presentation of price and volume behavior of a security. The chart can be of four types: line chart, bar chart, candlestick chart and point and figure charts. 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. Charts also facilitate the application of trading tools, indicators, etc. for better understanding of price-volume behavior. Based upon the repeated behavior of price data trend lines, support resistance levels can be drawn and used. Furthermore some typical chart patterns of continuation and reversal of trend can be studied for deciding buying and selling price levels of a trade.

3.8.1 Trend lines

Prices tend to move because of imbalance between supply and demand. When the supply of a stock is greater than its demand price goes down. If this scenario remains continuous, price movements form Downtrend. On the other hand, if demand of a stock is greater than its supply, prices go up. The continuity of this scenario forms uptrend. Furthermore, if supply and demand forces remain nearly equal market moves in sideways. For successful entry and exit positions, there is a need to know trend which prevails in the market. **(Mikula Patrick, 2002)** 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 price levels of a given period of time. This line is slanting and moving upward (from left to right) 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 (from left to right) 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.

3.8.2 Support and Resistance Levels

Support and resistance levels are simply price levels at which price movement are supposed to stop and reverse the 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 enabl chartists to draw support and resistance levels for understanding th future course of price actions. The support level is a price level a 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 Resistance level is a price level at which sufficient supply exists to at least temporarily standstill upward movement in prices. A line joining previous major market bottoms can be drawn which acts as a resistance when the market moves up. It means the resistance line shows previous repeated price levels at which market had bottomed earlier. 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 a 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.

3.8.3 Continuation Patterns

In consolidation of stock prices, market moves nowhere but remains range bound and volatile. Consolidation patterns show that market halts for a while; possibly it consolidates and then resumes the current trend. Henceforth study of consolidation patterns come under Continuation patterns. Triangles, Rectangles, Flags and Pennants are the Continuation patterns widely seen in the charts. Triangle pattern can be symmetrical triangle, right angle ascending or descending triangle. **(Bulkowski Thomas 2005)**Symmetrical triangle is sometimes known as the Coil. It is formed by a succession of price fluctuations, each of which is smaller than it's previous. It results in a pattern which is captured in a down slanting and up slanting line. At beginning point, these lines have gap showing space within which prices fluctuate. This gap narrows successively, which shows a range of fluctuation is decreasing and

finally both these lines meet each other which form triangle pattern. At this point or earlier than the point of intersection of these two lines, prices breakout the pattern and resume their current trend. 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 prices breakout the pattern and cross flat line and move 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 prices breakout the pattern and cross flat line and move 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. 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.

3.8.4 Reversal 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 of same level with minimum difference in its peak levels whereas in case of Head and Shoulder Top middle top is at higher level.

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.

3.9 TECHNICAL INDICATORS: CONCEPT AND CATEGORIES

Recognition of chart patterns is a scholarly work. It requires skill as well as experience which may enable users to ride on the trend of a market in most of the situation. However wrong judgment of chart patterns or late detection of chart patterns does not profit the users, moreover it sometimes results in heavy losses. This problem is resolved by technical indicators. Technical indicators are the byproducts of price actions. **(Penn David, 2009)** Indicators add additional information to the analysis of securities for generating buying and selling signals. Broadly indicators serve three intensive tasks: to alert, to confirm and to predict. If the trend is dwindling, a momentum indicator exhibits loss of momentum and probable price reversal. If the trend is getting mighty and market is moving in motion, trend following indicator assures the situation. Whereas if price movement is unwarranted in divergence or prices have overreached extreme higher or lower level, oscillators predict trend reversal by giving divergence signals or overbought / oversold indications.

Indicators spawn crossover as well as divergence signals. If disagreement between the indicator and price occurs, it generates divergence signals. The divergence in an uptrend occurs when price makes a higher high, but the indicator does not make a higher high. In a downtrend, divergence occurs when price makes a lower low, but the indicator does not make a lower low. Divergence signals are the early birds who chatter before sunrise that means they indicate the trend reversal before it actually happens. However the main problem of divergence indicators is indicators remain silent in specifying the degree of disagreement between the indicator and the price which is to be considered as a point of confirmation for trend reversal. In other words, it depends upon skill, experience, opinions or perceptions of users to assume the certain degree of divergence is sufficient to trade

as per the indicators. This gives scope for mixed decisions in respect of recognition of accurate time and degree of divergence for confirmation of signals. This problem is resolved by crossover signals generated by indicators. These signals take place when price line or signal line of indicator moves exterior or interior by crossing a defined indicator line /zero line /overbought or oversold line. The main benefit of these signals is that there is no scope of subjectivity for recognition of these signals. Hence uniformity of signaling can be achieved. **(Stevens Leigh, 2002).**

There are different categories of technical indicators as follows:

3.9.1 On the basis of timing of signal delivering

Leading indicators precede price movements, giving them a prognostic quality. Leading indicators measure speed of change in the price actions and can record when the price actions are slackening down or rushing up. Leading indicators give signals prior to the time of actual price movements. For instance, if the price of a particular stock briskly rises and then begins to slow, a leading indicator registers this variation in momentum and therefore gives indication that the chosen security is due for a reversal. Early signals for entry and exit are the main benefit of leading indicators. Leading indicators generate a lot of signals and a lot of opportunities to trade. Early signals also can act to forewarn a possible strength or weakness in trend. With early signals there is the prospect of higher returns and with the higher returns chances of greater risk increases. Frequently occurred leading signals generate the odds of false signals or whipsaws. False signals or whipsaws increase the latent losses. They may eat away profits and dampen trading stamina.

On the other side, lagging indicators are mostly accustomed for ensuring what the price action has done, like whether or not the price action developed trend or still locked in a range. These indicators are known as Lagging indicators as they lag behind the price action. Usually indicators which are used for divergence become leading indicators whereas indicators that generate signals after actual price movement become lagging indicators. Some indicators generate divergence as well as crossover signals. Therefore, it's equally vital on the part of users to pick the leading or lagging trading plan suggested by the same indicator. One of the most common advantages of lagging indicators is that they play safely by remain waiting for prices to move in either direction.