

ASSIMILATING MULTIPLE CANDLESTICK PATTERNS AND TREND INDICATORS FOR FINANCIAL MARKETS

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Abstract

Candlestick is the oldest and purest form of analysis and assumption. Candlestick patterns, their recognition and understanding their trends and trend reversals are an important part of financial markets. Understanding candlestick dissolution and its applications in financial market and other business is also important. What is the source of origin of candlestick? How have they evolved over time and what is their application and usability in today's world? This paper talks about formation of candlestick patterns, their importance, application, trend reversal indications in the market with respect to market trend. Understanding the patterns helps in understanding the present trend of market and indications of trend reversal helps in deciding the future course of market. This can be applicable in business scenario also as understanding market trend helps in charting the future course of action, which leads to growth or fall of the company. Predictions arising out of candlestick patterns, can be used in the market to carry on with a strong conviction.

Keywords- Analysis, Trend Reversals, Time.

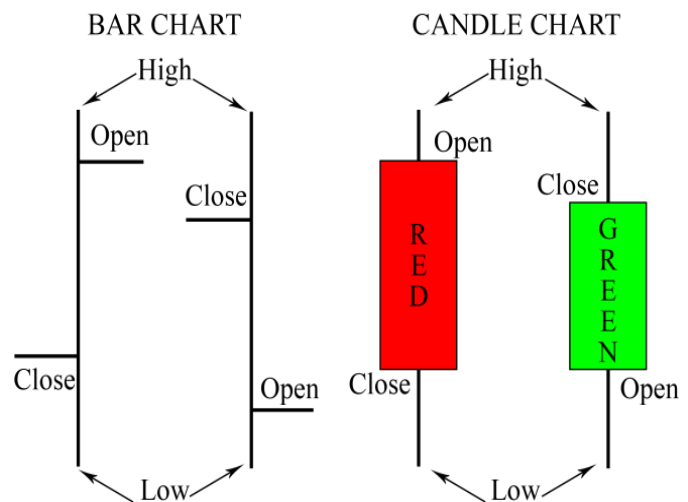
History of Candlesticks

Candlesticks find their origin far back in the 17th century in rice trade. Japanese rice trader Munehisa Homma (aka Sokyu Honma), is widely credited for early exponents of technical analysis. US however started using the charts in 19th century. Michael Fenny, head Technical Analyst, Sumitomo, began using candlesticks regularly.

Western world used bar charts for charting the markets until late 1980s. Bar chart displays time along the horizontal axis and price on the vertical axis; each bar

represents a set time (e.g., a day, a week, or a month).

Candlesticks use the same guiding principles and represent price levels as bar charts (i.e., open, high, low, close), but



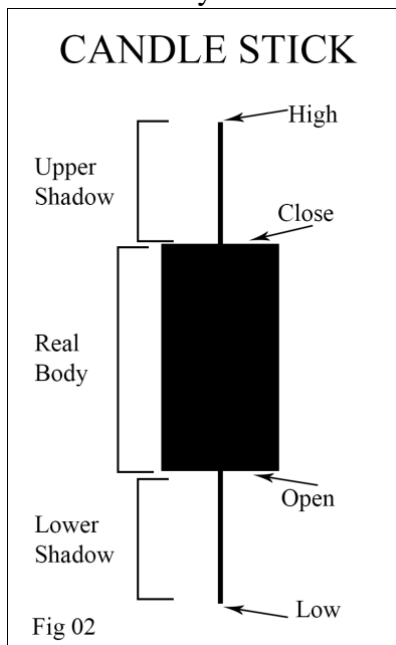
display the data in a different way (Fig 01).

People set price and form the chart. Technical analysis is simply a study of human psychology and behavior.

Introduction

Candlesticks are graphical representation of price movement that shows the markets thinking and sentiment. Analysis of candlesticks reveals any changes in the thinking and sentiment of the market that may be unfolding.

Candlesticks have a particular anatomy. As seen in figure (Fig. 01), candle sticks are of different color depending on whether market has closed above or below the opening. The thick part in the middle is the real body.



Difference between the top of the real body and high is known as upper shadow (or upper wick).(Fig 02)

Difference between the bottom of the real body and low is known as lower shadow (or lower wick). (Fig 02)

A green candlestick is formed when close is higher than open. This represents that there were more buyers as compared to seller. In market terms, it was a bullish day.

A red candlestick is formed when close is lower than open. This represents that there were more sellers as compared to

buyers. In market terms, this was a bearish day.

If noticed carefully, there is a line all the way down the middle of candlestick representing the day's range. The Japanese call it as the "kage" or the shadow line.

Red is a lucky color in Japan. Japanese traditionally used red candles for bullish days and black candles for bearish days.

As a thumb rule is that solid blocks are bearish candles, whereas real bodies that are light of color are bullish candles. This may be of help in case you come across candlestick charts in black and white only.

Common accepted custom in candlestick analysis is

Open < Close = bullish = light in color = open real body.

Open > Close = bearish = dark in color = filled real body.

Technical analysis is a study of human psychology. So understanding the psychology of patterns helps in understanding the trends. In simple terms, market is a battle between the buyers and the sellers split in two distinct groups namely the bulls and the bears. Understanding the psychology of the bulls and the bears helps in analyzing the market. Market is the collective mass of people who are trading or investing in any particular instrument.

Objectives

1. To understand patterns, concepts and origin of candle sticks.
2. To recognize candlestick indication's importance and benefits with respect to trend reversal.
3. To distinguish between candlestick patterns with respect to market trends.

Research Methodology

Researcher has used books and online references to collect the data required for the research. From the secondary data, researcher has tried to explain candlestick analysis and achieve objectives of the research.

Concept

Candlestick is graphical representation of price movement with respect to markets sentiments and emotions. Candlestick chart is a kind of financial chart used to plot price movement of a commodity, metal, security or currency. It is charted in Bar chart format. Bar chart displays time along the horizontal axis and price on the vertical axis; each bar represents a set time period (e.g., a day or a week or a month); for example a one-month daily chart may show 21 trading days as 21 candlesticks. One Year weekly chart may show 52 trading weeks as 52 candlesticks and a 10 minute chart may show 6 candlesticks in one hour i.e., one candlestick for every 10 min.

Pattern Recognition and Interpretation

Pattern recognition is the key of technical analysis. Look for recurring patterns and assume that price patterns repeat themselves. Hence, similar behavior will occur after these price patterns when they occur in the future.

Single Candlestick Pattern

Marabuzo

Marabuzo also known as Marubozu or “formed with only two

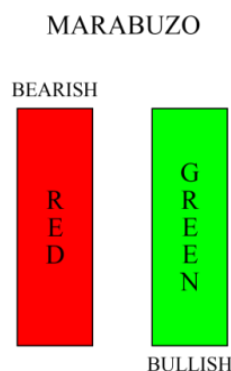


Fig 03

prices” is a candlestick with a long real body and very little in the way of shadows. Marabuzo is the Japanese word for “shaven head” (Fig 03).

Bullish Marabuzo is a day in favor of the buyers: a big open candlestick.

Bearish Marabuzo is a day in favor of sellers: candlestick made up of filled real body.

This is the purest form of continuation pattern and assumption can be made that the market will carry on in the same direction after such a strong conviction.

Doji

Candlestick with no (or a very small) real body is known as a Doji. (Fig 04)

Doji is a strong reversal pattern. In a bull market, if you suddenly get a doji day this means bulls are equal by bears and trend is about to change and vice versa.

DOJI

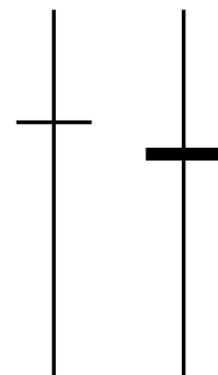


Fig 04

Gravestone Doji

Candlestick with no (or a very small) real body at the bottom of the candle, leaving no lower shadow and a long upper shadow is known as Gravestone Doji. (Fig 05). It is a

GRAVESTONE DOJI

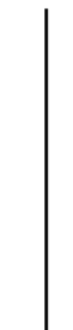


Fig 05

strong bearish reversal in an uptrend market.

Dragonfly Doji

Candlestick with no (or a very small) real body at the top of the candle, leaving no upper shadow and a long lower shadow is known as Dragonfly Doji (Fig 06). It is a strong bullish reversal in a downtrend market.

DRAGONFLY DOJI

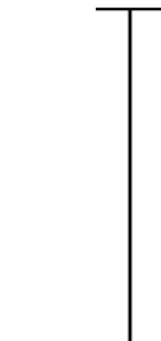


Fig 06

Rickshaw Man

Rickshaw Man is a reversal pattern with no (or a very small) real body very close to the middle of the candle, having equal upper shadow and lower shadow. (Fig 07). It is a reversal pattern in an uptrend and a downtrend market.

RICKSHAW MAN



Fig 07

Hammer

Hammer is small fathead with a long tail. This pattern looks like its name hammer (Fig 08).

Hammer is a single candle reversal pattern formed in a

HAMMER

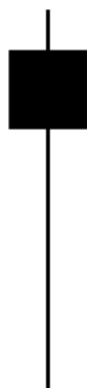


Fig 08

downtrend market with a real small body and very small or no upper shadow. Lower shadow is at least twice the size of real body. Color of this pattern is not important. This pattern represents a bullish reversal.

Hanging Man

Hanging man is small real body with very small or no upper shadow and a long lower shadow (at least twice the height of real body). It is a strong bearish reversal pattern formed in an uptrend market. Color of the body is not important.

As the name describes, it can never be a bullish pattern as a man can never be happy being hung upside down.

HANGING MAN



Fig 09

Inverted Hammer

Inverted hammer is bullish reversal pattern in a downtrend market with small real body at the bottom end. Long upper shadow should be at least twice the height of real body. Very small to no lower shadow.

INVERTED HAMMER

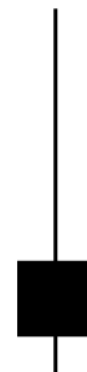


Fig 10

Color of the body is not important.

Shooting Star

Shooting star is a bearish reversal pattern in a uptrend market with small real body at the bottom end. Very small or no lower shadow. Long upper shadow should be at least twice the height of real body. Color of the body is not important.

SHOOTING STAR



Fig 11

Two Candlestick Pattern

Bearish Engulfing

Bearish Engulfing appears in an uptrend market. Bearish Engulfing is a two-candle pattern. First candle has open real body in line with the Bull trend and second candle has a filled real body that surrounds the real body of the first. Size and position of the shadows on either candle does not matter. This marks reversal of the trend.

BEARISH ENGULFING

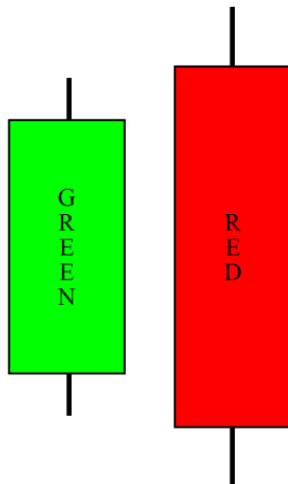


Fig 12

Bullish Engulfing

Bullish Engulfing appears in a downtrend market. Bullish Engulfing is a two-candle pattern. First candle has filled real body in line with the Bear trend and second candle has an open real body surrounding the real body of the first. Size and position of the shadows on either candle does not matter. This marks reversal of the trend. This is exactly opposite of Bearish Engulfing.

BULLISH ENGULFING

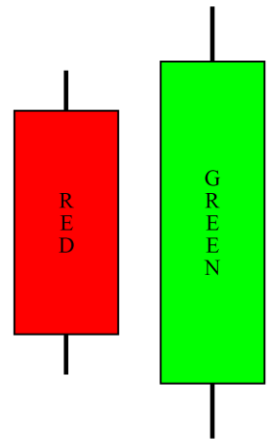


Fig 13

Dark Cloud Cover

Dark Cloud Cover is bearish reversal pattern in an uptrend market with two candles. First candle has open real body in line with bull trend and second candle has a filled red body with a higher gap at open. Second candle covers the body of the first candle. This pattern forms in an uptrend market.

DARK CLOUD COVER

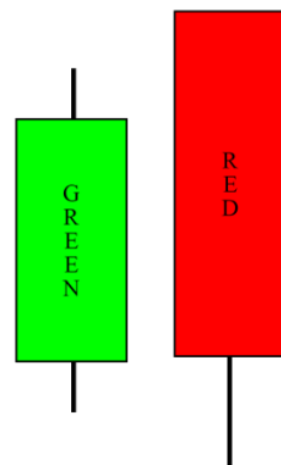


Fig 14

Piercing

Piercing is bullish reversal pattern in a downtrend market with two candles. First candle has filled real body in line with bearish trend and second candle has a open real body with a lower gap at open. Second candle covers the body of the first candle.

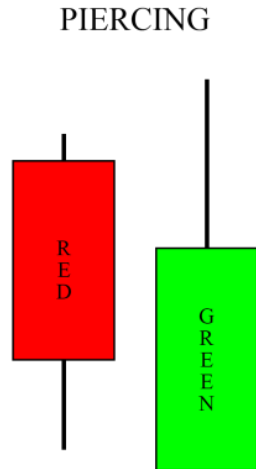


Fig 15

Bullish Harami

Bullish Harami is bullish reversal pattern in a downtrend market with two candles. First candle has filled real body in line with bearish trend and second candle has a open real body that is contained in the filled real body of the first candle. Shadows of either candle do not matter as this construction is about

BULLISH HARAMI

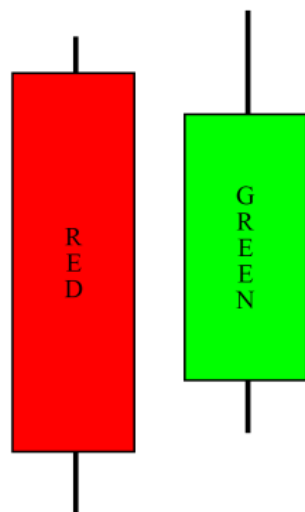


Fig 16

real bodies.

Bearish Harami

Bearish Harami as the name suggests, it is a bearish reversal pattern in an uptrend market with two candles. First candle has open real body in line with uptrend and second candle has a filled real body that is contained in the open real body of the first candle. Shadows of either candle are of no concern as this construction is about real bodies.

BEARISH HARAMI

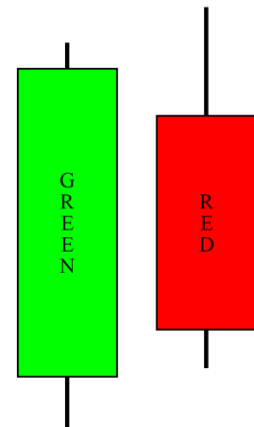


Fig 17

Bearish Star

Bearish star is a bearish reversal pattern in an uptrend market with two candles. First candle has open real body in line with bull trend and second candle has a small real body that gaps away from first candle's real body. Color of second candle is not important.

BEARISH STAR

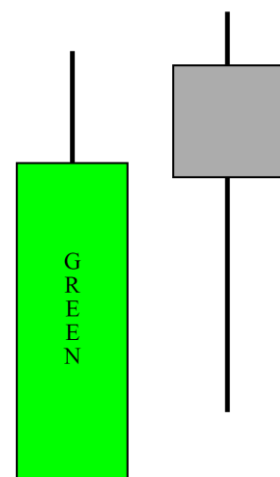


Fig 18

Bullish Star

Bullish star is a bullish reversal pattern in a downtrend market with two candles. First candle has filled real body in line with bear trend and second candle's small real body opens lower that gap away from first candles real body. Color of second candle is not important.

BULLISH STAR

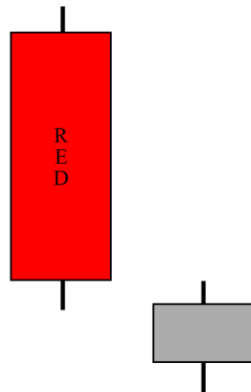


Fig 19

Three Candlestick Pattern

Evening Star

Evening star is a bearish reversal pattern in an uptrend market with three candles. First candle has open real body in line with bull trend; second candle has a small real body that gaps away from first candles real body. Color of second candle is not important. Third candle has a filled real body that closes well with first candles real body.

EVENING STAR

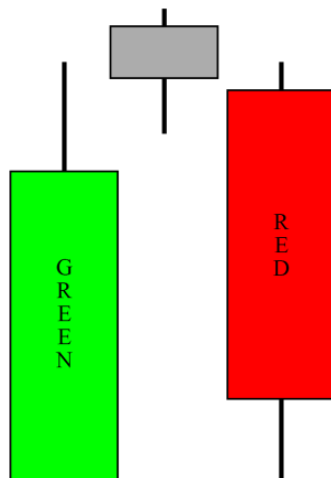


Fig 20

Morning Star

Morning star is a bullish reversal pattern in a downtrend market with three candles. First candle has filled real body in line with downtrend; second candle has a small real body that gaps lower away from first candles real body. Color of second candle is not important. Third candle has an open real body that closes well into first candles real body.

MORNING STAR

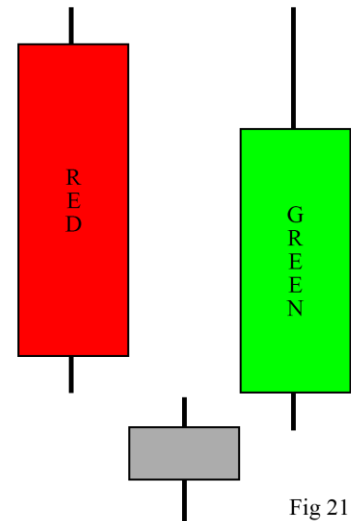


Fig 21

Findings

Researcher feels that candlestick acts as market trend indicators helps in determining trend reversals. Researcher analyzed that single candle patters like Marabuzo, Doji, Gravestone Doji, Dragonfly Doji, Rickshaw Man, Hammer, Hanging Man, Inverted Hammer, Shooting Star are easier to understand and recognize in the charts compared to two candle patterns. Two candle patters however are more convincing and give strong trend reversal signals. These patterns are more convincing and reliable. Researcher recognized Bearish Engulfing, Bullish Engulfing, Dark Cloud Cover, Piercing, Bearish Harami, Bullish Harami, Bearish star, Bullish star patters. Researcher also emphasizes on three stick patters, their

occurrence and importance. Researcher identified Evening star and Morning star as three candle patterns in candlestick. Candlestick patterns application is however not limited to financial markets. It helps in analyzing trend in business scenario, precious metals, commodities, forex, etc.

Conclusion

1. Patterns formed by Candlestick.

Researchers in this paper explore in concepts of candlesticks, formation of patterns, their trend indications and trend reversals. Researchers reconnoitered following patterns and discussed about formation, importance and trend reversal indicators of such patterns individually.

Single Candlestick Patterns

- a. Marabuzo
- b. Doji
- c. Gravestone Doji
- d. Dragonfly Doji
- e. Rickshaw Man
- f. Hammer
- g. Hanging Man
- h. Inverted Hammer
- i. Shooting Star

Two Candlestick Patterns

- a. Bullish Engulfing
- b. Bearish Engulfing
- c. Dark Cloud Cover
- d. Piercing
- e. Bullish Harami
- f. Bearish Harami
- g. Bearish star
- h. Bullish star

Three Candlestick Patterns

- a. Evening Star

- b. Morning Star

2. Candlestick indication's importance and benefits with respect to trend reversal. Benefits of Candlestick in light of Trend Reversal.

Researcher felt that understanding the patterns and their meaning helps in formulating future strategies of trading and business. Researcher has explained the patterns, their formation, along with their current trend and trend reversal indications of candlestick. Researcher felt that trend reversal indications helps to understand emotions of the market and future trend of the item (commodity, currency, stock, forex, metals, etc.), as when these indications appear they reveal future trends. Researcher feels that looking at the chart and patterns, understanding them and predicting future trend depends on the individual viewing it. Identifying patterns when formed, interpreting their meaning with respect to current trend and predicting future trend by the individual is very important as misinterpretation may lead to losses. Researcher experienced that indications when misinterpreted leads to predictions in wrong direction, i.e., trend opposite to the actual trend indicated by the patterns, which leads to huge financial losses in forex, commodities, security market, metals, etc.

3. Comparison of Candlestick Patterns

Researcher analyzed that it is obvious to get confused with patterns as most of them look similar, it is important to remember the difference between the patterns formed and current trend of the market, commodity, metal, forex, etc., at the time of pattern formation in-order to make correct predictions and plot future course of action. Patterns like shooting star and

inverted hammer, hammer and hanging man look similar when formed but market trend at the time of formation of these patterns is different. Shooting star is formed in a bullish market and indicates beginning of a bearish trend where as inverted hammer is formed in a bearish market indicating trend reversal from bearish to bullish. Similarly, hammer is formed in a downtrend market indicating beginning of a bull trend and hanging man indicates beginning of a bearish trend and is formed in an uptrend market. Researcher noticed that understanding and identifying single stick pattern is much easier when compared to multiple candlestick patterns. Whereas multiple candlestick patterns like Bullish Engulfing, Bearish Engulfing, Dark Cloud Cover, Piercing, Bullish Harami, Bearish Harami, Bearish star, Bullish star, Evening Star and Morning Star are difficult to identify. However, multiple candlestick patterns are more convincing and give strong trend reversal signals. These patterns are more reliable for long-term strategies than single candlestick patterns.

Suggestions for further research

Researcher feels that more research needs to be made to understand multiple candlestick patterns, volume, moving averages, support, resistance, and their effect in trend reversals. Researcher felt that industry applications of candlestick analysis can be explored further. Further to this we

may expect some new changes to follow in the near future. Two candle patterns however are more convincing and give strong trend reversal signals. Two candle patterns are more convincing and reliable than single candle.

1. Multiple Candlestick Patterns and trend indicators in financial markets.
2. Scrutinizing market trends with respect to volume and moving averages in light of candlestick.
3. Investigating support and resistance with respect to candlestick.

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