Study of Chart Patterns and Tools

Kedar V. Bhide

Asst. Prof. At Svkm's Narseemonjee College of Commerce and Economics, Vile Parle, India

Abstract

Stocks are considered as a fabulous category of financial instrument. Over the last few decades, the common person's interest in the stock market has grown exponentially. This demand coupled with advances in technology which has opened up the markets so that nowadays nearly anybody can own stocks. For earning good amount of returns from the stock market, study of stock price behaviour becomes indispensable. This paper includes study of charting tools for the purpose of predicting the continuation or reversal of market / stock trend.

KEYWORDS: Charts, Technical analysis, Candlestick charts, Charting tools

INTRODUCTION

Predictability of stock prices has been one of the most important issues in financial analysis. The relevance of the past prices of a stock to forecast its future price is a subject of controversy among academicians and professionals. One school of thought of Efficient Market Hypothesis Model (EMH) believes that stock prices are not predictable. It believes that a change in the price of a stock is the result of new information accessed by the market players. Another school of thought of fundamental analysis believes in long term investment, it ignores minor and short term fluctuations in the market and concentrates on the intrinsic value of shares for finding out the best stocks to buy for long term investment. On the other hand, technical analysis argues that stock prices tend to follow certain patterns and these patterns can be used to forecast future prices. This paper includes study of different chart patterns and tools used to predict the future stock movement.

REVIEW OF LITERATURE

Price marks territory as it spikes relative highs and lows within all time frames. A succession of lower lows and lower highs recognize downtrends while up trends print a sequel of higher highs and higher lows. As bulls and bears strive for control, chart pattern are born. Journey of these price actions is portrayed and visualized in the form of charts. There are mainly four types of charts that are used by investors and traders. Categorization of the charts depends upon the information that users are seeking and their individual skill levels. Line, bar, candlestick and point and figure chart are four types of charts available. Among all the types of charts, candlestick charts are widely used as they show the range of stock movement with the daily point values like opening price, high price, low price and closing price. Thus candlestick chart differs in the way that it has better ability to enable readers to understand price actions. The basic purpose of all types of charts is to study price and volume actions of a stock and to project market trend, its strength and its reversal point to take trading decisions prudently. Thus Chart pattern study discovers several buying and selling opportunities based on interpretation of strength and momentum of turnover and trend.

According to Morris Gregory L (2006) candlestick charts are more useful than line or bar charts as these charts reveal price -chart patterns in depth to forecast trend continuation and trend reversal of a market.

Furthermore, Tiong Leslie C.O., Ngo David C.L., and Lee Yunli (2013) emphasize the use of candlestick patterns to produce the investment signals of buying and selling. According to them predicting the candlestick position is more reliable also it provides information for investment strategy.

Arnold Curtis M (1993) stated that, market cycles, support and resistance, and trend lines are useful to find out the best time to trade gainfully

Lundstrom Christian (2013) discussed unconventional strategy of opening range breakout with the help of a candlestick or OHLC charts. According to him, opening range breakout returns are uncorrelated with other strategies such as going long as well as trend following strategies; also he claimed that the opening range breakout profitability is allied to intraday volatility. Consequently, the opening range breakout strategy should be used in combination with volatility filters.

Mikula Patrick (2002) also proved alternative use of technical chart, according to him charts can be used for trading decisions also they can be used for drawing of patterns and trend lines He studied Andrews' trendline methods and claimed to have this method, higher correlation to market movements than any other trend line methods.

Chootong Chalothon and Sornil Ohm (2012) proposed that technique of combining chart patterns and indicators outperforms the use of traditional trading methods based on indicators, across multiple stocks and time periods. In his study, he considered five stocks from different sectors of the Stock Exchange of Thailand for a time span of 2003 to 2010.He tested his theory by evaluating results of candlestick patterns in a combination of EMA, Bollinger Band, MACD,OBV, Stochastic Oscillator, RSI.

OBJECTIVES OF STUDY:

1. To study different types of chart patterns and tools with their formation techniques.
2. To understand the opinion of chart users about charting patterns and tools in respect of recognition of chart patterns as well as validity, timing and profitability of buying / selling signals.

RESEARCH METHODOLOGY

Source of data:

Both primary and secondary source of data have been used for preparation of research paper. Data is sought from active traders and experts. Furthermore secondary data is incorporated after referring various books and journals.

In case of primary data, only those respondents' questionnaires are processed further whose experience in stock market is minimum five years.

Sample technique and size:

Primary data is collected with the help of questionnaire and sample size is fifty by following Convenience Sampling technique.

TYPES OF CHARTS

Chart is a graphical presentation of price and volume behaviour of a security. Chart is a medium of communication for technical analysts. Exercise of trend forecasting based on past performance is hardly possible without the help of charts. It also facilitates the application of trading tools, indicators, etc. for better understanding of price-volume behaviour. Based upon the repeated behaviour of price data trend lines, support resistance levels can be used also some typical chart patterns of continuation and reversal of trend can be studied for deciding buying and selling price levels of a trade. The chart can be of four types: line chart, bar chart, candlestick chart and point and figure charts. In case of line chart, only the line joining all closing prices is formed on a chart. Line chart does not give information of market fluctuation between high, low, opening and closing prices. In the bar chart, market fluctuation between high, low, opening and closing prices are visualised. However, it seems difficult for chart reader to understand and interpret the chart information. Candlestick chart is assumed to be a best chart which offers market fluctuations vividly also it helps to understand market sentiments based upon different types of candles. Point and figure chart removes time element and gives better visualisation of market trend. However it is difficult to interpret for novice chartists in comparison to the other charts.

CHART PATTERNS

Chart patterns can be categorised into continuation and reversal chart patterns. Continuation Chart Patterns give confirmation of resuming the existing trend after a phase of consolidation. Whereas reversal chart patterns give confirmation of reversal of existing market trend.

Continuation Chart Patterns:

Continuation chart patterns get develop after the consolidation phase of a stock. In consolidation phase, market shows volatile and range bound behaviour. It moves in a particular trade channel. Breakout signal from continuation stage is a signal of resuming trend which is given by continuation chart patterns. Among all continuation chart patterns, Triangles, Rectangles, Flags and Pennants are widely used.

Bulkowski Thomas (2005) also mentions that Triangle pattern can be symmetrical triangle, right angle ascending or descending triangle. Symmetrical triangle is sometimes known as the Coil. In Symmetrical triangle pattern, at its inception there is a wide gap between the lines which narrows gradually. This shows narrowing trade channel i.e. the range in which stock moves. At its culmination point, both lines meet and prices moves out and resumes the existing trend with good momentum. In case of the right angle ascending triangle, first line remains flat, i.e. at 90^0 and other line moves from below to the level of the flat line. Gap between two lines narrows successively, which shows decrease in range of fluctuations. Finally, both lines meet each other and price breakouts the pattern and crosses flat line and moves up. Mirror image of ascending triangle is descending triangle where the first line is slanting going from upper level to below to meet second line which is flat i.e. at 90^0. Gap between two lines narrows successively, which shows decrease in range of fluctuations. Finally, both lines meet each other and price breakouts the pattern and crosses flat line and moves downward.

Rectangles are formed as a result of battle between two groups of bulls and the bearers of approximately equal strength. In this pattern, prices move up and down between two parallel lines which show consolidation or sideways movement. Rectangles can be broken by upward or downward price movement which was prevailed before the consolidation. However, crossover signals should be studied more closely and diligently to avoid trading on false signals. In case of Flag pattern, two lines are parallel to each other like a rectangle but the difference is these lines are sloping upward or downward in a direction. Breakout of prices from a flag pattern generates resuming of upward or downward trend again. Pennants are similar to the flag, except pennants having two lines which move to intersect each other with narrowing gap between them. At the intersection point of pennant or even before, prices break the pattern and resume their trend with crossover signal.

Reversal Chart Patterns

Reversal patterns are the patterns which are the result of price movement typically occurred at the time of reversal of trend. Head and Shoulder Top, Double Tops, Triple Tops, Rising Wedge and Reversal Day Top are the some of the patterns which are widely noticed and studied by Chartists. In case of Head and Shoulder Top, price creates three tops having middle top at a higher level than other two tops. After completion of third top, prices moved below the neckline and complete the pattern. It is expected that prices will fall to the extent it was already moved to its highest peak of middle top from its neckline. The neckline is a line which joins beginning and end points of all three tops. In Double top patterns, price actions create pattern like capital M. Price generates a signal of a double top formation when prices move below the neckline. It is expected to go prices below the neckline to the extent it was already moved up to form the peak. Triple Tops are rarely seen in the charts. Basic difference between Head and Shoulder Top, and Triple Top is in case of triple tops all tops are on the same level with minimum difference in its peak levels. On the parallel line, all these patterns have mirror images in bear trend which show the opposite movement. These patterns are Head and Shoulder Bottoms, Double Bottom patterns, Triple Bottom patterns, etc.

CHARTING TOOLS

Along with the chart patterns study, there are many tools available which are used for recognition of market sentiments like trend line, trade channel, support resistance levels etc. Trend line is a technical tool which can be used to recognize the trend. Trend lines can be uptrend line or downtrend line. Uptrend line is the line which is drawn by joining lowest prices traded during a given period of time. This line is slanting and moving upward by intersecting lowest price levels in a given period of time. If current price moves below the uptrend line, it is called as Penetration signal which is a signal to sell a particular stock. In case of the downtrend line, highest prices traded are joined and the trend line is formed. This line is slanting and moving downward by intersecting highest price levels in a given period of time. If current price moves above the downtrend line, it is called as Breakout signal which is a signal to buy a particular stock.

Support and resistance levels are simply price levels at which price movement should stop and reverse direction. Support/resistance (S/R) levels are price levels which tend to act as a floor or a ceiling to future price movements. Repeated price actions enable chartists to draw support and resistance levels for understanding the future course of price actions. The support level is a price level at which sufficient demand exists to at least temporarily halt a downward movement in prices. A line joining preceding major market tops can be drawn which acts as a support when the market moves down. It means Support line shows previous repeated price levels at which market had topped earlier. In bearish sentiments, when prices move down, at Support line, prices are likely to remain stable and join the uptrend back. Likewise at resistance level, upward movement comes under pressure. At resistance level, upward movement faces resistance to move further.

Thus in bullish sentiments, when prices move up, at Resistance line prices are likely to stand stable and join the downtrend back. Support line of downtrend becomes the resistance line of Uptrend and vice versa. Support and Resistance lines give indication of a possible trend reversal. If support line is broken with sufficient volume, price moves into new territory and is expected to move down to next support level. In the same way, if resistance line is broken with sufficient volume, price enters a new territory and is expected to move up to the next resistance level.

FINDINGS, DATA ANALYSIS AND INTERPRETATION

In addition to the secondary data collected from various books, journals and websites, primary data is also retrieved from the fifty respondents with the help of questionnaire to understand their experience in using different chart patterns and trading tools.

In the questionnaire, data on 5 points likert scale has been sought for the following statements as they appeared in the questionnaire

6A Chart patterns get repeated in future.

6B Formation of chart patterns depends upon the charting period

6C Candlestick charts give better representation of market sentiments than other traditional charts.

6D Buying /selling signals generated through chart patterns and tools are easily noticeable.

6E Study of chart patterns and tools is not sufficient for taking investment decisions.

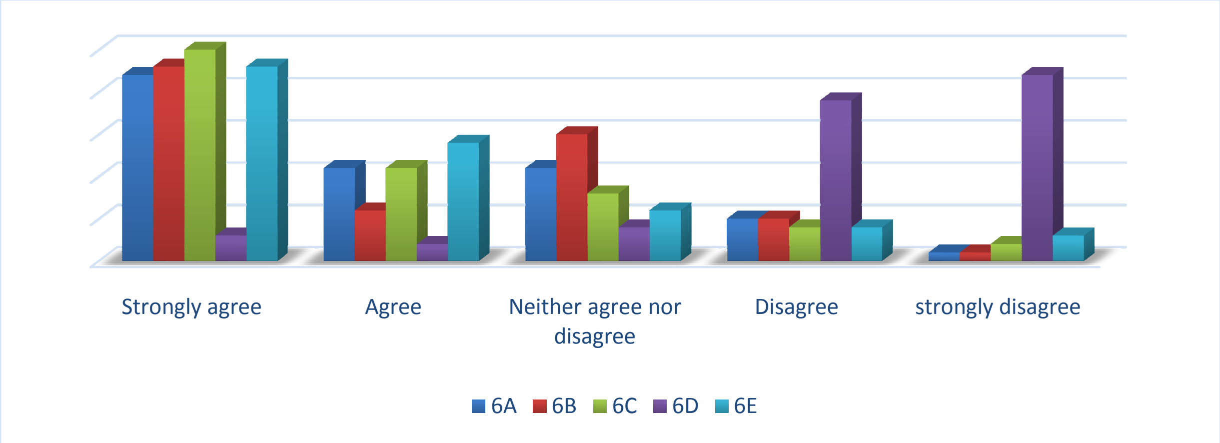
After collection of duly filled questionnaires, tabulation and coding is performed and following output sheet is generated for data interpretation.

Table No. I Frequency Distribution Table

Ranking / statements	6A	6B	6C	6D	6E
	Number of respondents				
Strongly agree	22	23	25	3	23
Agree	11	6	11	2	14
Neither agree nor disagree	11	15	8	4	6
Disagree	5	5	4	19	4
strongly disagree	1	1	2	22	3

Total	50	50	50	50	50
Median	4	4	4.5	2	4

Chart no. I SURVEY RESULT



Findings:

Except for the statement of "Buying /selling signals generated through chart patterns and tools are easily noticeable" (appeared at 6D number), for all other cases majority of the respondents agree with all the statements. Their scale of agreement is revealed with higher reading of median value with higher frequency of agreement as strongly agree or agree with the given statements.

Analysis and interpretation

1. Stock price movement is circular in nature. Stock prices run from peak to bottom and to peak again. This circular movement makes repetitive price behaviour because of which chart patterns get repeated in future.
2. Formation of chart patterns depends upon the charting period. For a weekly chart of a particular stock, it might be a triangle formation. However at yearly chart stock may give us a picture of double top formation. Hence the period for which chart is to be used plays important role in identification of chart patterns.
3. Candlestick charts give better representation of market sentiments than other traditional charts as these charts include intra day information of stock like day's opening, high, low and closing price.
4. Buying / selling signals generated through chart patterns and tools depend upon identification of chart patterns. If chart patterns are wrongly identified, the results will get affected. There is a probability of giving false signals by chart patterns and tools on account of delayed or wrong recognition of patterns. Moreover chart patterns are lagging indicators as they produce a signal of buying or selling a particular stock only after completion of chart formation. Sometimes this may result into late entry or exit in a particular stock. In the market, timing of entry and exit playsa vital role. Wrong timing or delayed entry or exit have negative impact on profit of a transaction. Furthermore market sentiments depend upon change in global clues, government policies and fundamentals / quarterly results of a company.

Henceforth study of chart patterns and tools alone is not sufficient to earn better rate of returns in the long run.

Conclusions:

On the basis of study of different chart patterns and tools, following conclusions can be drawn:

1. Among all types of charts, candlestick chart is widely used and give better representation of market data.
2. Chart readers are advised to use modern technical and fundamental tools along with chart patterns for early entry or exit in the market at better competitive price.
3. There is a need to have a Stop Loss policy for buying or selling a particular stock on the basis of charting techniques to avoid false breakout situation.
4. Larger the period of a chart, better is a visualisation. Probabilities of failure to recognise trend continuation or trend reversals are less in yearly chart in comparison to monthly, weekly or intraday charts. Hence chart readers are advised to follow the larger picture of stock movement to understand long term market sentiments.

References:

1. Arnold Curtis M (1993).*Timing the Market: How to Profit in Bull and Bear Markets with Technical Analysis*. Probus Publishing Co.
2. Bulkowski Thomas (2005). *Encyclopedia of Chart Patterns*. (Second Edition) New Jersey. John Wiley & Sons, Inc.pp 360-381
3. Chootong Chalothon and Sornil Ohm (2012).Trading Signal Generation Using A Combination of Chart Patterns and Indicators. *International Journal of Computer Science* Issues, Vol. 9, issue 6, no 1.pp 202-209
4. Lundstrom Christian (2013). *Day Trading with Opening Range Breakout Strategies*. Research Paper Retrieved December 29, 2014 from christianlundstrom.com:http://www.christianlundstrom.com/2013/08/28/day-trading-with-opening-range-breakout-strategies-2/
5. Mikula Patrick (2002). *The Best Trendline Methods of Alan Andrews and Five New Trendline Techniques*. Mikula Forecasting Co. pp 90-96
6. Morris Gregory L. (2006). *Candlestick Charting Explained* (Third Edition). McGraw-Hill Publication. pp 1-22
7. Tiong Leslie C.O., Ngo David C.L., and Lee Yunli (2013). Stock Price Prediction Model using Candlestick Pattern Feature. *International Journal of Interactive Digital Media*, vol 1(3), pp 3-7. Retrieved November 19,2014 from magicx.my : http://magicx.my/ijidm/wp-content/uploads/2013-1-3-10-leslie.pdf