Original Research Paper

Commerce

SHARE PRICE MOVEMENT THROUGH TECHNICAL ANALYSIS WITH SPECIAL REFERENCE TO INFORMATION TECHNOLOGY (IT) COMPANIES

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ABSTRACT

"Technical analysts believe that the historical performance of Stocks and markets are indications of future performance".

Technical analysis is based on analyzing current demand-supply of commodities, stocks, indices, futures or any tradable instrument. It is a method of evaluating securities by analyzing the statistics generated by market activity, such as past prices and volume. It helps in understanding the intrinsic value of shares and knowing whether the shares are undervalued or overvalued. Through technical indicators, investors can analyze the short-term price movement of the stock, the most important market turning points and project the price movement. The Information technology (IT) sector has grown much faster globally. So, this study made an attempt to analysing the price movements of top five Information Technology companies (i.e.: Tata Consultancy Service, Infosys Limited, Wipro Limited, Hindustan Computers Limited and Cognizant Technology Solution). Secondary data were used for the purpose of technical analysis (i.e.: the daily share price movements of the selected top five Information Technology (IT) sector) in National Stock Exchange. This study covers a period of six months from 1st July 2017 to 31st December 2017. The major tools used in this study are Moving Average (MA), Rate of Change (ROC) and Relative Strength Index (RSI). Finally this study concludes that the investors who are willing to invest their investment in Information Technology (IT) Sector, the top performers are Tata Consultancy Services and Infosys Limited and also this study strongly suggests the investor, technical analysis was highly essential for deciding the suitable stock.

INTRODUCTION

Generally, stock market across the globe replicates the fluctuation of the market's economy, and attracts the attention of millions of investors. The stock market is characterized by high risk and high yield; hence investors are concerned about the analysis of the stock market and are trying to forecast the trend of the stock market. There are two main schools of thought in the financial markets, technical analysis and fundamental analysis. Fundamental analysis attempts to determine a stock's value by focusing on underlying factors that affect a company's actual business and its future prospects. Fundamental analysis can be performed on industries or the economy as a whole. Technical analysis, on the other hand, looks at the price movement of a stock and uses this data to predict its future price movements.

TECHNICAL ANALYSIS

Technical analysis is based on analyzing current demand-supply of commodities, stocks, indices, futures or any tradable instrument. Technical analysis involve putting stock information like prices, volumes and open interest on a chart and applying various patterns and indicators to it in order to assess the future price movements. Technical analysis helps to predict the direction of share price movement through the study of past market data, primarily price and volume.

STATEMENT OF THE PROBLEM

Equity investments offer considerable returns to investors and is considered to be a major source of capital for most large firms. However, these returns are subject to movement in share prices. Technical analysis is the study of historic price movements of securities. It helps in understanding the intrinsic value of shares and knowing whether the shares are undervalued or overvalued.

The stock market indicators would help the investor to identify major market turning points. Through technical indicators, investors can analyze the short-term price movement of the stock, the most important market turning points and project the price movement. This study made an attempt to apply technical analysis tools and techniques on selective top five companies particularly in the Information Technology (IT) sector. This study further, aims to assist investment decisions to the investors.

SCOPE OF THE STUDY

The Information technology (IT) sector has grown much faster globally. The contribution of the IT sector to India's Gross Domestic Product (GDP) stood at 7.7 per cent in 2016. This clearly shows that information technology is a sector which will likely be one of the emerging markets in the days to come as India's economy requires more hardware, software and other IT services. So, this study aims to analysing the price movements of top five Information Technology companies.

OBJECTIVES OF THE STUDY

1) To study the relevance of technical analysis in Indian capital market;
2) To analyses the price movement of shares of Information Technology (IT) sector companies;
3) To find out the performance of selected Information Technology (IT) companies;
4) To predict the future trends in the share prices through Technical Analysis; and
5) To suggesting the investors in making investment decisions.

METHODOLOGY OF THE STUDY
SOURCE OF DATA

The study aims at analysing the share price movements of selected top five Information Technology (IT) sector. The research was descriptive and analytical in nature. The required data for the study were collected from the secondary sources.

DATA COLLECTION

For Technical Analysis, Secondary Data the daily share price movements of the selected top five Information Technology (IT) sector in National Stock Exchange were absorbed for the six months i.e. 1st July 2017 to 31st December 2017. The closing prices of share prices were taken and the future price movement was analyzed using various tools. Data were collected from trading of equity market in NSE, various books, journals, magazines and websites. The sample top five Information Technology (IT) companies are (1) Tata Consultancy Service; (2) Infosys Limited; (3) Wipro Limited; (4) Hindustan Computers Limited; and (5) Cognizant Technology Solution.

STUDY PERIOD

The study covers a period of six months from 1st July 2017 to 31st December 2017.

TOOLS USED FOR ANALYSIS

The major tools used in this study are:
- Moving Average (MA)
- Rate of Change (ROC)
- Relative Strength Index (RSI)

MOVING AVERAGE (MA)

A moving average is the average price of a security over a set amount of time. It is especially helpful in volatile markets. A simple moving average is formed by computing the average (mean) price of a security over a specified number of periods.

For example: A 5 – day moving average is calculated by adding the closing prices for the last 5 days and dividing the total by 5.

RATE OF CHANGE (ROC)

The rate of change (ROC) is the speed at which a variable changes over a specific period of time. ROC is often used when speaking about momentum and it can generally be expressed as a ratio between changes in one variable relative to a corresponding change in another; graphically, the rate of change is represented by the slope of a line.

Rate of Change (ROC) = {(current value / previous value) - 1} x 100

RELATIVE STRENGTH INDEX (RSI)

The relative strength index (RSI) is an extremely useful oscillating momentum indicator that was developed by J. Welles Wilder and is one of the most widely used indicators in technical analysis. RSI oscillates between zero and 100. The most popular is the 14 days RSI where the RSI is calculated based on 14 days values. Traditionally the stock is considered to be over bought when RSI is above 70 and over sold when RSI is below 30.

Relative Strength Index (RSI) = 100 – [100 / (1+RS)]
Where, RS = Average Gain / Average Loss

TABLE – 1 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF JULY 2017

TCS				Infosys Limited				Wipro Limited				HCL				CTS			
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2373.4	-	-	-	951.4	-	-	-	259.6	-	-	-	838.15	-	-	-	66.7	-	-	-
2364	-	-	-	960.5	-	-	-	260	-	-	-	841.55	-	-	-	66.89	-	-	-
2357.75	-	-	-	951.05	-	-	-	257.8	-	-	-	837.5	-	-	-	66.29	-	-	-
2344.8	-	-	-	947.5	-	-	-	257.75	-	-	-	840.65	-	-	-	66.96	-	-	-
2332.2	-	-	-	936	-	-	-	257.7	-	-	-	831.9	-	-	-	67.28	-	-	-
2440.85	-	-	-	959.05	-	-	-	268.25	-	-	-	849.65	-	-	-	67.6	-	-	-
2471.9	-	-	-	975.8	-	-	-	263.2	-	-	-	850.65	-	-	-	68.13	-	-	-
2439.1	-	-	-	973.8	-	-	-	263.8	-	-	-	854	-	-	-	67.9	-	-	-
2444.05	-	-	-	976.3	-	-	-	264.05	-	-	-	858.6	-	-	-	68.83	-	-	-
2398.8	2396.69	-	-	972.05	960.34	-	-	259.85	261.2	-	-	850.35	845.3	-	-	68.89	67.55	-	-
2395.7	2398.92	-	-	985.35	963.74	-	-	266.85	261.93	-	-	868.1	848.3	-	-	68.79	67.76	-	-
2405.25	2403.04	1.34	-	985.4	966.23	3.57	-	269	262.83	3.62	-	880.7	852.21	5.08	-	69.5	68.02	4.2	-
2450.45	2412.31	3.66	-	979.9	969.11	2.02	-	271.1	264.16	4.27	-	895.4	858	6.4	-	69.96	68.38	4.59	-
2445.2	2422.35	3.71	-	969	971.26	1.89	-	269.15	265.3	4.4	-	885.65	862.5	5.75	-	69.98	68.69	5.57	-
2490.9	2438.22	6.23	208.6	979.9	975.65	3.42	265.44	286.05	268.13	10.98	151.04	904.95	869.81	7.65	146.11	69.96	68.95	4.48	129.14
2532.65	2447.4	8.59	170.09	991.2	978.87	5.9	253.58	291.55	270.46	13.14	142.79	907.4	875.58	9.08	146.77	69.97	69.19	4	130.84
2570.65	2457.27	5.32	152.58	994.15	980.71	3.66	187.47	289.55	273.09	7.94	141.89	895.05	880.02	5.34	167.94	70.05	69.38	3.62	109.31
2554.8	2468.84	3.35	154.69	993.75	982.7	1.84	174.7	289.35	275.65	9.94	142.56	892.7	883.89	4.94	179.64	69.72	69.57	2.33	124.64
2484.35	2472.87	1.86	213.51	972.3	982.3	-0.15	222.59	289.7	278.21	9.82	141.87	890.25	887.06	4.24	160.24	69.32	69.61	2.09	152.94
2482.75	2481.27	1.58	515.99	997.85	984.88	2.21	214.69	289.05	281.13	9.47	167.55	893.1	891.33	4.02	180.9	69.32	69.66	0.71	162.79
2494.05	2491.1	3.97	886.9	1011.3	987.48	4.04	225.35	288.45	283.29	11.01	138.02	892.9	893.81	5	183.67				
Source: Compiled Data																			

Table 1 indicates that, the moving average of a sample top five Information Technology (IT) companies was gradually increased till the end of the month. In Tata Consultancy Services it gradually increased from 2396.69 to 2491.10. In Infosys limited it raise from 960.34 to 987.48. In a same manner Wipro limited moving average was gradually increased from 261.20 to 283.29. In Hindustan Computers Limited and Cognizant Technology Solution the moving average was raised from 845.30 to 893.81 and from 67.55 to 69.66. The result reveals that most of the days the entire sample IT company's share price shows the positive Rate of Change (ROC), it implies that these shares are outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of July 2017 all the company's Relative Strength Index (RSI) value was shown the positive result and it implies that these companies provide greater yield to their investors.

Table 2 pointed out that the moving average of four IT Information Technology (IT) companies was gradually decreased till the end of the month but Wipro limited moving average was gradually increased till the end of the month. In Tata Consultancy Services it gradually reduced from 2495.84 to 2494.31. In Infosys limited it falls from 981.83 to 921.26. In Wipro limited moving average was gradually increased from 289.51 to 290.56. In Hindustan Computers Limited and Cognizant Technology Solution the moving average was decreased from 879.47 to 867.98 and from 70.25 to 69.94. The result reveals that most of the days, out of five companies, four IT company's share price shows the negative Rate of Change (ROC), it implies that these shares are not outperformed the market in the short term. In Wipro limited most of the days share price shows the positive ROC, it implies that these shares are outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of August 2017 except Wipro Limited remaining IT companies Relative Strength Index (RSI) value was negative result and it indicates that these companies provide moderate return to their investors.

TABLE – 2 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF AUGUST 2017

TCS				Infosys Limited				Wipro Limited				HCL				CTS			
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2499.95	-	-	-	1005	-	-	-	294.8	-	-	-	884.2	-	-	-	69.51	-	-	-
2467.35	-	-	-	992.45	-	-	-	293.8	-	-	-	882	-	-	-	68.52	-	-	-
2489.55	-	-	-	983.6	-	-	-	289.1	-	-	-	875.75	-	-	-	69.95	-	-	-
2522.75	-	-	-	985.35	-	-	-	289.4	-	-	-	890.65	-	-	-	71.18	-	-	-
2504.6	-	-	-	968.15	-	-	-	287.75	-	-	-	886	-	-	-	69.59	-	-	-
2497.8	-	-	-	964.6	-	-	-	287.4	-	-	-	882	-	-	-	70.28	-	-	-
2501.95	-	-	-	969.45	-	-	-	286.5	-	-	-	878.75	-	-	-	71.01	-	-	-
2511.25	-	-	-	982.5	-	-	-	288.15	-	-	-	882.9	-	-	-	70.01	-	-	-
2494	-	-	-	987.75	-	-	-	289.7	-	-	-	872.3	-	-	-	70.61	-	-	-
2469.15	2495.84	-	-	979.45	981.83	-	-	288.5	289.51	-	-	860.1	879.47	-	-	71.84	70.25	-	-
2491.05	2494.95	-	-	976.8	979.01	-	-	289.95	289.03	-	-	864.5	877.5	-	-	71.67	70.47	-	-
2480.15	2496.23	-0.79	-	1021.15	981.88	1.61	-	288.35	288.48	-2.19	-	871.4	876.44	-1.45	-	72.06	70.82	3.67	-
2512.85	2498.56	1.84	-	923.1	975.83	-6.99	-	288.1	288.38	-1.94	-	876.25	876.49	-0.65	-	70.39	70.86	2.73	-
2521.4	2498.42	1.28	-	873.5	964.65	-11.19	-	287.7	288.21	-0.48	-	874.05	874.83	-0.19	-	70.07	70.75	0.17	-
2496.05	2497.56	-1.06	-3384.7	877.15	955.55	-10.98	-57.02	290.25	288.46	0.29	-164.84	875.85	873.81	-1.66	-443.11	69.52	70.75	-2.33	63031.6
2493	2497.08	-0.46	514.62	894.5	948.54	-7.61	-92.14	290	288.72	0.78	-197.37	880	873.61	-0.68	-2057.5	70.15	70.73	0.8	425.15
2495.3	2496.42	-0.1	1949.57	912.5	942.84	-5.4	-152.25	289.4	289.01	0.7	2500.1	867.5	872.48	-1.64	-498.79	70.02	70.63	-0.37	7857.15
2485.85	2493.88	-0.64	-213.82	941.15	938.71	-2.92	-305.77	290.7	289.27	1.47	653.84	867.65	870.96	-1.26	-114.78	69.82	70.61	-1.68	-313.97
2474.95	2491.98	-1.45	-266.1	927.55	932.69	-5.59	-332.88	290.75	289.37	0.9	285	852.55	868.98	-3.44	-78.92	69.78	70.53	-0.33	2247.34
2486.75	2493.74	-0.29	-820.81	926.65	927.41	-6.19	-356.13	291.2	289.64	0.52	236.84	849.2	867.9	-2.65	-80.49	69.96	70.34	-0.92	-1175
2496.75	2494.31	1.12	-1856.8	915.3	921.26	-6.55	-240.63	299.1	290.56	3.67	134.13	865.3	867.98	0.6	-315.99	69.65	70.14	-3.05	-222.79
																69.67	69.9	-2.79	-897.05
																70.77	69.94	-1.79	2218.8

Source: Compiled Data

TABLE – 3 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF SEPTEMBER 2017

TCS				Infosys Limited				Wipro Limited				HCL				CTS			
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days MA	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2463.2	-	-	-	920.1	-	-	-	296.45	-	-	-	865.75	-	-	-	70.83	-	-	-
2457.8	-	-	-	901.3	-	-	-	297.3	-	-	-	860.6	-	-	-	70.54	-	-	-
2477.65	-	-	-	901.1	-	-	-	297.25	-	-	-	859.9	-	-	-	70.93	-	-	-
2456.45	-	-	-	895.7	-	-	-	297.2	-	-	-	851.05	-	-	-	71.42	-	-	-
2458.95	-	-	-	895.55	-	-	-	298.95	-	-	-	859.3	-	-	-	71.1	-	-	-
2470.15	-	-	-	884.4	-	-	-	300.5	-	-	-	859.5	-	-	-	72.18	-	-	-
2463.55	-	-	-	878.55	-	-	-	301.15	-	-	-	860.7	-	-	-	72.84	-	-	-
2486.8	-	-	-	883.85	-	-	-	298.1	-	-	-	864.05	-	-	-	72.27	-	-	-
2488.1	-	-	-	883.55	-	-	-	295.9	-	-	-	871.3	-	-	-	71.74	-	-	-
2485.05	2470.77	-	-	892.3	893.64	-	-	283.45	296.63	-	-	880.8	863.29	-	-	71.82	71.57	-	-
2498.55	2474.31	-	-	908.6	892.49	-	-	285.75	295.56	-	-	887.05	865.42	-	-	72.04	71.69	-	-
2499.05	2478.43	1.46	-	908.45	893.2	-1.27	-	289.3	294.76	-2.41	-	897.35	869.1	3.65	-	72.5	71.88	2.36	-
2498.3	2480.5	1.65	-	911.3	894.22	1.11	-	289.25	293.96	-2.71	-	893.65	872.47	3.84	-	72.46	72.04	2.72	-
2492.4	2484.09	0.6	-	912	895.85	1.21	-	291.9	293.43	-1.8	-	889.45	876.31	3.44	-	71.86	72.08	1.31	-
2525.85	2490.78	2.83	168.48	909.55	897.25	1.55	-321.33	291.9	292.72	-1.78	-292.3	870.3	877.41	2.26	150.45	72.06	72.18	0.9	291.06
2502.35	2494	1.76	236.92	898.05	898.62	0.28	-1043.1	294.45	292.11	-1.51	-526.32	884.45	879.91	2.93	161.95	71.69	72.13	0.83	311.3
2508.2	2498.47	1.54	299.67	896.65	900.43	1.39	-761.81	291.9	291.19	-2.86	-280.37	874.05	881.24	1.69	143.34	71.62	72.01	-0.78	462.32
2474.9	2497.28	0.46	496.21	906.45	902.69	3.18	406.51	290.25	290.4	-3.62	-215.83	873.65	882.2	1.5	158.7	71.91	71.97	-1.28	610.2
2490.15	2497.48	0.13	334.3	898.65	904.2	1.67	1409.66	288.3	289.64	-3.29	-124.41	874.65	882.54	1.23	158.7	72.14	72.01	-0.18	309.61
2478.45	2496.82	-0.39	1121.68	895.7	904.54	1.38	386.73	285.9	289.89	-3.38	-80.14	875.2	881.98	0.45	158.7	72.54	72.08	1.12	705.55
2437	2490.66	-1.93	-350.66	898.75	903.56	0.72	231.44	280.25	289.34	-1.13	-52.87	874.8	880.76	-0.68	157.73				

Source: Compiled Data

Table 3 indicates that the moving average of four IT Information Technology (IT) companies was gradually increased till the end of the month but Wipro limited moving average was gradually decreased till the end of the month. In Tata Consultancy Services it gradually increased from 2470.77 to 2490.66. In Infosys limited it raises from 893.64 to 903.56. In Wipro limited moving average was gradually decreased from 296.63 to 289.34. In Hindustan Computers Limited and Cognizant Technology Solution the moving average was increased from 863.29 to 880.76 and from 71.57 to 72.08. The result shows that most of the days, out of five companies, four IT company's share price shows the positive Rate of Change (ROC), it implies that these shares are outperformed the market in the short term. In Wipro limited most of the days share price shows the negative ROC, it implies that these shares are not outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of September 2017 except Wipro Limited

remaining IT companies Relative Strength Index (RSI) value was positive result and it indicates that these companies provide greater return to their investors.

Table 4 indicates that the moving average of four IT Information Technology (IT) companies was gradually increased till the end of the month but Hindustan Computers Limited moving average was gradually decreased till the end of the month. In Tata Consultancy Services it gradually increased from 2486.79 to 2584.48. In Infosys limited it raises from 921.45 to 934.61. In Wipro limited and Cognizant Technology Solution the moving average was gradually increased from 287.64to 295.58 and from 73.44 to 74.75. In

Hindustan Computers Limited the moving average was gradually comes down from 908.78 to 894.43. The result shows that most of the days, out of five companies, four IT company's share price shows the positive Rate of Change (ROC), it implies that these shares are outperformed the market in the short term. In Hindustan Computer Limited most of the days share price shows the negative ROC, it implies that these shares are not outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of October 2017 except Hindustan Computers Limited remaining IT companies Relative Strength Index (RSI) value was positive result and it indicates that these companies provide greater yield to their investors.

TABLE – 4 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF OCTOBER 2017

	TCS				Infosys Limited				Wipro Limited				HCL				CTS		
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2447.05	-	-	-	903.95	-	-	-	282.95	-	-	-	882.55	-	-	-	72.45	-	-	-
2442.55	-	-	-	899.8	-	-	-	282.75	-	-	-	886.6	-	-	-	72.55	-	-	-
2430.15	-	-	-	903.1	-	-	-	283.6	-	-	-	893.15	-	-	-	72.65	-	-	-
2445.15	-	-	-	919.45	-	-	-	286.6	-	-	-	907.9	-	-	-	73.2	-	-	-
2452.55	-	-	-	923.65	-	-	-	286.8	-	-	-	902.8	-	-	-	73.8	-	-	-
2459.55	-	-	-	935.6	-	-	-	287	-	-	-	899.6	-	-	-	73.65	-	-	-
2500.5	-	-	-	930.6	-	-	-	290.65	-	-	-	908.95	-	-	-	74	-	-	-
2548.55	-	-	-	927.15	-	-	-	293.45	-	-	-	916	-	-	-	73.6	-	-	-
2556.75	-	-	-	931.9	-	-	-	291.9	-	-	-	926.5	-	-	-	74.09	-	-	-
2585.1	2486.79	-	-	939.3	921.45	-	-	290.7	287.64	-	-	923	904.7	-	-	74.38	73.44	-	-
2595	2501.59	-	-	931.45	924.2	-	-	289.85	288.33	-	-	923.3	908.78	-	-	74.17	73.61	-	-
2589.05	2516.24	5.8	-	924.45	926.67	2.27	-	294.75	289.53	4.17	-	923.7	912.49	10	-	73.97	73.75	2.1	-
2580.95	2531.32	5.67	-	927.1	929.07	3.03	-	292.05	290.38	3.29	-	922.3	915.4	4.03	-	73.94	73.88	1.92	-
2585.95	2545.4	6.41	-	939.65	931.09	4.05	-	296.9	291.4	4.69	-	937.25	918.34	4.94	-	74.27	73.99	2.23	-
2580.6	2558.2	5.54	127.18	926.75	931.4	0.79	276.97	296.8	292.4	3.56	147.65	914.55	919.51	0.73	212.19	74.8	74.09	2.19	142.13
2561.75	2568.42	4.45	142.49	935.4	931.38	1.27	201.69	298.9	293.59	4.22	139.63	907.05	920.26	0.47	312.23	74.4	74.16	0.81	175.14
2543	2572.67	3.39	150.51	947.5	933.07	1.27	181.53	302.3	294.76	5.33	134.22	869.05	916.27	-3.4	-237.76	74.69	74.23	1.41	168.14
2579.2	2575.74	3.15	142.52	947.45	935.1	1.81	229.46	296.95	295.11	2.17	213.53	854.95	910.16	-5.94	-80.36	74.25	74.3	0.34	274.29
2613	2581.36	2.53	135.53	944.65	936.37	1.89	285.95	293.25	295.24	-0.07	339.53	836.35	901.15	-8.7	-64.03	74.58	74.35	1.33	334.62
2616.3	2584.48	2.33	136.36	921.65	934.61	-1.1	-344.8	294.05	295.58	0.74	319.15	855.8	894.43	-7.63	-141.55	75.39	74.45	1.75	196.55
																75.51	74.58	1.52	211.26
																75.67	74.75	2.02	161.84

Source: Compiled Data

TABLE – 5 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF NOVEMBER 2017

	TCS				Infosys Limited				Wipro Limited				HCL				CTS		
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2602.5	-	-	-	926.25	-	-	-	293.55	-	-	-	840.65	-	-	-	73.54	-	-	-
2625.8	-	-	-	922.9	-	-	-	293.25	-	-	-	857.9	-	-	-	74.36	-	-	-
2612.7	-	-	-	926.65	-	-	-	294.55	-	-	-	847.15	-	-	-	74.27	-	-	-
2667	-	-	-	928.6	-	-	-	299.85	-	-	-	845.05	-	-	-	74.78	-	-	-
2708.35	-	-	-	955.7	-	-	-	302.25	-	-	-	876.75	-	-	-	74.65	-	-	-
2730.45	-	-	-	951.95	-	-	-	302.4	-	-	-	878.6	-	-	-	74.38	-	-	-
2733.85	-	-	-	954.6	-	-	-	302.5	-	-	-	875.95	-	-	-	73.94	-	-	-
2703.3	-	-	-	960.6	-	-	-	302.65	-	-	-	867.05	-	-	-	74.26	-	-	-
2758.9	-	-	-	951.8	-	-	-	298.6	-	-	-	869.5	-	-	-	74.56	-	-	-
2716.75	2685.96	-	-	949.45	942.85	-	-	298.5	298.81	-	-	869.8	862.84	-	--	74.97	74.37	-	-
2706.15	2696.33	-	-	951.95	945.42	-	-	296.5	299.1	-	-	848.35	863.61	-	-	74.09	74.43	-	-
2746.6	2708.41	5.54	-	988.6	951.99	6.731	-	297.65	299.54	1.4	-	851.9	863.01	1.34	-	75.38	74.53	2.5	-
2710.1	2718.15	3.21	-	970.95	956.42	5.206	-	295.15	299.6	0.65	-	840	862.29	-2.09	-	72.91	74.39	-1.95	-
2704.65	2721.91	3.52	-	961.35	959.69	3.745	-	294.35	299.05	-0.07	-	842.15	862	-0.59	-	71.9	74.1	-3.19	-
2676.65	2718.74	0.36	324.34	966.4	960.76	4.071	213.32	294	298.23	-1.95	2344.38	837.7	858.1	-0.87	-2008.5	71.77	73.82	-4.03	-206.21
2683.2	2714.01	-0.93	389.81	966.3	962.2	1.109	197.35	294.3	297.42	-2.63	1033.34	842.15	854.46	-3.95	-294.92	71.71	73.55	-3.94	-106.79
2682.75	2708.9	-1.75	319.41	991.4	965.88	4.144	165.25	293.55	296.52	-2.93	-955	853.7	852.23	-2.83	885.5	72.27	73.38	-2.84	-169.5
2688.75	2707.45	-1.65	806.67	1009.95	970.82	5.798	151.94	292.7	295.53	-3.24	-59.44	858.4	851.37	-2	469.66	72.4	73.2	-2.08	-126.47
2687.05	2700.26	-0.6	-629.58	997.5	975.39	3.841	230.86	294.8	295.15	-2.59	-53.02	860.7	850.49	-0.73	-207.48	72.87	73.03	-1.87	-195.51
2684.9	2697.08	-2.68	-245.88	984.5	978.89	3.436	296.47	294.85	294.78	-1.26	-50.99	859.25	849.43	-1.18	-162.53	72.11	72.74	-3.29	-153.3
2658.55	2692.32	-2.14	-144.22	983.3	982.03	3.565	327	298.65	295	0.05	-196.1	853.15	849.91	-1.91	-137.94	72.28	72.56	-3.59	-219.88
2634.25	2681.08	-2.66	-157.28	974.95	980.66	2.416	612.19	291.9	294.42	-1.55	-68.84	848	849.52	-0.04	-165.09				

Source: Compiled Data

Table 5 pointed out that the moving average of two IT Information Technology (IT) companies was gradually increased till the end of the month and three IT companies was gradually decreased till the end of the month. In Tata Consultancy Services it gradually increased from 2685.96 to 2681.08. In Infosys limited it raises from 942.85 to 980.66. In Wipro limited, Hindustan Computers Limited and Cognizant Technology Solution moving average was gradually decreased from 298.81 to 294.42, similarly from 862.84 to 849.52 and from 74.37 to 72.56. The result shows that most of the days, out of five companies, four IT company's share price indicates negative Rate of Change (ROC), it implies that these shares are not outperformed the market in the short term. In Infosys Limited most of the days share price shows the positive ROC, it implies that these shares are outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of November 2017 entire sample five Information Technology companies' Relative Strength Index (RSI) shows both positive and negative result and it clearly indicates these companies provide moderate return to their investors.

Table 6 indicates that, the moving average of a sample top five Information Technology (IT) companies was gradually increased and decreased till the end of the month. In Tata Consultancy Services it gradually increased and decreased from 2615.94 to 2611.49. In Infosys limited it raise from 995.08 to 1025.86. In a same manner Wipro limited moving average was gradually increased from 286.24 to 300.55. In Hindustan Computers Limited and Cognizant Technology Solution the moving average was raised from 862.29 to 883.42 and from 71.30 to 71.75. The result reveals that most of the days the entire sample IT company's share price shows the positive Rate of Change (ROC), it implies that these shares are outperformed the market in the short term. Further the analysis strongly pointed out that, during the month of December 2017 all the company's Relative Strength Index (RSI) value was shown the positive result and it implies that these companies provide greater yield to their investors.

TABLE – 6 ANALYSIS OF MOVING AVERAGE, RATE OF CHANGE AND RELATIVE STRENGTH INDEX OF TOP FIVE INFORMATION TECHNOLOGY COMPANIES FOR THE MONTH OF DECEMBER 2017

TCS				Infosys Limited				Wipro Limited				HCL				CTS			
Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI	Price	10 Days MA	12 Days ROC	14 Days RSI
2630.55	-	-	-	958.5	-	-	-	289.4	-	-	-	830	-	-	-	71.36	-	-	-
2633.35	-	-	-	985.3	-	-	-	289.95	-	-	-	847.95	-	-	-	70.32	-	-	-
2633.8	-	-	-	984.4	-	-	-	283.45	-	-	-	848	-	-	-	70.43	-	-	-
2631.45	-	-	-	990.4	-	-	-	282.5	-	-	-	858.6	-	-	-	71.5	-	-	-
2617.65	-	-	-	1000.1	-	-	-	281.2	-	-	-	863.5	-	-	-	71.61	-	-	-
2601	-	-	-	1001.55	-	-	-	282.9	-	-	-	870.45	-	-	-	71.82	-	-	-
2656	-	-	-	1003.5	-	-	-	289.4	-	-	-	880	-	-	-	71.56	-	-	-
2614.15	-	-	-	1011.1	-	-	-	287.8	-	-	-	875.2	-	-	-	71.45	-	-	-
2627.3	-	-	-	1003.45	-	-	-	287.2	-	-	-	866.35	-	-	-	71.19	-	-	-
2558.55	2615.94	-	-	1012.45	995.08	-	-	288.6	286.24	-	-	882.85	862.29	-	-	71.81	71.3	-	-
2547.85	2615.17	-	-	1023.45	1001.57	-	-	289.7	286.27	-	-	891.8	868.47	-	-	72.08	71.38	-	-
2577	2614.16	-2.04	-	1015.35	1004.58	5.93	-	295.8	286.86	2.21	-	885	872.17	6.63	-	71.87	71.53	0.71	-
2575.05	2613	-2.21	-	1004.8	1006.61	1.98	-	292.4	287.75	0.84	-	869.45	874.32	2.54	-	71.93	71.68	2.29	-
2588	2611.85	-1.74	-	1013.3	1008.9	2.94	-	296.5	289.15	4.6	-	869.85	875.44	2.58	-	72.71	71.8	3.24	-
2594.1	2611.46	-1.42	-328.12	1021.55	1011.05	3.15	143.14	297.75	290.8	5.4	271.86	890.25	878.12	3.69	159.75	72.4	71.88	1.26	310.58
2639.8	2612.21	0.85	2519.4	1038.4	1014.73	3.83	151.22	301.6	292.68	7.25	223.18	886.9	879.76	2.71	201.03	71.7	71.87	0.13	234.06
2642.8	2608.84	1.61	1833.89	1034.35	1017.82	3.27	160.76	302.9	294.03	7.07	140.36	888.45	880.61	2.07	197.28	71.24	71.84	-0.81	385.19
2621.05	2608.4	-1.32	-1587	1034.05	1020.12	3.04	170.22	306.6	295.91	5.94	128.63	883.65	881.45	0.41	276.25	71.2	71.81	-0.5	-683.33
2628.85	2606.68	0.56	1543.28	1034	1023.17	2.26	190.56	308	297.99	7.02	120.9	878.3	882.65	0.35	434.46	71.39	71.83	-0.08	-968.17
2700.4	2611.49	2.78	245.88	1039.3	1025.86	3.57	181.32	314.25	300.55	9.42	117.86	890.5	883.42	2.79	346.88	71.02	71.75	-0.24	-240

Source : Compiled Data

FINDINGS

FINDINGS BASED ON MOVING AVERAGE

- It was found from the moving average that Tata Consultancy Services security was more stable and slight fluctuations during July 2017 to December 2017.
- Infosys limited share price moved in a random manner and the analysis strongly reveals that, share price was continuously rising without any interruption from July 2017 to December 2017.
- The analysis pointed out that, the share price movement in Wipro limited was indicating a lot of fluctuations during the study period. Investors should observe the market fluctuations while investing their money.
- Hindustan Computers Limited share price was not stable. From the moving average analysis, it was found out that the share price of HCL was fluctuating more during the study period.
- Cognizant Technology Solution moving average was gradually fluctuated. In some period it was increased and suddenly it was gradually decreased. The analysis strongly reveals that the Cognizant Technology Solution share price was not stable in the market.

FINDINGS BASED ON RATE OF RETURN

- Tata Consultancy Service security was outperformed with high momentum and good for investment. The rate of change analysis strongly reveals that, maximum number of days the ROC was positive. It indicates that the security was normally outperforms the market in the short term.
- Infosys limited security was better performed with high momentum and superior for investment. The rate of change analysis strongly pointed out that, most number of days the ROC was positive. It indicates that these shares was normally outperforms the market in the short term.
- The analysis pointed out that, the rate of change in Wipro limited was indicating a lot of fluctuations and it seems more negative rate of change value. The negative value indicates the decline in share value and can be seen as a sell signal to investors.
- The analysis pointed out that, the rate of change in Hindustan Computers Limited was indicating a lot of fluctuations and it seems some period positive rate of change value and rest of the period it seems the negative rate of change value. The result

found that, investors are aware to observe the market fluctuations while investing their money.

• Cognizant Technology Solution security was better performed with high momentum and superior for investment. The rate of change analysis strongly pointed out that, majority period the ROC was positive. It indicates that these shares was normally outperforms the market in the short term.

FINDINGS BASED ON RELATIVE STRENGTH INDEX

• The analysis strongly found out that, the Tata Consultancy service relative strength index value was more than the significant level. It highlights that a security is becoming overbought or overvalued. The investors are investing their investment in Tata Consultancy Service without any hesitation.

• Infosys limited relative strength index value was positive in the majority period. The positive value indicates that the share price was more stable and that security is becoming overbought or overvalued.

• The analysis pointed out that, the relative strength index in Wipro limited was indicating a lot of fluctuations and it seems more positive and less negative value. The negative value was commonly interpreted as indicating an oversold or undervalued condition that may signal a trend change or corrective price reversal to the upside.

• Hindustan Computer Limited relative strength index value was shown positive and also negative value during the study period. The positive value indicates that the share price was more stable and that security is becoming overbought and the negative value was indicating an oversold condition of the security.

• The analysis pointed out that, the relative strength index in Cognizant Technology Solution was indicating a lot of fluctuations and it seems more positive and less negative value. The investors are very careful to bought shares while investing their investment money.

CONCLUSION

Investment is a financial activity that involves risk. It is the commitment of funds for a return expected to be realized in the future. Risk and Return are the two most important characteristics of any investment. Safety and liquidity are also important for an investor. The objective of an investor is specified as maximization of return and minimization of risk. Generally, investor tries to maximize his welfare by choosing the optimum combination of risk and return in accordance with his preference and capacity. Investors who are willing to invest their investment in Information Technology (IT) Sector, the top performers are Tata Consultancy Services and Infosys. Finally the study concludes that, investor highly essential to do technical analysis for deciding the suitable stock.

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