A STUDY ON

"OPTIONS STRATEGIES IN RELIGARE PVT LTD"

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ABSTRACT:

Options strategies allow traders to earn profit from movements in the essential possessions that are bullish, bearish or neutral. One of the elements of options is that the malleability they offer and they can harmonize portfolios in many different ways. So it's appeal taking the time to spot a goal which fits you and your budget. Once you've elected a goal, you'll have pointed the assortment of strategies to use like all breed of investment, just a little amount of the strategies are getting to be apposite for your objective. Sooner than you obtain or vend options you'd species of a technique, furthermore you fix on an options strategy you'd craving to skills you'd in the vein of option that effort in your assortment.

Keywords: *Trading strategies, call options, Put options, Black-Scholes formula, Sharpe ratio, Volatility.*

INTRODUCTION:

Option strategy is an immediate and frequently mixed strategy, purchasing or selling one or more options which vary in one or more variables of the options. Call options give purchasers the right to purchase that particular stock at the strike price of that option. Put options give the buyer the right to sell a given stock at the price of the strike. This is often done to gain access to a certain form of opportunity or risk as part of a trading strategy, while removing other risks. A very straightforward strategy could be simply buying or selling one option, but option strategies often refer to a combination of buying and/or selling options at the same time. Most strategies that options investors use have limited risk but also limited profit potential. For this reason, options strategies are not get-rich-quick schemes. Transactions typically demand less money than comparable stock transactions, and hence return lesser sums-but a significantly larger percentage of the investment than equal stock transactions.

REVIEW OF LITERATURE:

In very recent times derivatives may have made their way into the mainstream. They have been used for quite a long time by mankind, though. Human beings have not liked the idea of uncertainty since the inception of time. They didn't like the idea of economic uncertainty any more. Therefore the need to balance this ambiguity has given rise to contract evolution. Earlier contracts were verbal agreements and were not as sophisticated as the ones today.

However, they were contracts nonetheless. In this article, we will trace the fruition of derivative throughout the ages.

Most strategies that investors make use of options have limited risk but also limited potential for profit. For this reason, strategies for options are not schemes which are getting-rich-quick. Transactions typically need less money than comparable equity transactions, and thus yield lower amounts-but a theoretically higher proportion of investment transactions-than comparable equity. The following are the main types of options:

CALL OPTION:

The call option is an option that gives the investor the right to buy the underlying asset at an agreed price on a given day, but not the obligation to do so. It is the seller who grants the right option to the buyer. It should be noted that the person entitled to buy the underlying asset is known as the "buyer for the call option."

PUT OPTION:

The option is a contract granting the seller the right to sell the underlying asset at an agreed price, but not the requirement to do so on or before a particular day. It is the seller who grants the right to the option buyer. The person who is entitled to sell the underlying asset is known as the 'put option buyer.'

WARRANTS:

A warrant is a promise which entitles the holder to purchase the underlying stock of the issuing company by the expiry date at a set exercise price. There are common warrants and contracts, as both contingent financial arrangements require special securities buying rights for the holder. All are statutory, and have dates of expiry. The sound warrant literally means "end with the correct" which varies only marginally from the sense of the contract.

SWAPS:

A swap is a trade in which counterparties share cash flows from one party's financial instrument to those of the other party's financial instrument. The incentives at stake depend on the sort of financial instruments involved. The swap agreement sets the dates when a currency flow are payable and how they are calculated.
Typically at the moment the contract is concluded, a unpredictable or unknown element such as interest rate, foreign exchange rate, stock price or product price defines next to smallest amount one of these sequence of cash flows.

OBJECTIVES OF THE STUDY:

The intent of this paper considers the following elements:

1. Understanding a range of derivatives used today.
2. Understanding the convention of this particular derivative.

3. Identifying the numerous strategies utilized in equity option.
4. Classifying the varied quite strategies to be utilized in several market situations and different equity stocks.
5. Providing a Live sample of techniques for Cool solutions to be used today and to adapt such tactics to deeper comprehension.

RESEARCH METHODOLOGY OF THE STUDY:

Research Methodology is the methodical and hypothetical investigation of the methods applied to a ground of study. It comprises the hypothetical study of the body of methods and values connected with a stem of knowledge. The research methodology of this study contains the subsequent variables:

1. **Trading Volume**- Volume Is the value of the shares or contracts traded in a security or entire market for a given period of time. Every buyer has a seller and each sale adds to the overall volume count. That is, if buyer and seller agree headed for formulate a transaction at a certain price, that transaction is considered as one. When there are only five transactions in one day, the total for the day is five
2. **Strike price Gap**- Different price gaps for different fundamental possessions be opened at different option contract.
3. **Time to expiration-** A given time, after which the pact options are no longer valid. The expiration time, by giving a time of day, gives a more specific deadline to the options catch on top of the cessation date. The expiry time was not the one and the same as was the last time the option was traded.
4. **Advance decline ratio**- A market-broadth indicator for comparing the number of stocks closing higher with the number of stocks closing lower than their previous day's closing prices. To calculate the advance / decline ratio, divide the number of advancing shares by the number of declining shares. The A / D ratio may be calculated for different periods of time, for example one day, one week, or one month.
5. **Volatility Index-** The Volatility Index is the ticker symbol for the Chicago Board Options Exchange (CBOE) Volatility Index that displays the market's anticipation of 30-day volatility. It is constructed using the implied volatility of a large array of S&P 500 index options. The discrepancy is meant to look ahead and will be measured from both calls and puts.
6. **Trade size**- The integer of shares offered for sale at a given bid price that a trader wastes at that bid price to sell.
7. **Put call Ratio-** The place-call Ratio is a ratio of options to position a call. The put-call ratio was long seen as a measure of investor sentiment in the markets. Moments when the figure of call options traded outstrips the integer of position options traded will reflect a bullish feeling and vice versa.

8. **Type of spread-** Split refers to the gap between the offers and demands the prices of the properties. In a spread option refers to the purchase and sale of an option of the same class but of another series. Type spread refers to Call or Put option created spread.
9. **Open Interest Ratios-** Open interest is the total number of options and/or futures contracts which are not closed or issued on a given day.
10. **Put call Trading Volume-** It is the trading dimensions of the put options at a given trading day or period to the trading dimensions of the call options.
11. **Volatility-** This Volatility procedures the amount and speeds at which price rises and falls, and is often based on changes in a trading instruments recent historical prices, Commonly the higher volatility increases the hazard of the safety.

DATA ANALYSIS AND INTERPRETATION:

Pricing of options:

Black-Scholes is a pricing model that uses six variables such as volatility, type of option, underlying stock price, time, strike price and risk-free rate to determine the fair price or theoretical value of a call or put option. In the case of stock-market derivatives, the volume of trading is greater, thereby eliminating the reason for any arbitration by proper options pricing. The formula is used to calculate the price of a European call offer, which essentially means that only on the expiry date will the right be exercised.

The formulation of the Black-Scholes is a refined form of the above expression. In view of the stock price S, the exercise price X, the annual risk-free rate r, the time to maturity t and the annual standard deviation of the return of the underlying asset ÿ, the value of the call option can be determined using the following formula :

Call Option Premium

$$C = S \times N(d_1) - Xe^{-rt} \times N(d_2)$$

Put Option Premium

P = X/e^r t * N (–d2) – S * N (-d1)

Where N (D1) and N (d2) reflect a normalized normal distribution probability that the random variable will be less than d1 and d2 respectively when the following equation is

$$d_1 = \frac{\ln \frac{S}{X} + (r + \frac{\sigma^2}{2}) \times t}{\sqrt{\sigma^2 \times t}}$$

$$d_2 = \frac{\ln \frac{S}{X} + (r - \frac{\sigma^2}{2}) \times t}{\sqrt{\sigma^2 \times t}}$$

given to d1 and d2:

Here,

C = worth of a call option
P = Put price option

S = Underlying Asset Price

X = Strike Option Price

R = Interest Rate

T = Expiration Time

S = Underlying Volatility

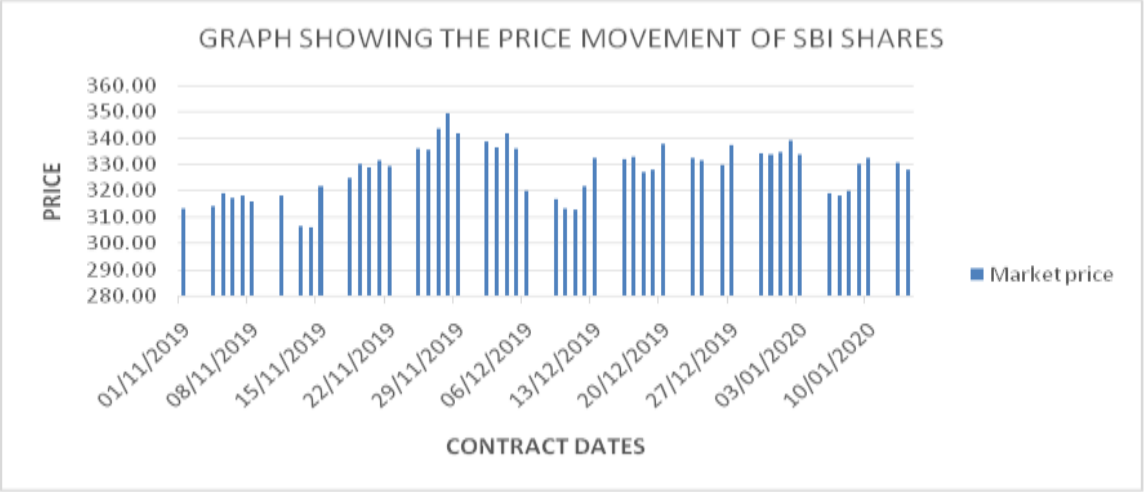
N reflects a normal regular distribution, mean = 0 and standard deviation = 1.

ANALYSIS OF SBI:-

The purpose of this study is to analyze the role of the choice strategies on profit / loss. That analysis is based on SBI scrip sample data. That analysis took SBI's Jan 2020 contract into consideration. SBI's lot size is 182, the period in which this analysis is carried out 01-11-2019 to 14-01-2020.

Date	Market price	Date	Market price
01-11-2019	313.55	10-12-2019	313.40
04-11-2019	314.30	11-12-2019	312.80
05-11-2019	319.20	12-12-2019	321.85
06-11-2019	317.55	13-12-2019	332.55
07-11-2019	318.15	16-12-2019	331.85
08-11-2019	316.00	17-12-2019	332.90
11-11-2019	318.25	18-12-2019	326.95
13-11-2019	306.80	19-12-2019	328.15
14-11-2019	306.00	20-12-2019	337.85
15-11-2019	321.90	23-12-2019	332.40
18-11-2019	325.10	24-12-2019	331.45

19-11-2019	330.40	26-12-2019	329.85
20-11-2019	328.80	27-12-2019	337.25
21-11-2019	331.35	30-12-2019	334.40
22-11-2019	329.30	31-12-2019	333.75
25-11-2019	336.10	01-01-2020	334.45
26-11-2019	335.50	02-01-2020	339.30
27-11-2019	343.55	03-01-2020	333.70
28-11-2019	349.30	06-01-2020	319.00
29-11-2019	341.85	07-01-2020	318.40
02-12-2019	338.50	08-01-2020	319.80
03-12-2019	336.25	09-01-2020	330.20
04-12-2019	341.85	10-01-2020	332.25
05-12-2019	336.20	13-01-2020	330.75
06-12-2019	320.00	14-01-2020	328.00
09-12-2019	316.70		



INTERPRETATION:

From the above analysis it shows the value arrangements of SBI shares and its market prices. The value of shares moves along with the market prices from 1-11-2019 till the date its market price is 313.55 and at end of the day 14-01-2020 its market price is increased to 328.00

CALCULATION OF CALL OPTION PREMIUM:

Underlying Price	328.15	The present stand rate of the instrument, e.g., the closing price of Stock
Exercise Price	300.00	The value at which the original appliance will be exchanged. Also called beat value
Today's Date	19-12-2019	Contract date

Expiry Date	14-01-2020	The date the contract expires
Historical Volatility	25.00%	The Historical instability of the asset's returns
Risk Free Rate	6.50%	The current risk free interest rate i.e. interest rate on govt. bonds
Dividend Yield	1.00%	The Annualized surplus Growth Rate of the Stock
DTE Years	0.07	=($T12-$T11)/365
d1	1.4363	=(LN($T9/T10)+($T14-$T15+0.5*$T13^2)*$T16)/($T13*SQRT($T16))
Nd1	0.1422	=EXP(-(T18^2)/2)/SQRT(2*PI())
d2	1.3695	=T18-$T13*SQRT($T16)
Nd2	0.9146	=NORMSDIST(T20)
Call Option	30.0626	=EXP(-$T15*$T16)*$T9*NORMSDIST(T18)-T10*EXP(-$T14*$T16)*NORMSDIST(T18-$T13*SQRT($T16))

Call options:

SBI		strike price					
Date	Market price	300.00	310.00	320.00	330.00	340.00	350.00
01-11-2019	313.55	23.70	17.65	12.70	8.84	5.95	3.86
04-11-2019	314.30	23.90	17.75	12.73	8.80	5.88	3.79
05-11-2019	319.20	27.42	20.74	15.17	10.70	7.30	4.80
06-11-2019	317.55	26.06	19.54	14.15	9.88	6.66	4.33
07-11-2019	318.15	26.40	19.81	14.35	10.02	6.75	4.38
08-11-2019	316.00	24.69	18.32	13.10	9.02	5.99	3.82
11-11-2019	318.25	26.02	19.39	13.90	9.59	6.36	4.05
13-11-2019	306.80	17.76	12.43	8.33	5.34	3.28	1.93
14-11-2019	306.00	17.13	11.90	7.90	5.02	3.05	1.77
15-11-2019	321.90	28.42	21.35	15.42	10.69	7.11	4.54
18-11-2019	325.10	30.70	23.26	16.93	11.82	7.90	5.06
19-11-2019	330.40	35.09	27.15	20.22	14.47	9.92	6.52
20-11-2019	328.80	33.61	25.78	19.02	13.45	9.11	5.90
21-11-2019	331.35	35.73	27.66	20.60	14.72	10.07	6.59
22-11-2019	329.30	33.84	25.93	19.08	13.44	9.05	5.82
25-11-2019	336.10	39.60	31.08	23.47	16.98	11.75	7.76
26-11-2019	335.50	38.97	30.46	22.89	16.46	11.30	7.40
27-11-2019	343.55	46.37	37.34	29.03	21.69	15.52	10.61
28-11-2019	349.30	51.79	42.49	33.75	25.84	18.99	13.35
29-11-2019	341.85	44.61	35.63	27.40	20.20	14.22	9.54
02-12-2019	338.50	41.22	32.36	24.35	17.48	11.91	7.69
03-12-2019	336.25	39.04	30.30	22.49	15.87	10.60	6.69
04-12-2019	341.85	44.22	35.12	26.76	19.45	13.42	8.76
05-12-2019	336.20	38.82	30.03	22.17	15.52	10.26	6.38
06-12-2019	320.00	24.45	17.19	11.35	7.01	4.03	2.16

09-12-2019	316.70	21.42	14.52	9.17	5.36	2.90	1.45
10-12-2019	313.40	18.74	12.31	7.48	4.19	2.16	1.02
11-12-2019	312.80	18.15	11.79	7.07	3.89	1.97	0.91
12-12-2019	321.85	25.25	17.60	11.40	6.83	3.76	1.90
13-12-2019	332.55	34.72	25.94	18.24	11.95	7.26	4.07
16-12-2019	331.85	33.79	24.96	17.24	11.01	6.45	3.46
17-12-2019	332.90	34.69	25.74	17.84	11.43	6.71	3.59
18-12-2019	326.95	29.06	20.60	13.48	8.06	4.36	2.13
19-12-2019	328.15	30.06	21.43	14.10	8.46	4.58	2.23
20-12-2019	337.85	39.20	29.82	21.25	13.98	8.39	4.56
23-12-2019	332.40	33.71	24.54	16.43	9.95	5.38	2.57
24-12-2019	331.45	32.71	23.56	15.54	9.20	4.82	2.22
26-12-2019	329.85	31.01	21.88	13.97	7.90	3.88	1.64
27-12-2019	337.25	38.14	28.53	19.64	12.15	6.61	3.11
30-12-2019	334.40	35.14	25.53	16.74	9.59	4.66	1.89
31-12-2019	333.75	34.44	24.80	16.02	8.94	4.17	1.59
01-01-2020	334.45	35.07	25.36	16.41	9.12	4.19	1.56
02-01-2020	339.30	39.84	29.96	20.51	12.23	6.09	2.44
03-01-2020	333.70	34.21	24.44	15.40	8.11	3.40	1.10
06-01-2020	319.00	19.57	10.75	4.41	1.24	0.23	0.03
07-01-2020	318.40	18.89	10.03	3.80	0.93	0.14	0.01
08-01-2020	319.80	20.15	10.92	4.13	0.95	0.12	0.01
09-01-2020	330.20	30.42	20.48	11.09	4.08	0.86	0.09
10-01-2020	332.25	32.43	22.44	12.72	4.82	0.95	0.08
13-01-2020	330.75	30.79	20.80	10.81	2.15	0.03	0.00
14-01-2020	328.00	-	-	-	-	-	-

OBSERVATIONS AND FINDINGS

CALL OPTION

BUYERS PAY OFF:

1. Those who bought call option on beat value of 340rs on 5-11-2019, the premium payable is 7.30 per share
2. On the finishing date the mark market price with this at 328. As it is away of the money for the procurer and in the currency for the seller, that's why the purchaser is in loss.
3. The purchaser will lose only premium i.e. 7.30 per share.
4. The whole loss will be 1328.6 i.e. 7.30*182

SELLERS PAY OFF:

1. As seller shall only be entitled to premium if he is in benefit
2. His profit is only premium i.e. 7.30*182 = 1328.6

CALCULATION OF PUT OPTION PREMIUM:

Underlying Price	328.15	The present base worth of the instrument, eg, the closing price of Stock
Exercise Price	300.00	The value at which the fundamental appliance will be exchanged. Also called beat Price
Today's Date	19-12-2019	Contract date
Expiry Date	14-012020	The Date the contract expires
Historical Volatility	2.00%	The Historical instability of asset's returns
Risk Free Rate	.50%	The current risk free interest rate i.e. interest rate on govt. bonds
Dividend Yield	.00%	The Annualized Dividend expansion Rate of the Stock
DTE (Years)	0.07	=($T12-$T11)/365
d1	1.4363	=(LN($T9/T10)+($T14-$T15+0.5*$T13^2)*$T16)/($T13*SQRT($T16))
Nd1	0.1422	=EXP(-(T18^2)/2)/SQRT(2*PI())
d2	1.3695	=T18-$T13*SQRT($T16)
Nd2	0.9146	=NORMSDIST(T20)
Put Option	0.7604	=T10*EXP(-$T14*$T16)*NORMSDIST(-T20)-EXP(-$T15*$T16)*$T9*NORMSDIST(-T18)

OBSERVATIONS AND FINDINGS

PUT OPTION

BUYERS PAY OFF:

1. As 1 batch of SBI that is 182 carried those who buy for 340 on 27-11-2019 paid 9.53 premiums per share.
2. completion price is 328

Strike price 340.00

Spot price (-) 328.00

12.00

Premium (-) 9.53

2.47 x 182=449.54

Buyer Profit = Rs. 449.54

If the money contract is optimistic, the buyer can get more profit, the spot value of the in case also increases the buyer income.

SELLER PAYS OFF:

It's in the buyer's pocket and it's out of the seller's pocket, and he's in debt.
The loss is equal to the profit of buyer i.e. 449.54.

FINDINGS

1. Cash market derivatives are an invention. About its average turnover exceeds the Equivalent stage of the cash market
2. Here money market the investor's profit / loss are base on the underlying asset's market price. The investor can incur enormous profits, or incur huge losses. But the investor enjoys massive profits with limited downside in derivatives market.
3. The premium of call option of SBI scrip visited the peaks (i.e. Rs.51.79) on 28/11/2019 for the beat price of Rs.300 wherever the market price was 349.30.
4. The lowest premium on call option of SBI scrip was 0.00 (i.e.7.64449022908845E-06) on the contract date of 3/01/2020 for the beat price of Rs.350.
5. The worth of put option of SBI scrip on the contract date 14/11/2019 for the beat price Rs.350, was recorded because the very best (i.e. Rs.42.50).

SUGGESTIONS:

1. The derivatives marketplace be newly started in India and it is known by each investor, so derivatives traders possesses to require steps to outline alertness among the investors about the derivative sector.
2. Here optimistic marketplace the choice options critic incur further losses therefore the patron be typically recommended to pass through on behalf of a call option to hold.
3. The put option possessor suffers throughout a optimistic market, so he's suggested to write down a put option.
4. Here to broaden India's derivatives industry, SEBI could review a variety Of its regulations such as contract size, FII's involvement in the derivatives sector
5. Contract size should be reduced because small investors are unable to bear this bulky sum of giant premiums
6. The investor should know the Black-Scholes model because it helps in accurate prediction useful of option.
7. The investors are supposed to use the derivatives sector as an instrument of hedging.

CONCLUSION:

Here the bullish market, the decision option author incurs further losses therefore, the patron is typically recommended to pass through meant for the call option to grip where since put option possessor suffers during a optimistic market so, he's suggested to note down put option within the bearish market the choice option holder will incur more fatalities therefore, the

patron is typically recommended to travel for call option to write, where because put option author will get further losses, so he's suggested to hold a put option. Most of the firms and organizations follow B-S model for pricing options because it's worldwide accepted. within the above analysis the value of call option decreases with an increase in beat price and as a result the worth of put options increases with an increase in beat price, the marketplace value of SBI has low instability therefore the decision option writer enjoys more profits to holders.

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