



TECHNICAL CHARTING OF IOCL SHARES USING JAPANESE CANDLESTICK PATTERNS

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Introduction

“The technical approach to investment is essentially a reflection of the idea that prices move in trends that are determined by the changing attitudes of investors toward a variety of economic, monetary, political and psychological forces. The art of Technical Analysis, for it is an art, is to identify a trend reversal at a relatively early stage and ride on that trend until the weight of the evidence shows or proves that the trend has reversed” (Pring, 2002). Technical Analysis is a method of evaluating securities that involves a statistical analysis of market activity like price and volume. Here the intrinsic value of the shares is not used as an analytical measure. An array of forecasting techniques like chart analysis, pattern recognition analysis, seasonality and cycle analysis to name a few are used in this. Instead the use of charts and other technical tools to identify patterns are used as the criteria to make investment decisions. The late 1900s marked the advent of various expectation models of Technical Analysis like Teynor and Ferguson (1985); Brown and Jennings (1989); Grundy and McNicholas (1989); Blume, Easley and O’Hara (1994); behavioural models by De Long et al (1991); Shleifer and Summers (1990) and agent based models by Schmidt (2002) to mention a few. One such pattern used by traders and investors alike across the globe is the candlestick, which helps to make appropriate buying or selling decisions. Candlestick application originated from the Japanese style of carting for over a century prior to the bar, point and figure analysis developed by the West. In 1700s, a Japanese futures merchant Homma who identified an emotional influence of the traders over the supply and demand functions of any said commodity. Homma’s contribution laid the foundation for the candlestick analysis, to measure the market emotions affecting a stock. Further honed by Charles Dow in 1900, it is used to find out the importance of the price action, market fluctuation and expectations of traders and investors.

Candlestick Pattern – An overview

Candlesticks are an excellent way to measure market sentiments as a major tool in the investor’s toolbox. It is a style of financial chart used to describe price movements of securities, derivatives or currency, where each candlestick typically represents each day of the trading session, where a one month chart shows twenty days as twenty candles. Candlestick is a very important tool used by technical analysts as it provides a unique chance to analyse the stock by sending useful trading signals not available in bar charts. The en-masse reactions of investors to situations make it conducive for the candlestick chart analysis to become feasible. The late 1999-2000 marked the advent of a host of new investors, armed with computers, on-line trading accounts, savouring the buying and selling flavour of the dotcom outburst. A candlestick chart marks a security’s price movements and offers an efficient way to gauge investor sentiment (www.investopedia.com)

The candlesticks represent the relationship between open and close price information. The candlestick has a wide part called its “real body” which represents the range between the open and close of the day’s trading. Each bar captures the four important data points for the respective time period, namely open, close, high and low, which reveal the strength of the movement of the stock market for the day, with a possibility to predict the next day movement too. It has an uncanny way of identifying the tops and bottoms of every move, and candlestick patterns are a blend of major and small tops and bottoms.

Hollow/white/green candlesticks indicate buying pressure as the closing price is higher than the opening price. A white candlestick has “Yang Lines” and is also called as “Yo- Sen”. A black candlestick has “YinLine” and is also called as “In-Sen”. A famous Japanese proverb says “The first hour of the morning is the rudder of the day”, and so the operations of any trading day act as the rudder and give away the initial clues to the traders and investors for the day. Filled/black/red candlesticks indicate selling pressure as the opening price is higher than the closing price. A long body implies that there was intense buying/selling pressure, whereas a short rectangular body implies that there is little price movement and consolidation. Long hollow candlesticks denote that the market is dominated by aggressive buyers, hinting at bullish trends, whereas long filled candlesticks signify a seller aggressive market, market by bearish trends, leading to fast price decline. A resistance put up by the traders or investors is normally interpreted as a panic situation or capitulation. Just above and below the real body are the “shadows” often referred as the “wicks” of the candles by chartists across the globe. The wicks indicate the relationship between the prices during a day’s trading day.

Indian Oil Corporation – A Nutshell

The use of this method of technical analysis can be applied to any type of security, commodity or share. It is very useful for existing and prospective traders and investors to predict the market trend, be the security belonging to a private or public sector.



Among the public sector undertakings, the successful Pan India presence of Indian Oil Corporation Limited (IOCL), commonly called as Indian Oil (IOC) was chosen as it is India's largest commercial enterprise. Being state owned, it prides the largest customer interface in India and caters to large volume customers like Defence Services, Aviation, Railways, State transport Corporations and Core Sector Industries on one hand; and over 11 crore households with its LPG, and commands a 59.3% market share in aviation fuel. Its SERVO and INDANE brands have a five decade legacy to its credit, and thereby earned the coveted Super Brand status.

It is an integrated energy major with presence in oil, gas, petro-chemicals and alternative energy sources, and takes conscious steps to tap energy in all its forms and deliver it to the customers at affordable costs. Owing to its high turnover and Net Profit crossing 19000 crores, it has found a place in Fortune's "Global 500" listing securing the 168th rank among the world's largest corporates and first among Indian Enterprises in the Fortune India 500 listing in 2017. It is no wonder that it enjoys the sought-after "Navarathna" status in India. IOCL shares were included in the prestigious Nifty 50 stock index of the National Stock Exchange (NSE) from 31/03/17. The Company's share price has more than doubled to Rs 450 on 16/05/17, on which date its market capitalisation rose to a whopping Rs 218831 crores. It has currently over 33135 employees with a 8.25% women representation. The shareholding of the company is comprises of approximately 57.34% by the Promoters Government of India and 42.66% public made up of Mutual Fund companies, foreign portfolio investors, Financial/Institutional Banks, Insurance companies, individual shareholders and Trusts.

Review of Literature

To get clarity on the topic, literature from different sources were reviewed and collated as below:-

Stewart in 1949 analysed the trading behaviour of customers of a Chicago based future's commission firm between 1924 and 1932. This contribution by Stewart is perhaps the pioneering survey on Technical Analysis. His study suggested that by closely following the market trends and cashing in on the price reversals, were the makings of the then investors. The survey conducted by Smidt in 1965 on the trading activities of amateur traders in the US commodity futures market in 1961 revealed that trends were identified using charts by 53% of his respondents. According to the "Group of Thirty in 1985" technical trading systems involving computer models and charts have come in vogue, so that the market reacts more sharply to short term trends and less attention is given to basic factors (p.14). Computer guided trading systems using technical trading rules by optimizing trading system parameters instead of historical data, was the normal practice of large public futures funds advisory groups in 1986 (Brorsen and Irwin, 1987).

A paradigm change in forecasting methods from fundamental to technical analysis in 1988 by forecasting firms was witnessed (Frankel and Froot, 1990). A survey conducted by Lui and Mole (1988) revealed that technical analysis was more favoured than fundamental analysis by forex dealers in Hongkong in 1995, especially in the case of short term investments up to six months. Cheung and Chinn in 2001 published the results of a survey on US based forex traders in 1998 which highlighted the importance of technical analysis as the best trading strategy by 30% of the respondents. Smidtin 1965 identified a scope to earn limited profits by technical traders if the "insiders" and "outsiders" of the secondary market have equal access to new information. "Chart patterns" studies developed by Chang and Osler (1999); Lo Mamaysky and Wang (2000); and others pointed out that patterns, markets and sample periods used for the test determined the chart patterns, especially in the case of stock markets and forex markets on a profitable note. An extensive literature survey by Cheol-Ho Park and Scott H.Irwin (2004) has found a consistency between the technical trading strategies and profitability in the early '90s with respect to speculative markets. "Japanese candlesticks can be used no matter what you trade- stocks, options, forex and more. These strategies also work in any time frame, including day trading, daily, weekly, swing trading, long term investing and more" Steve Nison (candlecharts.com, December 2017).

Objective of the Study

The researcher did the study with the sole objective of studying the investment pattern using Candlestick method of Technical Analysis for a period of two months.

Methodology

The study was done on an exploratory basis, and the researcher has used only secondary data for sourcing information. Various search engines were surfed to get clarity on the subject. Journals, newspapers and write ups were referred to throw light on the technical nuances. The study was conducted on Indian Oil Corporation's shares, as it is a leading and major public sector undertaking. Details of the share prices were collected from the company's website, and the researcher applied candlestick pattern method for analysing the price changes. The period of the study ranges from 25/09/17 to 29/11/17.

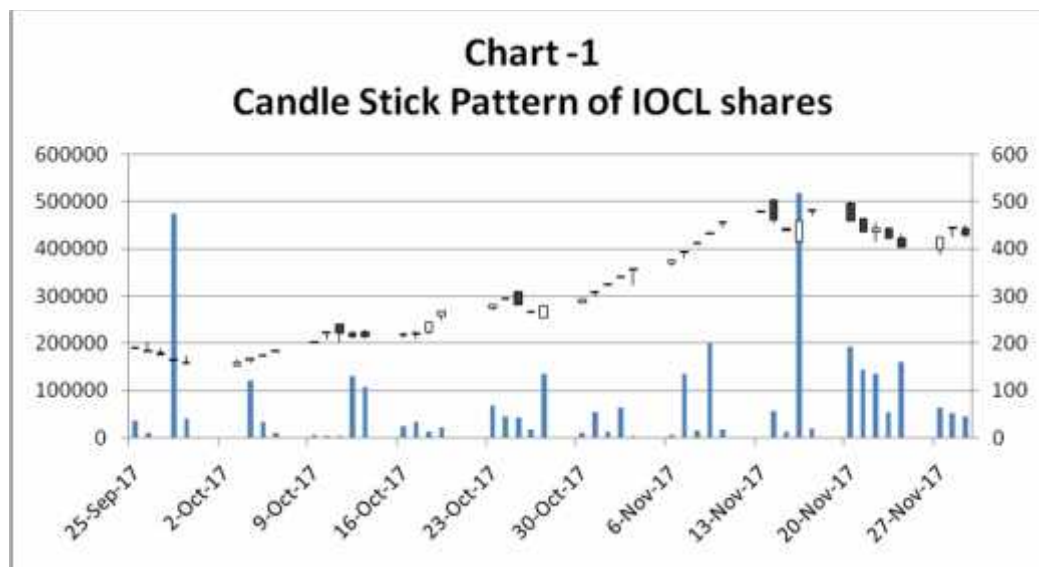


Date	Open Price	High Price	Low Price	Close Price	Total Traded Quantity
25-Sep-17	192.5	192.5	192.5	192.5	37758
26-Sep-17	183	202.1	182.9	183.7	10725
27-Sep-17	179	188.75	174.55	174.55	2594
28-Sep-17	165.85	165.85	165.85	165.85	472415
29-Sep-17	158.1	172.95	157.6	158.55	40458
03-Oct-17	152	166.4	152	160.1	3104
04-Oct-17	163.7	168.1	160.4	168.1	122854
05-Oct-17	176.5	176.5	176.5	176.5	34955
06-Oct-17	185.3	185.3	185.3	185.3	10568
09-Oct-17	203.8	203.8	203.8	203.8	6251
10-Oct-17	224.15	224.15	211	224.15	5663
11-Oct-17	240	240	204	220.9	3725
12-Oct-17	221	226	211	214.8	131581
13-Oct-17	225	228	211.2	214.75	107533
16-Oct-17	220	221.95	212.05	217.35	26095
17-Oct-17	219.9	226	210.35	221.7	34539
18-Oct-17	224.95	243.85	220.05	243.85	12863
19-Oct-17	258	268.2	250	268.2	23023
23-Oct-17	275	281.6	271	281.6	68576
24-Oct-17	295.65	295.65	295.65	295.65	46942
25-Oct-17	310	310	280.9	280.9	42582
26-Oct-17	266.9	266.9	266.9	266.9	17810
27-Oct-17	253.6	280.2	253.6	280.2	135817
30-Oct-17	286	294.2	285	294.2	11273
31-Oct-17	308.9	308.9	300	308.9	54436
01-Nov-17	324.3	324.3	324.3	324.3	14138
02-Nov-17	340.5	340.5	340.5	340.5	63765
03-Nov-17	357.5	357.5	323.5	357.5	3514
06-Nov-17	369	375.35	365	375.35	6171
07-Nov-17	394.1	394.1	381	394.1	134944
08-Nov-17	413	413.8	412.6	413.8	17161
09-Nov-17	434.45	434.45	434.45	434.45	199912
10-Nov-17	456.15	456.15	444.45	456.15	19007
13-Nov-17	478.95	478.95	478.95	478.95	3079
14-Nov-17	502.85	502.85	455.05	461.15	57078
15-Nov-17	442	442.5	438.1	438.1	14332
16-Nov-17	416.2	460	416.2	460	517308
17-Nov-17	483	483	470.1	482.45	20163
20-Nov-17	495.95	499.75	458.35	459.95	193249
21-Nov-17	463	463	437	437	145949



22-Nov-17	435	454.9	415.15	443.7	136071
23-Nov-17	441.9	442.3	421.55	421.8	55945
24-Nov-17	422.05	431.8	401	403.35	160602
27-Nov-17	400.35	423.5	387	423.5	64537
28-Nov-17	444.65	444.65	425.25	444.1	53195
29-Nov-17	442.8	449.95	425.55	429.6	45089

Source: NSE



Source: Computed

Results and Discussion

Doji

A Doji normally occurs when the opening and closing of a session are the same, or nearly the same, with a variance in the length of their shadows. They do not have real bodies, but only horizontal lines, and hence resemble a cross, an inverted cross or a plus line too.

Doji represents the indecision of the traders and investors. After the open, the bears push the price lower, such that the prices pushed higher by the bulls are rejected. But the bears cannot control the prices, and the bulls later push back the prices to the opening price. The presence of a Doji pattern in the market explores the upward and downward options, without committing either way. They are formed during periods of rest after a significant higher or lower move, after which it continues its way.

Interpretation

The chart for the study period starts with the formation of a Doji on 25/09/17 to continue to be a predominant factor during this time. The Doji pattern formations are spotted for 12 days on 25/09/17; 28/09/17; 05/10/17; 06/10/17; 09/10/17; 24/10/17; 26/10/17; 08/11/17; 09/11/17 and 13/11/17. In all these cases they are not positioned among the candlesticks- be they black or white with long real bodies, and are hence insignificant to the investors and traders.

Inference

This above observation reflects the fact that on the aforesaid dates, both the bulls and the bears have no control and show the developing signs of a turning point. The volume of sales on 28/09/17; 08/11/17 and 13/11/17 also substantiate the formation of a turning point formation during these days, in the form of a trend reversal which enables traders to capitalise on. The Doji seen following an uptrend indicates the waning buying pressure and a waxing selling pressure indicating a reversal.



Marubozu

Long candlesticks that do not have long upper or lower shadows are called a s Marubozu. They may be either black or white, and the high and low prices are represented by the opening or closing prices. When both black and white potent candlesticks are identified, they are commonly referred to as Marubozu brothers. The presence of a white Marubozu shows a condition where the open price equals that of the low price, and the closing price equals that of the high price. When black Marubozu is identified, it means that the open price equals the value of the high price and the close price with the low price.

Interpretation

We are able to trace the formation of black Marubozu on 25/10/17; 21/11/17 and 23/11/17 which point to a bearish trend. But on 27/10/17; 30/10/17 and 16/11/17, the presence of white Marubozu is seen which suggest that there is a bullish trend on these days. A reference to the volume traded during the said period show that the highest volume was on 16/11/17 and the least on 30/10/17.

Inference

It may be inferred that here is a domination by the bears from the start to the each of these intra-day trading process, in the case when the black Marubozu are seen. This is proof that the bears have dominated the intra-day trading on these days from the start to the end. The domination from the sellers is identified as very high, when the prices are controlled by the bears. As regards the white Marubozu, the situation is opposite, indicating that the bulls have emerged successful over the bears on the said trading days during the intra-day trading procedure, creating a bullish pressure on the traders and investors. This means that the market prices are buyer controlled.

October 30th marked a bullish trend for IOCL shares, and the ninth position of the Company as the most valued firm in terms of market capitalisation could have also been causative for this. Corrections are all part of the bull markets, and any dip should be used as an opportunity for long investors to build positions.

Spinning Tops

Candles with small real bodies that denote a tug of war between the bulls and the bears are called as “spinning tops”. They are neutral in lateral trading, and can be either black/ white with small upper and lower shadows. When the spinning tops become a part of the trading pattern, the size of the shadows becomes insignificant. They gain importance only when they are part of harami or star pattern formations. Spinning tops express doubt and confusion on the part of the market. The spin top candles portray situations where the market is facing difficulty coming to a consensus on a security’s value. Here both the buyers and sellers have neither clear idea nor knowledge of the direction in which the market is likely to head to.

Interpretation

From the chart it is seen that there is only one spinning top formation on 22/11/17. The white small body shows little price movements from open to close. A spinning top is a simple candlestick pattern made of a single candle line and represents areas of uncertainty. It can occur anywhere in the chart- at the end of an uptrend/down trend or in between a trend like in the case of IOCL shares in the given chart. As it is formed in a defined down trend, it suggests that the sellers are lacking conviction, hinting on the formation of a bottom. The small body is small despite a wide range of price movement throughout the trading day. It is often regarded as neutral, and used to signal indecision about the future direction of the IOCL shares traded.

Inference

The presence of spinning top candle implies that the forces of supply and demand are equally balanced. Normally when combined with a low trading volume, there is a strong possibility for traders and investors to express disinterest in particular shares. But in the case of IOCL shares, the volume traded on this date is 136071, and so investor disinterest in investment is contradictory to this in reality. The reason for this could be the gradual spiralling of the fuel costs in the domestic market, which lends a ray of growth in the future for its investors and traders. It can be inferred from the chart that the buyers’ buying power has been neutralised by the selling power of the sellers and vice versa. This could be to the fact that the supply and demand for the shares are nearly equal, indicating the neutralised nature of the market which has considerably slowed down to decide the next move. But on examination of the volume of trade on the said date, there is a possibility for the IOCL shares to be either over bought or oversold, making both the buyers and sellers exhausted. There is every probability for the trend reversal, so the traders and investors should exercise caution and be alert to take a better course of action in the future. This should be in terms of stock selection and position size minimisation.

Hammer and Hanging Man

The Japanese call the hammer as “taukri” which means trying to gauge the depth of the water by feeling for its bottom. Hammers are candlesticks with a long lower shadow and a small body with a very little upper body. A hammer is an umbrella



that appears after a price decline that comes from the act of “hammering” out a bottom. When a security opens down and the price dips throughout the trading session, to come back near the opening price at the close, technical analysts call it as a hammer.

A Hammer pattern helps traders and investors to visualise the location of their support and demand. The bearish version of the Hammer is the Hanging Man formation. A hanging man is an umbrella that develops after a rally, whose shadow would be twice as long as the body. If the trading range for the hanging day is above the entire trading range of the previous day, a “gap day” may be indicated. The Hanging Man formation not only explains the shape of the candlestick resembling a head atop a dangling body, but also the unprecedented downturn of a stock or asset that had previously witnessed an upswing.

Both these patterns happen when there is a down trend, and the length of the shadow must be at least twice the length of the real body. A similar candlestick with a black body is called as a hanging man, and represents a bearish trend. A white (real body) hanging man appears when the market is full of bullish energy. However, when the real body is at the upper end of the trading range, its colour is immaterial for drawing inferences by the traders and investors.

Interpretation

The chart reveals a hammer formation on 04/10/17 and hanging man formation on 16/10/17 and 17/10/17, when the volume of trade was 122854, 26095 and 34539 respectively. On 04/10/17, the closing price of Rs 168.10 was higher than the opening price of Rs 163.70. It is interesting to note that the high price on the said date was the same as the closing price (Rs 168.10), while the low price of IOCL shares was Rs 160.40.

Inference

It is inferred from the formation that when purchases are made solely based on a hanging man pattern, it is risky for the traders and investors as the market sentiment starts to turn against the investment. But actually, in the case of IOCL shares, it is found that the volume traded on 16th and 17th October 2017 is only 26095 and 34539. This reflects the cautious behaviour exhibited by the buyers and the scope for the market sentiment working against IOCL shares is not a reality. The reason for this could be because the gross refining margins are increasing, and the hike in petrol and diesel marketing margins prove the strong results of IOC performance in this Quarter. The implication here is that while the demand has been pushing the prices when compared to the earlier week, it still has not opened to a significant sell off to contradict the normal expected vice versa reaction. However, the buyers had managed to bring the price back near its original level, before the ringing of the closing bell. The investors have also found the time good to short their position just prior to a downturn.




When compared to the opening prices on 13th and 16th October, the opening prices on 16th and 17th are lesser, normally indicating that those investors who bought/sold IOCL shares on the opening/closing are left “hanging in a losing position”. But however, the opening prices on 16th and 17th October show a negligible fall in prices and on 16th the closing price has fallen only by Rs 2.65 and increased by Rs 1.80 on 17th, meaning that the share pricing has got a support during the consecutive days, not making the hanging man actually hang completely.














On 04/10/17, the high and the close are the same (Rs 168.10) implying the formation of a bullish hammer candlestick, which is considered as strong, as the bulls were able to reject the bears completely, and push the price even beyond the past opening price. Similarly, a significant sell off in terms of volume of trade is a proof of this formation, followed by a late day surge, bringing the closing price close to the opening price. Here, the closing price of Rs 168.10 has actually exceeded the opening price of Rs 163.70 the reason attributed for this could be attributed to the fact that on October 4th, the shares of major Oil Companies opened in green, after the government slashed the basic excise duty on petrol and diesel. This decision was taken by the government in an effort to cushion the impact of spiralling global crude oil prices, backed by a pressing need to safeguard the interests of the common man.

Table 2: Table Showing Details of Patterns Found In the Candlestick Chart of IOCL




Date	Pattern	Type	Trend	
			Bullish	Bearish
10-25-2017	MARUBOZU	Black		✓
11-21-2017				✓
11-23-2017				✓



				
10-27-2017		White	✓	
10-30-2017			✓	
11-16-2017			✓	
11-22-2017	SPINNING TOPS		✓	

10-04-2017	HAMMER	Normal 		✓
10-03-2017		Inverted 		✓
10-16-2017	HANGING MAN		✓	
11-17-2017				✓
10-12-2017	Shadow	Short Upper Black 		✓
11-14-2017				✓
10-06-2017		Short Lower Black 		✓
10-08-2017				✓
10-19-2017				✓
10-23-2017				✓
11-20-2017		Upper and Lower Black 		✓
11-24-2017		Long upper black 		✓
11-29-2017			✓	
11-27-2017		Long Lower White 	✓	



09-25-2017	DOJI	Normal Doji 		✓
09-28-2017				✓
10-05-2017			✓	
10-06-2017				✓
10-09-2017				✓
10-24-2017			✓	
10-26-2017			✓	
11-01-2017				✓
11-02-2017				✓
11-09-2017				✓
09-26-2017	DOJI	Grave stone Doji 		✓
09-29-2017			✓	
10-10-2017	DOJI	Dragonfly Doji 		✓
10-30-2017				✓
11-03-2017				✓
11-07-2017				✓
11-10-2017				✓
11-17-2017				✓
11-28-2017			✓	

Source: Candlestick Chart

Dragonfly Doji

When the market is in a downtrend and at a support level, the stock opens and moves in the direction of the trend. After falling for some time, the market perception changes and the prices start increasing such that at the end of the trading session, price moves towards the opening price and closes at it. This results in the absence of a real body and with only a lower shadow without an upper shadow. Only the lower shadow is present below a small horizontal line. This process traces the formation of a dragonfly doji. The long lower shadow suggests that the forces of supply and demand are nearing a balance and that the direction of the trend may be nearing a major turning point.

Interpretation

From the chart it is seen that the dragonfly doji have formed in the trend on 10th & 31/10/17; 01/11/17; 02/11/17; 03/11/17; 07/11/17; 10/11/17; 17/11/17 and 28/11/17. On all these said dates it is found that the opening, closing and high prices are the same or nearly the same, satisfying the basic condition for a dragonfly doji formation. It signifies the indecision among the traders and indicates the possibility for a trend reversal, and seen as a reliable signal of change in the direction of the trend. If the shares are considered to be oversold, it hints the advent of a bull movement in the subsequent period.

Inference

It is interesting to note that on the aforesaid dates, the opening, closing and high values are either the same or nearly the same – on 10/11/17 – Rs 224.15; 31/11/17 – Rs 308.90; 01/11/17 – Rs 324.30; 02/11/17 – Rs 340.50; 03/11/17 - Rs 357.50; 10/11/17 – Rs 456.15; 17/11/17 – Rs 483 and 28/11/17 – Rs 444.65. This substantiates the argument that these were the results of trading days that opened on a downward trend, to reverse in time to close on the opening price. The traders have realised that the prices are sold to unjustifiably low levels, and they have managed to send the prices back to where the stock opened. The trading fortnight starting from 31/10/17 to 17/11/17 has witnessed a price hike starting from 308.90 to Rs 483 denoting that the prices hit a support level during the trading day, suggesting that the buyers have not been outnumbered by the sellers. This maybe because of the reason that the market has additional entry points for a higher open in the following day. Although the volume traded plummeted from 54436 on 30/10/17 to 14138 on 01/11/17, it has increased to 63765 on 02/11/17, but



crashed to 3514 on 03/11/17. Barring the instance on 02/11/17, on the other days, the sellers have succeeded to out beat the buyers. When the market opens at a downtrend, the supply exceeds the demand for IOCL shares making the prices fall. But after sometime, demand increases to equal the supply, leading to a low price during the day.

On examining the chart during the trading fortnight, a steady increase in the prices is seen, which explains the support got by the dragonfly doji. The closing price suggests the neutral perception of the traders and investors about the downward trend in the early trading hours of the respective sessions and the uncertainty about the upwards potential of IOCL shares. The chart also shows the formation of a white candlestick at the end of the fortnight, which encourages the investors to buy above the high of the second day. The price have opened above the high of the doji on 06/11/17, 13/11/17 and 19/11/17, representing a buying tendency among the traders and investors.

The reasons attributed for this can be attributed to the fact that IOC has launched its first charging station for electric vehicles in its owned fuel station in Nagpur. This is done in collaboration with OLA towards its contribution to “**Green India**”. Besides IOC has also reported a Net Profit Rs 8245 crores for the first half year (2017-18), and its income from operations are Rs 238828 crores against Rs 207458 crores in 2016-17. An increase in the gross refining margins and spiralling marketing margins of petrol and diesel reiterate the strong results of IOC performance in this quarter (www.moneycontrol.com, Oct 10, 2017). Besides its “Start UpSangam” program to fund innovative start-ups across the country has also created ripples among the investors.

Gravestone Doji

This pattern is usually formed when the opening, low and closing prices of the share are the same or nearly the same. It generally occurs when the bulls are able to press the prices upwards, but perceived as an early sign that the bulls are losing. The long upper shadow suggests that during the trading sessions the buying pressure was set off by the sellers and the forces of supply and demand for the shares are nearing a balance. This is understood as a hint that the trading trend is heading towards a major turning point. After the bears take control, there will be heavy selling on high volume. The psychological factor behind this pattern explains that the bulls bring the equity to an unsustainable level, where the bears incur loss. This is why the traders perceive that this pattern symbolizes a gravestone of the bulls. However, additional information about the gravestone doji helps trading analysts to interpret their signals meaningfully.

Interpretation

It is seen in the Table that on 26/09/17 the opening, closing and low prices of IOCL shares are Rs 183; 183.7 and 182.9 respectively; and on 29/09/17 are Rs 158.10; 158.55 and 157.60 respectively. The volumes traded on these two days are 10725 and 40458. Till 04/10/17, there is an obvious downtrend in the prices of the said shares, which have started steadily increasing subsequently.

Inference

It is inferred that the bearish traders realised that the prices were unjustifiably high levels and pushed by the bulls, such that the prices are sent back up to where the share price opened. It is a common reversal pattern used by the investors to imply the eventuality of a bullish rally reversal. Contrary to the common phenomenon that a surge in the trading volume will happen to substantiate that buyers are fast losing momentum, countered by swarming of sellers in the market, the subsequent increase in the volume traded does not happen on the very next days (2594 on 27/09/17 from 10725 26/09/17 and 3104 on 03/10/17 from 40458 on 29/09/17) but only on 28/09/17 with 472415 and 04/10/17 with 122854. This defeats the normal phenomenon that the upward advance made by the bulls are overpowered and rejected by the bears; and that the low of the candlestick does not trigger the traders to enter into the market. But the chart reflects a support that exists in the trend pattern. The reason for this can be attributed to the fact that despite a rise over 3% has been recorded by IOCL shares, after a decision that state owned firms will have price revision on a daily basis in select cities from May 2017, to be extended gradually all over the country, owing to fuel shortage problems and negative impact of demonetization.

Shadows

A shadow or a wick is a line found on a candle in a candlestick chart that is used to indicate where the price of a security has fluctuated with respect to the opening and closing prices. These shadows illustrate the highest and lowest prices at which a security has traded over a period of time. A shadow can be located either above the opening price or below the closing price. Its position and length determines not only the level of buying and selling, but also the dominance of the market by bulls or bears. Some technical analysts believe that a tall or long shadow hints that the security price will turn and reverse, while a short or lower shadow indicates the heralding of a price rise. In other words, a tall upper shadow is indicative of a downturn while a short shadow of the coming of a rise in price. Hence a tall upper shadow is perceived as a bearish signal, when the



price moves during the period, but goes back down. A bullish signal is perceived when the bears push the price down, but the bulls put it back up, leaving behind a long shadow.

If a bullish candle (white/green) has a long tail, it means that there is a great discrepancy between the opening and the low prices. During this trading session, the bulls gain control and push the price back up again, to close above where it began. This is in response to the dip in price down the low owing to bearish influence during the trading session. If a bearish candle (black/red) has a long tail, then the discrepancy is great between the closing and the low prices of the security during the trading day. Bears experience a push back after they force the price downward, as the bulls take the reins and work to bring the price back so that the close price exceeds the low price of the session.

Interpretation

Shadows represent the extraneous price fluctuations. The chart reveals the formation of a lower short shadow in a white candle on 06/10/17, 18/10/17, 19/10/17 and 23/10/17. An inverted hammer formation is seen on 03/10/17 and a short black candle is seen on 12/10/17 together with a neutral pattern on 13/10/17. A long bottom shadow is found on 11/10/17 and long upper shadow was formed on black candles on 24/11/17 and 29/11/17. On 14/11/17, the trading day witnessed a black candlestick with a short shadow. But on 20/11/17, a black candle is found having both a short upper and lower shadow. 27/11/17 saw a white candlestick having a long bottom shadow.

Inference

The long upper wick on the filled in body on 24/11/17 and 29/11/17 implies that the open price on these two days was close to the high price of those days. This means that the bid prices are higher owing to buyer pressure. The white candlestick on 27/11/17 and the black candlestick on 11/10/17 both are observed to have shaved heads representing a bullish and bearish trend on these days. The patterns on the days of the shadows reflect the risk-reward ratio making them the most sought after by the traders and investors. On 20/11/17 the candlestick with short shadows indicate a trading action near the open and close prices. The long shadows on 11/10/17, 24/11/17 and 29/11/17 represent trading action beyond the open and close prices.

The collective reasons for the shadows could be due to the negative impact of demonetization fading away due to compelled acceptance among the public in general, and investors in particular. Similarly, phased manner in which the GST problems are being tackled also are causative for this. The buyer pressure normally tends to build up only when they are convinced about the earnings momentum of IOCL, backed by very high valuations and increased earnings momentum with good funds flow. Besides, the anticipation of high prices of IOCL stock together with ROE to continue at 21% due to the price hikes in the oil price scenario also are contributory factors.

Summary of Findings

The above interpretations and inferences have highlighted the fact that during the two month period of study, the trend pattern has witnessed an upper swing and although the period kick started with a high volume on 28/09/17, subsequently, there was a dwindling pattern in the pattern, only to raise above that of 28/09/17 on 16/11/17 with a volume of 517308. The declaration of profits in the first quarter has a big role to play in this due to a gradual decline in government intervention and concern over pricing powers of IOCL. Besides, the Indian Oil standalone revenue has registered a mind boggling 28% increase, which has enabled the company to make a bonus issue to its shareholders- (ie) one bonus share for one existing equity share held. These are some of the plausible reasons for the presence of shadows, doji, gravestone doji, hammer, hanging man besides candles in the trend formation.

Conclusion

“Great investment opportunities come around when excellent companies are surrounded by unusual circumstances that cause the stock to be misappraised”... Warren Buffet. Indian Oil Corporation Ltd is indeed a leader in the petroleum sector and has several feathers to its cap. Its encouragement to skilled and talented entrepreneurs in the pipeline through its “Start-up Sangam” which encourages innovative projects across the country like introduction of solar stoves using revolutionary solar technology, conversion of plastics to high value petroleum fuels; besides construction of self-sustaining low maintenance toilets or eco toilets have added more appreciation to the company’s performance and spirit of CSR. So the traders and investors – be they bulls or bears are confident that the company will never fail to draw new investors into the fray. In some cases extraneous factors have played in causing a disruption in an otherwise smooth pattern. And the candlestick method is ideal as it has a visual impact too that helps prospective investors to exploit the current market scenario. Although a variety of technical tools are available for analysing the stock market, the candlestick method is indeed a much sought after tool. In conclusion, it makes sense to recall the famous quote by William Feath “One of the funny things about the stock market is that every time one person buys, another sells, and both think that they are astute”.



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