

# A STUDY ON PERFORMANCE EVALUATION OF INFORMATION TECHNOLOGY SECTOR SHARES IN INDIAN STOCK MARKET WITH SPECIAL REFERENCE TO BSE.

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## Abstract

Stock market volatility has been omnipresent in the information technology sector. This manuscript compares the stock performance of computer software companies periods between the years 2013-2017. The stock market is witnessing heightened activities and is increasingly gaining importance. Both the Bombay Stock exchange (BSE) and the National Stock Exchange of Indian Limited (NSE) have been used in the study as a part of Indian Stock Market. The time period has been divided into various eras to test the correlation between the various exchanges to prove that the Indian markets have become more integrated with its global counterparts and its reaction are in tandem with that are seen globally. The results imply that the software industry has characteristics that are consistent with being a blockbuster instead of a commodity.

Keywords: Stock Market, Comparative Analysis, Statistical analysis, Efficiency Test.

## INTRODUCTION

A **stock market**, **equity market** or **share market** is the aggregation of buyers and sellers (a loose network of economic transactions, not a physical facility or discrete entity) of stocks (also called shares), which represent ownership claims on businesses; these may include *securities* listed on a public stocks exchanges as well as those only traded privately. Examples of the latter include shares of private companies which are sold to [investors](#) through [equity crowd funding](#) platforms. Stock exchanges list shares of common equity as well as other security types, e.g. corporate bonds and convertible bonds.

### 1.1 HISTORY OF INDIAN STOCK MARKET:

Indian stock market marks to be one of the oldest stock market in Asia. It dates back to the close of 18th century when the East India Company used to transact loan securities. In the 1830s, trading on corporate stocks and shares in Bank and Cotton presses took place in Bombay. 13 Though the trading was broad but the brokers were hardly half dozen during 1840 and 1850. An informal group of 22 stockbrokers

began trading under a banyan tree opposite the Town Hall of Bombay from the mid-1850s, each investing a (then) princely amount of Rupee 1. This banyan tree still stands in the Horniman Circle Park, Mumbai. In 1860, the exchange flourished with 60 brokers. In fact the 'Share Mania' in India began with the American Civil War broke and the cotton supply from the US to Europe stopped. Further the brokers increased to 250. The informal group of stockbrokers organized themselves as the Native Share and Stockbrokers Association which, in 1875, was formally organized as the Bombay Stock Exchange (BSE).

BSE was shifted to an old building near the Town Hall. In 1928, the plot of land on which the BSE building now stands (at the intersection of Dalal Street, Bombay Samachar Marg and Hammam Street in downtown Mumbai) was acquired, and a building was constructed and occupied in 1930. PremchandRoychand was a leading stockbroker of that time, and he assisted in setting out traditions, conventions, and procedures for the trading of stocks at Bombay Stock Exchange and they are still being followed. Several stock broking firms in Mumbai were family run enterprises, and were named after the heads of the family. The following is the list of some of the initial members of the exchange, and who are still running their respective business: 14 D.S. Prabhudas & Company (now known as DSP, and a joint venture partner with Merrill Lynch) JamnadasMorarjee (now known as JM) ChampaklalDevidas (now called Cifco Finance) BrijmohanLaxminarayan In 1956, the Government of India recognized the Bombay Stock Exchange as the first stock exchange in the country under the Securities Contracts (Regulation) Act. The most decisive period in the history of the BSE took place after 1992. In the aftermath of a major scandal with market manipulation involving a BSE member named Harshad Mehta, BSE responded to calls for reform with intransigence. The foot-dragging by the BSE helped radicalise the position of the government, which encouraged the creation of the National Stock Exchange (NSE), which created an electronic marketplace. NSE started trading on 4 November 1994. Within less than a year, NSE turnover exceeded the BSE.

## 1.2 BSE:- (BOMBAY STOCK EXCHANGE)

Influential businessmen in 19th-century Bombay. A man who made a fortune in the stockbroking business and came to be known as the Cotton King, the Bullion King or just the Big Bull. He Bombay Stock Exchange was founded by PremchandRoychand. He was one of the most was also the founder of the Native Share and Stock Brokers Association, an institution that is now known as the BSE.

## 1.3 INDUSTRY PROFILE

### INFORMATION TECHNOLOGY IN INDIA

**Information technology in India** is an industry consisting of two major components: [IT services](#) and [business process outsourcing](#) (BPO). The sector has increased its contribution to India's GDP from 1.2% in 1998 to 7.5% in 2012. According to [NASSCOM](#), the sector aggregated revenues of US\$160 billion in 2017, with export revenue standing at US\$99 billion and domestic revenue at US\$48 billion, growing by over 13%. USA accounts for more than 60 per cent of Indian IT exports.

India's IT Services industry was born in [Mumbai](#) in 1967 with the establishment of the Tata Group in partnership with Burroughs. The first software export zone, [SEEPZ](#) – the precursor to the modern-day IT park – was established in Mumbai in 1973. More than 80 percent of the country's software exports were from SEEPZ in the 1980s. The Indian economy underwent major economic reforms in 1991, leading to a new era of globalization and international economic integration, and annual economic growth of over 6% from 1993–2002. The new administration under Atal Bihari Vajpayee (who was Prime Minister from 1998–2004) placed the development of Information Technology among its top five priorities and formed the Indian National Task Force on Information Technology and Software Development.

## **1.4. OBJECTIVES OF THE STUDY:-**

### **1.4.1 PRIMARY OBJECTIVE:-**

To study the performance of Blue Chip companies in Indian stock market with special reference to Bombay Stock Exchange (BSE)

### **1.4.2 SECONDARY OBJECTIVE:-**

1. To analyze risk and returns of select blue chip company securities.
2. To study about the volatile trends of the selected blue chip company securities.
3. To evaluate blue chip company securities and suggest investors about their performance.

## **1.5 SCOPE OF THE STUDY:-**

1. This study can help the investors to understand the impact of important happenings on the Indian Stock Market and BSE.
2. In this research, we investigate the volatility of Technology sectoral indices listed in Bombay Stock Exchange, India.
3. The study comprises to analyze the return and risk of recent five years.
4. The study of the stock exchanges in countries would definitely help the future investors to take investment decisions while investing in technology sector.
5. For this study, Bombay Stock exchange (BSE) is considered and also 5 technology companies are randomly selected.

## **1.6 LIMITATIONS OF THE STUDY:-**

The limitations of this study are as follows:

1. The evaluation was based on the secondary data collected through the websites of BSE, published literature, annual reports, etc., and so the findings of the study depended entirely on the accuracy of such data.

2. Different experts have got different views on evaluating approach and performance of stock exchange hence the view used in the study for the present purpose cannot be treated as the absolute and perfect.
3. The researcher will use some of the statistical tools for analyzing the collected data. The analysis shall be affected by the natural limitations of the tools used.
4. The study relates to the Indian stock market only. Not for global markets.
5. The inferences made are purely from the past year's performance of variables.

## 2.0 REVIEW OF LITERATURE

**Shamim(2012)** entitled “**Indian Capital Market Review: Issues, Dimensions and Performance Analysis**” in which the researcher has ascertained that the purpose of an efficient capital market is to mobilize funds from those who have it and route each them to those who can utilize it in the best possible way. The researcher has also analyzed that India's financial market is multi-facet but not balanced. Further it has been stated that the Indian capital market in the recent year has undergone a lot of innovation in term regulation and mode of operation. The researcher while concluding has stated that India needs innovative financial instrument in its domestic capital market. Financial Innovation must aim value addition in existing technologies, risk management practices, credit system, process, and products. As per the analysis of the researcher there is positive correlation between finance and economic growth. Thus, economic development is relatively impossible without quality innovation in financial market. The researcher has also added that the creation of a deep and robust debt capital mechanism is the key to financing infrastructure companies by allowing them to raise long term debt. At last the researcher has concluded with this fact that emerging economies like India have an advantage of learning from the mistakes of others.

**Shende (2014)** has discussed in research paper about “Analysis of Research in Consumer Behaviour of Automobile passenger Car Customer”. The main objective of study was to examine the identification of factors influencing customer's preferences for particular segment of cars. For the purpose of research he has selected areas like small car, Hatch back, Sedan Class, premium Sedan, SUV & MUV and Luxury Car. In this paper, he has consolidated findings & suggestions to overcome present scenario of stagnancy in sales and cultivate future demand for automobile car market.

## 3.0 RESEARCH METHODOLOGY:-

### 3.1 SECONDARY DATA:-

- a. Written Material on Derivatives available in Books, on Internet and Research Papers.

- b. Study of Rules and Regulations of Derivatives Trading and Structures of different Stock Exchanges and countries.
- c. Appropriate random sampling techniques will be used and data will be collected on the basis of an exhaustive questionnaire.
- d. Appropriate analytical tools will be used for analyzing the data. e. Appropriate data in terms of conceptually equivalence would be taken.

## 3.2 FORMULAS:-

### 3.2.1 STANDARD DEVIATION

The Standard Deviation is a measure of **how spread out numbers are**.

You might like to read this simpler page on Standard Deviation first.

But here we explain **the formulas**. Type equation here.

The symbol for Standard Deviation is  $\sigma$  (the Greek letter sigma).

$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2}$$

### 3.2.2 Beta:-

Beta measures the systematic risk and shows how prices of funds respond to the market forces. Beta is used in the Capital Asset Pricing Model (CAPM), a model that calculates the expected return of an asset based on its beta and expected market returns. Systematic risk is measured in term of beta which indicates the sensitivity of a schemes return in relation to market return. If a schemes beta is  $< 1$ , it is considered to be defensive and if it is  $> 1$ , considered as aggressive. The Formula for Beta is:

$$\beta_p = \frac{Cov(r_p, r_b)}{Var(r_b)}$$

### 3.2.3 RETURN:-

The return can be calculated over a single period or where there is more than one time period, the return and rate of return over the overall period can be calculated, based upon return within each sub period. Risk - Investment is a measure of the risk arising from exposure to general market movements. Formula for risk

$$R_t = \frac{I_t}{I_{t-1}} - 1$$

### 3.2.4 ALPHA:-

**Alpha** measures how well an investment performed compared to its benchmark. In finance, Jensen's index is used to determine the required excess return of a stock, security or portfolio. It uses a relationship between risk and return (technically called “security market line”) as a benchmark.

$$\hat{\alpha}_j = R_i - [R_f + \beta_{iM} (R_m - R_f)]$$

Where

$R_i$  = Portfolio Return

$R_f$  = Risk Free Rate

$\beta_{iM}$  = Portfolio Beta

$R_m$  = Market Return

### 4.0 DATA ANALYSIS AND INTERPATATION:-

**TABLE 4.1 SHOWING STANDARD DEVIATION VALUES**

S/NO	COMPANY NAME	STANDARD DEVIATION
1	HINDUJA	38.96966
2	NIIT TECH	50.21503
3	ORACLE	17.10825
4	TCS	25.96935
5	TECH MAHIDRA	55.77234

**TABLE 4.1.6 SHOWING BETA VALUES**

S/NO	COMPANY NAME	BETA
1	HINDUJA	-748097
2	NIIT TECH	-884547
3	ORACLE	-125586
4	TCS	-586290
5	TECH MAHIDRA	-128132

**TABLE 4.1.6 SHOWING BETA VALUES**

S/NO	COMPANY NAME	ALPHA
1	<b>HINDUJA</b>	749842.
2	<b>NIIT TECH</b>	1517525322
3	<b>ORACLE</b>	215454845
4	<b>TCS</b>	1005836798
5	<b>TECH MAHIDRA</b>	219822758

## 5.0 FINDINGS AND SUGGESIONS:-

### 5.1 FINDINGS:-

1. This standard deviation of HINDUJA is 38.96966 which is greater than the standard deviation of market returns 18.52
2. This standard deviation of NIIT TECH is 50.21503 which is greater than the standard deviation of market returns 18.52
3. This standard deviation of ORACLE is 17.10825 which is less than the standard deviation of market returns 18.52
4. This standard deviation of TCS is 25.96935 which is greater than the standard deviation of market returns 18.52
5. This standard deviation of TECH MAHINDRA is 55.77234 which is greater than the standard deviation of market returns 18.52
6. The beta value of HINDUJA is -748097 which is less than 1 so the security is less volatile.
7. The beta value of NIIT TECH is -884547 which is less than 1 so the security is less volatile.
8. The beta value of ORACLE is -125586 which is less than 1 so the security is less volatile.
9. The beta value of TCS is -586290 which is less than 1 so the security is less volatile.
10. The beta value of TECH MAHINDRA is -128132 which is less than 1 so the security is less volatile.
11. The alpha value NIIT TECH is 1517525322 which is a positive value so we can say that the stock has outperformed.
12. The alpha value ORACLE is 215454845 which is a positive value so we can say that the stock has outperformed.
13. The alpha value TCS is 1005836798 which is a positive value so we can say that the stock has outperformed.

14. The alpha value TECH MAHINDRA is 219822758 which is a positive value so we can say that the stock has outperformed.
15. The alpha value HINDUJA is 749842 which is a positive value so we can say that the stock has underperformed.

## 5.2 SUGGESTION:-

1. From the above finding we can suggestion to the investor that standard deviation of ORACLE is less than the market returns which indicates securities is less volatile than market returns.
2. Finding indicates the alpha value of TCS is highly positive which indicates the stock has securities has outperformed in the market.

## 5.3 CONCLUSION:-

As we all know that stock market is the market where the trading of company stock, both listed securities and unlisted take place. It is different from stock exchange because it includes all the national stock exchange of the country. It is important that the listed company should ensure the share is able to fulfill the expectations of the investors. Hence, one should select the portfolio on the basis of proportion of risk and return.

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## WEBSITE

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