of market. This market behavior shows resemblance in chart patter
over the decades, which deploy same pictures as noticed earlier.

Technical analysis includes four basic theories which are up
some extend integrated with each other and also include systemat
inquiry of price-volume behavior. These are Dow Theory, Elliott Wav
Theory, Fibonacci numbers and Gann angles.

3.4 DOW THEORY

Dow Theory was derived by Charles H. Dow (1851–1902). He
was a founder and first editor of the Wall Street Journal. He stated the
Dow Theory in Wall Street Journal editions. However, his theory was
not named and represented collectively. After the death of Charles H.
Dow, William Peter Hamilton, Robert Rhea and E. George Schaefer
collectively represented Dow theory based on Dow's articles. Dow
Theory is based on following six doctrines **(Robert D. Edwards,
John Magee and W.H.C. Bassetti, 2001)**

3.4.1 The market has three trends

Stock price behavior has three movements: major, medium and
minor movements. The major movement is also called as primary
movement or primary trend. It may last from a year to several years
with bullish or bearish sentiment. Medium movement is also called
as Secondary reaction/ trend or intermediate trend/ reaction. It may
sustain for some months. During this period, generally market moves
in the opposite direction of the primary trend between 33% and 66%
of the movement made in the primary trend. Minor movements, i.e.
Minor trends or fluctuations are short swings which persist for a trading
day/hours. These three movements may be simultaneous, for example,
a daily minor movement in a bullish secondary reaction in a bearish
primary trend. These Primary, Secondary and Minor trends are also
called as Ocean's tides, waves and ripple as primary trend and secondary
movements are occurring and formed by minor trends of price actions.

3.4.2 Market trend has three phases

According to Dow Theory, market trend is composed of three
phases. In case of the bull market, in the first phase, few investors are
actively buying particular stocks. Number of investors actively buying
particular stocks is very small; hence stock prices do not increase

rapidly. Other investors who are in the majority have not yet started accumulating these particular stocks henceforth first phase is normally accompanied by small volume. Eventually the market enters in the second phase, the performance of the companies starts improving in the noticeable manner which attracts a larger base of investors. This phase is also called as a public participation phase. This phase is generally the longest lived phase of the market. In this phase, prices adjust and readjust their levels with reference to the improvement of business conditions and increase in corporate earnings. The third and final phase of a bull market has some unique appearances. In the third phase of the bull market, major trend is generally punctuated by frequent sharp reversals. However, in this phase after sharp reversals, stock prices recoup the lost ground and confirm the bull run at new highs. Eventually at the end of the third phase of bull run, after a downfall, stock prices fail to achieve expected rebound and do not create new highs. In this market condition, smart investors start liquidating their holding in anticipation of the beginning of a bear market.

Dow theorists recognize three phases in a bear market too. Occurrence of the first phase of bear market can be indicated in the later period of the third phase of the bull market when stock prices do not create new highs after the downfalls. In the first phase of the bear market after a long down trend, there are price retracements which make prices up, but theses retracements do not touch the earlier highs of the market. The second phase of a bear market is possible to be a lengthy. In this phase primary down trend is punctuated at uncertain intervals by sharp up movements which may sustain for some months. In this second phase of a bear market, stocks recover a considerable part of the previous slump. In this second phase, recessionary condition and decreased earnings are the common situations. In this phase the majority of investors make panic selling, which makes market further down. A third and final phase of the bear market is difficult to recognize, however, it can be judged with stability in economic and political conditions where recession phase is about to get over and demand for products started increasing. With the help of technical clues, this phase can be judged when downtrend is accompanied by small volume; market refuses to discount the prices further in the face of bad news. In this phase, stock prices remain stable and start to

form a long consolidation pattern. This gives a signal of the of the bear market. Thus, according to Dow Theory in bull as as in a bear market, trend undergoes three phases.

3.4.3 Market discounts all news

According to this proposition, stock prices register the piec information once it becomes available. After the release of news, st prices are changed to mirror this new information. This doctrine of theory is similar to the theory of EMH.

3.4.4 Market averages must confirm each other

No valid signal of change in trend can be generated unless mar averages (indices) confirm each other. In other words, if one ind makes a new high over its previous peak, but other index does not ri at similar or nearby scale, then divergence is occurred which giv non-confirmation of an uptrend. Thus the two indices should be movi in the same direction to confirm the existing trend.

3.4.5 Trend is confirmed by volume

Volume (turnover) sanctions market trend. According to th theory, when stock prices move in motion with low volume, it show weakness in trend and market can reverse anytime whereas when prices move on larger volume it shows major junk of market players actively participating and following the direction of stock movement. This gives confirmation of market strength of the current trend.

3.4.6 Trend exists until decisive signals evidence that it is ended

Dow believes that major market trend withstands until its pivotal move confirms its reversal. The theory assumes that market sustains the current trend with some reversals and volatility, but ones prices turn decisively trend reverses and new movement begins. This assumption of Dow Theory is challenged by numerous market experts and researchers who believe that this assumption makes Dow Theory and ultimately Technical analysis equivocal in nature.

Although Dow Theory faces criticisms, it is considered as a core theory of Technical analysis, which facilitates the study of chart patterns and indicators with numerous trading strategies.

3.5 ELLIOTT WAVE THEORY

Ralph Nelson Elliott developed Elliott Wave Theory. Elliott published his theory in the book The Wave Principle in 1938. He proposed that market prices moved in specific patterns, which he called as Elliott waves. According to Elliott, stock price movements follow the major trend consisted of five waves' pattern which is followed by corrective trend of three waves. According to the theory, chart patterns are the results of investors' collective psychology. Chart patterns are shaped at every point of price movement and time scale. Prices always travel in either "impulsive phase" or "corrective phase".

Impulsivephase consists of five waves' pattern, and Corrective waves are of three waves' pattern. Waves 1, 3, and 5 are impulses, and waves 2 and 4 are smaller which retrace waves 1 and 3. Motive i.e. impulsive waves always move with the trend, while corrective waves move against it. Thus Elliott Wave Theory interprets market actions in terms of repeated price arrangements. **(Dash and Patil, 2009)** In case of the bull market, wave 1 moves upward, at the end of wave 1, wave 2 begins which moves in the opposite direction, i.e. it corrects the movement of wave 1 but never extends beyond the starting point of wave 1. Volume during wave 2 is lower than the volume in wave 1. Generally during wave 2, prices do not retrace more than 61.8% of movement of wave 1 as per the series of Fibonacci numbers. At the end of wave 2, prices move upward, which form wave 3. It is usually the largest and most dominant wave in a trend. Wave 3 is often extended the journey of wave 1 by a ratio of 1.618:1 as per the series of Fibonacci numbers. Wave 4 is corrective in nature. It retraces wave 3 less than its 38.2% as per the series of Fibonacci numbers. At the beginning of wave 5, prices again reverse their direction in the line of wave 1 and 3. But in a comparison of wave 3, movement of prices in wave 5 is not supported by good number of volume. In the fifth wave some technical indicators start showing divergence signals. After the completion of five waves' pattern of bull market, corrective trend of three waves' pattern instigates.

First corrective wave which is known as wave A of a bear market is difficult to recognize as the end of five waves' pattern and beginning of corrective trend is to be confirmed reliably. In case of wave B, prices again resume uptrend but the volume during wave B is lower than the volume in wave A. In third wave C, with

higher volume prices move down. Generally wave C often reach up to the 1.618 times of the length of wave A or beyond as per t series of Fibonacci numbers.

3.6 FIBONACCI NUMBERS

Fibonacci numbers are the numbers which are generated by t pattern of 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610 e where each number in the order is given by the sum of the precedi two numbers. Furthermore, by dividing one number in the sequen by the next the resultant ratio begins with common fractions of 1, 0. 0.667, 0.6, 0.625, 0.615, 0.619, 0.618...... Thus, at last, ratio remai constant at 0.618. Alternatively if onė changes the order of numbe for calculating ratio, it remains constant at 1.618. This constant rati is called as Golden Ratio. **(Omotehinwa T. O and Ramon S.O, 2013**

3.7 GANN ANGLES (WWW.WIKIPEDIA.COM)

W.D Gann described the use of the angles in the stock marke in the book called "The Basis of My Forecasting Method" in 1935 On the basis of time and price into proportionate parts, he designed the series of angles in which prices move or retrace back. Angles can be either drawn rising from price bottoms or falling from price tops. According to Gann, the most important angle is 1x1 or the 45⁰ angle which is also called as Gann angle. According to him, "one unit of price for one unit of time" It means one point per day is movement; this is depicted in angle 1x1. Other important angles were the 2x1 (moving up two points per day), the 3x1, the 4x, the 8x1, and the 16x1. All angles drawn together förm Gann fan. According to Gann, when the trend is up and the price stays above a rising angle without breaking below it, the market is in a strong up trend, whereas when the trend is down and the price remains below a falling angle without breaking above it, the market is in the down run.

3.8 CHARTS AND TECHNICAL TOOLS

Technical analysis makes an attempt to know future trend, its direction, strength and probable extent (in terms of price level and time scale) up to which trend is likely to sustain. It is a study of past behavior of price and volume actions of a security for discerning profitable entry and exit positions with the use of a chart. Chart is a graphical