

## Study on Dynamic Relationship between Technical Indicator & Equity Share Price of Selected Sectors

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**Abstract:** Stock market is a market of Equities and debts, through which the companies and government raise the funds for long term. India, being the developing country has received a huge capital inflow in recent years. Stock price movement mainly depends on Inflation, Deflation, Interest rates and Exchange rates. Since India is a developing country, a widespread of capital inflow has been witnessed in the recent years. Indian economy is particularly focused on developing the company sectors. A good knowledge about the market will help to take better investment decisions, which will help investors to maximize the return on their investment. Performance of the company will reflect in the stock price. Stock price movement of company will depend on the financial and functional elements. The paper aimed at analyzing the equity percentage return over the fluctuations in the Indian stock market. Also measure the potential of returns an investor could get over his investment over a period of time. Relative Strength Index and Moving Average Exponential technical indicators are used for identification of trend to help the investors to make the right invest decision.

Stock market is place where the risk is involved. An investor should know how to manage the risk by taking timely buy and sell decisions. The investor should keenly observe the Macro and Micro Economic conditions to invest in the market. This will help the investors to make good returns on their investment with the proper entry and proper exit for stock at the right time.

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### I. Introduction

Indian Stock market has witnessed a massive growth in past decade. There an explosion the inflow of money to market from the decade due to governmental policies and growth in Indian economy. Forex law is one such legislation that attracted investments from other country. Also, Indian currency INR is free float currency that attracted the foreign institutional investors. A is huge Foreign Institutional Investors money is hitting into our stock market from ninety's. Hence there is significant increase in share prices.

Government of India's Liberalization policy has now started to fetch the result. There is a commercial and economic boom in India because of Liberalization policy. Indian economy is mainly focused on improvement of company sector. Stock market is a market of Equities and debts, through which the companies and government raise the funds for long term. India, being the developing country has received a huge capital inflow in recent years. Indian stock market has undergone severe structural change to improve the efficiency and effectiveness. There are some many investor education programs happening across Indian which is attracting the young mind start their financial planning and achieve the financial freedom through stock market.

Fundamental and technical analysis are the two pillars of study to understand the price movement of a stock in securities. Success in the depends on the ability to spot the opportunity with proper timing. It also depends on the ability to enter early into the stock before others take an entry. This will help to maximize profit of an investor.

Factors that influence the stock movement

- **Inflation:** Inflation is a sustained increase within the standard price stage of products and offerings in an economy over a time period.
- **Monetary policy:** The change CRR (Cash Reserve Ratio), Repo rate and Reverse Repo rate will have an huge impact on liquidity in the system.
- **Deflation:** Reduction of the general stage of costs in an economic system.

- **Exchange Rate:** It is a price of one foreign money paid to covert into any other currency.

## **I. Literature review**

Z. K. Silagadze (1999), In this paper Simple Moving Average (SMA) indicator is used for technical analysis to know the stock price movement. SMA is used for identifying Support and Resistance. When the stock fall from high and SMA line crosses above the stock price then it is confirmed that stock has taken support. When the stock recovers from low and SMA line crosses below the stock price then it is confirmed that stock is facing resistance. People buy at support and sell at resistance. In sideways market people hold or stay away.

Neftci (2008), In this paper a new rule has been shown for using technical analysis which could give better accuracy in forecasting of stock prices. But it was also a failure in predicting the nonlinear movement of stock prices.

Wing-Keung Wong (2011), In this paper Straits Index was used to study about effectiveness of technical indicator in the entry and exit of the stock market. Statistical tests were done on buy and sell signal giving positive return. The focus was mainly on SMA and RSI.

Taran-Morosan (2013), In this paper the stock movement was analyzed using RSI with period 14 and return on investment was recorded. Later RSI period was varied according to stock volume and return was calculated. This study concluded revisited RSI Failed to identify trend reversal but successful in trend continuation.

Boobalan (2014), In this paper technical analysis was carried on selected Indian stocks in Indian stock market.

This study concluded technical analysis is the power tool used to predict the short-term movement of the stock.

Fama (2015), In this paper trading tools were tested on the US stock market and was not able to generate the above average profit. This concluded that none of the SMA combinations can achieve the profit on simple buy hold sell strategy.

## **II. Objectives**

- To analyze the behavior of particular stock in a particular selected sector.
- To understand the movement of the stock price in a particular time frame.
- To Study Buy and Sell decisions based on the stock movement.
- To study the price movement of the stock and to predict stock prices using Technical Analysis.
- To identify the trend of the selected stock.

## **III. Limitations**

- Study is limited to particular stock in a particular selected sector.
- Technical Analysis (EMA and RSI indicator) is only used.
- Study is only based on secondary data.

## **IV. Methodology**

### **Research Design**

Inductive Approach and Analytical Approach is used for study.

### **Data Collection**

Secondary data is used for the evaluation. Closing price of the stock is obtained from the National Stock Exchange of India (NSE) official website [www.nseindia.com](http://www.nseindia.com) for top 10 companies of Nifty50.

### **Sample**

Top 10 companies under Nifty 50 is selected. The top 10 stocks are identified on the basis of the Market Capitalization.

COMPANY	SECTOR
Reliance Industries Ltd.	Capital Goods
TCS	Information and Technology
HDFC bank	Banking and Finance
Infosys Ltd	Information and Technology
Bharti Airtel Ltd	Telecommunication
HDFC	Finance
ITC	FMCG
Kotak Mahindra Bank	Banking

ICICI Bank	Banking
Bajaj Finance Ltd.	Consumer Finance

**Period of Study**

Stock price for a period one year from July 2019 to July 2020 is considered. Daily time frame candle stick charts are used for analysis

**Tools for Analysis**

The tools used to analyze stock prices are

- Exponential Moving Average (EMA)
- Relative Strength Index (RSI)

**Exponential Moving Average (EMA)**

An exponential moving average (EMA) is a form of transferring average (MA) that places an extra weight and importance on the latest information points. The exponential transferring average is likewise referred to as the exponentially weighted transferring average. An exponentially weighted shifting average reacts more drastically to recent rate adjustments than a easy moving average (SMA), which applies an identical weight to all observations inside the period. This creates the buy and sell signal when the EMA line cross the stock price.

**Relative Strength Index (RSI)**

In the 1978, Wells Wilder developed Relative strength Index (RSI). RSI is a momentum oscillator used to identify over bought and over sold stock. RSI is calculated using the formula,

$$RSI = 1 - (100 / (1 + RS))$$

Where,

**RS** = Average upward price / Average downward price

**Average upward price** = Total of change in upward price / Time frame

**Average downward price** = Total of change in downward price / Time frame

Generally, Investors follow a thumb rule, when RSI is above 70 stock is overbought and time to book profits or Identify short selling opportunity. When RSI is below 30 stock is oversold and time to buy or cover short sold positions.

**V. Results and Discussion**

Relative Strength Index (RSI) and Exponential Moving Average (EMA) is computed on closing price basis for top 10 selected Nifty50 stocks. Candle stick chart is used for price movement analysis.



Source: tradingview.com

In the above chart, EMA trend line has indicated an Uptrend for RIL share price and RSI is near to 30 in oversold zone. This creates a buy signal for the investors with a high probability of share prices move up in the future.



Source: tradingview.com

In the above chart, During the month of October EMA trend line has indicated an Uptrend for TCS share price and RSI is near to 30 in oversold zone. This creates a buy signal for the investors with a high probability of share prices move up in the future. Later in the month of March EMA trend line has indicated a Downtrend for TCS share price and RSI is near to 70 in overbought zone. This creates a sell signal for the investors with a high probability of share prices to fall in the future.



Source: tradingview.com

In the above chart, from the month of October 2019 to February 2020 EMA trend line was overlapping with stock price and was range bound between 30 and 70 for HDFC Bank. This indicates a clear consolidation phase and suggests investors to hold.



Source: tradingview.com

In the above chart, EMA trend line has indicated a Downtrend for Infy share price and RSI is near to 70 in overbought zone. This creates a sell signal for the investors with a high probability of share prices to fall down in the future.



Source: tradingview.com

In the above chart, EMA trend line has indicated a Downtrend for Bharti Airtel share price and RSI is near to 70 in overbought zone. This creates a sell signal for the investors with a high probability of share prices to fall down in the future.



Source: tradingview.com

In the above chart, EMA trend line has indicated an Uptrend for HDFC share price and RSI is near to 30 in oversold zone. This creates a buy signal for the investors with a high probability of share prices move up in the future.



In the above chart, EMA trend line has indicated a Downtrend for ITC Ltd share price and RSI is near to 70 in overbought zone. This creates a sell signal for the investors with a high probability of share prices to fall down in the future.



In the above chart, EMA trend line has indicated an Uptrend for ICICI Bank share price and RSI is near to 30 in oversold zone. This creates a buy signal for the investors with a high probability of share prices move up in the future. From 15<sup>th</sup> March 2020 of July 2020 EMA trend line was overlapping with stock price and was range bound between 30 and 70 for ICICI Bank.



In the above chart, from September 2019 of January 2020 EMA trend line was overlapping with stock price and was range bound between 30 and 70 for Bajaj Finance. In the month of March EMA trend line has indicated a Downtrend for Bajaj Finance Ltd share price and RSI is near to 70 in overbought zone. This creates a sell signal for the investors with a high probability of share prices to fall down in the future.

## VI. Conclusion

Stock market is dynamic in nature. In spite of fluctuations in prices of the stock investors have a great opportunity to get good returns on their investment using technical indicators Exponential Moving Average and Relative Strength Index. Even though these indicators are lagging indicators, will help investors to make buy, hold, sell decisions. Also top 10 companies in Nifty50 are good companies which will also grow in near future. EMA is best trend rider and RSI between 30 to 70 indicates that stock is in consolidation phase.

Stock price changes due to demand and supply. Investors can start investing into the stocks that are recovering and to the company with good future perspective. Trend reversal trade can also be spotted using technical analysis which would give the investor a good profit. Always hold the stock when it is in the range bound condition and wait for the trend to being either up or down to make buy or sell decisions. It always advised to never go against the trend also use more than one indicator for better confirmation. Invest with knowledge and discipline to succeed in stock market.

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