



## A STUDY ON THE USE OF MATHEMATICAL INDICATORS FOR PREDICTING SHARE PRICE MOVEMENTS OF SELECTED COMPANIES IN FMCG INDUSTRY

### Management

**Dr. Manicka  
Mahesh. N**

School of Management, Sri Krishna College of Engineering and Technology

**Gowtham. N**

School of Management, Sri Krishna College of Engineering and Technology

### ABSTRACT

This Study deals with the brief introduction to stock market and technical analysis how to invest in stock market as the investors are more concerned of return and they want to be far from risk. The movement of the scrip price and its behaviour can be explained in a more illustrative form by using the technical analysis and this study is about the technical analysis of 15 selected scrips of Fast Moving Consumer Goods Industry from 1st April 2016 to 31st March 2017. This analysis is useful for the broking firms and the individual investor to predict the share price movements and invest in the FMCG Industry and benefits arising out of the day to day fluctuation prevailing among the stock market.

### KEYWORDS:

Technical Analysis, Fast Moving Consumer Goods

### INTRODUCTION

The Indian securities market is fluctuating and has probed the need to study and understand the market conditions and to identify the price movements. This study gives an idea about the tools that can be used to determine how the price fluctuations in the future can be predicted. Technical analysis can be defined as a method that attempts to forecast future price trends by the means of analyzing market actions. The core idea of technical analysis is that history trends to repeat itself. This is used to forecast future trends and for deciding buy or sell signals.

### OBJECTIVES OF THE STUDY

- The main aim of the study is using technical indicators to predict the trend of share price movements of select companies in FMCG Sector
- To know how technical tools are used to predict the future behaviour of the stocks using historical data.
- To know the moments of stock prices of selected company stocks through Technical analysis.
- To identify the Success Percentage of the selected Technical Indicators for the study period.
- To suggest the investor to buy or sell the scrips.
- To identify the Indicators which influences the most on Market prices and rank them.
- To identify scrip wise best indicator which the investor can use while trading.

### SCOPE OF THE STUDY

- To help the investors in making decisions based on historical share price of selected scrips.
- Analysis of shares of selected FMCG Companies.
- Studying the stock price movement of the security market
- Helps to identify trend reversals at an earlier stage to formulate the buying and selling strategy.

### RESEARCH METHODOLOGY

The purpose of the Research methodology section is to describe the research procedure. This study is analytical by nature and the researcher has to use the historical data already available. The companies were chosen on the basis of weightage of market capitalization.

### DATA COLLECTION

The secondary data is collected for a period of one year on a daily basis starting from 01/04/2016 to 31/03/2017

### REVIEW OF LITERATURE

**Wong, Manzar, and Chew (2003)** focused on “the role of technical analysis in signaling the timing of stock market entry and exists through the study “How Rewarding is Technical Analysis Evidence from Singapore Stock Market?”. Test statistics were introduced to test the performance of the most established of the trend followers, the moving average, and the most frequently used counter-trend indicator, the relative strength index. The result showed that, the indicators can be used to generate significant positive return”

**RajanSabari and Parimala (2013)** examined in their research work that “the technical analysis helps investors to analyze the financial strength of corporate, growth of earnings and profitability. Investors need to calculate the risk and return ratio before taking any trade”

**Sowmya (2012)** stated “Technical analysis is a method of predicting future prices of a share based on its past performance. It is the method of evaluating securities by analyzing statistics generated through market activity such as past prices and volume. Technical analysts use charts and other tools to identify patterns that can suggest future price movement of the share as they believe that the historical performance of stocks and markets are indications of future performance”

### TOOLS USED FOR ANALYSIS

1. Simple Moving Average [SMA]
2. Exponential Moving Average [EMA]
3. Moving Average Convergence and Divergence [MACD]
4. Average True Range [ATR]
5. On Balance Volume [OBV]
6. Rate of Change [ROC]
7. Bollinger Bands [B Bands]
8. Full Stochastic
9. Relative Strength Index [RSI]
10. Williams %R
11. Commodity Channel Index [CCI]
12. Money Flow Index [MFI]
13. Aroon Oscillator
14. True Strength Index [TSI]
15. Pivot Points [PP]

### ANALYSIS AND INTERPRETATION

In this study the following companies such as ITC, HUL, Godrej Consumer Products, Britannia, Dabur India, Marico, Colgate, United Spirits, P&G, Emami, Tata Global Beverages, GSKCONS, UBL, Godrej Industries, Jubilant Foodworks were chosen based on its weightage of market capitalization for year ending 31/03/2017. The various technical indicators value were computed and buy/sell signal were

generated for the study period. Using technical indicators the number of instance where the matched counts have been calculated using the changes in next day closing price were noted as matched counts and vice versa are tabulated for every company. Totally 248

days have been taken for the study and success percentage for every indicator was tabulated and based on which individual ranks were also given to each indicator company wise and overall indicator wise ranking have been given.

**Table 1 : Table showing the overall performance of technical indicators:**

S.N O	INDICATORS	ITC	HIND UNIL VR	GODR EJCP	BRIT ANNI A	DUBA R	MARI CO	COLG ATE	MCD OWEL L-N	P&G	EMA MILT D	TATA GLOB AL	GSKC ONS	UBL	GODR EJIND	JUBLI FOOD	AVER AGE	OVER ALL RANK
1	TSI	5	4	1	5	1	7	15	4	1	1	4	7	1	11	5	4.8	1
2	MFI	4	6	3	13	7	1	4	12	9	5	2	1	3	5	9	5.6	2
3	B BAND	2	4	6	8	5	2	12	15	1	4	1	11	4	6	4	5.7	3
4	CCI	2	6	2	1	10	9	9	9	4	7	6	5	9	1	9	5.9	4
5	% R	11	15	4	10	7	3	4	5	8	10	6	11	9	2	3	7.2	5
6	STOCHASTIC	9	2	11	2	10	10	6	1	5	7	11	7	7	14	9	7.4	6
7	RSI	9	2	11	2	10	10	6	1	5	7	11	7	7	14	9	7.4	6
8	EMA	6	6	4	15	1	5	9	12	14	14	5	5	5	7	7	7.7	8
9	OBV	11	13	9	5	9	13	1	5	1	1	15	13	12	9	2	7.9	9
10	PIVOT POINTS	1	1	14	10	10	4	13	12	11	12	3	3	2	11	14	8.1	10
11	ATR	13	10	11	5	4	7	2	11	5	3	14	14	12	10	1	8.1	11
12	SMA	8	11	7	13	1	13	9	9	13	6	9	7	11	2	5	8.3	12
13	AROON	6	13	8	9	5	6	8	8	12	13	8	3	6	13	7	8.3	13
14	MACD	13	12	14	2	15	15	14	3	14	15	11	1	14	4	9	10.4	14
15	ROC	13	9	10	12	14	10	3	5	9	11	10	15	15	7	14	10.5	15

### INTERPRETATION

From the table 1 it is clear that companies are horizontally column wise and the indicators are listed vertically row wise and ranking is given and it is conclude that True Strength Index (TSI) is the best reflecting indicator followed by Money Flow Index (MFI) and Bollinger bands and the least ranking indicator is to Rate of Change (ROC).

### FINDINGS AND SUGGESTION

- Technical analysis tools to be used to predict the bullish and bearish movement in the stock market for both long term as well as short term.
- It is suggested that among all the 15 indicators which is used for the study of 15 Fast Moving Consumer Goods Companies the most powerful indicator is True Strength Index [TSI] which is ranked first.
- The market participants who are dealing with the scrips of FMCG industry it is better to observe the True Strength Index [TSI], and followed by Money Flow Index [MFI] and Bollinger Bands.
- For companies like Colgate Palmolive Ltd, P&G Ltd and Emami Ltd the On Balance Volume can be taken as first consideration.
- But in the case of Britannia Industries Ltd, HUL and United Spirits Ltd Stochastic indicator and Relative strength Index is better to observe then the True Strength Index (TSI) as those two ranked first as per the analysis.
- The market participants look into Rate of Change (ROC), Moving Average Convergence and Divergence (MACD) and Aroon Oscillator indicators while trading but a per the above analysis these three stands at the last respectively.
- For companies like Colgate Palmolive Ltd and Godrej Industries Ltd the True Strength Index indicator is not showing a good result even though it ranks in the top. So it is advised to consider Commodity channel Index (CCI) indicator.
- Since Bollinger Band is been ranked 3<sup>rd</sup> it is not advised for the companies like Colgate Industries Ltd and United Spirits Limited and GlaxoSmithkline Consumer Health Care Ltd. as these three companies have the low rankings.

### CONCLUSION:

As we can see, there are many different ways we can trade using indicators and oscillators which can be straight forward, but also versatile. Technical analysis is a technique which gives an idea about future share price of selected companies in which we invest. Some traders prefer less-discretionary trading methods. This is because emotions can cloud a trader's judgement. So, for the study fifteen

companies have been chosen from the Nifty FMCG Index as per their Market Capitalization. It was found that the buy and sell signal and the right time for buy and sell of scrips have been generated out of the study by using the oscillators and indicators to know the way to reduce the degree of discretion. Further the ranking have been given for the best reflecting indicator as per their success ratio. Most of the market participants use Rate of Change, Moving Average Convergence and Divergence and Aroon Indicators frequently for trading but as per our analysis these three stands last for consideration as per ranking of indicators. Hence broking forms and individual participants need to observe the True Strength Index [TSI], and followed by Money Flow Index [MFI] and Bollinger Bands especially for FMCG industry scrips. Since Indian market is a volatile market, better technical analysis is to be used for multiplying money and earns more profits. From the above analysis, we understand that no bull market can last forever and the correction are the part of market which may be capitalized by the market participants even during recession through this technical analysis.

### Reference:

- [1] SabariRajan G. B., Parimala S., (2013). "Stock Price Movement through Technical Analysis: Empirical Evidence from the Fast Moving Consumer Goods (FMCG) Sector". Paripex- Indian Journal of Research, Feb2013, Vol.2, Issue 2, pp. 143-145.
- [2] Varadharajan P, Vikkraman P, (2011). "Effectiveness of Technical Analysis using candlestick chart for selection of equity in Indian capital market". Journal of Contemporary Management Research, Mar2011, Vol. 5 Issue 1, p12-23.
- [3] www.nseindia.com
- [4] www.investopedia.com
- [5] www.stockcharts.com
- [6] www.moneycontrol.com