend. 5 days Moving Average crossover 13 days & 26 days Moving Average lines from the above in the month of June, 2010 which result in downfall of prices. The downfall of price is observed with long red candle on the chart, it is the beginning point to Sideways trend. The Sideways trend move on Rs.400 line above and below for the period of June, 2010 to June, 2013 and 5 days Moving Average crossover 13 days Moving Average, 26 days Exponential Moving Averages on the same point below Rs.400 line just before end of the trend in June, 2013. The Volume of the stock is moved below the 10 Million line throughout the session except few sessions cross this 10 Million line and only one session crosses 20 Million line in the month of April, 2013.

Further the behaviour of the stock in Uptrend is very sharp in nature and identified over a period of 10 months. It start from below Rs.400 and ends nearly Rs.600, results in nearly 50% growth rate for 9 months period and no Moving Average crossovers, 5 days exponential Moving Average line is moving parallel to 13 days and 26 days Moving Averages. The volume increased for many trading sessions in Uptrend and, the volume lies between 10 Million line and 20 Million line and it has also touched highest point in this Uptrend.

Finally, the growth rate of the WIPRO for long term is 101.6% for 5 years where the trend starts at Rs.274.45 and ends at Rs.553.4 which result the net change in price is Rs.278.95. The annual growth rate is around 20% which is considerable.
4.2 Short Term Price Behaviour of Select Equities

In this section of data analysis and interpretation on short term price behaviour of select equity are explained using candlestick charts.

4.2.1 Bajaj Auto Limited - Short Term Price Behaviour

The Chart 4.21 represents price behaviour of Bajaj Auto Limited for short term where the trend starts from 1\textsuperscript{st} April 2013 to 31\textsuperscript{st} March 2014.

Eleven Candle Patterns have appeared on the chart numbered from 1 to 11 as shown below.

1. Doji (18 Times)  
2. Bearish Harami (3 Times)  
3. Bearish Engulfing (5 Times)  
4. Hanging Man (3 Times)
5. Bullish Engulfing (2 Times) 9. Inverted Hammer (1 Time)
7. Dragonfly Doji (1 Time) 11. Dark Cloud Cover (1 Time)
8. Gravestone Doji (1 Time)

Among 11 patterns, Bearish Harami, Hanging Man patterns appeared for 3 times each, Bearish Engulfing pattern appeared for 5 times and Shooting Star, Dragonfly Doji, Gravestone Doji, Inverted Hammer, Hammer, Dark Cloud Cover patterns have appeared only once, Doji pattern appeared for 18 times which is highest in number.

The chart also indicates Head & Shoulders pattern appeared twice, the first Head & Shoulders pattern started formation in the month of July, 2013 and ends in the month of Aug 2013, there are four main parts in the pattern which are left shoulder, right shoulder, head and neckline. The head, shoulders of the pattern are formed by successive rise and fall of prices on the chart. The neck line is drawn from bottom of left shoulder to right shoulder which acts as support level and Head & Shoulders pattern is said to be completed when neck line is broken by break out candle.

In addition, three Moving Average lines are identified which are in blue, green, and pink colors, the blue line on the chart represents 5 days Exponential Moving Average, green line depicts 13 days Exponential Moving Average and pink line depicts 26 days Exponential Moving Average. After break out candle the prices have touched the lowest point and then it started to raise slowly, the blue coloured line crosses the green coloured line from the below which indicates the rising of prices in upward movement. Soon after 5 days Moving Average crossovers the 26 days Moving Average from the
below, after that there is no cross over observed in the chart till next Head & Shoulders pattern formed.

The 2\textsuperscript{nd} Head & Shoulders pattern is formed between October and November 2013, after neck line is broken by break out candle, it is clearly observed that there is a downfall of prices in trend where 5 days Exponential Moving Average has crossed the 13 days and 26 days Exponential Moving Average lines from above one after other. The movement of prices has declined up to March-2014 and touched the lowest price point on 1.5 K line, from here the prices recovered and moved in upward direction till end of the chart.

The trend starts at Rs. 1781.3 on 1\textsuperscript{st} April, 2013 and ends at Rs. 2083.6 on 31\textsuperscript{st} March 2014, which indicates the net change in price is Rs. 302.2. The overall growth rate of Bajaj Auto Limited during 2013-14 is 16.97\% which is normal growth rate.
4.2.2 Hero Moto Corporation Limited - Short Term Price Behaviour

Chart 4.22 represents the short term price behaviour of Hero Moto Corporation Limited for the period 2013-14. Six different colored flags show the Candle Patterns numbered from 1 to 6 which are as follows.

Chart 4.22 Hero Moto Corporation Limited - Short Term Price Behaviour

1. Doji (15 Times)
2. Bearish Harami (5 Times)
3. Bearish Engulfing (9 Times)
4. Shooting Star (2 Times)
5. Bullish Engulfing (6 Times)
6. Hanging Man (1 Time)

Out of 6 Candle Patterns, Shooting Star appeared for 2 times, Hanging Man for one time, Bearish Harami for 5 times, Bearish Engulfing for 9 times, Bullish Engulfing for 6 times. The highest number of times repeated pattern is Doji i.e., for 15 times.
It is observed in the chart that two major trends have formed one is Uptrend and other one is Down trend. Uptrend starts in the month of June, 2013 and ends in the month of October, 2013 in the same year with net change of price is Rs. 600. In between the months of October, 2013 and December, 2013 there are fluctuations in the price with many ups and downs, after that it is seen that the formation of Down trend in the month of December, 2013 and ends in the month of February, 2014. From February to the end of financial year 2013-14, the price moves in Uptrend.

The Volume of the chart reached pinnacle point for trading session in the month of September, 2013 and remaining trading sessions were normal on the overall chart.

The trend starts with Rs.533.25 and ends at Rs.2274.8 and net change in the price is Rs.1741. The overall price change for 2013-14 financial years is Rs.1741 which results in the growth rate of 326%. The performance of Hero Motor Corporation limited is excellent.
4.2.3 Mahindra & Mahindra - Short Term Price Behaviour

The Short term price behavior of Mahindra & Mahindra is shown in Chart 4.23 for the financial year 2013-14.

Chart 4.23 Mahindra & Mahindra - Short Term Price Behaviour

Five Candle Patterns are indicated on the chart with different coloured flags and they are shown as below.

1. Doji (13 Times)
2. Bearish Harami (4 Times)
5. Shooting Star (1 Time)
Out of 5 patterns, Shooting Star appeared one time and Doji is appeared for 13 times which is the highest number of times repeated pattern, Bearish Harami, Bearish Engulfing, Bullish Engulfing patterns appeared for 4, 11, 6 times respectively on the chart.

Further it is observed that one Down trend and one Uptrend are formed on the chart. The trend started around Rs.850 and fallen to Rs.800 then it is increased slowly and reached high point. The Down trend is formed between June, 2013 and 1st week of September, 2013 where the prices changed from Rs.980 to Rs.766. Moving Average crossovers appeared in the month of June, 2013 which shows the down trend and after, no crossovers appeared till the end of the Down trend but 5 day Moving Average line comes close to 13 day Moving Average in first week of July, 2013.

In the month of September 2013, 5 days Moving Average crosses the 13 days Moving Average line from below, which indicates the change in the direction of the prices from here the Uptrend starts and ends in the month of December, 2013. The prices fall in month of January, 2014 but ends with in Uptrend only.

The average Volume has recorded below 2 Million line on the chart and few sessions have shown volume above 3 Million line, the average volume is recorded high in between August, 2013 and September, 2013.

Finally, the prices moved in between Rs.857.1 and Rs.980.7, the net change of price is Rs.123.6 which made the growth rate of Mahindra & Mahindra Limited 14.42% for 2013-14 financial years. The growth rate is below average growth rate of industry.
4.2.4 Maruti India Limited - Short Term Price Behaviour

The Chart 4.24 reveals the short term price behaviour of Maruti India Limited for the financial year 2013-14. Seven Candle Patterns appeared which are shown as below.

Out of 7 Candle Patterns, Bearish Harami and Bearish Engulfing patterns appeared for 4 times each. Shooting Star and Bullish Engulfing patterns appeared for 2, 3 times respectively, Hammer and Hanging Man patterns appeared for one time each and Doji pattern appeared for 17 times which is highest in number on the chart.
In the above chart it can be found that there are two chart patterns, one is Down Flag and another is Inverted Head & Shoulders patterns. The Down Flag looks like reverse of up flag and appears normally in the downward movement it gives indication to investor about the falling prices. The prices start falling down from May 20th, 2013 to 13th June, 2013. This sharp fall is indicated with pole and after that the price moves in Sideways trend which is covered with rectangular shape box and is called cloth of the flag. The below line of the cloth is called support line of prices and there is break out candle which crosses the low of the cloth line. From the starting of pole and end of break out candle is called Down Flag. The chart pattern gives indication to investor about falling prices from break out candle. Before break out candle, 5 days Moving Average crosses 13 days Moving Average from above which indicate the fall in prices after that there is no crossovers observed. Here, Investor can take decision to sell the stock completely.

Inverted Head & Shoulder is formed between July and October 2013, the left shoulder of the pattern is small and right shoulder is little stretched towards right side. The neck line is drawn from left shoulder to right shoulder. The neck line is broken by break out candle in the month of October with price gap and there is sudden increase of prices and the volume touched 4 Million line. The Inverted Head & Shoulders pattern is Bullish pattern and showed the price movement towards upside. The average Volume of Maruti has been traded below 2 Million throughout the study period and few sessions, the volume of shares suddenly rose in the month of February which crosses 6 Million line.

The growth of Maruti India Limited for the financial year 2013-14 is 53% where the prices changed from Rs.1283.8 on 1st April, 2013 to Rs.1971.75 on 31st March, 2014. The net change is Rs.687.95 which is rapid growth rate in the industry.
4.2.5 Bank of Baroda - Short Term Price Behaviour

The Chart 4.25 describes the short term performance of Bank of Baroda for the financial year 2013-14 where 6 Candle Patterns appeared on the chart.

1. Doji (17 Times)
2. Dragonfly Doji (2 Times)
4. Shooting Star (2 Times)
5. Bullish Engulfing (3 Times)

Among the above 6 patterns, Dragonfly Doji, Shooting Star and Bearish Harami patterns appeared for 2 each, Bullish Engulfing pattern appeared for 3 times. Bearish Engulfing pattern appeared for 15 times and Doji pattern repeated for 17 times which is highest in number.

The chart also reveals the movement of prices with many ups and downs, where one Up flag & one Down flag is formed. The chart initially starts at nearly Rs.200 mark line, after a
couple of months time downfall of price is observed where the trend made a down flag. Again in the month of October, 2013 the Up flag pattern was formed. It is observed in the chart in mid of may 2013, the prices starts to fall sharply till the 1st week of July, 2013 this sharp fall in price is indicated with pole. In the whole month of July, 2013 the prices moved in Sideways trend this is indicated with rectangular shape box, it is called cloth. The last candle of cloth breaks below line of the cloth which acts as support level. When the support level is broken, the price starts falling down. The break out candle is in red colour and on that day the volume is increased compared to the previous session, here candle pattern is said to be completed where neck line is broken. This Down flag gives sell signal to the investor.

In addition to Down flag pattern, an Up flag pattern is formed in between the month of October and November, 2013. In whole month of October the prices moved sharply upward it is indicated with pole and in the month of November, 2013 the prices moved in Sideways trend where it is covered with rectangular shape cloth and the cloth leans to right side. The upper line of the cloth is resistance level and the length of the cloth is very small. The green colour candle crosses the resistance level which indicates the completion of pattern. As the candle breaks the upper line of the cloth it confirms the movement of prices are in upward direction. Here the Up flag gives buy signal or hold the stock if already bought and ends in Uptrend. The Volume is low in the initial months remaining chart shows the moderate volume which is on par with 4 Million line. Highest recorded volume is in the month of the November, 2013 which crosses the 6 Million line.

The performance of Bank of Baroda for 2013-14 is only 5.26% growth which is very low, as there are many fluctuations in moment of prices.
4.2.6 State Bank of India - Short Term Price Behaviour

The Chart 4.26 of State Bank of India shows the price behavior during 2013-14 financial year. It is noticed that there are 6 Candle Patterns on the candlestick chart of State Bank of India, these candles are marked by small flags with different colors and numbered from 1 to 6. These are given as below:

1. Doji (12 Times)
2. Hammer (1 Time)
4. Bearish Engulfing (3 Times)
5. Inverted Hammer (1 Time)
The Neutral Pattern Doji is repeated for 12 times which is Indecisive pattern appeared on the chart. Hammer and Inverted Hammer repeated for 1 time each, Bullish Engulfing and Bearish Harami repeated for 4 times each on the chart.

In this chart the prices starts from Rs.2090 and moves up and forms a pattern which is called Head & Shoulders. The Head of the pattern is the highest point on the chart then after prices slowly go down where the trend changes the direction. The 5 days Moving Average line crosses the 13 days Moving Average line and 26 days Moving Average line on the same long red candle. The long red candle explains that there is a lot of change in the opening and closing price, that is the reason why the body of the candle is very long. On same day the volume of the stock touched the highest level of 6 Million line. From here the prices slowly comes down for almost 4 months, it is further observed that middle of the chart is significant for price moving in Sideways trend. The price moved between the support and resistance level but, again in the month of January, 2014 price starts falling down sharply, in the month of March, 2014 the price starts to move in upward direction.

The Volume of State Bank of India for short term is monitored throughout the year where it is moving above and below the 2 Million line, but few sessions the volume shoots up to 6 Million line.

The trend started at Rs.2090.6 on 1st April, 2013 and closed at Rs.1917.7 on 31st March, 2014 with a net change of Rs.-172.9, the growth rate of State Bank of India for short term during 2013 - 14 is negative for - 8.27%.
4.2.7 HDFC Bank - Short Term Price Behaviour

The Chart 4.27 shows the short term price behaviour of HDFC Bank during 2013-14 year, 6 Candle Patterns are identified by different color flags with numbers from 1 to 6 on the chart are shown as below:

Chart 4.27 HDFC Bank - Short Term Price Behaviour

1. Doji (10 Times)
2. Hammer (1 Time)
3. Hanging Man (1 Time)
4. Bullish Engulfing (2 Times)
5. Bearish Engulfing (5 Times)
6. Inverted Hammer (1 Time)

Out of 6 patterns, three patterns which are Hammer, Bullish Engulfing and Inverted Hammer belong to Bullish reversal patterns which appeared for 1, 2, 1 times respectively and two patterns Hanging man and Bearish Engulfing belong to Bearish reversal patterns which
appeared for 1, 5 times respectively. Only Doji pattern belongs to the category of Neutral pattern which is repeated for 10 times on the chart.

It is further observed that the chart has shown only Inverted Head & Shoulders pattern, this pattern is formed between July, 2013 and October, 2013. The price started around Rs.600 and moved upward for 2 months and ended above Rs.700. Left shoulder of the pattern is formed with 1st consecutive fall and rise of prices during June & July, 2013 and 2nd consecutive fall and rise of prices indicates the Head of pattern where lowest point is touched on the chart, the right shoulder of the pattern is formed in between September and October, 2013 which is in “V” shape. From the chart, neck line is drawn from top of left Shoulder to right Shoulder which is leaning towards the right shoulder and indicates the resistance level. The point where neck line broken by break out candle show the rise in price. At the point the investor can take decision to buy the stock. The break out candle is in blue colour crosses the neck line on trading day when the volume is increased when compared to previous session, from here prices move in Sideways trend for almost 3 months.

The Moving Average line crossed among them twice in the right shoulder of the pattern. After the break out candle no crossover is seen for small period of time which result only limited increase in prices. Further no Moving Average crossovers are seen between February, 2014 and 31st March, 2014. It is clearly pointed out that volume has fluctuated a lot in the month of September, 2013. Rest of the period Volume is normal.

There is not much difference observed in the prices where trend starts at Rs.623.85 and closed at Rs.748.8 with net change of Rs.124.95 during 2013-14. The growth of HDFC Bank for short is only 20%, which is a normal growth rate.
4.2.8 ICICI Bank - Short Term Price Behaviour

The Chart 4.28 reveals short term price behaviour of ICICI Bank during 2013-14 financial year. There are 6 Candle Patterns appeared which are shown below.

1. Doji (15 Times)
2. Hammer (1 Time)
3. Bullish Engulfing (2 Times)
4. Bearish Engulfing (3 Times)
5. Bearish Harami (6 Times)

Out of these 6 patterns hammer is appeared only one time on the chart and Bullish Engulfing, Shooting Star patterns repeated for 2 times. Bearish Engulfing pattern appeared for 3 times, Bearish Harami is repeated the 2nd highest in number for 6 times. Doji is appeared for 15 times on the Candlestick Chart. Further it is observed that one Uptrend, one Down trend and
Up Flag chart pattern appeared on the chart. In first 5 months period, Uptrend and Sideways trends are formed. Uptrend starts from Rs.1000 line and reached to highest point on the chart where the value is more than Rs.1200. From here prices have come down and touched the lowest point on the chart where the price value is Rs.800. In Uptrend Rs.200 is gained and in Down trend Rs.400 is lost and the overall price lost is around Rs.200.

From February, 2014 onwards prices moved sharply upward, and indicated by pole, then price continues in Sideways trend. This part is covered with small rectangular shape box in such way that maximum closing prices of the candles are covered inside the cloth. The upper line of the cloth acts as resistant line for the trend and it is broken by break out candle in the month of March, 2014 which indicates that the rise in prices, the Up flag pattern is Bullish in nature.

The important aspect of Moving Average lines crosses overs which appeared for the very first in the month of May, 2013 which indicates the change in direction of trend. Second important cross over is in the month of February, 2014. Where 5 days blue coloured Exponential Moving Average line crossovers the 13 days Moving Average green colour line and 26 days Moving Average pink color line from below, it is the confirmation point to the investor to buy or hold the stock. The average Volume of stock traded during the study period is below 5 Million line and in one trading session, it touched the highest point on the chart which is close to 15 Million mark.

The performance of the ICICI Bank for short term is from Rs.1051 to Rs.1245 which shows the growth rate of 18.40%. It is average growth rate in Banking industry.
4.2.9 Gas Authority of India Limited - Short Term Price Behaviour

Chart 4.29 illustrates the behaviour of Gas Authority of India Limited (GAIL) where daily prices are considered, middle part of the chart shows daily price changes in the form of blue and red colored candles. The period of study is observed on top right corner of the chart, below part of the chart shows small vertical lines which indicates the Volume of the stock being traded during every session and 6 Candle Patterns appeared on the chart listed as below.

Chart 4.29 Gas Authority of India Limited - Short Term Price Behaviour

1. Doji (18 Times)
2. Hanging Man (3 Times)
3. Bullish Engulfing (3 Times)
4. Bearish Engulfing (6 Times)
5. Bearish Harami (6 Times)
6. Shooting Star (1 Time)

The number in the parenthesis indicates the pattern number of times repeated on the chart.

Out of 6 patterns, Hanging Man and Bullish Engulfing patterns repeated for 3 times, Bearish
Engulfing, Bearish Harami repeated for 6 times, Doji is formed 18 times which is highest repeated pattern and Shooting star is formed only one time which is formed one time.

In addition to that, there are two kinds of trends and one chart pattern, which are Down trend, Up flag and Uptrend. The chart clearly shows upward movement of prices in the month of April 2013. Prices are going up in Uptrend buying pressure is low because the volume has recorded is low but prices are coming down, wherein Down trend selling pressure is more because the volume has recorded high on the chart.

During September - November, 2013 the Up flag chart pattern is formed, the sharp increased price is represented by pole and small portion of Sideways trend covered with rectangular box is called cloth of flag, the upper line of the cloth is broken by a green candle where the pattern is said to be completed and confirms that there will be rise in the prices.

The Uptrend is formed between November, 2013 and March, 2014 where it starts around Rs.320 and ends around Rs.370, the change in price is around Rs.50 in a period of 5 months. There are many Moving Average line crossovers in Uptrend and Down trend but no buy or sell signal is given to the investor.

It is further observed that every decrease in price puts pressure on stock to be sold which leads to increase in trading Volume of the stock. The volume recorded high on one session each in May and September, 2013.

Finally, the trend started at Rs.321 and ended at Rs.376 the net change is Rs.55. The growth rate of Gas Authority of India Limited for short term is 17% which is below normal growth rate.
4.2.10 Oil & Natural Gas Corporation - Short Term Price Behaviour

From the Chart 4.30, the price behaviour is observed and patterns are recognized to predict the future estimation in movement of prices of Oil & Natural Gas Corporation limited for short term during 2013-14 financial year.

Chart 4.30 Oil & Natural Gas Corporation - Short Term Price Behaviour

The Chart represents 6 Candle Patterns which are shown as below.

1. Doji (14 Times)  
2. Gravestone Doji (1 Time)  
3. Bullish Engulfing (7 Times)  
4. Bearish Engulfing (7 Times)  
5. Bearish Harami (1 Time)  
6. Shooting Star (1 Time)
Out of 6 pattern, Shooting star pattern is appeared one time at the peak of the trend which is a Bearish trend reversal pattern. Doji is Neutral pattern and appeared for 14 times, Bullish Engulfing is Bullish reversal pattern appeared for 7 times which shows the price move upside direction. Remaining patterns are Bearish reversal patterns.

In addition, Down trend and Head & Shoulders pattern are identified on the chart. The Down trend is formed in between May, 2013 and August, 2013 where it starts around Rs.330 and ends around Rs.240 which continued for 3 and half of months. The Moving Average lines crossed among them for 5 times where the ups and downs appeared in Down trend but the overall price movement is in down trend only.

The Head & Shoulders pattern is formed in between November and December, 2013. Though it is Bearish pattern, after the break out candle the prices are not fallen much down and the trend changed its direction and moved upward, the Moving Average lines crossed thrice among them after the pattern and trend ends in upward movement.

The average Volume of stock is traded below the 5 Million line and it has recorded its highest mark above 20 Million line in the month of July, 2013. Remaining time the volume lines are looked very normal.

Oil & Natural Gas Corporation limited has shown its positive growth rate which is very negligible for the financial year 2013-14. The price starts from Rs.308 and ends at Rs.318 and change between opening and closing price of the stock is only Rs.9.85 which made the growth rate to 3.18% which is very low.
4.2.11 Bharat Petroleum Corporation Limited - Short Term Price Behaviour

From the Chart 4.31 of Bharat Petroleum Corporation Limited, 1 to 9 numbers are identified by small flags which are in different color and the numbers give the identification of 9 Candle Patterns during 2013-14. These Candle Patterns are listed as below.

Chart 4.31 Bharat Petroleum Corporation Limited - Short Term Price Behaviour

1. Doji (12 Times)
2. Gravestone Doji (1 Time)
3. Hammer (1 Time)
4. Hanging Man (2 Times)
5. Bullish Engulfing (3 Times)
7. Inverted Hammer (2 Times)
8. Bearish Harami (1 Time)
9. Shooting Star (1 Time)

Among 9 patterns, Some of the patterns will be found during the Uptrend and others are found during Down trend, few patterns won’t give any price indication to investor in such
case investor should wait until further signal. Out of 9 patterns, Gravestone Doji, Hammer, Bearish Harami and Shooting Star appeared only once on the chart and 3 more patterns repeated twice on the chart, they are Hanging Man, Bearish Engulfing and Inverted Hammer. The highest number of times repeated pattern is Doji for 12 times and this pattern is Neutral pattern which never gives any clear indication to the investor to buy or sell.

It is also observed that, one Inverted Head & Shoulders chart pattern and Sideways trend are formed on the candlestick chart. Inverted Head & Shoulders pattern is formed for two months where it starts formation in the month of July, 2013 and ends in the month of September, 2013. The pattern is leaning from left to right side. The neck line is drawn from highest point of left shoulder to right shoulder and the height of the Head from neck line is moderate. The neck line is broken in the month of September, 2013 then the prices began to move in upward direction and here the investor can take decision to buy the stock. Next to that one Sideways trend is formed between the months of October, 2013 and February, 2014 and the variations in prices moved between two horizontal lines which act as support and resistance level. But in the month of February 2014, prices broken resistance level and start rising in upward direction.

The Volume is seen in normal range throughout the financial year 2013-14. But on September 27th, 2013 the volume touched the pinnacle point which is 7.8 Million lines.

Finally Bharat Petroleum Corporation Limited starts at Rs.377 and ends at Rs.460.05 the net change in the price is Rs. 83.05 for short term period. The overall growth rate during 2013-14 is 22% which is above normal growth rate in the industry.
4.2.12 Reliance Industries Limited - Short Term Price Behaviour

The behaviour of prices is studied on the Chart 4.32 for short term period during 2013-14 financial year. The candle trend is formed in the middle of the chart and three different colored lines move along with the candle trend are Moving Averages for 5 days, 13 days and 26 days.

Chart 4.32 Reliance Industries Limited - Short Term Price Behaviour

It is further observed that the chart shows numbers and the same numbers represent Candle Patterns. These patterns are shown as below.

1. Doji (11 Times)  
2. Gravestone Doji (1 Time)  
4. Bearish Engulfing (4 Times)  
5. Inverted Hammer (1 Time)  
7. Shooting Star (2 Times)
Out of 7 Candle Patterns, Gravestone Doji and Inverted Hammer patterns appeared for one time, shooting star for 2 times which belong to Bearish pattern, other patterns like Bullish Engulfing and Bearish Engulfing appeared for 4 times and Bearish Harami repeated for 5 times and lastly Doji is repeated for 11 times which is highest repeated Neutral pattern.

In addition to the Candle Patterns one chart pattern is recognized that is Head & Shoulders on the chart. The Head & Shoulders pattern is constituted of four major important components they are shoulders, head, neck line and break out candle. Head is formed where the highest point in the pattern is seen, two shoulders are made up of second highest points in the pattern and neck line acts as supporting line drawn between two lowest points of the shoulders. Break out candle is important because it breaks the support line by which the pattern is completed. In this pattern break out candle is always in red color. To confirm the completion of pattern, Volume is equally important when the break out candle appears, there must be increased volume compared to previous trading session.

In addition to the above, the Moving Average lines are important, these lines give indication and price moments to the investor, the trend starts from the middle of 0.75K and 0.8K lines and further move in high fluctuations. In the month of July, 2013 it reaches the highest point and comes down from there it starts formation of Head & Shoulders pattern. The trend has changed its direction and move up with fluctuations till end of chart, the trend is in upward movement.

The price trend starts at Rs.778 and ends at Rs.930, where the net change in price is Rs.152. The overall growth rate of Reliance Industries Limited is 19.5% which is good in the industry.
4.2.13 Hindustan Unilever Limited - Short Term Price Behaviour

Chart 4.33 of Hindustan Unilever Limited for short term period during 2013-14 financial year. On the chart 4 different types of activities are observed such as Candle Patterns, price patterns, Exponential Moving Averages and Volume of the stock.

Chart 4.33 Hindustan Unilever Limited - Short Term Price Behaviour

Seven Candle Patterns are identified on the Chart which are shown as follows.

1. Doji (12 Times)
2. Dragonfly Doji (1 Time)
3. Hanging Man (1 Time)
4. Bullish Engulfing (3 Times)
5. Bearish Engulfing (7 Times)
7. Shooting Star (1 Time)
All the 7 Candle Patterns are observed on the chart and categorized in three groups which are Neutral patterns, Bearish reversal patterns and Bullish reversal patterns.

Out of 7 patterns, Dragonfly Doji, Hanging Man, Shooting Star have appeared only one time, Bullish Engulfing, Bearish Engulfing, Bearish Harami patterns have appeared for 3, 7, 6 times respectively. Doji is Neutral pattern which is appeared for 12 times and is the highest in number of repetitions among all patterns.

In addition to Candle Patterns, two trends were identified on the chart one is Uptrend and the other one is Sideways trend. The Uptrend starts from 1st July, 2013 where price is Rs.471 to 23rd July, 2013 price is Rs 718. The results of the trend is more than 50% growth for three and half months period. But in this trend, on 30th April, 2013 sudden price jump is taken place, not only this but also the Volume of stock 20 Million line is almost touched on this day.

The second trend is Sideways trend which is appeared for September, 2013 and March, 2014 period at Rs.677 is the highest point and Rs.538 point is lowest point, the prices move in between these prices. The volume is considerably low compare to previous appeared volume.

Moving Average in second Sideways trend is not important because any Moving Averages will not give the clear information to investor to make decision whether to buy or sell.

The prices move in between Rs.471 on 1st April, 2013 and Rs.605 on 31st March, 2014 and the net change is Rs.134.2 which make the growth rate of Hindustan Unilever limited is 28% which is above normal growth.
4.2.14 ITC Limited - Short Term Price Behaviour

It is observed that the Chart 4.34 shows the performance of ITC Limited for short term during 2013-14. Total 8 patterns are identified on the chart which are listed as follows.

Chart 4.34 ITC Limited - Short Term Price Behaviour


Out of 8 patterns, Gravestone Doji, Dragonfly Doji and Hammer patterns appeared for one time, Hanging Man and Bullish Engulfing patterns appeared for 2 times each, Bearish Engulfing appeared for 7 times which is second highest number of times appeared on chart,
Bearish Harami appeared for 5 times and Doji pattern appeared for 15 times which is highest numbers of times appeared on the chart.

It is also observed one Up flag chart pattern and Sideways trend on the chart. Firstly, the trend of ITC starts just above from Rs.300 line and fell down below Rs.300 line, then starts forming the Up flag. The pole is denoted by the sharp increase in the price where the trend reaches to Rs.354, then price move in Sideways trend with rise and fall, the Sideways movement of prices covered with rectangular shape box in such a way that maximum closing prices should be inside the cloth. Break out candle of the pattern crossed the above line of cloth at Rs.526 then pattern is said to be completed and Bullish in nature. From here prices move in upward direction. In this pattern, the Moving Average line crossovers observed at break out candle pattern, the crossover confirms the price to move upward direction and investor can take decision to buy the stock or hold the stock for maximum profit.

Secondly, the Sideways trend is appeared from September, 2013 to March, 2014 over 7 months of period, the trend has long curvy upward and downward movements in between the price Rs.355 and Rs. 228, the Moving Average line crossovers among them appeared for 5 times in Sideways trend.

The Volume on the chart is recorded very high, its average movement is around 10 Million line and few trading session have recorded high points which are above 15 Million line on the chart.

The trend starts at Rs.307.2 on 1st April, 2013 and ends at Rs.352.85 on 31st march, 2014. The net change in price is Rs.45.65 for short term period. The overall growth rate of ITC Limited is 14.06% which is below average growth rate.
4.2.15 Britannia Limited - Short Term Price Behaviour

The Chart 4.35 shows the performance of Britannia Limited for short term during financial year 2013-14. It shows the identification & significance of the patterns such as Candle Patterns, Moving Averages lines and Volume of stock.

![Chart 4.35 Britannia Limited - Short Term Price Behaviour](image)

Nine Candle Patterns were recognized and are listed as below.

1. Doji (15 Times)
2. Gravestone Doji (1 Time)
3. Hammer (2 Times)
4. Hanging Man (1 Time)
5. Bullish Engulfing (3 Times)
7. Inverted Hammer (1 Time)
8. Bearish Harami (3 Times)
9. Shooting Star (3 Times)
Out of 9 Patterns, Hammer repeated for 2 times, Bullish Engulfing repeated for three times and Inverted Hammer for one time belong to Bullish reversal patterns and Doji repeated for 15 times which is highest in number and is Neutral pattern. Remaining patterns Gravestone Doji and Hanging Man repeated for one time each, Bearish Harami and Shooting Star for three times and Bearish Engulfing for 12 times which belong to Bearish reversal patterns.

In addition, there are two kinds of trends recognized on the chart, first one is Uptrend and second one is Sideways trend. Three different coloured lines i.e., Blue, Pink, and Green lines move along with candles are Exponential Moving Averages for an average period of 5 days, 13 days and 26 days. It also shows the volume line which are on bottom scale of the chart.

In Uptrend, price moves between 0.5k and 0.9 k lines on the chart. The prices in the beginning goes up slowly in the month of May, 2013 and it is found that there is price gap, which is confirmed by the long volume line. There is no drastic movement in the overall Uptrend and the movement is slow till the end of October, 2013. Sideways trend starts from November, 2013 and it is continued till 31st March, 2014. There are many Moving Average crossovers in Sideways trend which cannot give any indication to investor to take decision and the growth in the Sideways trend is negative.

The Volume is taken into consideration, few sessions volume crossed 0.5 Million line and above but in majority sessions volume is closed below 0.5m line.

The trend starts at Rs.527.45 and ends at Rs.843.4 wherein the net change is Rs. 315.95. during 2013-14 financial year, the overall growth rate of Britannia is 59.90% which is great performance in industry.
4.2.16 Godrej CP Limited - Short Term Price Behaviour

The Chart 4.36 of Godrej CP shows the trend for short term during 2013-14 financial year. It shows the Candle Patterns, Price patterns, trends of Moving Averages and volume change.

The Candle Patterns formed on the chart are shown as below.

1. Doji (15 Times)  
2. Bullish Engulfing (4 Times)  
3. Bearish Engulfing (3 Times)  
4. Inverted Hammer (2 Times)  
5. Bearish Harami (4 Times)  
6. Shooting Star (1 Time)

6 Candle Patterns give the price indication to the investor, out of 6 Candle Patterns, Bearish Engulfing, Bearish Harami and Shooting star patterns belong to Bearish reversal pattern which appeared for 3, 4, 1 time respectively, Bullish Engulfing appeared for 3 times and
Inverted Hammer appeared for 2 times which belong to Bullish Reversal pattern. The highest number of times repeated is Doji for 15 times and which is Neutral pattern.

In addition to the Candle Patterns, Inverted Head & Shoulders chart pattern is formed twice on the chart. The first Inverted Head & Shoulders pattern is observed closely and found that the left shoulder is clear in visible than the right shoulder. Height of the head is formed on 0.8K line, the break out candle looks very big and crosses the neck line which confirms the completion of pattern. The 5 days Moving Average crossovers 13 days and 26 days Moving Averages from below which gives indication to investor to buy the stock. The trend almost touched 1K line and changed its direction. The trend instead of going up side it moves in downward direction where 5 days Moving Average crossovers 13 days and 26 days Moving Averages from above which indicates fall in prices.

Next to that, the prices move in Sideways trend between the price levels of 0.8K and 0.9K. in the month of Decembers, 2013. Second trend Inverted Head & Shoulders starts formation in the month of January, 2014 and ends in the month of March, 2014 and the pattern is leaning towards right side of the chart. Left side shoulder is big in size compared to right shoulder. The Head is formed when prices touched the lowest point on the chart. After break out candle the price moves in Uptrend and investor can take decision to buy the stock.

The average Volume of Godrej CP Limited for short term is below 0.5 Million line. The volume crossed 1.5 Million line in one session in the month of July 2013.

The trend starts at Rs.776.9 and ends at Rs.859.35 and the overall growth rate of Godrej Limited is 10.6% for short term during 2013-14 where the net change is Rs 82.45.
4.2.17 HCL Technologies Limited - Short Term Price Behaviour

The Short term price behavior of HCL Technologies Limited is observed in the Chart 4.37 during 2013-14 financial year.

Chart 4.37 HCL Technologies Limited - Short Term Price Behaviour

Seven Candle Patterns are identified on the chart and listed as below.

1. Doji (15 Times)  
2. Hanging Man (1Ttimes)  
3. Bullish Engulfing (3 Times)  
5. Inverted Hammer (2 Times)  
7. Shooting Star (4 Times)

The above 7 Candle Patterns belong to three categories based on their characteristics which are Bullish reversed pattern, Bearish reversal pattern and Neutral pattern. Number in the parenthesis is the number of times the pattern repeated on the chart.
Out 7 Candle Patterns, Bullish Engulfing and Inverted Hammer are belong to Bullish reversal pattern and appeared for 3, 2 times respectively on the chart, Hanging Man, Bearish Engulfing, Bearish Harami and Shooting Star patterns are belong to Bearish reversal patterns appeared for 1, 11, 8 and 4 times respectively. Doji pattern belongs to Neutral pattern repeated for 15 times on the chart.

In addition to that, one Up trend is identified twice on the chart where the first Uptrend starts at below Rs.0.8K line and goes down for few weeks of time and starts upward movement, in the month of July, 2013 the prices accelerate towards Uptrend and touched peak point of Rs.1.2K line and closed above Rs.1000, the net change in the price for this trend is above Rs.200 in 8 months period. The Moving Average lines crossed among them for few times in Uptrend but trend has not changed its direction till November, 2013.

The second Uptrend is stated in November, 2013 and ended in first week of March, 2014, some point of time trend has touched highest point of Rs.1600 in the upward movement and came down to Rs.1390 at the end of March, 2014. The Moving Average lines move side by side and crossed among them for few times.

The average Volume of the stock traded during 2013-14 is observed below 2 Million line and few trading session have recorded the volume nearly 4 Million line. In the month of April 2013, the volume has recorded its highest mark of above 6 Million line.

The trend starts at Rs.788.5 on 1st April, 2013 and closes at Rs 1390.7 on 31st March, 2014. The net change in the price is Rs.602.2 and the overall growth rate of HCL technologies is 76.3% for short term, which is very high growth rate in Information Technology industry.
4.2.18 Infosys Limited - Short Term Price Behaviour

The observations from Chart 4.38 of Infosys Technology limited for short term during 2013-14 are Candle Patterns, Trends, Moving Averages and Volume of stock. The Candlestick Chart shows two title bars on the chart. These bars contains the type of stock, duration and type of indicator and patterns type, along with their time scale indicated on Horizontal line and price is shown on vertical line.

Chart 4.38 Infosys Limited - Short Term Price Behaviour

It is found that there are 6 Candle Patterns identified by a serial numbers from 1 to 6 on the flags. These are as follows:

1. Doji (16 times)
2. Bullish Engulfing (2 times)
3. Bearish Engulfing (2 times)
4. Inverted Hammer (1 time)
5. Bearish Harami (8 times)
6. Shooting Star (3 times)
Out of 6 patterns Bullish Engulfing which is repeated for 2 times and Inverted Harami onetime which belong to Bullish reversal pattern. Bearish Engulfing, Bearish Harami and shooting star are Bearish reversal patterns identified for 2, 8 and 3 times on the chart. Doji is Neutral pattern appeared for 16 times.

In addition to the above patterns, two trends are observed, one is Sideways trend and the other is Uptrend. The prices start at just below 3K line on 11th April, 2013 a few days later the prices falls down below 2.5K line and there is price gap which is shown with empty spaces and a long red candle is appeared, which indicates there is lot of selling pressure and is confirmed by variation in the volume.

The Volume shows high record value of more than 10 Million line after that the volume becomes normal and the trend continuous in Sideways trend in between two support and resistance lines, the trend begins to move towards the resistance line and breaks this line in July, 2013 with price gap again an empty space is formed on the chart.

The price gap starts the Uptrend when it moves continuously in upward direction the Infosys shows continuous growth in this period. The Moving Average lines cross among themselves for 4 times in Uptrend then the trend ends in February, 2013. In the last month of the financial year, the trend shows full in the price which is shown by Moving Average cross over and price gap in trend which is clearly observed on the chart.

The price starts at Rs.2944.2 and ends at Rs.3282.8 where the net change in price is Rs.338.6. The overall growth rate of Infosys for short term is only 11.5%, which is below the normal growth rate in industry.
4.2.19 Tata Consultancy Services Limited - Short Term Price Behaviour

Chart 4.39 reveals the behaviour of prices of Tata Consultancy Services for short term during financial year 2013-14.

Six Candle Patterns are identified in this short term study. These candles are numbered from 1 to 6 and the same is shown below

1. Doji (17 Times)
2. Hanging Man (1 Time)
3. Bullish Engulfing (3 Times)
4. Bearish Engulfing (9 Times)
5. Inverted Hammer (1 Time)

The above Candle Patterns are divided into three categories based on their characteristics. Out of 6 Candle Patterns Doji pattern belongs to neutral pattern which appeared for 17 times,
Inverted Hammer has occurred for one time whereas Bullish Engulfing repeated for three times, these two belong to Bullish reversal pattern. Further Hanging Man, Bearish Engulfing and Bearish Harami belongs to Bearish reversal pattern which are repeated for 1, 9, and 8 times respectively on the chart.

Apart from the Candle Patterns chart patterns also appeared they are Head & Shoulders and Uptrend. The Uptrend starts at 1.5K line with small candles move to downward side for April, 2013 but Volume of the trading period is very high which is indicated below of the chart. At the end of April, 2013 price start moving upward and ends in the month of October, 2013. It is continued for 6 months period. Few Moving Average crossovers appeared on the chart before July, 2013 and no Moving Average crossovers appeared after July, 2013. It gives indication to investor to take decision to buy the stock and the average volume of stock in the Uptrend is below 2 Million line.

Next to that, Head & Shoulders pattern is formed in the month of October, 2013 to February, 2014. Left shoulder is formed in between October, 2013 and November, 2013 and right shoulder is formed in between February, 2014 and March, 2014 with the consecutive fall and rise in prices. The neck line touches the two below points of shoulders and break out candle breaks the neck line, where the pattern is be completed.

Before break out candle there are Moving Average crossovers. This crossover gives indication to the investor to fall in the prices. During this pattern period of study, the Volume of stock is below 2 Million line and little session of volume crosses 3 and 4 Million line also.

The trend starts at Rs.1556.85, ends at Rs.2133.15 and the net change in Rs.576.3, the growth of the Tata Consultancy Services for short term is 37% which is above normal growth.
Chart 4.40 shows the short term price behaviour of Wipro technologies Limited during year 2013-14 where 9 Candle Patterns formed which are listed below.

1. Doji (18 Times)  
2. Dragonfly Doji (2 Times)  
3. Hammer (1 Time)  
4. Hanging Man (2 Times)  
5. Dark Cloud Cover (1 Time)  
7. Bearish Engulfing (9 Times)  
8. Bearish Harami (7 Times)  
9. Shooting Star (3 Times)  

In the above list, the number in the parentheses shown against each pattern is the number of times repeated on the chart. Out of 9 patterns, Dragonfly Doji, Hammer and Bullish Engulfing belong to Bullish reversal pattern and appeared for 2, 1, 2 times respectively and Doji is a
Neutral pattern appeared for 18 times, remaining Hanging Man, Dark Cloud Cover, Bearish Engulfing, Bearish Harami and Shooting Star belong to Bearish reversal patterns and appeared for 2, 1, 9, 7 and 3 times respectively on the chart. Apart from the patterns, the trend of the prices are also observed, this price trend starts at Rs.431 on 1st April, 2013 comes down near to Rs.340 then moves in Sideways trend for few months, volume of the stock in this period is below 5 Million line only three sessions come close to 5 Million line mark but not crossed.

The second trend is Uptrend where it started around Rs.340 and move towards up and ends around Rs.500 the growth rate in Uptrend is more than 60% in 8 months of period. It is a good performance but, the Volume of stock is still normal below the 5 Million point. Moving Average line travels in Uptrend sometimes closely among them, sometimes away from each other and few places they crossed among them.

The growth recorded for this short term is 26% where the net change is Rs.112.2 which is the difference of Rs.431 and Rs.543.2 the growth rate is considered to be above normal to invest in the stock.

Conclusion:

This Chapter covers the data analysis of the selected 20 companies for long term and short term separately where it clearly constructed Candle Patterns, and established the Price Patterns, Exponential Moving Averages and Volumes of the equity that is traded where daily and weekly prices are considered, which has given a clear understanding about the utility and reliability of the Candlestick Charts in prediction of the upcoming trend of equity and the results are explained in a detailed way.