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A STUDY ON FORECASTING OF SECURITY PRICES USING RELATIVE STRENGTH INDEX (RSI) SELECTED COMPANIES IN INDIA

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Abstract: **Security analysis is the analysis of traceable financial instruments called securities. These can be classified into debt securities, equities, or some hybrid of the two. More broadly, futures contracts and traceable credit derivatives are sometimes included. Security analysis is typically divided into fundamental analysis, which relies upon the examination of fundamental business factors such as financial statements, and technical analysis, which focuses upon price trends and momentum. Quantitative analysis may use indicators from both areas. Investment in stock market is common scenario for making capital gains. One of the major concerns of today's investor's is regarding choosing the right securities for investment, because selection of inappropriate securities may lead to losses being suffered by the investor. In order to reduce the risk of incurring losses and increase the return many tools are available, of which RSI is a powerful analytical tool which will help the investor choose the right combination of securities for their portfolio construction thus reducing the risk and increasing the return. The relative strength index (RSI) is one of the best known widely used technical analysis indicators. The study is aim to empirically test the functioning of RSI in its classic form asset of data and to reconfigure the indicator by also taking in to account of the trading volume in its calculation formula. After adjusting the RSI with the trade volume the study will test a set of data. The study intended to analyze whether higher yields can be obtained by using RSI compared to those which result from applying the buy and hold the strategy.**

Keywords: **Relative Strength Index, Fundamental Analysis, Technical Analysis, Moving Average.**

1. INTRODUCTION

1.1Technical analysis

the relative strength index was first introduced by Welles Wilder in an article in the commodities magazine in June 1978. The calculations and analysis of RSI has been provided in this book with new concepts in technical trading systems. The RSI is a price following momentum indicator that moves between 0 and 100. It measures the strength of share by monitoring and the changes in the closing prices.

Technical analysis is a method of predicting price movements and future market trends by studying charts of past market action. Technical analysis is concerned with what has actually happened in the market, rather than what should happen and takes into account the price of instruments and the volume of trading, and creates charts from that data to use as the primary tool. One major advantage of technical analysis is that experienced analysts can follow many markets and market instruments simultaneously.

Technical analysis is built on three essential principles:

1. Market action discounts everything! This means that the actual price is a reflection of everything that is known to the market that could affect it, for example, supply and demand, political factors and market sentiment. However, the pure technical analyst is only concerned with price movements, not with the reasons for any changes.

2. Prices move in trends Technical analysis is used to identify patterns of market behaviour that have long been recognized as significant. For many given patterns there is a high probability that they will produce the expected results. Also, there are recognized patterns that repeat themselves on a consistent basis.

3. History repeats itself Security chart patterns have been recognized and categorized for over 100 years and the manner in which many patterns are repeated leads to the conclusion that human psychology changes little over time.

Security charts are based on market action involving price. There are five categories in Security technical analysis theory:

1. Indicators (oscillators, e.g.: Relative Strength Index (RSI)
2. Number theory (Fibonacci numbers, Gann numbers)
3. Waves (Elliott wave theory)
4. Gaps (high-low, open-closing)
5. Trends (following moving average).

Some major technical analysis tools are described below:

1.Relative Strength Index (RSI):

2.Stochastic Oscillator:

3. Moving Average Convergence Divergence (MACD):

4 .Number theory:

5 .Gann numbers: 6. Waves

7. Gaps

8 .Trends

9. Moving averages

10.The most common technical tools:

1.2 Fundamental analysis

Fundamental analysis is a method of forecasting the future price movements of a financial instrument based on economic, political, environmental and other relevant factors and statistics that will affect the basic supply and demand of whatever underlies the financial instrument. In practice, many market players use technical analysis in conjunction with fundamental analysis to determine their trading strategy. One major advantage of technical analysis is that experienced analysts can follow many markets and market instruments, whereas the fundamental analyst needs to know a particular market intimately. Fundamental analysis focuses on what ought to happen in a market. Factors involved in price analysis: Supply and demand, seasonal cycles, weather and government policy.

The fundamentalist studies the cause of market movement, while the technician studies the effect. Fundamental analysis is a macro or strategic assessment of where a currency should be trading based on any criteria but the movement of the currency's price itself. These criteria often include the economic condition of the country that the currency represents, monetary policy, and other "fundamental" elements many profitable trades are made moments prior to or shortly after major economic announcements.

2. REVIEW OF LITERATURE

Karuna Dhutti (February, 2014) examined “Stock price Movement of InformationTechnology Sector through Technical Analysis” researcher used Relative StrengthIndex and chart patterns for IT sector stock analysis. Researcher also used statisticaltools like coefficient of variation and beta for risk and return relationship of securitymarket. By using these tools investors make judgment whether to buy or sell the stock.

Bhamini Garg (October, 2014) in this Research article titled "Technical Analysis Indicators: pathway towards Rewording Journey" researcher has endeavored to give an insight into Technical Analysis Indicators as to how investor can attempt to improve the success rate of increasing the profitability by taking right entry and exit positions into the stock market. Technical analysis does not offer us with definite answers but it improves trading capabilities to almost 80% that means 8 out of 10trades will be successful. Researcher provides an analysis of various indicators namely moving Averages, Relative Strength Index, Average Directional Index, Moving Averages Convergence Divergence, and Money Flow Index along with their application on the stock charts of the selected companies, NSE Nifty and Bank Nifty in order to get clearer image.

Terence Tai-Leung Chong, Wing-Kam Ng, Venus Khim-Sen Liew (2014),"Revisiting the Performance of MACD and RSI Oscillators", It has been found that the predictive ability of RSI and MACD works well in most of the exchanges throughout the world. It is found that the MACD and RSI rules consistently generate significant abnormal returns in most of the developed and developing markets. Investors can generate significant profit by using these tools while making investment decisions.

Reena Baral, Abhishek Kumar Chintu (2013), Technical Analysis serves the investment decision-maker by pointing the direction that is most likely to produce the desired results and to meet the expectations of the investors. Technical indicators are capable of playing a useful role in timing the entry and exit of stock market. RSI is one of the best tools available. Whenever there is a decrease in share price, RSI value decreases indicating share holders that it is a strong buy signal and vice versa.

Pandya (2013) in this research paper titled "Technical Analysis for Selected Companies of Indian It Sector" researcher shows that different technical analysis tools for analysis of the Indian IT sector companies which is listed on NSE and BSE. Foremost tools and techniques used in this study are Line Chart, Column Chart, Candlestick Chart, Exponential Moving Average (EMA), Moving Averages Convergence Divergence (MACD), Relative Strength Index (RSI) and Rate of Change (ROC).

Adrin Taran-Morosan (July, 2011) in this paper titled "The relative strength index revisited" researcher examined that relative strength index (RSI) one of the superlative and extensively used technical analysis indicators. The researcher study aim to empirically investigation the function of the RSI in its classic structure.

Rodrigo Alfaro and Andres Sagner (April 2010), Financial Forecast for the Relative Strength Index, this paper provides a closed-form expression for one of the most popular index in Technical Analysis: the Relative Strength Index (RSI). It shows how the standard binomial model for the stock price can be used to predict RSI. The algorithm is as simple as to code a standard European option. In an empirical application to the Chilean exchange rate it shows how the method works having a better out of sample performance than an ARMA(1,1) model.

Renaud Beaupain, Lei Meng, Romain Belair (2010), "The Impact of Volatility on the Implementation of RSI", This paper examines the impact of volatility (measured as and exponentially-weighted moving average) on the implementation of a trading rule, based on the relative strength index (RSI) in the Chinese stock markets. In particular, using tick-by-tick data from the Shanghai stock exchange, the authors investigate how sensitive is the choice of RSI boundaries to different volatility regimes. The study reports empirical evidence that the return and the risk of our portfolios, in regimes of high and low volatility, are not significantly affected by the boundaries imposed to this technical indicator. However, we show that within each volatility regime some techniques provide a more desirable return-risk package than others.

3. OBJECTIVES OF THE STUDY

1. To study the basic concept of security forecasting.
2. The undertaking security forecasting prices.
3. To compare the different security products movements using RSI method.
4. To analyse the variance of RSI between selected companies.

4. METHODOLOGY

The research methodology is based on secondary data. The data was collected from the website of NSE and BSE of historical data of selected 3 companies form 11-June-2018 to 10-Sep -2018. The data is analyzed by using MS Excel and the statistical tools are used to analyze the data were mean, standard deviation, and ANOVA

1.Infosys

2.Wipro .

3.Tata Consultancy Services

Relative Strength Index (RSI):

The RSI measures the ratio of up-moves to down-moves and normalizes the calculation so that the index is expressed in a range of 0-100. If the RSI is 70 or greater, then the instrument is assumed to be overbought (a situation in which prices have risen more than market expectations). An RSI of 30 or less is taken as a signal that the instrument may be oversold (a situation in which prices have fallen more than the market expectations).

RSI Calculations:

The very first calculations for average gain and average loss are simple 14 period averages.

- First Average Gain = Sum of Gains over the past 14 periods / 14.
- First Average Loss = Sum of Losses over the past 14 periods / 14

The second, and subsequent, calculations are based on the prior averages and the current gain loss:

- Average Gain = [(previous Average Gain) x 13 + current Gain] / 14.
- Average Loss = [(previous Average Loss) x 13 + current Loss] / 14.

Taking the prior value plus the current value is a smoothing technique similar to that used in exponential moving average calculation. This also means that RSI values become more accurate as the calculation period extends. Sharp Charts uses at least 250 data points prior to the starting date of any chart (assuming that much data exists) when calculating its RSI values. To exactly replicate our RSI numbers, a formula will need at least 250 data points.

Wilder's formula normalizes RS and turns it into an oscillator that fluctuates between zero and 100. In fact, a plot of RS looks exactly the same as a plot of RSI. The normalization step makes it easier to identify extremes because RSI is range bound. RSI is 0 when the Average Gain equals zero. Assuming a 14-period RSI, a zero RSI value means prices moved lower all 14 periods. There were no gains to measure. RSI is 100 when the Average Loss equals zero. This means prices moved higher all 14 periods. There were no losses to measure.

5. DATA ANALYSIS AND INTERPRETATION:

Table 5.1: WIPRO Technologies Ltd.

Date	Close	Change	Gain	Loss	Avg. Gain	Avg.Loss	RS	14-Day RSI
01-11-2019	258.60							
04-11-2019	256.60	-2.00		2.00				
05-11-2019	258.50	1.90	1.90					
06-11-2019	256.85	-1.65		1.65				
07-11-2019	259.65	2.80	2.80					
08-11-2019	256.40	-3.25		3.25				
11-11-2019	256.45	0.05	0.05					
13-11-2019	253.10	-3.35		3.35				
14-11-2019	252.75	-0.35		0.35				
15-11-2019	252.55	-0.20		0.20				
18-11-2019	249.45	-3.10		3.10				
19-11-2019	250.40	0.95	0.95					
20-11-2019	248.90	-1.50		1.50				
21-11-2019	247.55	-1.35		1.35	0.41	1.10	0.37	27.01
22-11-2019	243.10	-4.45		4.45	0.41	1.20	0.34	25.39
25-11-2019	243.00	-0.10		0.10	0.27	1.37	0.20	16.52
26-11-2019	237.55	-5.45		5.45	0.27	1.38	0.20	16.45
27-11-2019	240.05	2.50	2.50		0.07	1.65	0.04	4.15
28-11-2019	239.80	-0.25		0.25	0.25	1.65	0.15	13.16

29-11-2019	237.70	-2.10		2.10	0.25	1.44	0.17	14.65
02-12-2019	238.60	0.90	0.90		0.25	1.59	0.16	13.45
03-12-2019	236.80	-1.80		1.80	0.31	1.35	0.23	18.75
04-12-2019	242.20	5.40	5.40		0.31	1.45	0.21	17.65
05-12-2019	243.70	1.50	1.50		0.70	1.44	0.49	32.66
06-12-2019	241.00	-2.70		2.70	0.74	1.21	0.61	37.73
09-12-2019	240.40	-0.60		0.60	0.74	1.41	0.52	34.33
10-12-2019	238.15	-2.25		2.25	0.74	1.34	0.55	35.40
11-12-2019	240.05	1.90	1.90		0.74	1.41	0.52	34.33
12-12-2019	239.45	-0.60		0.60	0.87	1.09	0.80	44.44
13-12-2019	243.85	4.40	4,4		0.87	1.13	0.77	43.65
16-12-2019	243.15	-0.70		0.70	0.69	0.74	0.94	48.50
17-12-2019	244.75	1.60	1,6		0.69	0.79	0.88	46.86
18-12-2019	248.30	3.55	3.55		0.69	0.77	0.90	47.43
19-12-2019	249.20	0.90	0.90		0.88	0.62	1.43	58.81
20-12-2019	251.80	2.60	2.60		0.95	0.62	1.53	60.50
23-12-2019	253.85	2.05	2.05		0.75	0.49	1.53	60.40
24-12-2019	252.25	-1.60		1.60	0.79	0.49	1.61	61.62
26-12-2019	250.30	-1.95		1.95	0.79	0.60	1.30	56.56
27-12-2019	247.55	-2.75		2.75	0.79	0.55	1.43	58.82
30-12-2019	248.95	1.40	1.40		0.79	0.70	1.12	52.76
31-12-2019	245.80	-3.15		3.15	0.75	0.54	1.38	58.01
01-01-2020	247.70	1.90	1.90		0.75	0.77	0.98	49.41
02-01-2020	248.30	0.60	0.60		0.89	0.73	1.22	54.99
03-01-2020	251.10	2.80	2.80		0.93	0.73	1.28	56.16
06-01-2020	252.15	1.05	1.05		1.13	0.68	1.67	62.57
07-01-2020	255.20	3.05	3.05		0.95	0.68	1.41	58.46
08-01-2020	254.80	-0.40		0.40	1.10	0.68	1.63	62.05
09-01-2020	253.65	-1.15		1.15	0.92	0.70	1.30	56.61
10-01-2020	251.75	-1.90		1.90	0.77	2.84	0.27	21.36

Source: Wipro Historical data form NSE and BSE

Chart-1

Interpretation:- The above table 6.1 revels that RSI is 4.15. According to RSI analysis, Wipro is weak. As on 7-1-2020 wipro closed at 225.20 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 255.25 and Bearish for SHORT-TERM with Stop-loss of 237.70 and we also expect STOCK to react on Following IMPORTANT LEVELS Today.

Table 5.2: Infosys Ltd.

Date	Close	Change	Gain	Loss	Avg. Gain	Avg.Loss	RS	14-Day RSI
01-11-2019	687.90							
04-11-2019	709.00	21.10	21.00					
05-11-2019	696.10	-12.90		12.90				
06-11-2019	712.30	16.20	16.20					
07-11-2019	720.10	7.80	7.80					
08-11-2019	708.15	-11.95		11.95				
11-11-2019	704.40	-3.75		3.75				
13-11-2019	691.35	-13.05		13.05				
14-11-2019	705.30	13.95	13.95					
15-11-2019	703.90	-1.40		1.40				
18-11-2019	705.20	1.30	1.30					
19-11-2019	712.85	7.65	7.65					
20-11-2019	713.00	0.15	0.15					
21-11-2019	713.25	0.25	0.25		4.86	3.08	1.58	61.25
22-11-2019	693.20	-20.05		20.05	3.38	3.08	1.10	52.35
25-11-2019	698.10	4.90	4.90		3.38	4.51	0.75	42.84
26-11-2019	690.60	-7.50		7.50	2.57	3.59	0.72	41.76
27-11-2019	695.75	5.15	5.15		2.01	4.12	0.49	32.83
28-11-2019	701.85	6.10	6.10		2.38	4.12	0.58	36.63
29-11-2019	696.35	-5.50		5.50	2.82	3.27	0.86	46.30
02-12-2019	692.70	-3.65		3.65	2.82	3.39	0.83	45.37
03-12-2019	698.35	5.65	5.65		1.82	2.72	0.67	40.09
04-12-2019	708.85	10.50	10.50		2.23	2.72	0.82	44.98
05-12-2019	714.85	6.00	6.00		2.88	2.62	1.10	52.37
06-12-2019	715.10	0.25	0.25		2.76	2.62	1.05	51.33
09-12-2019	717.25	2.15	2.15		2.77	2.62	1.06	51.39
10-12-2019	714.55	-2.70		2.70	2.91	2.62	1.11	52.58
11-12-2019	721.05	6.50	6.50		2.91	2.81	1.03	50.81
12-12-2019	702.10	-18.95		18.95	3.02	1.38	2.19	68.61
13-12-2019	711.30	9.20	9.20		3.02	2.74	1.10	52.48
16-12-2019	714.00	2.70	2.70		3.31	2.20	1.50	60.08
17-12-2019	729.70	15.70	15.70		3.07	2.20	1.39	58.24
18-12-2019	732.45	2.75	2.75		4.19	2.20	1.90	65.57
19-12-2019	730.85	-1.60		1.60	4.39	1.81	2.43	70.82
20-12-2019	731.55	0.70	0.70		3.98	1.66	2.40	70.57
23-12-2019	736.00	4.45	4.45		3.28	1.66	1.98	66.40
24-12-2019	733.40	-2.60		2.60	3.17	1.66	1.91	65.63
26-12-2019	728.95	-4.45		4.45	3.15	1.85	1.71	63.07
27-12-2019	736.95	8.00	8.00		3.00	2.16	1.39	58.09
30-12-2019	732.90	-4.05		4.05	3.57	2.16	1.65	62.27
31-12-2019	731.15	-1.75		1.75	3.11	2.26	1.37	57.88
01-01-2020	736.85	5.70	5.70		3.11	2.39	1.30	56.57
02-01-2020	734.70	-2.15		2.15	2.86	1.03	2.77	73.46
03-01-2020	746.00	11.30	11.30		2.66	1.19	2.25	69.20
06-01-2020	738.85	-7.15		7.15	2.35	1.19	1.98	66.46
07-01-2020	727.90	-10.95		10.95	2.15	1.70	1.27	55.94
08-01-2020	718.20	-9.70		9.70	2.15	2.48	0.87	46.49
09-01-2020	727.55	9.35	9.35		2.10	3.06	0.69	40.76
10-01-2020	738.15	10.60	10.60		2.45	2.84	0.86	46.35

Source: Infosys Historical data form NSE and BSE

Chart-2

Interpretation:- The above table 6.2 revels that RSI is 32.83 According to RSI analysis, Infosys is weak. As on 3-1-2020 Infosys closed at 746.00 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 733.9 and Bearish for SHORT-TERM with Stop-loss of 733.90 and we also expect STOCK to react on Following IMPORTANT LEVELS Today.

Table 5.3: Tata Consultancy

Date	Close	Change	Gain	Loss	Avg. Gain	Avg.Loss	RS	14-Day RSI
01-11-2019	2264.00							
04-11-2019	2207.00	-57.00		57.00				
05-11-2019	2197.00	-10.00		10.00				
06-11-2019	2200.00	3.00	3.00					
07-11-2019	2204.50	4.50	4.30					
08-11-2019	2189.60	-14.90		14.90				
11-11-2019	2135.00	-54.60		54.60				
13-11-2019	2118.00	-17.00		17.00				
14-11-2019	2187.50	69.50	69.50					
15-11-2019	2196.00	8.50	8.50					
18-11-2019	2178.40	-17.60		17.60				
19-11-2019	2153.00	-25.40		25.40				
20-11-2019	2121.95	-31.05		31.05				
21-11-2019	2112.00	-9.95		9.95	6.09	16.25	0.37	27.27
22-11-2019	2097.00	-15.00		15.00	6.09	16.96	0.36	26.43
25-11-2019	2074.55	-22.45		22.45	6.09	13.96	0.44	30.38
26-11-2019	2089.85	15.30	15.30		5.88	14.85	0.40	28.35
27-11-2019	2052.00	-37.85		37.85	6.66	14.85	0.45	30.97
28-11-2019	2067.05	15.05	15.05		6.66	17.56	0.38	27.51
29-11-2019	2085.00	17.95	17.95		7.74	16.49	0.47	31.94
02-12-2019	2060.00	-25.00		25.00	9.02	12.59	0.72	41.74
03-12-2019	2027.70	-32.30		32.30	4.06	13.16	0.31	23.56
04-12-2019	2053.00	25.30	25.30		3.45	15.47	0.22	18.23
05-12-2019	2083.00	30.00	30.00		5.26	15.47	0.34	25.36
06-12-2019	2124.00	41.00	41.00		7.40	14.21	0.52	34.24
09-12-2019	2127.95	3.95	3.95		10.33	12.40	0.83	45.44
10-12-2019	2060.00	-67.95		67.95	10.61	10.18	1.04	51.03

11-12-2019	2025.40	-34.60		34.60	10.61	14.33	0.74	42.55
12-12-2019	2051.10	25.70	25.70		10.61	15.73	0.67	40.29
13-12-2019	2023.00	-28.10		28.10	11.35	14.12	0.80	44.57
16-12-2019	2096.00	73.00	73.00		11.35	16.13	0.70	41.31
17-12-2019	2126.50	30.50	30.50		15.49	13.43	1.15	53.58
18-12-2019	2174.00	47.50	47.50		16.39	13.43	1.22	54.97
19-12-2019	2179.80	5.80	5.80		19.78	13.43	1.47	59.57
20-12-2019	2220.00	40.20	40.20		20.20	11.64	1.74	63.44
23-12-2019	2210.00	-10.00		10.00	21.26	9.33	2.28	69.50
24-12-2019	2239.00	29.00	29.00		19.12	10.05	1.90	65.55
26-12-2019	2216.40	-22.60		22.60	18.26	10.05	1.82	64.51
27-12-2019	2208.00	-8.40		8.40	17.98	11.66	1.54	60.66
30-12-2019	2207.00	-1.00		1.00	17.98	12.26	1.47	59.45
31-12-2019	2189.00	-18.00		18.00	17.98	7.48	2.40	70.62
01-01-2020	2168.00	-21.00		21.00	16.14	6.29	2.57	71.95
02-01-2020	2179.95	11.95	11.95		16.14	7.79	2.07	67.44
03-01-2020	2164.00	-15.95		15.95	11.78	5.79	2.04	67.07
06-01-2020	2205.00	41.00	41.00		9.60	6.93	1.39	58.10
07-01-2020	2200.50	-4.50		4.50	9.14	6.93	1.32	56.89
08-01-2020	2205.00	4.50	4.50		8.73	7.25	1.20	54.63
09-01-2020	2248.75	43.75	43.75		6.18	7.25	0.85	46.01
10-01-2020	2228.00	-20.75		20.75	9.30	2.84	3.27	76.61

Source: TCS Historical data form NSE and BSE

Chart-3

Interpretation:- The above table 6.1 revels that RSI is 23.56. According to RSI analysis, TCS is weak. As on 8-1-2020 TCS closed at 2255.20 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 2205.00 and Bearish for SHORT-TERM with Stop-loss of 2202.00 and we also expect STOCK to react on Following IMPORTANT LEVELS Today.

Table 5.4

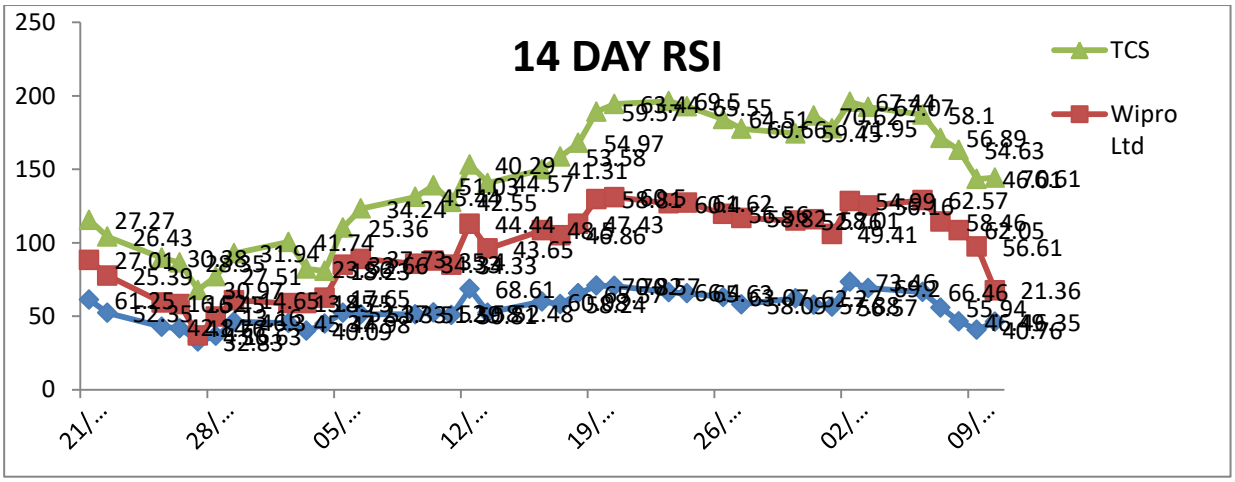
14 DAY RSI			
Days	**Infosys**	**Wipro Ltd**	**TCS**
21-11-2019	61.25	27.01	27.27
22-11-2019	52.35	25.39	26.43
25-11-2019	42.84	16.52	30.38

26-11-2019	41.76	16.45	28.35
27-11-2019	32.83	4.15	30.97
28-11-2019	36.63	13.16	27.51
29-11-2019	46.3	14.65	31.94
02-12-2019	45.37	13.45	41.74
03-12-2019	40.09	18.75	23.56
04-12-2019	44.98	17.65	18.23
05-12-2019	52.37	32.66	25.36
06-12-2019	51.33	37.73	34.24
09-12-2019	51.39	34.33	45.44
10-12-2019	52.58	35.4	51.03
11-12-2019	50.81	34.33	42.55
12-12-2019	68.61	44.44	40.29
13-12-2019	52.48	43.65	44.57
16-12-2019	60.08	48.5	41.31
17-12-2019	58.24	46.86	53.58
18-12-2019	65.57	47.43	54.97
19-12-2019	70.82	58.81	59.57
20-12-2019	70.57	60.5	63.44
23-12-2019	66.4	60.4	69.5
24-12-2019	65.63	61.62	65.55
26-12-2019	63.07	56.56	64.51
27-12-2019	58.09	58.82	60.66
30-12-2019	62.27	52.76	59.45
31-12-2019	57.88	58.01	70.62
01-01-2020	56.57	49.41	71.95
02-01-2020	73.46	54.99	67.44
03-01-2020	69.2	56.16	67.07
06-01-2020	66.46	62.57	58.1
07-01-2020	55.94	58.46	56.89
08-01-2020	46.49	62.05	54.63
09-01-2020	40.76	56.61	46.01
10-01-2020	46.35	21.36	76.61

Descriptive Statistics	**Infosys**	**Wipro Ltd**	**TCS**
Mean	54.93944444	40.6	48.10333333
Standard Error	1.778229365	3.013036332	2.761063086
Standard Deviation	10.66937619	18.07821799	16.56637852
Sample Variance	113.8355883	326.8219657	274.4448971
Skewness	-0.114492783	-0.432386456	-0.099177606
Range	40.63	58.42	58.38
Minimum	32.83	4.15	18.23
Maximum	73.46	62.57	76.61
Count(Days)	36	36	36

Interpretation: The above table 6.4 reveals that the 14 day RSI mean value of Infosys Mean Value is 54.93, Standard Deviation is 1.77. the mean value of Wipro Limited is 40.60, Standard Deviation is 3.01. The mean value of TCS is 48.103, Standard Deviation is 2.76. Hence it concludes that the relative strength index value Infosys is greater than the Wipro Limited and TCS. The Standard deviation and Coefficient of variance of infosis is lesser than the Wipro and TCS.

Chart-4



6. HYPOTHESIS TEST

Ho: there is no significant difference between 14 day RSI and Selected companies

Ha: there is a significant difference between 14 day RSI and Selected companies

Table 5.5: ANOVA test for Infosys, Wipro and Tata Consultancy

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	3703.825119	2	1851.913	7.769149	0.000713	3.082852016
Within Groups	25028.58579	105	238.3675			

Interpretation: The above ANOVA table shows that the significant difference between 14 day RSI of Infosys, Wipro and Tata Consultancy the F value is 7.769 and the p value 0.00007 is less than at significant value of 0.05. Hence it concludes that there is a significant difference between 14 day Relative Strength Index and selected companies.

7. FINDINGS

Wipro RSI is 4.15. According to RSI analysis, Wipro is weak. As on 7-1-2020 wipro closed at 225.20 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 255.25 and Bearish for SHORT-TERM with Stop-loss of 237.70.

Infosys RSI is 32.83 According to RSI analysis, Infosys is weak. As on 3-1-2020 Infosys closed at 746.00 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 733.9 and Bearish for SHORT-TERM with Stop-loss of 733.90.

TaTa Consultancy RSI is 23.56. According to RSI analysis, TCS is weak. As on 8-1-2020 TCS closed at 2255.20 and Our Technical View for LONG-TERM is Bullish with Stop-loss of 2205.00 and Bearish for SHORT-TERM with Stop-loss of 2202.00.

Hence it is not the best time to invest as RSI for all the three companies is less. But if we compare the three company's Infosys services is best among three.

8. SUGGESTIONS

In day trading it's all about momentum and there's usually very little margin for error - you have to be prepared to get in and out quickly, as the momentum will often turn on a dime. Correctly judging when to pull the trigger for an entry or exit is an important factor as to whether the trade is successful or not.

No doubt, experience is a huge part of the equation when it comes to reading momentum, but fortunately there are some good tools available to traders that help flag possible momentum changes. When used correctly, the Relative Strength Indicator is one of the best.

Reversal Indicator Suggestions:

Broadly speaking, RSI is a momentum indicator measuring the internal strength of a trading instrument. Traders use it to help identify price moves to extreme levels, such as overbought and oversold. RSI is a type of banded oscillator that measures swings in energy between near-term highs and lows. In simple terms, it compares the current strength of a trading instrument's price against that instrument's recent prices, providing insight as to whether there is momentum (upside or downside) and the strength (or lack, thereof) of such momentum.

The indicator is very straightforward, using a scale that is plotted between zero and 100. The presets are generally 70 for overbought and 30 for oversold, but many traders look for more extreme readings, using settings of 95 and above for overbought and 5 and below for oversold.

Simply stated, when the plot line moves above the overbought signal line, the chances for reversal begin to increase - the longer it stays above that line and climbs, the more substantial the risk of a downside reversal. Inversely, a move below the oversold plot line indicates increased risk of an upside reversal, with the risk growing the longer the plot line remains below the signal line or actually moves closer to zero. **Trade Trigger Suggestions:**

Some traders use RSI to help identify building trends, but more often you will see it used as a trigger for trade entry and exit. That strategy is quite simple, with a buy signaled when the RSI plot line crosses from below to back above the oversold mark. On the flipside, a sell signal flags when the RSI plot line crosses from above to back below the overbought mark. When shorting a trade instrument the opposite holds true - the sell trigger occurs on an overbought signal crossover and the buy (closing trade) trigger flags on an oversold signal crossover.

While RSI can help trigger buy and sell signals, it's important to remember that oversold and overbought conditions can last for extended periods of time. Moreover, when a trade instrument has been strongly trending in either direction, the indicator is of little use and can actually get traders in trouble, triggering sell signals into a strong market or buy signals for a market that is heading south with strong momentum. As such, many traders tend to use RSI in tandem with other indicators.

RSI Settings Suggestions:

The formula for relative strength is: RSI = 100 – (100 / (1 + RS)). In this formula, RS = (average of (x) days up closes) / (average of (x) days' down closes). The main variable to be set is the period you'd like to measure. A daily chart measures days (each bar on the chart represents a 1-day period), while a 5-min. chart measures periods of 5 minutes (each bar on the chart represents a 5-min period). The default is generally set at 14 (looking back 14 periods) for most charting packages, but it can set it to any period. The shorter the period set, the more sensitive the reading. It's worth noting there have been recent studies that point to much shorter periods (2-period RSI) being more effective than longer periods, such as the 14-period setting.

9. CONCLUSION

One of the keys to trading success is developing the ability to spot opportunities and identify ways to take advantage of them. RSI tool is a best tool to analyze the stock s for traders in stock market. Clearly a great many opportunities are likely available at any given point in time among the various stocks are traded in the market. Trading in the direction of the major trend has long been one of the best methods for improving one's odds in the financial markets.

The specific methods described in this piece should be no means be considered the "be all, end all" of trend identification tools - far from it. In fact, they are presented merely as examples of ways to objectively identify and categorize the longer-term trend. Individual investors may find different and better ways to achieve this task across a cross-section of tradable markets. From there the next piece of the puzzle remains: deciding specifically when to enter of exit trades. Whatever method or methods one ultimately settles on, they will at least enjoy some peace of mind in knowing that they are trading with the primary trend of that particular market.

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