Performance Evaluation and Stock Selection based on Technical Indicators-RSI, MFI, MACD, Awesome, Momentum and Stochastic Indicators

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Abstract

An Index is a thorough measure of market patterns, planned for financial specialists who are worried with general securities exchange value developments. An Index contains stocks that have expansive liquidity and market capitalization. The Index esteem analyzes the day's market capitalization opposite base capitalization and demonstrates how costs all in all have moved over a timeframe. Use of technical indicators to trade in the stock market, commodity market or forex market is not new and it is in use for the past many decades but yet not many people use them as they find them little tricky and complex to understand. The main aim of this study is to use different technical indicators for the purpose of stock trading on Indian Stock Exchanges in cash market and evaluate the performance of selected technical indicators. For this study six important technical indicators namely Relative Strength Index (RSI), Moving Average Convergence Divergence (MACD), Money Flow Index (MFI), Stochastic Oscillator, Awesome Oscillator & Momentum Oscillator. In this study six technical indicators are used and trades are taken according to them but it is wise to keep in mind the human factor cannot be separated from trading strategies where there is money involved. Apart from this human can take decisions in situation which are beyond the capabilities of any indicator.

Keywords: Market Pattern: Index: Human Factor: Technical Indicators; Market Capitalization: Stochastic

Introduction

For any investors or trader there are many investment opportunities in which he can invest his money. These investment avenues ranges from investment in Gold, Property, Forex Market, Commodity Market or Stock Market. Among all these investment opportunities stock market is major investment avenues which involves trading of billions of dollars daily. Investment in stock market is preferred by many investors and traders as it gives higher returns than other investment opportunities and also greater than interest paid by banks which is not enough when adjusted against inflation. In India the market gives average return of 10-12% annual over last few years which is definitely better than the fixed deposit interests from banks. But with higher returns comes the higher risk. There are more cases of failure in market mostly on the part of retail investors than success. Investing in stock market is not everyone cup of tea and trading regularly is more difficult. But despite this many new entrants entry the market is more attracted toward trading rather than investing. The time has compact in recent days due to the advancement in technology and introduction of online trading reaching more and more

people. The trades which used to take one week to settle in early 1990s is reduced to just 2+Tdays. Now a day's intraday trade is getting popularity but it has also increased the risk for the traders and investors to new height. Now investors don't trust companies the way they trust them back in two or three decades. The large cap companies with good reputation can fall more than 10% in a day even after the announcement of good results on the other hand company with bad fundamental can give better results. The volatility of the market is increasing every day, the markets have become more volatile due to more flow of money into markets and advancement in technology which give power to investors and traders to execute trade order by one click of mouse or even through mobile phone. The main drawback of such advancement is that the market or stock prices react to even small news or even rumors even before the fundamentals of the company can come into considerations. This has called for an approach which is fast and reliable on the basis of which investors and especially traders could take their trading decisions. It is no point to buy a stock which is already at the peak. But it doesn't mean every fallen stock will give good returns. To evaluate stock on the basis of data which is real time and available to all there was need of technical analysis of stocks.

Technical analysis of the stocks is based on the real time data which is easily available in recent time i.e. the prices of the stocks, the volume in the particular scrip, etc. From these data many technical indicators have been developed and rigorously tested to take trading decisions. Technical analysis could be separated into two categories one is technical charts which involves drawing of moving averages, supports, resistances, etc., on the other hand we have technical indicators which are more numerical in nature and derived from the moving averages or scrip data already mentioned. Both the approaches are widely accepted by the traders and investors and have their own merits and demerits. In recent days technical indicators are getting more popular than the technical charts approach. In this study I made use of technical indicators as the backbone for selecting the stocks in the market. The aim for using technical indicator over technical charts is that they are clearer and are more quantitative in nature as compared to technical charts. The use technical indicators are widely used in the developed countries and it is gaining popularity in India also. It is a new approach to investing and trading as compare to the traditional way of investment which is already there for many decades. One such investment popular strategy is value investing which was developed by Benjamin Graham and extensive research has been done on this investment strategy. The great Warren Buffet used the Graham investment model in his investment strategies and according to him Benjamin Graham is his mentor. According to this approach the investors try to invest in securities which priced less than its intrinsic value and wait for companies to perform over the time period. The Graham Model of investing is good for investors who have longer time horizon but it could not be applied for short time frame of few days or months. Traders required some fast approach which real time in nature could be. Traders make money in executing trades in the time spam of few minutes. For such trading style technical analysis came into picture on the basis of which software-based trading is based. There are technical indicators which gives buying and selling signals on minute basis and even seconds basis. We have Technical charts which are based on time series in seconds and trader make money even with small fluctuations in the prices of the stock. But it doesn't mean that Technical indicators could be used by only large firms and traders, even retail investors can use these technical indicators to take trading calls but not for intraday but for week or months. I think intraday trading is not for retail investors as they are not equipped with resources to even predict 1% of the price movement in a day. In the medium run retail investor doing intraday trading will have net loss. It is good for small traders and investors to have few weeks of time frame when trading on the basis of technical indicators.

The stochastic Oscillator is a two - line indicator that fluctuates between 0 and 100.It is basically a momentum indicator comparing the closing price of a security to the range of its prices over a certain period of time. It is used for overbought/oversold readings, divergence, bull/bear trade setups and crossovers. Since the indicator has two lines labelled %K and %D

%K= (Current Close-Lowest Low) / (Highest High – Lowest Low) * 100

%D=3-day SMA of %K   SMA=Simple Moving Average

Literature Review

Revisiting the performance of MACD & RSI Oscillators, (2014). Terence Tai-Leung Chong, Wing-Kam Ng and Venus Khim-Sen Liew, has evaluated the performance of two technical indicators namely MACD and RSI by applying them on stock trading on five OECD Stock Exchanges and some developing countries Stock Exchanges. They found that these two indicators give abnormal returns as compared to traditional approach of Buy & Hold. The returns were significantly larger in cases of developing Countries. Relative Strength Index Revisited (2011) has compared the RSI with the new indicator by combining the RSI with Volume. He used the daily closing price of S&P 500 for his study. He found that new approach generates better results as compared to the classical RSI indicator. Classical approach resulted in loss for the give time frame as compared to combine indicator of volume & RSI. Profitability of Technical Analysis Indicators (2014) Mohsen Ghobadi, has evaluated various technical indicators like SMA, RSI, MFI, etc. by applying on different commodities traded on London Metal Exchange between 2000 and 2013. He concluded that by combining different technical indicators one can generate abnormal profits from the capital market. He also found that Buy signals were more reliable and consistent as compared to Sell Signals. Technical indicator: Predict the share price, (2017), Basavaraj Nagesh Kadamudimatha has applied two technical indicators RSI and MFI on different banking stocks trading on Indian Stock Exchanges and evaluated their performance over a period of time from 2012 to 2016. He found that RSI and MFI give divergence results and thus one should use only one indicator. Technical analysis in select stocks of Indian companies (2014)C. Boobalan has explained the basics of technical analysis and applied technical indicators, moving averages and charts to predict the movement of selected stocks on the Indian Stock Exchanges. He concluded that technical analysis is quite beneficial is predicting the future price movements of the stock and can be applied in conjunction with fundamental analysis. Magic of Fibonacci sequence in Prediction of Stock Behavior, (2014) Rajesh Kumar, says Fibonacci sequence is a very good tool to predict the accurate resistance and support levels for stock prices. The author has explained about the working of Fibonacci Retracement used for determining support and resistance levels by using Nifty Index data. Fibonacci implementation is not easy to understand and many investors find it difficult to implement correctly. Because of these limitations it is not very popular among general investors but it is widely used by professional around the world in broking and investment firms. Technical Analysis of selected companies IT Sector, (2013), Hemal Pandyahas applied technical indicators like RSI, MACD, ROC, etc. on selected IT companies like HCL, INFOSYS, etc. In addition to indicators the author also make use of charts and moving averages to determine support and to drive other information. The author concludes that technical analysis could be employed to determine the future prices of stocks which in turn is helpful in determining the growth in particular sector. Technical Analysis of Forex by MACD Indicator(2013),the authors has applied MACD indicator to four major currencies Euro, sterling, Japanese Yen and Dollar. The have used hourly data of currency fluctuation for their study from 2000 to 2010. He finds that MACD didn't perform well for three out of four currencies. The best result was given by Euro. This study was conducted in an environment with many trading restriction and error could be introduced because of involvement of human. The author used only one technical indicator which is not a good option as one indicator alone could not take care of all the factor affecting the market.

Technical Analysis on selected stocks of Energy sector (2011) has explained the technical analysis in detail and make an attempt to implement few technical indicators. The author has selected energy sector for her study and selected following company for analysis, namely Tata Power, ONGC, NTPC, GAIL, etc. The period of the study is for three years. The author made use of only Beta and RSI for technical analysis which was a very narrow approach taken by the author as too few indicators will not give the complete picture of the price movements resulting in errors. Technical Analysis indicators (2014),: Bhamini Garghas explained the various technical indicators in the given study and attempted to explain the relevance of various technical indicators like RSI, Moving Averages, ADX, etc. the author concludes that technical indicators are widely used by investors and traders around the world as they provide many relevant and useful information but there are limitations to the use of technical indicators in the trading of stocks. has evaluated the performance of two technical indicators namely MACD and

RSI by applying them on stock trading on five OECD Stock Exchanges and some developing countries Stock Exchanges. They found that these two indicators give abnormal returns as compared to traditional approach of Buy & Hold. The returns were significantly larger in cases of developing Countries.

Data Analysis

BS LTD

BS LTD INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	12	YES
MONEY FLOW INDEX	<25	5	YES
STOCHASTIC	<30	3.83	YES
AWESOME		-70	YES
MOMENTUM		-1.15	YES
MACD		-23	YES
RESISTENCE		7.5	
SUPPORT		4.2	
TARGET		6	ACHIEVED

Interpretation of Technical indicators:

RSI of BS Ltd is 12 which is very low and it suggests that it is heavily oversold. This argument is supported by other important indicators Money Flow Index (MFI) which is well below 20 level, Stochastic Oscillator which is also below 20 level and MACD.

All other supportive indicator are also pointing toward a buy signal.

Jkil

JKIL INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	12	YES
MONEY FLOW INDEX	<25	5	YES
STOCHASTIC	<30	3.83	YES
AWESOME		-70	NO
MOMENTUM		-100	NO
MACD		-23	NO
RESISTENCE		170	
SUPPORT		105	
TARGET		172	ACHIEVED

Welspun India
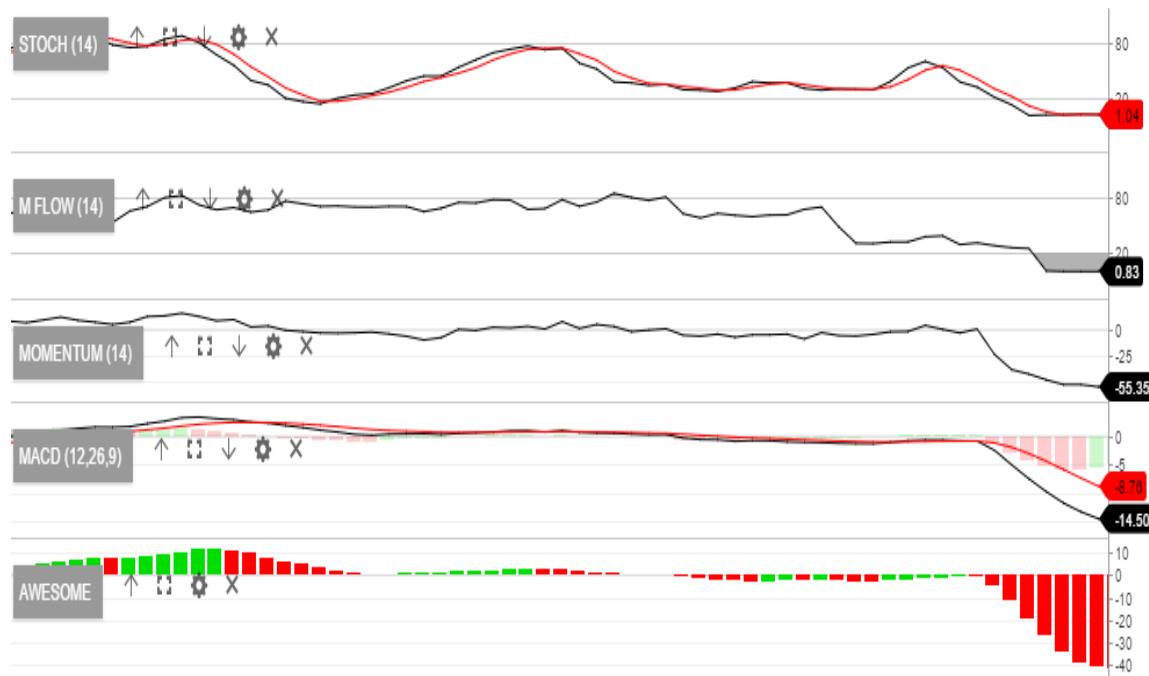
WELSPUN INDIA INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	12.54	YES
MONEY FLOW INDEX	<25	0.83	YES
STOCHASTIC	<30	1.04	YES
AWESOME		-40	NO
MOMENTUM		-55	NO
MACD		-14.5	NO
RESISTENCE		62	
SUPPORT		45	
TARGET		60	

Idea
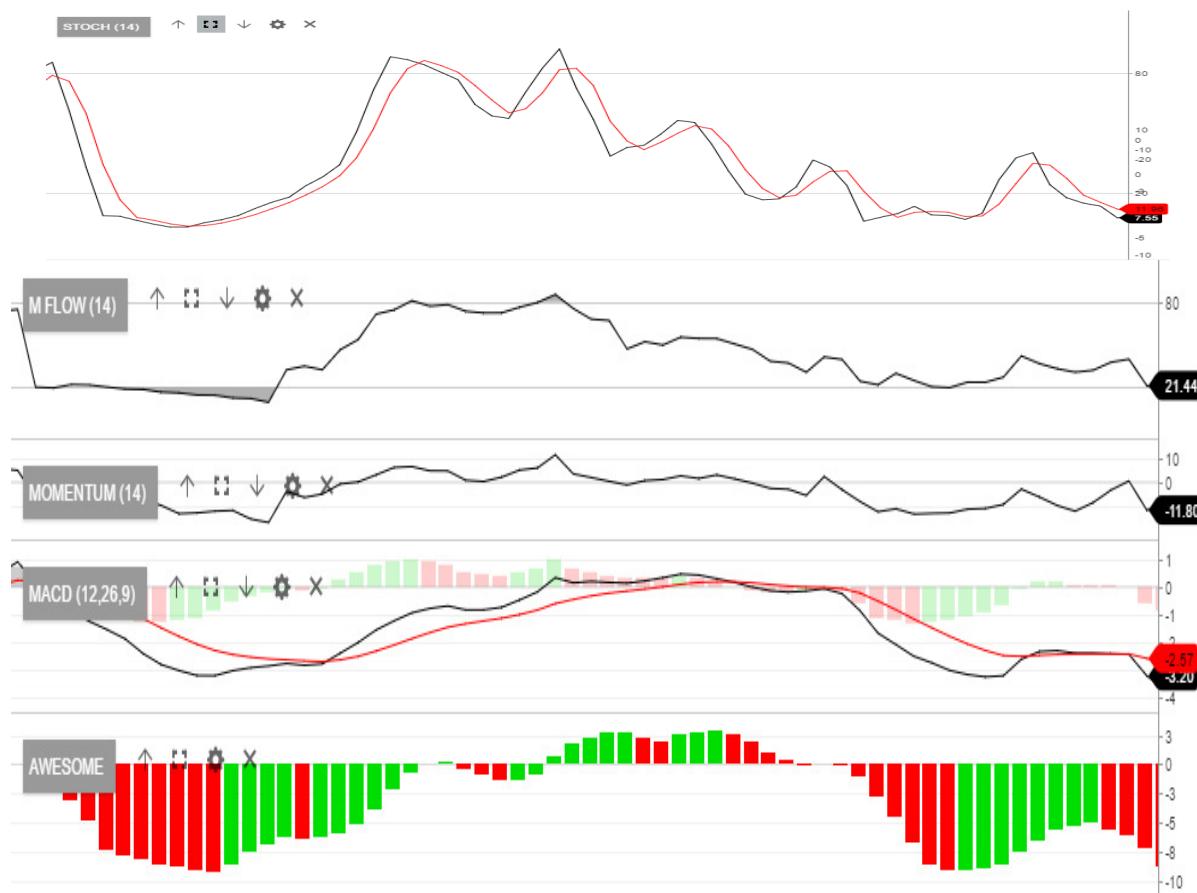
IDEA INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	27.2	YES
MONEY FLOW INDEX	<25	21.5	YES
STOCHASTIC	<30	7.55	YES
AWESOME		-9	NO
MOMENTUM		-11.8	NO
MACD		-3.2	DIVERGENCE
RESISTENCE		92	
SUPPORT		78	
TARGET		91	

Bharti Airtel

AIRTEL INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	32.5	NO
MONEY FLOW INDEX	<25	36.33	NO
STOCHASTIC	<20	19	YES
AWESOME		-30	NO
MOMENTUM		-25.5	YES
MACD		-0.8	YES
RESISTENCE		350	
SUPPORT		300	
TARGET		350	

Marksan Pharma

MARKSAN PHARMA INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	28.2	YES
MONEY FLOW INDEX	<25	41	NO
STOCHASTIC	<30	-18.3	YES
AWESOME		-3	NO
MOMENTUM		-100	YES
MACD		-0.61	YES
RESISTENCE		47	
SUPPORT		37	
TARGET		45	

Dr Reddy

DR REDDY INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	35.5	NO
MONEY FLOW INDEX	<25	18.67	YES
STOCHASTIC	<30	12.37	YES
AWESOME		-0.25	YES
MOMENTUM		-8.7	YES
MACD		-76	YES
RESISTENCE		3300	
SUPPORT		3000	
TARGET		3280	

Marico

MARICO INDICATORS	OVERSOLD RANGE	ACTUAL VALUE	SIGNALS
RSI	10-30	58.1	NO
MONEY FLOW INDEX	<25	58.4	NO
STOCHASTIC	<30	84	NO
AWESOME		15	YES
MOMENTUM		9.35	NO
MACD		5.9	NO
RESISTENCE		290	
SUPPORT		260	
TARGET		290	

Results

SCRIP	PROFIT&LOSS	PROFIT&LOSS %	POSITION	MONEY INVESTED
JKIL	6029.98	15.33%	CLOSE	24600.42
SYNCOM	-339.41	-13.34%	CLOSE	2544.46
DR REDDY	-32.36	-1.06%	CLOSE	3042.87
MARICO	43.56	1.72%	CLOSE	2529.22
MARKSAN	2.1	0.02%	CLOSE	10397.64
BHARTI AIRTEL	46.78	0.45%	CLOSE	10253.82
BS LTD	3890	45.00%	CLOSE	8620
IDEA	302.33	3.02%	CLOSE	10024.67
WELSPUN INDIA	2481.69	3.64%	CLOSE	33131.46
TOTAL	12424.67			105144.56
PROFIT/LOSS %	11.8%			

DATE	SCRIP	buy qty	sell qty	price	trade value	total brokerage	% brokrage	NET BUY	NET SELL
12-Aug-16	JKIL	25	0	141.35	3533.75	13.97	0.40	3547.72	0
12-Aug-16	JKIL	5	0	141.35	706.75	2.8	0.40	709.55	0
12-Aug-16	JKIL	5	0	141.35	706.75	2.8	0.40	709.55	0
12-Aug-16	JKIL	20	0	141.35	2827	11.19	0.40	2838.19	0
12-Aug-16	JKIL	5	0	141.35	706.75	2.8	0.40	709.55	0
12-Aug-16	JKIL	20	0	141.35	2827	11.19	0.40	2838.19	0
12-Aug-16	JKIL	20	0	141.35	2827	11.19	0.40	2838.19	0
16-Aug-16	JKIL	5	0	121.95	609.75	2.5	0.41	612.25	0
16-Aug-16	JKIL	21	0	122	2562	10.52	0.41	2572.52	0
16-Aug-16	JKIL	50	0	122	6100	25.02	0.41	6125.02	0
16-Aug-16	JKIL	1	0	122	122	0.51	0.42	122.51	0
16-Aug-16	JKIL	8	0	121.65	973.2	3.98	0.41	977.18	0
25-Aug-16	JKIL	0	54	153.4	8283.6	33.23	0.40	0	8250.37
25-Aug-16	JKIL	0	46	153.4	7056.4	28.29	0.40	0	7028.11
25-Aug-16	JKIL	0	3	151.45	454.35	1.83	0.40	0	452.52
16-Aug-16	JKIL	0	3	151.4	454.2	1.83	0.40	0	452.37
25-Aug-16	JKIL	0	43	151.3	6505.9	26.18	0.40	0	6479.72
25-Aug-16	JKIL	0	1	151.45	151.45	0.61	0.40	0	150.84
25-Aug-16	JKIL	0	19	151.4	2876.6	11.58	0.40	0	2865.02
25-Aug-16	JKIL	0	1	151.4	151.4	0.61	0.40	0	150.79
25-Aug-16	JKIL	0	10	151.45	1514.5	6.1	0.40	0	1508.4
25-Aug-16	JKIL	0	1	151.45	151.45	0.61	0.40	0	150.84
25-Aug-16	JKIL	0	1	151.45	151.45	0.61	0.40	0	150.84
25-Aug-16	JKIL	0	3	151.45	454.35	1.83	0.40	0	452.52
25-Aug-16	JKIL	42	0	146.9	6169.8	24.74	0.40	6194.54	0
25-Aug-16	JKIL	58	0	146.85	8517.3	34.14	0.40	8551.44	0
16-Sep-16	JKIL	0	75	173.55	13016.25	52.29	0.40	0	12963.96
16-Sep-16	JKIL	0	11	173.5	1908.5	7.67	0.40	0	1900.83
16-Sep-16	JKIL	0	14	173.5	2429	9.75	0.40	0	2419.25
	total	285	285					39346.4	45376.38

NET QTY	0
AVG BUY PRICE	138.0575
AVG SELL PRICE	159.2154
PROFIT/LOSS PER SHARE	21.15782
PROFIT/LOSS %	15.33%
NET PROFIT/LOSS	6029.98
MONEY INVESTED	24600.42

Welspun India

date	scrip		buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
25-Aug-16	WELSPUN INDIA	BUY	163	0	61.65	10048.95	40.37	0.40	10089.32	0
26-Aug-16	WELSPUN INDIA	BUY	41	0	51.3	2103.3	14.19	0.67	2117.49	0
26-Aug-16	WELSPUN INDIA	BUY	76	0	51.3	3898.8	15.67	0.40	3914.47	0
30-Aug-16	WELSPUN INDIA	BUY	214	0	46.45	9940.3	39.85	0.40	9980.15	0
30-Aug-16	WELSPUN INDIA	BUY	1	0	46.4	46.4	0.2	0.43	46.6	0
30-Aug-16	WELSPUN INDIA	BUY	150	0	46.35	6952.5	30.93	0.44	6983.43	0
7-Sep-16	WELSPUN INDIA	sell	0	645	56.07	36165.15	50		0	36115.15
7-Sep-16	WELSPUN INDIA	buy	600	0	58.4	35040	50		35090	0
7-Sep-16	WELSPUN INDIA	sell	0	600	57.73	34638	50		0	34588
		TOTAL	1245	1245					68221.46	70703.15

NET QTY	0
AVG BUY PRICE	54.79635341
AVG SELL PRICE	56.78967871
PROFIT/LOSS PER SHARE	1.993325301
PROFIT/LOSS %	3.64%
NET PROFIT/LOSS	2481.69
MONEY INVESTED	33131.46

Idea

date	scrip	BUY/SELL	buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
7/9/2016	IDEA CELL	BUY	120	0	83.2	9984	40.67	0.407%	10024.67	0
20/9/2016	IDEA CELL	SELL	0	120	86.4	10368	41	0.395%	0	10327

NET QTY	120
AVG BUY PRICE	83.53892
AVG SELL PRICE	86.05833
PROFIT/LOSS PER SH	2.519417
PROFIT/LOSS %	3.02%
NET PROFIT/LOSS	302.33

Syncom Formulation

DATE	SCRIP	buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
25-Jul-16	SYNCOM	845	0	2.97	2509.65	34.81	1.39	2544.46	0
23-Aug-16	SYNCOM	0	845	2.65	2239.25	34.2	1.53	0	2205.05
	TOTAL	845	845			69.01		2544.46	2205.05

NET QTY	0
AVG BUY PRICE	3.011195
AVG SELL PRICE	2.609527
PROFIT/LOSS PER SHARE	-0.40167
PROFIT/LOSS %	-13.34%
NET PROFIT/LOSS	-339.41

Bharti Airtel

date	scrip	BUY/SELL	buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
7/9/2016	BHARTIAII	BUY	32	0	319.15	10212.8	41.02	0.40%	10253.82	0
16/9/2016	BHARTIAII	SELL	0	32	323.3	10345.6	45			10300.6
	TOTAL		32	32	319.15	0	41.02	0	10253.82	10300.6

NET QTY	0
AVG BUY PRICE	320.4319
AVG SELL PRICE	321.8938
PROFIT/LOSS PER SH	1.461875
PROFIT/LOSS %	0.45%
NET PROFIT/LOSS	46.78

Bs Ltd

date	scrip		buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
29/09/201	BS LTD	BUY	2000	0	4.31	8620	20	0.23	8620	0
20/10/201	BS LTD	SELL	0	1000	6.2	6200	20	0.32	0	6180
20/10/201	BS LTD	SELL	0	1000	6.35	6350	20	0.31	0	6330
		TOTAL	2000	2000			60		8620	12510

NET QTY	0
AVG BUY PRICE	4.31
AVG SELL PRICE	6.255
PROFIT/LOSS PER SH	1.945
PROFIT/LOSS %	45.13%
NET PROFIT/LOSS	3890

Marico

date	scrip		buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
27/07/2016	MARICO	BUY	9	0	278.15	2503.35	25.87	1.03	2529.22	0
2/8/2016	MARICO	SELL	0	9	288.75	2598.75	25.97	1%		2572.78
	TOTAL			9	9			51.84		2529.22	2572.78

NET QTY	0
AVG BUY PRICE	281.0244
AVG SELL PRICE	285.8644
PROFIT/LOSS PER SHARE	4.84
PROFIT/LOSS %	1.72%
NET PROFIT/LOSS	43.56

Dr Reddy

scrip	buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
Dr Reddy	1	0	3016.4	3016.4	26.47	0.88	3042.87	0
Dr Reddy	0	1	3037	3037	26.49	0.87	0	3010.51
TOTAL	1	1			52.96		3042.87	3010.51

NET QTY	0
AVG BUY PRICE	3042.87
AVG SELL PRICE	3010.51
PROFIT/LOSS PER SHARE	-32.36
PROFIT/LOSS %	-1.06%
NET PROFIT/LOSS	-32.36

Marksan

scrip		buy qty	sell qty	price	trade valu	total brok	% brokrag	NET BUY	NET SELL
MARKSAN	BUY	260	0	39.9	10374	23.64	0.23	10397.64	0
MARKSAN	SELL	0	50	40.1	2005	1.32	0.07	0	2003.68
MARKSAN	SELL	0	201	40.1	8060.1	24.7	0.31	0	8035.4
MARKSAN	SELL	0	9	40.1	360.9	0.24	0.07	0	360.66
	TOTAL	260	260			49.9		10397.64	10399.74

NET QTY	0
AVG BUY PRICE	39.99092
AVG SELL PRICE	39.999
PROFIT/LOSS PER SHARE	0.008077
PROFIT/LOSS %	0.02%
NET PROFIT/LOSS	2.1

Conclusion

Selection of scrips on the basis of technical indicators is a good strategy as they do results good returns. The technical indicators provide investors and traders with concrete parameters on which their trading and investment decisions could be based upon. In this study six technical indicators are used and trades are taken according to them but it is wise to keep in mind the human factor cannot be separated from trading strategies where there is money involved. Apart from this human can take decisions in situation which are beyond the capabilities of any indicator. Technical indicator can't tell which company would give better results with same technical indicator results, it is the job of the trader to maximize his profits by taking sound decisions. The decisions taken on the basis of technical indicators cannot always be right or result in desired outcomes. In this study trading decisions are taken on the basis of six technical indicators if majority of indicators are pointing toward particular trade, trading decisions are taken on that basis. Out of nine scrips selected, three were deliberately traded against the technical indicators in order to measure the effects of such trading decisions. The results were quite in line with the expectations.

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