

**Project dissertation report on**

**A STUDY ON THE CONTRIBUTION OF  
INFORMATION TECHNOLOGY AND  
PHARMACEUTICAL SECTOR COMPANIES  
TOWARDS BSE MARKET CAPITALISATION**

**Submitted By  
Sherin Sunny  
2K18/MBA/009**

**Under the Guidance of  
Dr. Vikas Gupta  
Professor**



**DELHI SCHOOL OF MANAGEMENT**

**Delhi Technological University**

**Bawana Road Delhi 110042**

# CERTIFICATE FROM THE INSTITUTE

This is to certify that the project report titled **A Study on the contribution of Information Technology and Pharmaceutical Sector Companies Towards BSE Market Capitalisation**, is a bonafide work carried out by **Mr. Sherin Sunny** of MBA 2018-20 and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 in partial fulfillment of the requirement for the award of the Degree of Masters of Business Administration.

Signature of Guide

Dr. Vikas Gupta

Signature of Head(DSM)

Dr. Rajan Yadav

Place: New Delhi

Seal of Head

Date:

# DECLARATION

This is to certify that I have completed the project titled “**A STUDY ON THE CONTRIBUTION OF INFORMATION TECHNOLOGY AND PHARMACEUTICAL SECTOR COMPANIES TOWARDS BSE MARKET CAPITALISATION**”.

This work was done under the guidance of **Dr. Vikas Gupta** in the partial fulfillment of the requirement for the award of the degree of “**Master in Business Administration**” from “Delhi School of Management, Delhi Technological University.”

It is also certified that the project of mine is an original work and the same has not been submitted earlier elsewhere.

**Sherin Sunny**

**2K18/MBA/09**

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I take the opportunity to express my gratitude and thanks to our library staff for providing me opportunity to utilize their resources for the completion of the project.

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**Sherin Sunny**

**2K18/MBA/009**

# EXECUTIVE SUMMARY

BSE is one of the major stock exchanges in India with high capitalization rate. The indices are monitored and updated dynamically and are reviewed regularly. Information Technology and pharmaceutical sector are one of fastest growing sectors in India. It has shown tremendous growth after liberalization of Indian market. Both the sector contributes around 8% and 1.71% towards the G.D.P of India. The growth rate of Information Technology and pharmaceutical is around 13% for both the Industries. Objectives of the study are- To find the pattern of movement of the Information Technology and pharmaceutical sector stocks quoted in BSE and BSE total market capitalization. The objectives are:

- To find the market capitalization of IT and pharmaceutical stocks quoted in BSE.
- To find whether how much the IT and pharmaceutical stocks contribute to the total BSE market capitalization.
- To find whether pharmaceutical stocks market capitalisation influence the BSE market capitalisation.
- To find whether IT stocks market capitalisation influence the BSE market capitalisation.

This examines whether how much the IT and pharmaceutical stocks contribute to the total BSE market capitalization. It also studies whether pharmaceutical stocks market capitalisation influence the BSE market capitalization and also whether IT stocks market capitalisation influence the BSE market capitalisation.

# TABLE OF CONTENTS

Certificate .....	2
Declaration .....	3
Acknowledgement.....	4
Executive Summary .....	5
Table of contents .....	6
<b>CHAPTER ONE: INTRODUCTION .....</b>	<b>8</b>
1.1 Introduction .....	9
1.2 Objectives.....	10
1.3 Problem Statement.....	10
1.4 Need of the Study.....	11
1.5 Method of Data Collection.....	11
1.6 Period of Study.....	12
1.7 Research Design.....	12
1.8 Research Tools.....	12
<b>CHAPTER TWO: LITERATURE REVIEW .....</b>	<b>13</b>
2.1 Introduction .....	14
2.2 History of Indian Stock Market .....	16
2.3 Information & Technology in India .....	19
2.4 History of Pharmaceutical Sector .....	21

2.5 Pharmaceutical Industry in India .....	22
2.6 Present Scenario of Pharma.....	23
2.7 Market Capitalization.....	24
2.8 Trend Analysis .....	27
2.9 Correlation & Regression .....	27
<b>CHAPTER THREE: COMPANY PROFILE .....</b>	<b>29</b>
3.1 Introduction .....	30
3.2 Profiles .....	30
<b>CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION.....</b>	<b>40</b>
<b>CHAPTER FIVE: FINDINGS, SUGGESTIONS &amp; CONCLUSION.....</b>	<b>69</b>
5.1 Findings.....	70
5.2 Suggestions.....	76
5.3 Conclusion .....	77
<b>REFERENCES .....</b>	<b>78</b>

# Chapter I-

# Introduction



## INTRODUCTION

“Finance is the life blood of a business”. Hence the financial requirement of a company is a vital factor to be faced by all companies. The company can full fill its financial needs through the financial market. The financial market enables efficient transfer and allocation of resources for productive activities in the economy. The users of funds are businesses and governments who seek to run their activities. Intermediaries like the banks, financial institutions, mutual funds and insurance companies channelize the available surplus funds from lenders to the users.

An efficient financial market ensures that the transfer of funds happens at a cost that makes it attractive for savers to save and lend and for users of borrow funds. There are two types of markets one is money market and the other is securities market. We are focusing on securities market and here there two types which are primary market and secondary market. The primary market deals with the issue of capital through initial public offering and follow up public offering. The area in which this study focuses on is secondary market where exchange of shares takes between the investors. The exchange is carried through stock exchanges with the help of intermediaries like stock brokers, sub-brokers and clearing corporation etc.

Bombay stock exchange marks to be one of the oldest stock exchanges in Asia. It was established in 1875 as “The Native Share and Stock brokers association”. It has evolved over the years into its present status as the premier stock exchange in the country. It is the first exchange in India and second in the world to receive information security management system standard BS 7799-2-2002 certification for its BSE on-line trading system (BOLT). BSE index SENSEX is India’s first and most popular market benchmark index. More than 5000 companies are listed in BSE and market capitalisation of BSE as on January 2015 is around US \$ 1.7 trillion.

The IT industry has transformed India’s image on the global platform and also fuelled economic growth. India is the world’s largest sourcing destination for the information and technology (IT). According to NASSCOM, the sector aggregated revenues of US\$147 billion in 2015, where export revenue stood at US\$99 billion and domestic at

US\$48 billion, growing by over 13%. India, the fourth largest base for young businesses in the world and home to 3,000 tech start-ups, is set to increase its base to 11,500 tech start-ups by 2020, as per a report by Nasscom and Zinnov Management Consulting Pvt Ltd. This industry employs around 10 million Indians and continues to contribute significantly to the social and economic transformation in the country. It contributes around 8% to overall India's GDP.

The Pharmaceutical Industry in India is one of the largest in the world. It ranks 3<sup>rd</sup> in the world, pertaining to the volume of sales. The estimated worth of the Indian Pharmaceutical Industry is US\$ 6 billion. The growth rate of the industry is 13% per year almost most 70% of the domestic demand for bulk drugs is catered by the Indian pharmaceutical Industry. The pharmaceutical Industry in India produces around 20% to 24% of the global generic drugs. The Indian Pharmaceutical Industry is one of the biggest producers of the active pharmaceutical ingredients (API) in the international arena. The Indian pharmaceutical sector leads the science-based industries in the country. The pharmaceutical sector has the capacity and technology pertaining to complex drug manufacturing. Around 40% of the total pharmaceutical produce is exported and the other 45% comprises of bulk drugs. The Indian Pharma Industry includes small scaled, medium scaled, large scaled players, which totals nearly 300 different companies. It contributes 1.71% to GDP.

With this backdrop an attempt is made in the study to evaluate the contribution in terms of market capitalisation of IT and pharmaceutical industry in the stock market with the reference to companies quoted at the Bombay Stock Exchange.

### **OBJECTIVES:**

To study the pattern movement of IT and pharmaceutical stocks with reference to its market capitalisation quoted in BSE and total BSE market capitalisation.

### **PROBLEM STATEMENT:**

Market capitalization is the total value of a company's free float as determined by its share price in the stock market, it is calculated as the number of free float of ordinary shares

multiplied by the previous day's closing share. The market capitalization of any stock is an important showing what the worth of the company is. To find whether market capitalisation of IT and pharmaceutical stock influence BSE market capitalisation. And to find the importance of market capitalization in taking financial decisions of buying or selling shares by investors.

#### **NEED OF THE STUDY:**

The BSE SENSEX is considered to be benchmark indices of the Indian economy. Therefore it is utmost important for the stake holders or investors. The SENSEX is nothing but a value weighted stock market index which tracks the performance of 30 largest companies quoted in BSE. As IT and pharmaceutical industry are the major contributors towards exports and imports of the country and are also growing at an increasing rate. Thus the study analyses the contribution of IT and pharmaceutical companies quoted in the BSE towards market capitalisation of BSE. This study will tell whether the IT and pharmaceutical industry is performing well in the market or not. This study also attempts to see the impact of IT and pharmaceutical industry towards BSE Market capitalisation.

#### **METHOD OF DATA COLLECTION:**

In this study secondary data was used which was taken from Bombay stock exchange website and also from moneycontrol.com from 2005 to 2015 on yearly basis.

#### **PERIOD OF STUDY:**

Secondary data that is the market capitalization data of the companies and BSE have been collected for a period of 10 years from 2005 to 2015.

#### **RESEARCH DESIGN:**

This research is about the effect of the market capitalization of Information Technology and pharmaceutical sector towards the total market capitalization of BSE. To analyze this, the

stock price of the Information Technology and pharmaceutical companies listed in BSE sensex is taken from the period of 2005 to 2015. This stock price is then multiplied with the number of outstanding shares which is taken from the shareholder pattern report from BSE for the above mentioned period by doing this we get the market capitalization of the companies. After this the contribution of each company and sector-wise is towards total market capitalization is calculated. Here also trend analysis is done so as to find the movement of the market capitalization of Information Technology and pharmaceutical companies can be found. In this study correlation and regression is also applied to this data.

### **RESEARCH TOOLS:**

Statistical tools:

- Trend analysis
- Correlation
- Regression

Financial Tools:

- Market Capitalisation
- Contribution

# Chapter II-

# Literature Review

## **LITERATURE REVIEW**

### **INTRODUCTION**

Finance or capital is the basic resource that is required for establishing, running a business. A business needs capital or funds for expansion, diversification of the company and is also needed for the day to day activities. Thus in an economy a vibrant financial market is required so that corporate, banks and government can raise funds or capital for their business.

In India, the financial can be divided into two major parts one is money market and the other is securities market. Money market is the market where corporate raise short term funds by issuing short debt securities and investments such as treasury bill, certificate of deposits, bankers acceptance, repos, commercial papers and call/notice money market. These investment instruments are also called as cash equivalent. It is a market for short term funds and instrument having a maturity of one or less than one year.

The another market called as securities market provides a platform for savers to place their surplus funds in financial claims or securities at the disposal of spenders and in return get the benefits such as capital appreciation, interest and dividend. There three important elements in a financial market that are investors, issuers and intermediaries. Investors are the backbone of in the securities market in an economy as he is the one who has the surplus funds and is ready to invest in companies in returns of financial gains in terms of dividend or capital appreciation. There are two kinds of investors which are retail investors who individual investors who buy and sell securities for their personal account. And second are the institutional investors which comprises of domestic institution, banks, insurance, mutual funds companies and foreign institutional investors etc.

The another important element of the securities market is issuers which are public and private enterprises, banks and financial institutions who want finance their expansion or diversification. The other most important element are intermediaries which conduct the trade between the investors and issuers. Another than these the significant element is the regulatory bodies who make sure the investor's interest is protected and also regulate the functioning of the securities markets.

The securities market is divided into two segments that is primary and secondary market. Primary market is used by issuers for raising fresh capital from the investors by making initial public offers or rights issues or offers for sale of equity or debt. This market is the market that ensures availability of adequate capital at reasonable rates to finance expansion, diversification or consolidation of companies. These resources in the primary market can be raised either through the private placement route or through the public issue route by initial public offering (IPO) or follow on public offer (FPO).

On the other hand secondary market provides liquidity to these instruments, through trading and settlement on the stock exchanges. An active secondary market promotes the growth of the primary market and capital formation, since the investors in the primary market are assured of a continuous market where they can liquidate their assets. The secondary market on the other hand operates through two mediums, namely, the over counter exchange market (OTC) and the Exchange Traded market. OTC markets are the informal type of markets where trades are negotiated. In this type of market, the securities are traded and settled bilaterally over the counter. The other option of trading is through the stock exchange route, where trading and settlement is done through the stock exchanges and the buyers and sellers don't know each other. The settlements of trades are done as per fixed time schedule.

One of the most important intermediaries is stock exchange which provides the platform for the trading of securities that is buying and selling securities. Here the buyers and sellers can meet to transact in securities through brokers.

Stock exchanges are an organized market place, either corporation or mutual organization, where members of the organization gather to trade company stocks or other securities. Stock exchanges also facilitates for the issue and redemption of securities and other financial instruments including the payments of income and dividends. The trade on an exchange is only by members and stock brokers do have a seat on the exchange.

Definition of stock exchange as given by (Ramesh, 2015) is The Securities Contract (Regulation) Act, 1956 (SCRA) defines 'Stock Exchange' as (a) any body of individuals, whether incorporated or not, constituted before corporatisation and demutualisation under

sections 4A and 4B, or (b) a body corporate incorporated under the Companies Act, 1956 (1 of 1956) whether under a scheme of corporatisation and demutualisation or otherwise, for the purpose of assisting, regulating or coordinating the business of buying, selling or dealing in securities.

### **History of Indian stock market**

Indian stock market is one the oldest stock that is in Asia. It was started in 1830's and here corporate shares, shares in bank and cotton presses were readily traded. Although there were very few brokers during in 1840 and 1850, it gradually increased to 22 in the mid 1850s. In 1860, the exchange grew to 60 and it gained popularity when cotton supply from United States and Europe stopped with break of American Civil war. This informal group of stock brokers organized themselves as The Native and Stock Brokers Association which became as the Bombay Stock Exchange in the Year 1875.

In 1928, a plot of land was acquired and building was constructed. The tradition, convention and procedures for trading of stocks was set up by Premchand Roychand who was a leading broker at that time. Some of initial member of the exchange are D.S Prabhudas and company (now known as D.S.P and joint venture partner with Merrill Lynch), Jamnadas Morarjee, Champakalal Devidas (now called Cifco finance) and Brijmohan Laxminarayan. 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 Exchange, while providing an efficient and transparent market for trading in securities, debt and derivatives upholds the interests of the investors and ensures redressal of their grievances whether against the companies or its own member-brokers. It also strives to educate and enlighten the investors by conducting investor education programmes and making available to them necessary informative inputs. A Governing Board having 20 directors is the apex body, which decides the policies and regulates the affairs of the Exchange. The Governing Board consists of 9 elected directors, who are from the broking community (one third of them retire every year by rotation), three SEBI nominees, six



public representatives and an Executive Director & Chief Executive Officer and a Chief Operating Officer.

The Exchange has inserted new Rule in its Rules, Bye-laws & Regulations pertaining to constitution of the Executive Committee of the Exchange. Accordingly, an Executive Committee, consisting of three elected directors, three SEBI nominees or public representatives, Executive Director & CEO and Chief Operating Officer has been constituted. The Committee considers judicial & quasi matters in which the Governing Board has powers as an Appellate Authority, matters regarding annulment of transactions, admission, continuance and suspension of member-brokers, declaration of a member-broker as defaulter, norms, procedures and other matters relating to arbitration, fees, deposits, margins and other monies payable by the member-brokers to the Exchange, etc.

In 1986, it developed the BSE SENSEX index, giving the BSE a means to measure the overall performance of the exchange. In 2000, the BSE used this index to open its derivatives market, trading SENSEX futures contracts. The development of SENSEX options along with equity derivatives followed in 2001 and 2002, expanding the BSE's trading platform.

Historically an open outcry floor trading exchange, the Bombay Stock Exchange switched to an electronic trading system developed by CMC Ltd. in 1995. It took the exchange only 50 days to make this transition. This automated, screen-based trading platform called BSE On-Line Trading (BOLT) had a capacity of 8 million orders per day. The BSE has also introduced a centralized exchange-based internet trading system to enable investors anywhere in the world to trade on the BSE platform.

The BSE is Asia's first stock exchange and the world's fastest stock exchange with a median trade speed of 6 microseconds. The BSE is the world's 11th largest stock exchange with an overall market capitalization of \$1.7 trillion as of January 23rd, 2015. More than 5500 companies are publicly listed on the BSE. BSE's popular equity index - the S&P BSE SENSEX - is India's most widely tracked stock market benchmark index. It is traded internationally on the EUREX as well as leading exchanges of the BRICS nations

(Brazil, Russia, China and South Africa).

BSE has won several awards and recognitions that acknowledge the work done and progress made like India Innovation Award for the Big Data implementation , ICICI Lombard & ET Now Risk Management BFSI Company 2013, SKOCH Order of Merit Certificate was awarded to BSE for E -Boss for qualifying amongst India's Best 2013, The Golden Peacock Global CSR Award for its initiatives in Corporate Social Responsibility, NASSCOM - CNBC-TV18's IT User Awards, 2010 in Financial Services category, Skoch Virtual Corporation 2010 Award in the BSE STAR MF category and Responsibility Award (CSR) by the World Council of Corporate Governance. Its recent milestones include the launching of BRICSMART indices derivatives, BSE-SME Exchange platform, S&P BSE GREENEX to promote investments in Green India.

At par with international standards, BSE Ltd. has been a pioneer in several areas over the decades and has many firsts and key achievements to its credit. BSE is the first exchange in India to

- Launch a special platform for trading in SME securities
- Introduce Equity Derivatives
- Launch a Free Float Index - S&P BSE SENSEX
- Launch Exchange Enabled Internet Trading Platform
- Obtain ISO certification for a stock exchange
- Exclusive facility for financial training – BSE Institute Ltd.
- Launch its website in Hindi and regional languages
- Host the popular opening-bell ceremony in Indian capital markets
- Launch mobile-based trading in India in Sept 2010
- Become securities market infrastructure member of SWIFT in India and provide corporate actions to custodians in ISO 15022 format
- Launched S&P BSE SENSEX Realized S&P BSE Volatility (REALVOL) Index in Nov 2010

(Rajavat & Amitabh, 2013), the author studies the behavior of BSE Sensex with reference to NSE, NIKKEI and HANGSENG. It explains the causality among the Bombay stock exchange, National stock exchange, NIKKEI and HANGSENG. The article reveals that BSE is highly correlated with NSE that is 98%, with NIKKEI 64% and with HANSENG around 82%. It also tells that BSE is not affected by these markets but these markets are dependent on BSE.

### **Information and Technology in India**

The Information Technology in India evolved as immigration laws in United states of America were modified and the restriction on immigrants were reduced which allowed the Indian professionals to migrate for research opportunities in U.S. The Information Technology revolution in USA could not been possible without the work of these Indians. As India has high number of educated and technically strong people thus outsourcing of work started gaining momentum and led to boom in the information and technology sector in India.

With the emergence of this opportunities companies like Tata Consultancy Services (TCS) was started for the software in India in 1968. And also in 1966, Azim Premji became the chairman of WIPRO and focused on information and technology services sector. And in 1981, Infosys was founded by Narayan Murthy and his colleagues. This company was completely committed towards providing quality software services and also developed an Information Technology business model.

The first major IT reform by the Indian Government was the creation of corporation called Software Technology Parks of India (STPI). This corporation provided satellite links to major IT developers enabling them to transmit the work done in India directly abroad. This reduced the costs incurred to the Indian IT companies as well as helped the clients in US trust Indian industries and go for outsourcing. Finance minister, Dr. Manmohan Singh, introduced the major economic reforms in 1991 to solve the debt problem created during that time. As per these economic reforms the international integration became possible. The huge restrictions on overseas business were lifted and foreign investments were welcomed.

As a result, the IT industry in India became free and the business of outsourcing would finally gain momentum with more and more clients and enterprises going for outsourcing of IT. Also, the inception of Windows and other user friendly operating services made the PC experience even more simple and less time consuming. Coupled with development of high level programming languages like Basic, C and others, the Indian IT brains had the perfect platform to rise in the global arena. The Indian IT sector boomed and grown at a gain of nearly 50% every year.

Another major event for Indian IT industry post the 1991 reforms was the Y2K bug. Fear of a complete breakdown of computer services, the US corporations outsourced all the equipment and upgrading work to Indians. The task of rectifying the Y2K bug was thrown to the Indians and as a result the modification of all the codes and softwares, which were initially designed till a date of 1999 was to be edited and huge work was outsourced to the Indian IT industries. The Indian IT industry has helped provide a national GDP of more than 6% since these economic reforms took place 20 years ago and today, India is known as the IT hub of the world.

India is now the world's largest sourcing destination for the information technology (IT) industry, accounting for approximately 67 per cent of the US\$ 124-130 billion market. The industry employs about 10 million workforce. More importantly, the industry has led the economic transformation of the country and altered the perception of India in the global economy. India's cost competitiveness in providing IT services, which is approximately 3-4 times cheaper than the US, continues to be the mainstay of its unique selling proposition (USP) in the global sourcing market. However, India is also gaining prominence in terms of intellectual capital with several global IT firms setting up their innovation centres in India.

The Indian Information Technology (IT) sector is expected to grow 11 per cent per annum and triple its current annual revenue to reach US\$ 350 billion by FY 2025, as per National Association of Software and Services Companies (NASSCOM). India, the fourth largest base for new businesses in the world and home to over 3,100 tech start-ups, is set

to increase its base to 11,500 tech start-ups by 2020, as per a report by NASSCOM and Zinnov Management Consulting Pvt Ltd. India's internet economy is expected to touch Rs 10 trillion (US\$ 151.6 billion) by 2018, accounting for 5 per cent of the country's gross domestic product (GDP), according to a report by the Boston Consulting Group (BCG) and Internet and Mobile Association of India (IAMAI). India's internet user base reached over 565 million by June 2020, the third largest in the world, while the number of social media users grew to 400 million by April 2020 and smartphones grew to 500 million. Public cloud services revenue in India is expected to reach US\$ 3.4 billion in 2020, growing by 33 per cent year-on-year (y-o-y), as per a report by Gartner Inc.

In yet another Gartner report, the public cloud market alone in the country was estimated to treble to US\$ 3.4 billion by 2020 from US\$ 1.9 million in 2018. Increased penetration of internet (including in rural areas) and rapid emergence of e-commerce are the main drivers for continued growth of data centre co-location and hosting market in India. The contribution of the IT sector to India's GDP rose to approximately 9.5 per cent in FY15 from 1.2 per cent in FY98. The IT-BPM sector in India grew at a Compound Annual Growth rate (CAGR) of 15 per cent over 2010-15, which is 3-4 times higher than the global IT-BPM spend, and is estimated to expand at a CAGR of 9.5 per cent to US\$ 300 billion by 2020.

### **History of Pharmaceutical sector**

The roots of the pharmaceutical industry lie back with the apothecaries and pharmacies that offered traditional remedies as far back as the middle ages, but the industry as we understand it today really has its origins in the second half of the 19th century. Whilst the scientific revolution of the 17th century had spread ideas of rationalism and experimentation, and the industrial revolution had transformed the production of goods in the late 18th century, the marrying of the two concepts for the benefit of human health was a comparatively late development. Merck in Germany was possibly the earliest company to move in this direction.

Originating as a pharmacy founded in Darmstadt in 1668, it was in 1827 that Heinrich Emanuel Merck began the transition towards an industrial and scientific concern, by manufacturing and selling alkaloids. Similarly, whilst GlaxoSmithKline's origins can be traced back as far as 1715, it was only in the middle of the 19th century that Beecham became involved in the industrial production of medicine, producing patented medicine from 1842, and the world's first factory for producing only medicines in 1859. Meanwhile, in the USA, Pfizer was founded in 1849, by two German immigrants, initially as a fine chemicals business. They expanded rapidly during the American civil war as demand for painkillers and antiseptics rocketed.

Whilst Pfizer was providing the medicines needed for the Union war effort, a young cavalry commander named Colonel Eli Lilly was serving in their army. A trained pharmaceutical chemist, Lilly was an archetype of the dynamic and multi-talented 19th century American industrialist, who after his military career, and trying his hand at farming, set up a pharmaceutical business in 1876. He was a pioneer of new methods in the industry, being one of the first to focus on R&D as well as manufacturing. Another military man in the drugs business was Edward Robinson Squibb, who as a naval doctor during the Mexican-American war of 1846–1848 threw the drugs he was supplied with overboard due to their low quality. He set up a laboratory in 1858, like Pfizer supplying Union armies in the civil war, and laying the basis for today's BMS

### **Pharmaceutical Industry in India**

The history of Indian pharmaceutical market in 1970's was almost non-existent. Today, India has gained immense importance and carved a niche for itself in the pharmaceutical domain. In fact, it has emerged as a big mart for the pharmaceutical industry. In today's world, Indian pharmaceutical industry ranks 4th in terms of volume and 13th in terms of value. For example it might be anything like formulations, bulk drugs, generics, Novel Drug Delivery Systems, New Chemical Entities, or Biotechnology, etc. Indian companies are dominating in the marketplace which was traditionally manned by MNC's. In 1930, in Calcutta the first pharmaceutical company called Bengal Chemicals and Pharmaceutical Works, which still is today as one of 5 government-owned drug manufacturers was started.

The growth impetus that the sector received during the 1980s continued even in the 1990s. The pharmaceutical sector witnessed a consistent growth of around 16% from 1995 onward. The bulk drug and the formulation sector also experienced a growth rate of between 15% and 20% during this period. Because of the competence gained by the Indian pharmaceutical companies in process engineering, the Indian companies also emerged as the major players in the domestic market. This resulted in a further fall in the share of MNCs in the country. The country also gained reputation in the international market as low cost producer. The number of production units in the Indian pharmaceutical sector also increased from 1,752 in 1952–1953 to 20,053 in the year. However, there was a shift in the regulatory framework under which the sector was operating. As part of the liberalization policy, the Government of India in the New Drug Policy of 1994 and 2002 abolished the licensing requirement for entry and expansion of firms. Further, 100% inward foreign direct investment has been allowed under the automatic approval of RBI and automatic approval for technological collaboration has been approved. Further, free import of formulations, bulk drugs and intermediaries are allowed.

### **Present scenario of pharma**

The Indian pharmaceuticals market is the third largest in terms of volume and thirteenth largest in terms of value, as per a report by Equity Master. Branded generics dominate the pharmaceuticals market, constituting nearly 70 to 80 per cent of the market. India is the largest provider of generic drugs globally with the Indian generics accounting for 20 per cent of global exports in terms of volume. Of late, consolidation has become an important characteristic of the Indian pharmaceutical market as the industry is highly fragmented.

India enjoys an important position in the global pharmaceuticals sector. The country also has a large pool of scientists and engineers who have the potential to steer the industry ahead to an even higher level. The UN-backed Medicines Patent Pool has signed six sub-licences with Aurobindo, Cipla, Desano, Emcure, Hetero Labs and Laurus Labs, allowing them to make generic anti-AIDS medicine Tenofovir Alafenamide (TAF) for 112 developing countries.

According to India Ratings, a Fitch company, the Indian pharmaceutical industry is estimated to grow at 20 per cent compound annual growth rate (CAGR) over the next five years. The Indian pharma industry, which is expected to grow over 15 per cent per annum between 2015 and 2020, will outperform the global pharma industry, which is set to grow at an annual rate of 5 per cent between the same period<sup>1</sup>. Presently the market size of the pharmaceutical industry in India stands at US\$ 20 billion. As on March 2014, Indian pharmaceutical manufacturing facilities registered with the US Food and Drug Administration (FDA) stood at 523, highest for any country outside the US.

Indian pharmaceutical firms are eyeing acquisition opportunities in Japan's growing generic market as the Japanese government aims to increase the penetration of generic drugs to 60 per cent of the market by 2017 from 30 per cent in 2014, due to ageing population and rising health costs.

India's biotechnology industry comprising bio-pharmaceuticals, bio-services, bio-agriculture, bio-industry and bioinformatics is expected grow at an average growth rate of around 30 per cent a year and reach US\$ 100 billion by 2025. Biopharma, comprising vaccines, therapeutics and diagnostics, is the largest sub-sector contributing nearly 62 per cent of the total revenues at Rs 12,600 crore (US\$ 1.9 billion).

## **Market Capitalization**

Market capitalization is the aggregate valuation of the company based on its current share price and the total number of outstanding stocks. It is calculated by multiplying the current market price of the company's share with the total outstanding shares of the company. Market capitalization is one of the most important characteristics that helps the investor determine the returns and the risk in the share. It also helps the investors choose the stock that can meet their risk and diversification criterion. For instance, a company has 20 million outstanding shares and the current market price of each share is Rs100. Market capitalization of this company will be  $20,000,000 \times 100 = \text{Rs } 200 \text{ crore}$ . Stocks of companies are of three types. The stocks with a market cap of Rs 10,000 crore or more are large cap stocks. Company stocks with a market cap between Rs 2 crore and 10 crore are mid cap stocks and those less than Rs 2 crore market cap are small cap stocks.



As outstanding stock is bought and sold in public markets, capitalization could be used as a proxy for the public opinion of a company's net worth and is a determining factor in some forms of stock valuation. The investment community uses this figure to determine a company's size, as opposed to sales or total asset figures. Thus, Market Capitalization is the public opinion of what the whole company is worth. This opinion is based on the past performance, future prospects and market sentiments of the public about the company. The market capitalization changes with time as a result of factors like company performance, economic factors like inflation, interest rates, etc. In India, companies can found with market capitalization ranging from a few lakh to as much as few lakh crores. As a result, companies are usually classified as large-cap, mid-cap and small-cap companies.

These are the articles that have been for this project:

(Mishra & Avadhanam, 2011), the article focuses on market capitalization of Central Public sector undertaking and Public Sector Financial Institutions (CPSEs and PSFIs). The author analysed the relationship between the sectoral market capitalization (CPSEs and PSFIs) and BSE market capitalization whether it influences the total BSE market capitalization. The paper concludes that the contribution of CPSEs and PSFIs is in increasing trend. The author also found the movement of CPSEs and PSFIs stocks quoted at BSE and BSE total market capitalization.

(Kumar & Mishra, 2012), in this article the author studied the impact of financial indicators on BSE Sensex. The study examined the relationship between the market price and selected four variables namely EPS, price to earnings ratio, price to book ratio and dividend yield in BSE Sensex. The author used correlation, regression and ANOVA for analyzing the relationship between price and selected indicators. The author reveals that there were some empirical relationship between market price index and other variables. He concludes that these financial indicators are beneficial and useful for investors and these can be examined before investing in the stock market at BSE Sensex.

(Janglani & Sandhar, 2011), the article examines the Public Sector and Private Sector Banks on Bank Ex-Index of NSE and BSE. The study is specifically about the CNX bank and Bank Ex Index which are the index of banking sector of NSE and BSE respectively. The author analyses the impact of market capitalization of public and private sector bank on the index value of NSE and BSE. He concludes that public sector banks have a linear relationship with the index value and private banks have a non linear relationship. The study also shows that the bank with high market capitalization makes more impact on the value of index. Here one of the important to calculate market capitalization is number of equity shares or which is known as number of outstanding shares.

An equity share, commonly referred to as ordinary share also represents the form of fractional or part ownership in which a shareholder, as a fractional owner, undertakes the maximum entrepreneurial risk associated with a business venture. The holders of such shares are members of the company and have voting rights.

(Prasad, 2014), this article studies the advantages of listing in Central Public Sector Enterprises. It also studies the market capitalization of Central Public Sector Enterprises. It has taken market capitalization data from both NSE and BSE and also calculated the contribution of CPSE towards both BSE and NSE market capitalization. They found that CPSE is contributing around 14.99% and 15.24% towards BSE and NSE market capitalization. The CPSE with the highest market capitalization is Oil & Natural Gas Corp. Ltd. The paper presents a scenario of the Market Capitalization of Central Public Sector Enterprise in India based on the secondary literature available

(Anushan & B, 2014), had the primary aim to study the use of relative index in ascertaining the stocks trading range that is oversold or over bought or range bound of selected scripts from National stock exchange and Bombay stock exchange. The findings showed that the RSI values did not vary based on markets that are the BSE or NSE and the capitalization of the stock had an effect on the momentum trends. The article also talks about the importance of the technical analysis and how it can be used to find the measure of momentum.

(Krishnankutty & Chakraborty, 2014), the article studies the growth of the company and its dependence on long term debt in the Indian corporate sector in sector wise. The study found that that previous year long term debt is directly influenced by current year long term debt. It was also found that enormous internal reserve so they can easily avail long term debt.

### **Trend analysis**

An aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future. Trend analysis is based on historical data about the stock's performance given the overall trends of the market and particular indicators within the market.

### **Correlation and Regression**

Correlation and regression analysis are related in the sense that both deal with relationships among variables. The correlation coefficient is a measure of linear association between two variables. Values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear sense, a correlation coefficient of -1 indicates that two variables are perfectly related in a negative linear sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables. For simple linear regression, the sample correlation coefficient is the square root of the coefficient of determination, with the sign of the correlation coefficient being the same as the sign of  $b_1$ , the coefficient of  $x_1$  in the estimated regression equation.

Regression analysis involves identifying the relationship between a dependent variable and one or more independent variables. A model of the relationship is

hypothesized, and estimates of the parameter values are used to develop an estimated regression equation. Various tests are then employed to determine if the model is satisfactory. If the model is deemed satisfactory, the estimated regression equation can be used to predict the value of the dependent variable given values for the independent variables.

# Chapter III-

# Company Profile

## **INTRODUCTION**

This chapter deals with the information that is related to the companies that has been taken in this project. This project mainly deals with seven companies in which three companies are from information and technology sector and four companies from pharmaceutical sector. Here we will deal with the origin of the company and the present scenario of company

## **PROFILES**

The following are the companies that are taken:

### **TATA CONSULTANCY SERVICES**

Tata Consultancy Services Limited was founded in 1968 by a division of Tata Sons Limited. Its early contracts included punched card services to sister company TISCO (now Tata Steel), working on an Inter-Branch Reconciliation System for the Central Bank of India, and providing bureau services to Unit Trust of India. In 1975, TCS conducted its first campus interviews, held at IISc, Bangalore and Mumbai. The recruits comprised 12 Indian Institutes of Technology graduates and three IISc graduates, who became the first TCS employees to enter a formal graduate trainee programme. In 1979, TCS delivered an electronic depository and trading system called SECOM for the Swiss company SIS SegInterSettle (deutsch). TCS followed this up with System X for the Canadian Depository System and automating the Johannesburg Stock Exchange. TCS associated with a Swiss partner, TKS Teknosoft, which it later acquired. In 1981, TCS established India's first dedicated software research and development centre, the Tata Research Development and Design Centre (TRDDC) in Pune. In 1985, TCS established India's first client-dedicated offshore development centre, set up for clients Tandem. TCS later (1993) partnered with Canada-based software factory Integrity Software Corp, which TCS later acquired. In early the Indian IT outsourcing industry grew rapidly due to the Y2K bug and the launch of a unified European currency, Euro. Tata Consultancy Services created the factory model for Y2K conversion and developed software tools which automated the conversion process and enabled third-party developer and client implementation.

TCS and its 67 subsidiaries provide a wide range of information technology-related products and services including application development, business process outsourcing, capacity planning, consulting, enterprise software, hardware sizing, payment processing, software management and technology education services. Its established software products are TCS BaNCS and TCS MasterCraft. TCS is one of the largest private sector employers in India, and the second-largest employer among listed Indian companies (after Coal India Limited). TCS had a total of over 335,620 employees as of October 2015, of which 31% were women.

TCS is one of the largest Indian companies by market capitalization (\$80 billion). TCS is now placed among the 'Big 4' most valuable IT services brands worldwide. In 2015, TCS is ranked 64th overall in the *Forbes* World's Most Innovative Companies ranking, making it both the highest-ranked IT services company and the first Indian company. It is the world's 10th largest IT services provider, measured by the revenues. Presently chief executive officer of the company is Nantarajan Chandrasekar.

## **WIPRO**

Wipro Limited (Western India Products Limited) is an Indian multinational Digital Strategy, IT Consulting and System Integration services company headquartered in Bangalore, India. The company was incorporated on 29 December 1945, in Mumbai by Mohamed Premji as 'Western India Palm Refined Oil Limited', later abbreviated to 'Wipro'. It was initially set up as a manufacturer of vegetable and refined oils in Mumbai, Maharashtra, India under the trade names of Kisan, Sunflower and Camel. The company logo still contains a sunflower to reflect products of the original business.

In 1966, after Mohamed Premji's death, his son Azim Premji returned home from Stanford University and took over Wipro as its chairman at the age of 21. During the 1970s and 1980s, the company shifted its focus to new business opportunities in the IT and computing industry, which was at a nascent stage in India at the time. On 7 June 1977, the name of the company changed from Western India Vegetable Products Limited, to Wipro Products Limited.

The year 1980 marked the arrival of Wipro in the IT domain. In 1982, the name was changed from Wipro Products Limited to Wipro Limited. Meanwhile, Wipro continued to

expand in the consumer products domain with the launch of "Ralak" a tulsi-based family soap and "Wipro Jasmine", a toilet soap.

It opened WIPRO Ltd. as the Information Technology service wing of the company. Wipro Limited is a global company provider of comprehensive IT solutions and services, including Systems Integration, Consulting, Information Systems outsourcing, IT-enabled services, and R&D services.

It is also a value added reseller of desktops, servers, notebooks, storage products, networking solutions and packaged software for international brands.

Wipro entered into the technology business in 1981 and has over 171,425 employees and clients across 54 countries today. IT revenues stood at \$8.47 billion for the year ended 31 March 2019, with a repeat business ratio of over 95%. The business model at Wipro Technologies Ltd is an industry-aligned customer-facing model which gives greater understanding of customers' businesses to build industry specific solutions.

Wipro helps customers do business better by leveraging our industry-wide experience, deep technology expertise, comprehensive portfolio of services and vertically aligned business model. Our 55+ dedicated emerging technologies 'Centers of Excellence' enable us to harness the latest technology for delivering business capability to our clients.

Wipro is globally recognized for its innovative approach towards delivering business value and its commitment to sustainability. Wipro champions optimized utilization of natural resources, capital and talent. Today we are a trusted partner of choice for global businesses looking to 'differentiate at the front' and 'standardize at the core' through technology interventions.

In today's world, organizations will have to rapidly reengineer themselves and be more responsive to changing customer needs. Wipro is well positioned to be a partner and co-innovator to businesses in their transformation journey, identify new growth opportunities and facilitate their foray into new sectors and markets. Abid Ali Neemuchwala is the present chief executive officer of WIPRO Ltd.



## **Infosys**

Infosys is a global leader in consulting, technology and outsourcing solutions. As a proven partner focused on building tomorrow's enterprise, Infosys enables clients in more than 50 countries to outperform the competition and stay ahead of the innovation curve. Established in 1981, Infosys is a NYSE listed global consulting and IT services company with more than 193,000 employees. From a capital of US\$ 250, the company has grown to become a US\$ 9.21 billion (LTM Q3 FY16 revenues) company with a market capitalization of approximately US\$ 38.5 billion.

Infosys is the second-largest India-based IT services company by 2014 revenues, and the fifth largest employer of H-1B visa professionals in the United States in FY 2013. On 15 February 2015, its market capitalisation was Rs.263,735 crores (\$42.51 billion), making it India's sixth largest publicly traded company.

Infosys was co-founded in 1981 by CEO Narayan Murthy, Nandan Nilekani, N. S. Raghavan, S. Gopalakrishnan, S. D. Shibulal, K. Dinesh and Ashok Arora after they resigned from Patni Computer Systems. The company was incorporated as "Infosys Consultants Pvt Ltd." with a capital of ₹10,000 or US\$1,250 (about \$3,254 in 2016) in Model Colony, Pune as the registered office. It signed its first client, Data Basics Corporation, in New York. In 1983, the company's corporate headquarters was relocated from Pune to Bangalore.

The company changed its name to "Infosys Technologies Private Limited" in April 1992 and to "Infosys Technologies Limited" when it became a public limited company in June 1992. It was later renamed to "Infosys Limited" in June 2011.

In March 1999, it issued 2,070,000 ADSs (equivalent to 1,035,000 equity shares of par value of 10 (equivalent to 4 or 35¢ US in 2016) each) at US\$34 (\$48.3 in 2016) per ADS under the American Depositary Shares Program and the same were listed on the NASDAQ National Market in US. The total issue amount was US\$70.38 million.

The share price surged to Rs.8,100 (equivalent to Rs.20,000 or US\$290 in 2016) by 1999 making it the costliest share on the market at the time. At that time, Infosys was among the 20 biggest companies by market capitalization on the NASDAQ. During July 2003, June 2005 and November 2006, it made secondary ADS issues of US\$294 (\$378.19 in

2016) million, US\$1.07 (\$1.3 in 2016) billion and US\$1.605 (\$1.88 in 2016) billion respectively.

In December 2002, Infosys transferred the listing of its American Depositary Shares (ADS) from the NASDAQ to the NYSE. In July 2014, Infosys spun off a subsidiary, Edgeverve Systems Ltd., focusing on enterprise software products for business operations, customer service, procurement and commerce network domains. In August 2015, Finacle joins Edgeverve product portfolio. The credit rating of the company is A- (given by Standard & Poor's on 13-Dec-2013). In February 2015, Infosys announced it would acquire the US automation technology company Panaya for around \$200 million. It provides software development, maintenance and independent validation services to companies in banking, finance, insurance, manufacturing and other domains. One of its known products is Finacle which is a universal banking solution with various modules for retail and corporate banking. Presently the chief executive officer of Infosys is Vishal Sikka.

### **Sun Pharmaceutical Industries Ltd.**

Sun Pharmaceutical Industries Limited is a multinational pharmaceutical company headquartered in Mumbai, Maharashtra that manufactures and sells pharmaceutical formulations and active pharmaceutical ingredients (APIs) primarily in India and the United States. The company offers formulations in various therapeutic areas, such as cardiology, psychiatry, neurology, gastroenterology and diabetology. It also provides APIs such as warfarin, carbamazepine, etodolac, and clorazepate, as well as anticancers, steroids, peptides, sex hormones, and controlled substances.

Sun Pharmaceuticals was established by Mr. Dilip Shanghvi in 1983 in Vapi with five products to treat psychiatry ailments. Cardiology products were introduced in 1987

followed by gastroenterology products in 1989. Today it is the largest chronic prescription company in India and a market leader in psychiatry, neurology, cardiology, orthopedics, ophthalmology, gastroenterology and nephrology.

The 2014 acquisition of Ranbaxy will make the company the largest pharma company in India, the largest Indian pharma company in the US, and the 5th largest speciality generic company globally.

Over 72% of Sun Pharma sales are from markets outside India, primarily in the US. The US is the single largest market, accounting for about 60% turnover; in all, formulations or finished dosage forms, account for 93% of the turnover. Manufacturing is across 26 locations, including plants in the US, Canada, Brazil, Mexico and Israel. In the US, the company markets a large basket of generics, with a strong pipeline awaiting approval from the U.S. Food and Drug Administration (FDA).

Sun Pharma was listed on the stock exchange in 1994 in an issue oversubscribed 55 times. The founding family continues to hold a majority stake in the company. Today Sun Pharma is the second largest and the most profitable pharmaceutical company in India, as well as the largest pharmaceutical company by market capitalisation on the Indian exchanges.

The Indian pharmaceutical industry has become the third largest producer in the world in terms of volumes and is poised to grow into an industry of \$20 billion in 2015 from the current turnover of \$12 billion. In terms of value India still stands at number 14 in the world. Presently the chief executive officer is the founder Dilip Shanghvi.

## **Dr. Reddy's Laboratories**

Dr. Reddy's Laboratories Limited is an integrated global pharmaceutical company that is engaged in providing medicines. The Company operates in three segments: Global Generics, Pharmaceutical Services and Active Ingredients (PSAI), and Proprietary Products. Global Generics segment consists of its business of manufacturing and marketing prescription and over-the-counter finished pharmaceutical products, marketed under a brand name (branded formulations) or as generic finished dosages with therapeutic equivalence to branded formulations (generics). PSAI segment includes the Company's business of manufacturing and marketing active pharmaceutical ingredients and intermediates, also known as API or bulk drugs. Proprietary Products segment consists of its differentiated formulations business, its new chemical entities (NCEs) business, and its dermatology focused specialty business operated through Promius Pharma.

Dr. Reddy's originally launched in 1984 producing active pharmaceutical ingredients. In 1986, Reddy's started operations on branded formulations. Within a year Reddy's had launched Norilet, the company's first recognized brand in India. Soon, Dr. Reddy's obtained another success with Omez, its branded omeprazole – ulcer and reflux oesophagitis medication – launched at half the price of other brands on the Indian market at that time.

Within a year, Reddy's became the first Indian company to export the active ingredients for pharmaceuticals to Europe. In 1987, Reddy's started to transform itself from a supplier of pharmaceutical ingredients to other manufacturers into a manufacturer of pharmaceutical products. The company's first international move took it to Russia in 1992. There, Dr. Reddy's formed a joint venture with the country's biggest pharmaceuticals producer, Biomed. They pulled out in 1995 amid accusations of scandal, involving "a significant material loss due to the activities of Moscow's branch of Reddy's Labs with the help of Biomed's chief executive". Reddy's sold the joint venture to the Kremlin-friendly Sistema group. In 1993, Reddy's entered into a joint venture in the Middle East and created two formulation units there and in Russia. Reddy's exported bulk drugs to these formulation units, which then converted them into finished products. In 1994, Reddy's started targeting the US generic market by building state of art manufacturing facility. Presently the chief executive officer is G.V Prasad.

## **Cipla Limited**

**Cipla** was born out of Dr. K.A. Hamied's vision to harness Indian expertise for self-sufficiency in the chemical and pharmaceutical industry in India. Dr. K.A. Hamied was an exemplary visionary who donned various hats; he was a chemist, an entrepreneur and pioneer, an active participant in India's independence struggle, a close ally of Mahatma Gandhi, Dr. Zakir Hussain and various others, a legislator in the Bombay Presidency, head of various associations, Sheriff of Bombay, proactive supporter and sponsor of institutes of scientific excellence in India.

Be it the commencement of bulk drug production in India, the landmark Indian Patents Act of 1970, the several 'firsts' in India and the world, its historic international stance on the price and availability of antiretroviral drugs for HIV treatment in 2000-2001, its free-of-cost Palliative Care Centre for terminally-ill cancer patients, Cipla, under the leadership of its current Chairman Dr. Y.K. Hamied, has stood for fearlessness and compassion. It is not for nothing that we say 'None Shall be Denied'.

Apart from its various national and international milestones, the story of Cipla's growth and expansion, its ups and downs, successes and challenges is also one that deserves to be chronicled. According to Dr Y K Hamied, Cipla was ranked 56 in the 1960s.

Presently is one of the largest pharmaceutical company in India and is 42<sup>nd</sup> largest publicly traded in company by market value. And the chief executive officer of Cipla is Subhanu Saxena.

## **Lupin Pharmaceuticals Inc.**

Lupin Pharmaceuticals, Inc. is the U.S. wholly owned subsidiary of Lupin Limited, which is among the top five pharmaceutical companies in India. Through our sales and marketing headquarters in Baltimore, MD, Lupin Pharmaceuticals, Inc. is dedicated to delivering high-quality, branded and generic medications trusted by healthcare professionals and patients across geographies.

Lupin Limited, headquartered in Mumbai, India, is strongly research focused. It has a program for developing New Chemical Entities. The company has a state-of-the-art R&D center in Pune and is a leading global player in Anti-TB, Cephalosporins (anti-infectives) and Cardiovascular drugs (ACE-inhibitors and cholesterol reducing agents) and has a notable presence in the areas of diabetes, anti-inflammatory and respiratory therapy.

We are building on our parent company's strengths of vertical integration in discovery research, process chemistry, active pharmaceutical ingredient production, formulation development and regulatory filings. Lupin Pharmaceuticals, Inc. is committed to achieving its vision and mission of becoming an innovation led transnational pharmaceutical company.

Vinita Gupta, CEO of Lupin Pharmaceuticals, Inc. says "founded on the strengths of our parent company Lupin Limited, Lupin Pharmaceuticals, Inc. intends to bring a portfolio of generics as well as branded products to the US market."

It is the seventh-largest company by market capitalization; and the 10th-largest generic pharmaceutical company by revenue globally. Lupin is the fifth-largest generic pharmaceutical company in the US by prescription-led market share and 3rd largest Indian pharmaceutical company by revenue. It has the distinction of being the fastest growing generic pharmaceutical player in the US and Japan; and is the 4th largest and the fastest growing generic pharmaceutical player in South Africa.

Lupin was founded in 1968 by Dr. Desh Bandhu Gupta, then an Associate Professor at BITS-Pilani, Rajasthan. Named after the Lupin flower because of its inherent qualities and

what it personifies and stands for, the company was created with a vision to fight life-threatening infectious diseases and to manufacture drugs of the highest social priority.

Lupin first gained recognition when it became one of the world's largest manufacturers of tuberculosis drugs. The company today has a significant market share in key markets in the cardiovascular (prils and statins), Diabetology, asthma, pediatrics, CNS, GI, anti-infectives and NSAIDs therapy segments. It also has a global leadership position in the anti-TB and Cephalosporin segments. The company's R&D endeavours have resulted in significant progress in its new chemical entity (NCE) program. Lupin's foray into advanced drug delivery systems has resulted in the development of platform technologies that are being used to develop value-added generic pharmaceuticals. Its manufacturing facilities, spread across India and Japan, have played a critical role in enabling the company realized its global aspirations. Benchmarked to International standards, these facilities are approved by international regulatory agencies including the US FDA, UK MHRA, Japan's MHLW, TGA Australia, WHO, and the MCC South Africa. In July 2015 the company announced its intention to acquire Gavis Pharmaceuticals and Novel Laboratories for \$880 million.

# Chapter IV- Data Analysis and Interpretation



**Table 1: Market Capitalisation of Sun Pharmaceuticals.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market Capitalisation of Sun pharma(in Rs)</b>	<b>Market Cap (in Rs.cr )</b>
2005	682.15	185,731,637.00	126,696,836,179.55	12,669.68
2006	979	193,402,120.00	189,340,675,480.00	18,934.07
2007	1,222.05	207,116,391.00	253,106,585,621.55	25,310.66
2008	1,064.95	207,116,391.00	220,568,600,595.45	22,056.86
2009	1,507.10	207,116,391.00	312,145,112,876.10	31,214.51
2010	424.2	1,035,581,955.00	439,293,865,311.00	43,929.39
2011	392.05	1,035,581,955.00	405,999,905,457.75	40,599.99
2012	488.25	1,035,581,955.00	505,622,889,528.75	50,562.29
2013	475.6	2,071,163,910.00	985,045,555,596.00	98,504.56
2014	552.5	2,071,163,910.00	1,144,318,060,275.00	114,431.81
2015	799.05	2,406,423,348.00	1,922,852,576,219.40	192,285.26

**EXPLANATION:**

In this the price of the share is taken from BSE website and also the outstanding shares also taken from the same website. Here the price is multiplied with number of outstanding shares so as to get the market capitalization of the company. This step is repeated for calculating the capitalization value for all the companies. It can also be seen that the market capitalization a value of the company that is sun pharma has increased drastically even the U.S crisis didn't affect the market capitalization value to that extent. And in 2015 we can see it has increased to Rs. 192,285.26 cr from mere Rs. 12,669 cr in 2005. The reason may be due to increase in number of outstanding shares.

**Table 2: Market Capitalisation of Lupin.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market Capitalisation of Lupin( in Rs)</b>	<b>Market Cap(Rs.cr)</b>
2005	766.85	40,141,134.00	30,782,228,608	3,078.22
2006	612.05	40,141,134.00	24,568,381,065	2,456.84
2007	633.70	80,344,564.00	50,914,350,207	5,091.44
2008	617.85	82,080,895.00	50,713,680,976	5,071.37
2009	1,490.30	82,819,550.00	123,425,975,365	12,342.60
2010	480.45	88,943,833.00	42,733,064,565	4,273.31
2011	447.20	446,201,189.00	199,541,171,721	19,954.12
2012	613.30	446,641,681.00	273,925,342,957	27,392.53
2013	908.60	447,529,493.00	406,625,297,340	40,662.53
2014	1,427.55	448,375,804.00	640,078,879,000	64,007.89
2015	1,870.70	450,184,086.00	842,159,369,680	84,215.94

**EXPLANATION:**

The above steps are repeated to calculate market capitalization of the company and it can be seen that there is constant in this value. It has increased in a tremendous rate. From Rs. 3078.22 cr in 2005 it has grown to Rs. 84,215.94 cr in 2015. This means that the company is doing extremely well in the market and also the company has increased the outstanding shares.

**Table 3: Market Capitalisation of Cipla.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market Capitalisation of cipla (in Rs)</b>	<b>Market Cap (in Rs. Cr)</b>
2005	443.4	299,870,233.00	132,962,461,312.20	13,296.25
2006	250.7	299,870,233.00	75,177,467,413.10	7,517.75
2007	212.6	777,291,357.00	165,252,142,498.20	16,525.21
2008	186.9	777,291,357.00	145,275,754,623.30	14,527.58
2009	335.6	777,291,357.00	260,858,979,409.20	26,085.90
2010	369.9	802,921,357.00	297,000,609,954.30	29,700.06
2011	319.55	802,921,357.00	256,573,519,629.35	25,657.35
2012	414.1	802,921,357.00	332,489,733,933.70	33,248.97
2013	400.55	802,921,357.00	321,610,149,546.35	32,161.01
2014	625.8	802,921,357.00	502,468,185,210.60	50,246.82
2015	642.25	803,104,806.00	515,794,061,653.50	51,579.41

**EXPLANATION:**

The same step is repeated to calculate the market capitalization. In this the capitalization has increased significantly but less compared to the above two companies. It has increased from Rs.13296.25 cr to Rs. 51,579.41 cr in 2015. This growth in capitalization value is good and indicates that the company is performing well in the market.

**Table 4: Market Capitalisation of Dr. Reddy.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market Capitalisation of Dr. Reddy</b>	<b>Market Cap( in Rs.cr)</b>
2005	978.5	76,518,949.00	74,873,791,596.50	7,487.38
2006	811.2	76,694,570.00	62,214,635,184.00	6,221.46
2007	735.35	167,912,180.00	123,474,221,563.00	12,347.42
2008	469.75	168,172,746.00	78,999,147,433.50	7,899.91
2009	1,143.80	168,468,777.00	192,694,587,132.60	19,269.46
2010	1,662.55	168,845,385.00	280,713,894,831.75	28,071.39
2011	1,577.95	169,252,732.00	267,072,348,459.40	26,707.23
2012	1,828.50	169,560,346.00	310,041,092,661.00	31,004.11
2013	2,533.05	169,836,475.00	430,204,282,998.75	43,020.43
2014	3,244.95	170,108,868.00	551,994,771,216.60	55,199.48
2015	3,251.90	170,588,515.00	554,736,791,928.50	55,473.68

**EXPLANATION:**

In this table it can be seen the market price of the share increased tremendously as compared to the number of outstanding shares of company. Here the increase in market capitalization can be due to market performance of the company which can be indicated by the increase in the market price.

**Table 5: Market Capitalisation of Infosys.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market Capitalisation of Infosys</b>	<b>Market Cap(Rs.cr)</b>
2005	2,996.75	275,554,980.00	825,769,386,315.00	82,576.94
2006	2,240.50	571,209,862.00	1,279,795,695,811.00	127,979.57
2007	1,768.40	571,995,758.00	1,011,517,298,447.20	101,151.73
2008	1,117.85	572,830,043.00	640,338,063,567.55	64,033.81
2009	2,605.25	573,825,192.00	1,494,958,081,458.00	149,495.81
2010	3,445.00	574,151,559.00	1,977,952,120,755.00	197,795.21
2011	2,765.05	574,230,001.00	1,587,774,664,265.05	158,777.47
2012	2,318.50	574,236,166.00	1,331,366,550,871.00	133,136.66
2013	3,485.50	574,236,166.00	2,001,500,156,593.00	200,150.02
2014	1,971.20	1,148,472,332.00	2,263,868,660,838.40	226,386.87
2015	1,104.75	2,296,944,664.00	2,537,549,617,554.00	253,754.96

**EXPLANATION:**

In this it can be observed that the market price increased till 2010 but after which it decreased sharply but the number of outstanding shares has increased nearly doubling from 2014 to 2015. The capitalization value of the company falls in 2012 but is able to recover in 2014 which can be accounted to the increase in number of outstanding share.

**Table 6: Market Capitalisation of TCS.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding shares</b>	<b>Market capitalization of TCS</b>	<b>Market Cap (Rs.cr)</b>
2005	1702.45	489,305,249.00	833,017,721,160.05	83,301.77
2006	1218.6	978,610,498.00	1,192,534,752,862.80	119,253.48
2007	1083.35	978,610,498.00	1,060,177,683,008.30	106,017.77
2008	478.1	978,610,498.00	467,873,679,093.80	46,787.37
2009	749.75	1,957,220,996.00	1,467,426,441,751.00	146,742.64
2010	1165.05	1,957,220,996.00	2,280,260,321,389.80	228,026.03
2011	1161.25	1,957,220,996.00	2,272,822,881,605.00	227,282.29
2012	1258.55	1,957,220,996.00	2,463,260,484,515.80	246,326.05
2013	2170.95	1,958,727,979.00	4,252,300,506,010.05	425,230.05
2014	2554.7	1,958,727,979.00	5,003,962,367,951.30	500,396.24
2015	2554.15	1,958,727,979.00	5,002,885,067,562.85	500,288.51

**EXPLANATION:**

Here it can be observed that the number of outstanding shares increased almost double in 2009 and also it can be seen that the market price of the price is increasing significantly which shows that the market performance of the company is very good. This has resulted in an increase in market capitalization from Rs. 83,301 cr in 2005 to Rs. 500,288.51 in 2015.

**Table 7: Market Capitalisation of Wipro.**

<b>Year</b>	<b>Price</b>	<b>No: of outstanding of shares</b>	<b>Market Capitalisation of Wipro</b>	<b>Market Cap (in Rs.cr)</b>
2005	463.45	703,570,522.00	326,069,758,420.90	32,606.98
2006	604.55	1,425,754,267.00	861,939,742,114.85	86,193.97
2007	525.6	1,458,999,650.00	766,850,216,040.00	76,685.02
2008	233.55	1,461,453,320.00	341,322,422,886.00	34,132.24
2009	679.4	1,464,980,746.00	995,307,918,832.40	99,530.79
2010	490.25	1,468,211,189.00	719,790,535,407.25	71,979.05
2011	398.8	2,454,409,145.00	978,818,367,026.00	97,881.84
2012	394.35	2,462,934,730.00	971,258,310,775.50	97,125.83
2013	559.05	2,462,934,730.00	1,376,903,660,806.50	137,690.37
2014	553.8	2,466,317,273.00	1,365,846,505,787.40	136,584.65
2015	568.85	2,469,894,208.00	1,404,999,320,220.80	140,499.93

**EXPLANATION:**

It can be observed that the market capitalization of Wipro is increasing. But the price of the shares is not increased much. But number of outstanding shares has increased and nearly doubled in the year 2006 and in the year 2011. This helped the company to increase their market capitalization value.

**Table 8: Market Capitalisation of Bombay Stock Exchange.**

<b>Year</b>	<b>BSE Market Capitalisation (in Rs cr)</b>
2005	3,022,191.00
2006	3,545,041.00
2007	5,138,015.26
2008	3,086,076.00
2009	6,165,620.14
2010	6,839,083.61
2011	6,214,911.83
2012	6,387,886.87
2013	7,415,296.09
2014	10,149,289.97
2015	9,472,721.24

**EXPLANATION:**

This shows the total BSE market capitalization from the year 2005 to 2015. This value is calculated by combining market capitalization of all the companies which is listed in the BSE. In this it can be seen the value of market capitalization was increasing till 2007 after which it declined which might be due to U.S crisis. But it recovered itself in 2009 and has increased insignificantly.



**Table 9: Contribution of Sun Pharmaceuticals towards BSE total capitalisation.**

<b>Year</b>	<b>BSE Capitalisation (in Rs.cr)</b>	<b>Sun Pharmaceutical Cap(in Rs.cr)</b>	<b>Contribution of Sun Pharmaceuticals (in %)</b>
2005	3,022,191.00	12669.68362	0.42
2006	3,545,041.00	18934.06755	0.53
2007	5,138,015.26	25310.65856	0.49
2008	3,086,076.00	22056.86006	0.71
2009	6,165,620.14	31214.51129	0.51
2010	6,839,083.61	43929.38653	0.64
2011	6,214,911.83	40599.99055	0.65
2012	6,387,886.87	50562.28895	0.79
2013	7,415,296.09	98504.55556	1.33
2014	10,149,289.97	114431.806	1.13
2015	9,472,721.24	192285.2576	2.03

**EXPLANATION:**

Here it can be observed that Sun pharma contribution has increased drastically. In 2005 it was contributing just 0.42% which increased to 2.03% in 2015. This is more than the combined contribution of the other pharma companies taken in this study. This shows that the performance of the company in the market is very good.

**Table 10: Contribution of Lupin Ltd. towards BSE total capitalisation.**

<b>Year</b>	<b>BSE Cap(Rs.cr in lakhs)</b>	<b>Lupin Capitalisation(Rs.cr in thousands)</b>	<b>Contribution of Lupin(%)</b>
2005	3,022,191.00	3,078.22	0.10
2006	3,545,041.00	2,456.84	0.07
2007	5,138,015.26	5,091.44	0.10
2008	3,086,076.00	5,071.37	0.16
2009	6,165,620.14	12,342.60	0.20
2010	6,839,083.61	4,273.31	0.06
2011	6,214,911.83	19,954.12	0.32
2012	6,387,886.87	27,392.53	0.43
2013	7,415,296.09	40,662.53	0.55
2014	10,149,289.97	64,007.89	0.63
2015	9,472,721.24	84,215.94	0.89

**EXPLANATION:**

In this table it can be seen that Lupin contribution increased from mere 0.10% in 2005 to 0.89% in 2015. This is a significant increase for the company. This means that the company is doing very well in the market.

**Table 11: Contribution of Dr. Reddy Ltd. towards BSE total capitalisation.**

<b>Year</b>	<b>BSE Cap(Rs cr)</b>	<b>Market Cap(in Rs.cr)</b>	<b>Contribution of Dr.Reddy(%)</b>
2005	3,022,191.00	7,487.38	0.25
2006	3,545,041.00	6,221.46	0.18
2007	5,138,015.26	12,347.42	0.24
2008	3,086,076.00	7,899.91	0.26
2009	6,165,620.14	19,269.46	0.31
2010	6,839,083.61	28,071.39	0.41
2011	6,214,911.83	26,707.23	0.43
2012	6,387,886.87	31,004.11	0.49
2013	7,415,296.09	43,020.43	0.58
2014	10,149,289.97	55,199.48	0.54
2015	9,472,721.24	55,473.68	0.59

**EXPLANTION:**

In this it can be observed that the contribution has increased significantly as compared to the Cipla which belongs to the same sector. Its contribution is double in 2015 as compared to 2005 that is it has increased from 0.25% to 0.59%.

**Table 12: Contribution of Cipla Ltd. towards BSE total capitalisation.**

<b>Year</b>	<b>BSE Market Cap (in Rs.cr)</b>	<b>Market Cap (in Rs. Cr)</b>	<b>Contribution of Cipla(%)</b>
2005	3,022,191.00	13,296.25	0.44
2006	3,545,041.00	7,517.75	0.21
2007	5,138,015.26	16,525.21	0.32
2008	3,086,076.00	14,527.58	0.47
2009	6,165,620.14	26,085.90	0.42
2010	6,839,083.61	29,700.06	0.43
2011	6,214,911.83	25,657.35	0.41
2012	6,387,886.87	33,248.97	0.52
2013	7,415,296.09	32,161.01	0.43
2014	10,149,289.97	50,246.82	0.50
2015	9,472,721.24	51,579.41	0.54

**EXPLANATION:**

In this table it can be seen that Cipla is contributing less than 1% towards the total market capitalization. Even though it is less than the Information Technology companies but it is increasing in an upward that is its contribution has increased.

**Table 13: Contribution of TCS towards BSE total capitalisation.**

<b>Year</b>	<b>BSE Cap(Rs cr)</b>	<b>TCS Market Cap(in Rs.cr)</b>	<b>Contribution of TCS (%)</b>
2005	3,022,191.00	83,301.77	2.76
2006	3,545,041.00	119,253.48	3.36
2007	5,138,015.26	106,017.77	2.06
2008	3,086,076.00	46,787.37	1.52
2009	6,165,620.14	146,742.64	2.38
2010	6,839,083.61	228,026.03	3.33
2011	6,214,911.83	227,282.29	3.66
2012	6,387,886.87	246,326.05	3.86
2013	7,415,296.09	425,230.05	5.73
2014	10,149,289.97	500,396.24	4.93
2015	9,472,721.24	500,288.51	5.28

**EXPLANATION:**

In the Information Technology companies which have been taken for this study it is observed that only TCS has increased contribution to great extent. From 2.76% in 2005 it has increased to 5.28% in 2015. This is one of the major contributors to the BSE market capitalization. We can see 2013 was its peak.

**Table 14: Contribution of Infosys towards BSE total capitalisation.**

<b>Year</b>	<b>Infosys Market Cap(in Rs.cr)</b>	<b>BSE Cap(in Rs.cr)</b>	<b>Contribution of Infosys (%)</b>
2005	82,576.94	3,022,191.00	2.73
2006	127,979.57	3,545,041.00	3.61
2007	101,151.73	5,138,015.26	1.97
2008	64,033.81	3,086,076.00	2.07
2009	149,495.81	6,165,620.14	2.42
2010	197,795.21	6,839,083.61	2.89
2011	158,777.47	6,214,911.83	2.55
2012	133,136.66	6,387,886.87	2.08
2013	200,150.02	7,415,296.09	2.70
2014	226,386.87	10,149,289.97	2.23
2015	253,754.96	9,472,721.24	2.68

**EXPLANATION:**

In this table it can see that contribution of Infosys was maximum in 2006 after which it didn't regain its position. But it can be seen that there is steady increase after 2008 till 2010 after which it is fluctuating.

**Table 15: Contribution of Wipro towards BSE total capitalisation.**

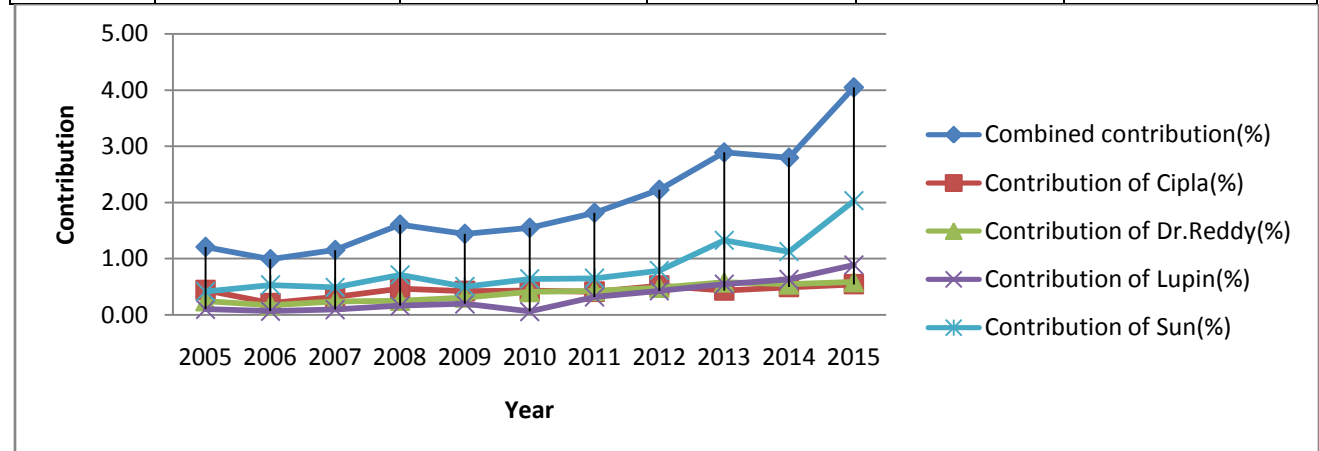
<b>Year</b>	<b>BSE Cap(in Rs.cr)</b>	<b>Wipro Market Cap(in Rs.cr)</b>	<b>Contribution of Wipro(%)</b>
2005	3,022,191.00	32,606.98	1.08
2006	3,545,041.00	86,193.97	2.43
2007	5,138,015.26	76,685.02	1.49
2008	3,086,076.00	34,132.24	1.11
2009	6,165,620.14	99,530.79	1.61
2010	6,839,083.61	71,979.05	1.05
2011	6,214,911.83	97,881.84	1.57
2012	6,387,886.87	97,125.83	1.52
2013	7,415,296.09	137,690.37	1.86
2014	10,149,289.97	136,584.65	1.35
2015	9,472,721.24	140,499.93	1.48

**EXPLANATION:**

This table shows the contribution of Wipro towards BSE market capitalization. It can be observed that it contributed maximum in 2006 after which it could not regain the same value. The contribution of the company is fluctuating it's not steady. Even though the market capitalization increased significantly from 2005 but contribution didn't as such.

**Table 16: Combined contribution of pharma towards BSE total capitalisation.**

Year	Contribution of Cipla (%)	Contribution of Dr.Reddy (%)	Contribution of Lupin (%)	Contribution of Sun (%)	Combined contribution(%)
2005	0.44	0.25	0.10	0.42	1.21
2006	0.21	0.18	0.07	0.53	0.99
2007	0.32	0.24	0.10	0.49	1.15
2008	0.47	0.26	0.16	0.71	1.61
2009	0.42	0.31	0.20	0.51	1.44
2010	0.43	0.41	0.06	0.64	1.55
2011	0.41	0.43	0.32	0.65	1.82
2012	0.52	0.49	0.43	0.79	2.23
2013	0.43	0.58	0.55	1.33	2.89
2014	0.50	0.54	0.63	1.13	2.80
2015	0.54	0.59	0.89	2.03	4.05



**Fig 1: Shows the contribution of Pharma companies and also the combined contribution.**

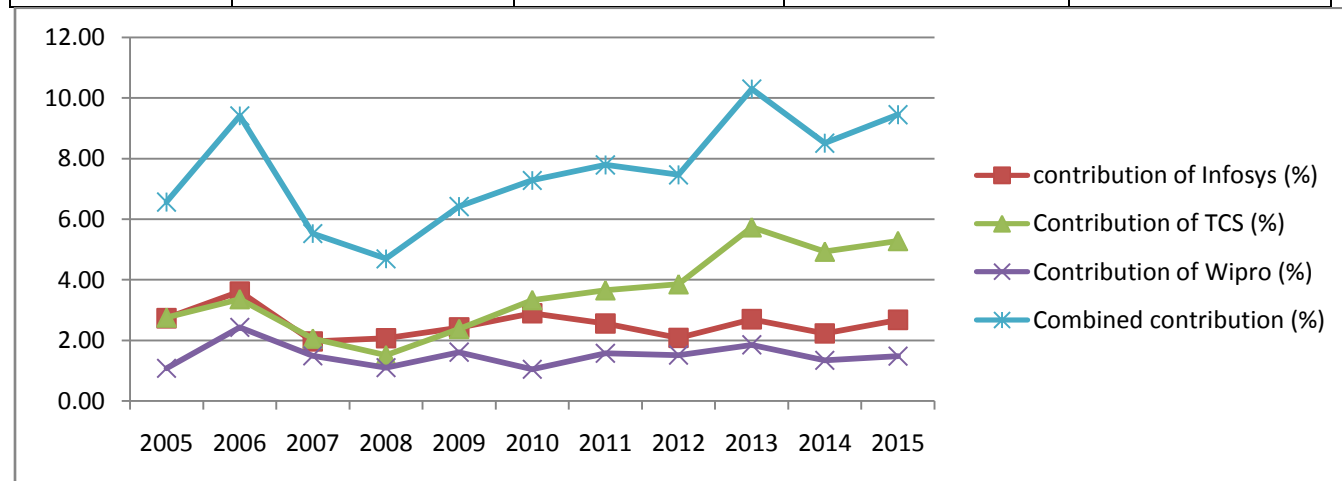
**EXPLANATION:**

The graph and the data is clearly evident the contribution of pharma sector towards the BSE market capitalization is increasing and even though the growth is little slow but compared to 2005 1.21% it has increased to 4.05% in 2015.



**Table 17: Combined contribution of Information Technology towards BSE total capitalisation.**

Year	Contribution of Infosys (%)	Contribution of TCS (%)	Contribution of Wipro (%)	Combined contribution (%)
2005	2.73	2.76	1.08	6.57
2006	3.61	3.36	2.43	9.41
2007	1.97	2.06	1.49	5.52
2008	2.07	1.52	1.11	4.70
2009	2.42	2.38	1.61	6.42
2010	2.89	3.33	1.05	7.28
2011	2.55	3.66	1.57	7.79
2012	2.08	3.86	1.52	7.46
2013	2.70	5.73	1.86	10.29
2014	2.23	4.93	1.35	8.51
2015	2.68	5.28	1.48	9.44



**Fig 2: Shows the contribution of Information Technology companies and also the combined contribution.**

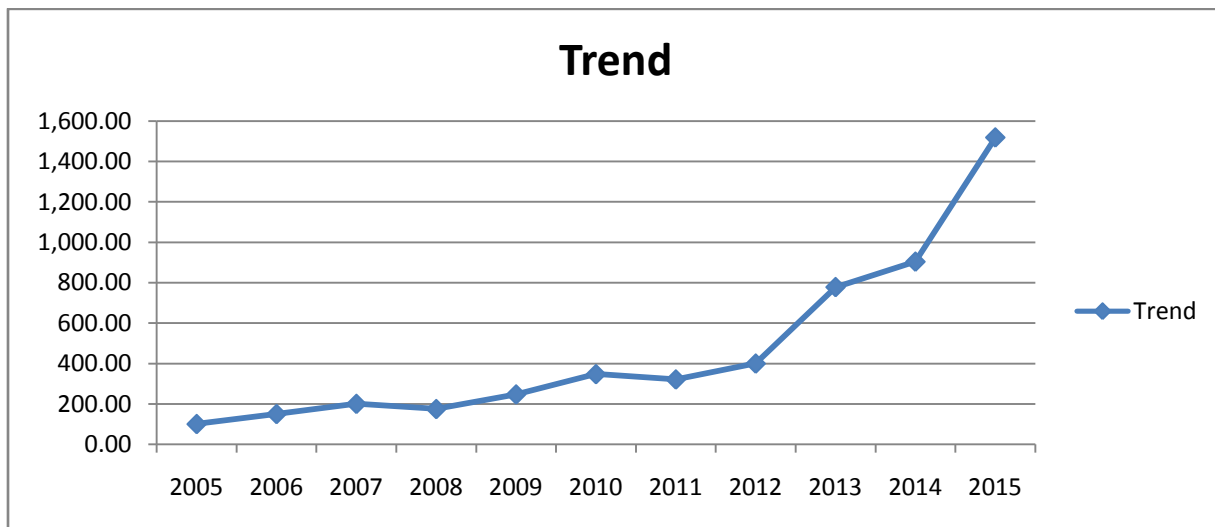
**EXPLANATION:**

According to the data and the graph it can be observed that the contribution of Information Technology sector companies increased significantly from 2005 but declined during 2008 due to the crisis and

again regained its position later on. Its peak was in 2013 after which declined to a certain extent and in 2015 it is contributing 9.44%.

**Table 18: Trend of Sun Pharmaceutical.**

Year	Market Cap(in Rs.cr)	Trend
2005	12,669.68	100.00
2006	18,934.07	149.44
2007	25,310.66	199.77
2008	22,056.86	174.09
2009	31,214.51	246.37
2010	43,929.39	346.73
2011	40,599.99	320.45
2012	50,562.29	399.08
2013	98,504.56	777.48
2014	114,431.81	903.19
2015	192,285.26	1,517.68



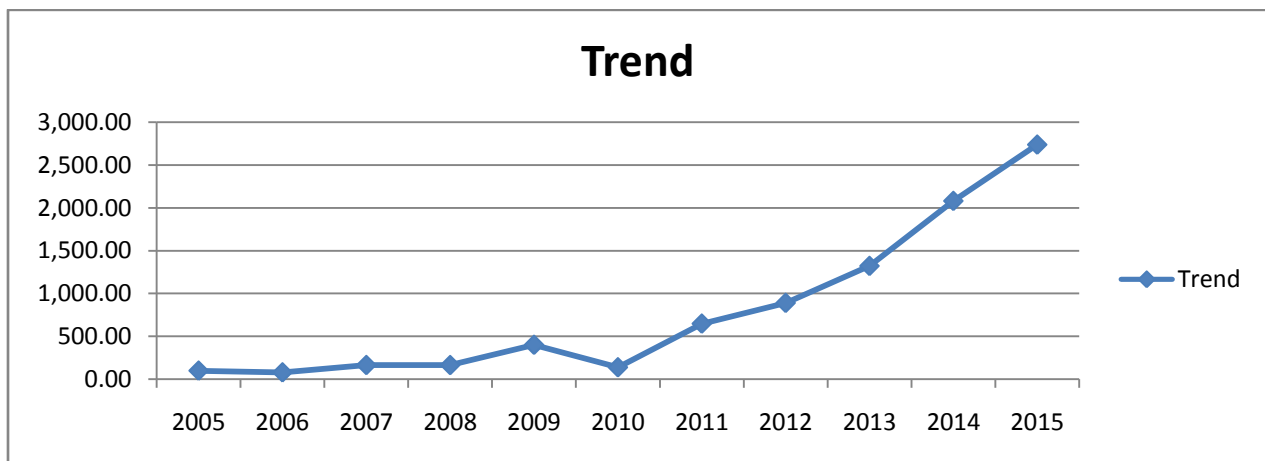
**Fig 3: Trend analysis of Sun Pharma.**

**EXPLANATION:**

The trend of sun pharma is increasing and even the 2008 U.S crisis didn't affect the company market capitalization that much as compared to other companies. The upward trend of the sun pharma shows the positive growth of the company and in 2015 its market capitilisation increased by 1503% which is nearly double compared to 2014.

**Table 19: Trend of Lupin Ltd.**

Year	Market Cap(in Rs.cr)	Trend
2005	3,078.22	100.00
2006	2,456.84	79.81
2007	5,091.44	165.40
2008	5,071.37	164.75
2009	12,342.60	400.97
2010	4,273.31	138.82
2011	19,954.12	648.23
2012	27,392.53	889.88
2013	40,662.53	1,320.97
2014	64,007.89	2,079.38
2015	84,215.94	2,735.86



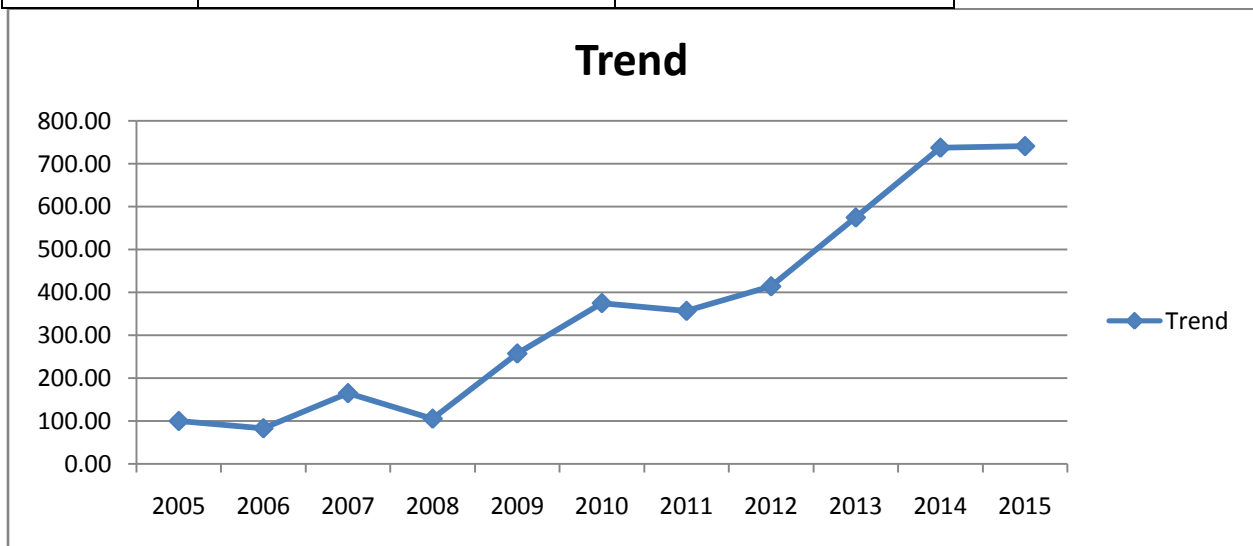
**Fig 4: Trend analysis of Lupin Ltd.**

**EXPLANATION:**

In this analysis it can be seen that during 2005-2008 the trend was low and but above the base year. But after 2008 that is in 2009 it increased by 400% which is tremendous increase but it decreased in 2010. It can be seen after this the company's market capitalization has increased by huge rate and in 2011 it increased by around 600% and in 2013 by 1320% and it doubled in 2014 in terms of market capitalization.

**Table 20: Trend of Dr. Reddy.**

Year	Market Cap ( in Rs.cr)	Trend
2005	7,487.38	100.00
2006	6,221.46	83.09
2007	12,347.42	164.91
2008	7,899.91	105.51
2009	19,269.46	257.36
2010	28,071.39	374.92
2011	26,707.23	356.70
2012	31,004.11	414.08
2013	43,020.43	574.57
2014	55,199.48	737.23
2015	55,473.68	740.90



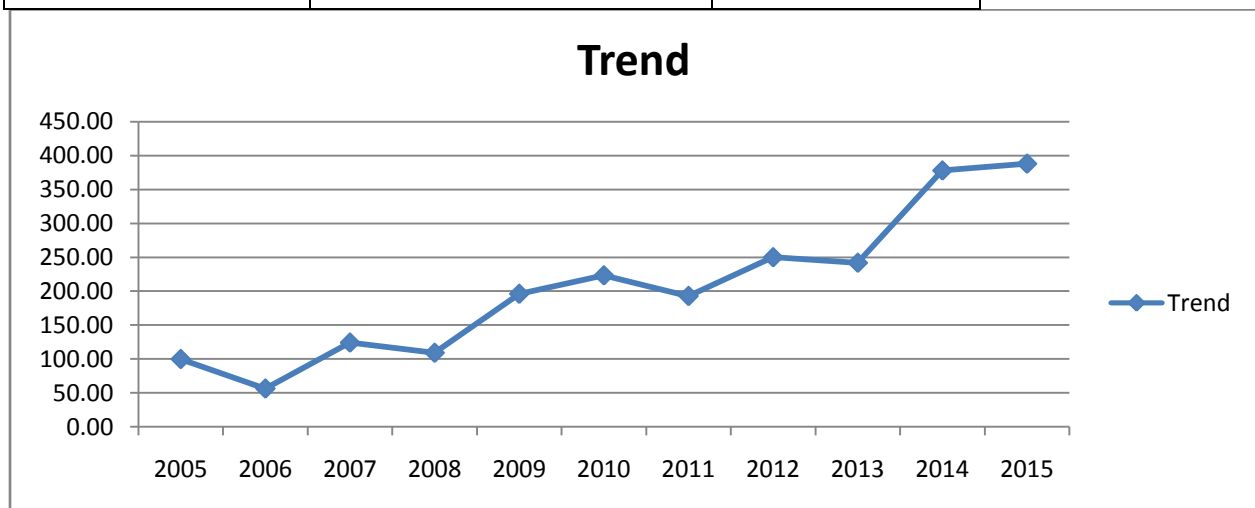
**Fig 5: Trend analysis of Dr. Reddy.**

**EXPLANATION:**

Dr. Reddy market capitalization data showed a declining trend only in 2006 where it went below the 100 value of the base year 2005. But after that it nearly doubled in year 2007 and suffered in 2008 due to U.S crisis but it go below 100. After this period it is observed there is steady upward trend and also in 2015 it has grown by 740% in terms of market capitalization from 2005.

**Table 21: Trend of Cipla Ltd.**

Year	Market Cap (in Rs. cr)	Trend
2005	13,296.25	100.00
2006	7,517.75	56.54
2007	16,525.21	124.28
2008	14,527.58	109.26
2009	26,085.90	196.19
2010	29,700.06	223.37
2011	25,657.35	192.97
2012	33,248.97	250.06
2013	32,161.01	241.88
2014	50,246.82	377.90
2015	51,579.41	387.92



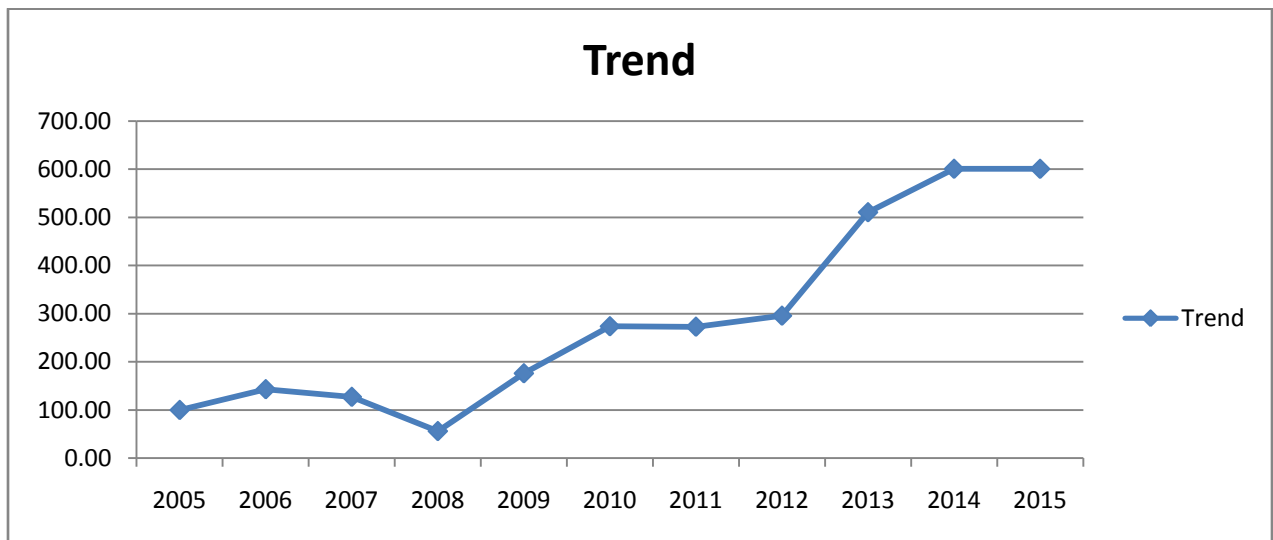
**Fig 6: Trend analysis of Cipla Ltd.**

**EXPLANATION:**

The base year is taken as 2005 and it observed trend increased till 2007 and there is sharp increase in the trend in the year 2008 but still it is positive and in the year 2009 it recovered fully and also in the year it has grown to 387.92% compared to base year 2005. But compared to Lupin and Sun pharma the growth is low.

**Table 22: Trend of TCS.**

Year	Market Cap (in Rs.cr)	Trend
2005	83,301.77	100.00
2006	119,253.48	143.16
2007	106,017.77	127.27
2008	46,787.37	56.17
2009	146,742.64	176.16
2010	228,026.03	273.73
2011	227,282.29	272.84
2012	246,326.05	295.70
2013	425,230.05	510.47
2014	500,396.24	600.70
2015	500,288.51	600.57



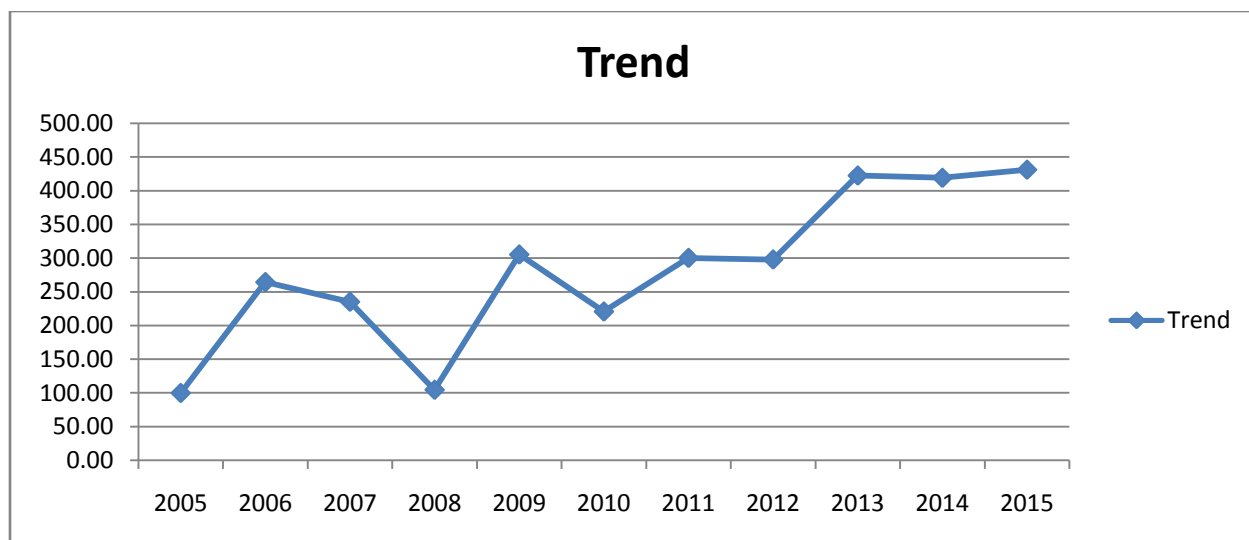
**Fig 7: Trend analysis of TCS.**

**EXPLANATION:**

The trend analysis of TCS shows it has increased to great extent but in the year 2005-09 the upward trend was less and there is drastic downward trend in 2008 it went 56.17 which shows it lost its capitalization to great extent during this period. But in 2009 it seen that it was able to recover its capitalization and also increased to great extent and it is also seen in 2014 it increased 600% compared to the base year 2005.

**Table 23: Trend of Wipro.**

<b>Year</b>	<b>Market Cap (in Rs.cr)</b>	<b>Trend</b>
2005	32,606.98	100.00
2006	86,193.97	264.34
2007	76,685.02	235.18
2008	34,132.24	104.68
2009	99,530.79	305.24
2010	71,979.05	220.75
2011	97,881.84	300.19
2012	97,125.83	297.87
2013	137,690.37	422.27
2014	136,584.65	418.88
2015	140,499.93	430.89



**Fig 8: Trend analysis of Wipro.**

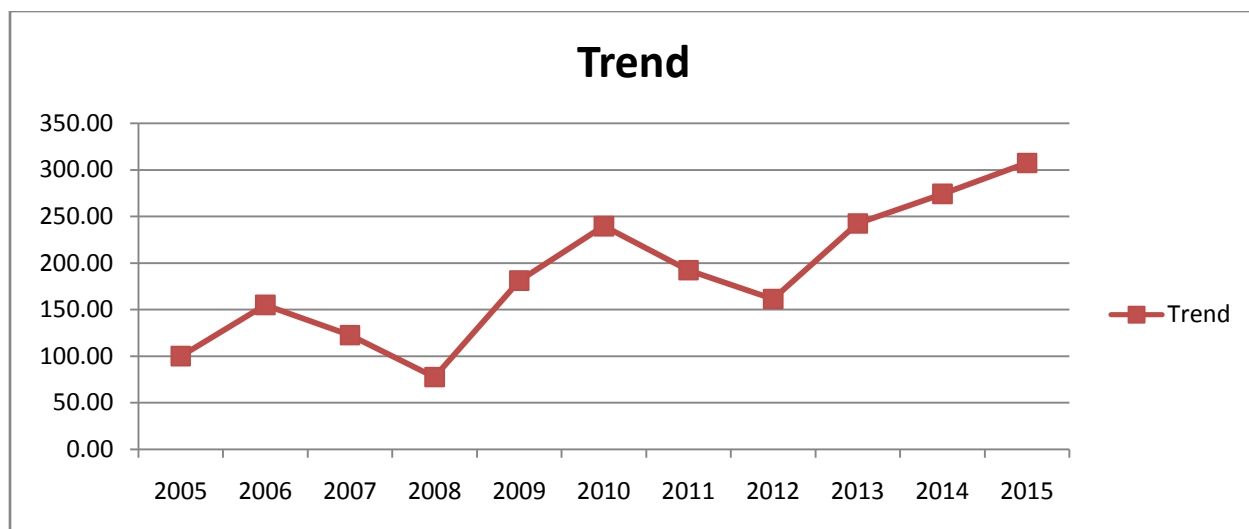
**EXPLANATION:**

The trend of Wipro was increasing in a tremendous rate but decreased to 104.68 in 2008 which may due to U.S crisis but later on it is showing an upward trend till 2013 after which we can see that it is nearly a straight. Here the growth is low which resulted in straight line.

**Table 24: Trend of Infosys Ltd.**

Year	Market Cap ( in Rs.cr)	Trend
2005	82,576.94	100.00
2006	127,979.57	154.98
2007	101,151.73	122.49
2008	64,033.81	77.54
2009	149,495.81	181.04
2010	197,795.21	239.53
2011	158,777.47	192.28
2012	133,136.66	161.23
2013	200,150.02	242.38
2014	226,386.87	274.15
2015	253,754.96	307.30





**Fig 9: Trend analysis of Infosys.**

**EXPLANATION:**

The trend of Infosys is fluctuating that is it was on an increase in 2006 but fell in 2007 and further decreased in 2008 to 77.54. This may be due to U.S crisis which affected the whole world. But it seen that it recovered from it in 2009 and increased till 2010 and again came down in 2012. In recent years which are 2014 and 2015 it is in an increasing trend.

**Correlation and Regression**

**Table 24: The table has the combined market capitalization of Information Technology and BSE market capitalization.**

<b>Year</b>	<b>Total market cap of IT (in Rs.cr)</b>	<b>BSE Market Capitalisation (in Rs.cr)</b>
2005	198,485.69	3,022,191.00
2006	333,427.02	3,545,041.00
2007	283,854.52	5,138,015.26
2008	144,953.42	3,086,076.00
2009	395,769.24	6,165,620.14
2010	497,800.30	6,839,083.61
2011	483,941.59	6,214,911.83

2012	476,588.53	6,387,886.87
2013	763,070.43	7,415,296.09
2014	863,367.75	10,149,289.97
2015	894,543.40	9,472,721.24

<b>Correlation coefficient</b>	<b>0.94920849</b>
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*Regression Statistics*

<b>Multiple R</b>	<b>0.94920849</b>
<b>R Square</b>	<b>0.900996757</b>
<b>Adjusted R Square</b>	<b>0.889996396</b>
<b>Standard Error</b>	<b>785907.6793</b>
<b>Observations</b>	<b>11</b>

**EXPLANATION:**

Here Information Technology and BSE have strong correlation between them that is 0.94. and also the regression statistics shows that R square value is 0.90 that is change in dependent variable BSE market capitalization is strongly due to independent variable that is Information Technology market capitalization.

**Table 25: The table has the combined market capitalization of Pharma and BSE market capitalisation.**

<b>Year</b>	<b>Total market capitalisation of pharma ( in Rs. Cr)</b>	<b>BSE Market Capitalisation (in Rs.cr)</b>
2005	23,235.29	3,022,191.00
2006	27,612.37	3,545,041.00
2007	42,749.52	5,138,015.26
2008	35,028.14	3,086,076.00
2009	62,826.57	6,165,620.14
2010	76,274.08	6,839,083.61
2011	87,261.34	6,214,911.83

2012	108,958.93	6,387,886.87
2013	182,187.51	7,415,296.09
2014	233,639.17	10,149,289.97
2015	331,974.87	9,472,721.24

<b>Correlation Coefficient</b>	<b>0.886836852</b>
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**Regression Statistics**

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<b>Multiple R</b>	<b>0.886836852</b>
<b>R Square</b>	<b>0.786479602</b>
<b>Adjusted R Square</b>	<b>0.762755113</b>
<b>Standard Error</b>	<b>1154161.298</b>
<b>Observations</b>	<b>11</b>

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**EXPLANATION:**

Here correlation and regression is performed between combined pharma and BSE market capitalization. The analysis is that there is correlation between pharma and BSE (0.88) but it is not as strong as Information Technology . and also in regression statistics that R square is 0.78 there is relation but weak when compared to Information Technology . But we can say that there is a positive and strong relation between Pharma and BSE.

**Table 26: The table has the combined market capitalization of Information Technology & pharma along with BSE market capitalisation.**

<b>Year</b>	<b>Combined Information Technology and Pharma market cap (in Rs. Cr)</b>	<b>BSE Market Capitalisation (in Rs. cr)</b>
2005	221,720.97	3,022,191.00
2006	361,039.39	3,545,041.00
2007	326,604.04	5,138,015.26
2008	179,981.56	3,086,076.00

2009	458,595.81	6,165,620.14
2010	574,074.38	6,839,083.61
2011	571,202.93	6,214,911.83
2012	585,547.47	6,387,886.87
2013	945,257.95	7,415,296.09
2014	1,097,006.92	10,149,289.97
2015	1,226,518.27	9,472,721.24

<b>Correlation Coefficient</b>	<b>0.943898748</b>
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#### Regression Statistics

<b>Multiple R</b>	<b>0.943898748</b>
<b>R Square</b>	<b>0.890944847</b>
<b>Adjusted R Square</b>	<b>0.878827608</b>
<b>Standard Error</b>	<b>824840.3853</b>
<b>Observations</b>	<b>11</b>

#### EXPLANATION

Here correlation and regression done between combined market capitalization of all the seven companies and the BSE market capitalization. The correlation coefficient is high that is 0.94 which relates that both are highly correlated. And also R square value is 0.89 which is understood that the relation is very strong and positive and there is a good fit.

# Chapter V-

## Finding, suggestions and conclusions

## **FINDINGS:**

### **Sun pharmaceutical Ltd.**

In the table 1, it can be seen that the market capitalization value of the company that is Sun pharma has increased drastically even the U.S crisis didn't affect the market capitalization of the company. And in 2015 we can see it has increased to Rs. 192,285.26 cr from mere Rs. 12,669 cr in 2005. The reason may be due to increase in number of outstanding shares. It can be observed that the company went for stock split during the year 2010 where the number of outstanding shares was 207,116,391 in 2009 and it was increased to 1,035,581,995 shares in 2010. Even though the price of Sun pharma decreased from Rs. 1507.10 to Rs. 424.2 it was still able to maintain the market capitalization because of number of outstanding shares. But the price has seen an upward trend after 2010 and in 2015 it was Rs. 799.05 and the value increased from 552.5 that is nearly Rs. 247 has increased.

In the table 9, it can be observed that Sun pharma contribution has increased drastically during the period of 2005-2015. In 2005 it was contributing just 0.42% which increased to 2.03% in 2015. This is more than the combined contribution of the other pharma companies taken in this study. This shows that the performance of the company in the market is very good. The net worth of the company perceived by the investors is very good. It can also be seen that the contribution of Sun pharma was 0.71% in 2008 which was more than the 2009.

In the fig 3, it clearly shows the upward trend of the Sun pharma shows the positive growth of the company and in 2015 its market capitalisation increased by 1517.68% which is nearly double compared to 2014. The second best trend after the Lupin. From the period of 2012 -2015 it can be seen that the performance of the company is very good and is increasing with a tremendous rate and another reason of increase of market capitalization can be the acquisition of Ranbaxy in 2014 by Sun pharma.

## **Lupin Ltd.**

In the table 2, it can be found that Lupin's market capitalisation has increased in a tremendous rate. From Rs. 3078.22 cr in 2005 it has grown to Rs. 84,215.94 cr in 2015. This means that the company is doing extremely well in the market and also the company has increased the outstanding shares and the price of share has increased but there was a downfall in 2010 it decreased from Rs. 1490.30 to Rs. 480.45.

In this table it can be seen that Lupin contribution increased from mere 0.10% in 2005 to 0.89% in 2015. This is a significant increase for the company. This means that the company is doing very well in the market.

In this analysis it can be seen that during 2005-2008 the trend was low and but above the base year. But after 2008 that is in 2009 it increased by 400% which is tremendous increase but it decreased in 2010. It can be seen after this the company's market capitalization has increased by huge rate and in 2011 it increased by around 600% and in 2013 by 1320% and it doubled in 2014 in terms of market capitalization.

## **Dr. Reddy Ltd.**

In table 4 it can be seen that the market price of the share increased tremendously as compared to the number of outstanding shares of company. Here the increase in market capitalization can be due to market performance of the company which can be indicated by the increase in the market price. The value of the share has appreciated since 2005 and there was a major increase in shares only in 2007 after this there is no significant increase. Here the value of the company perceived by the investor is high.

In table 11 it can be observed that the contribution has increased significantly as compared to the Cipla which belongs to the same sector. Its contribution is double in 2015 as compared to 2005 that is it has increased from 0.25% to 0.59% which nearly double. Here we can see that the market capitalisation decreased in 2008 due to U.S crisis.

In the fig 5, Dr. Reddy market capitalization data showed a declining trend only in 2006 where it went below the 100 value of the base year 2005. But after that it nearly doubled in year 2007 and suffered in 2008 due to U.S crisis but it go below 100. After this period it is observed there is

steady upward trend and also in 2015 it has grown by 740% in terms of market capitalization from 2005. But there is stable growth trend from 2014-2015.

### **Cipla Ltd.**

In the table 3, the capitalization has increased but less compared to the less than companies. It has increased from Rs.13296.25 cr to Rs. 51,579.41 cr in 2015. It has significantly increased its shares in the year 2007 as well as 2010 which has resulted in the increase in market capitalization even though price decreased.

In table 12, it can be seen that Cipla is contributing less than 1% towards the total market capitalization. It can observe that contribution of the company towards total market capitalization is very fluctuating from 2005 till 2015 it is been between 0.44% to-0.54% there is no significant change.

In the fig6, it can be observed that the trend increased till 2007 and after which there is slight decrease in the trend in the year 2008 but still it is above the base year and in the year 2009 it recovered fully and also in the year it has grown to 387.92% compared to base year 2005. But compared to Lupin and Sun pharma the growth is low. The performance of the company to other companies is comparatively poor it wasn't able to increase its net worth.

### **Infosys Ltd.**

In table 5, it can observed that the market price increased till 2010 but after which it decreased sharply but the number of outstanding shares has increased nearly doubling from 2014 to 2015. The capitalization value of the company fell in 2012 but is able to recover in 2014 which can be accounted to the increase in number of outstanding share. The



increase in shares in 2014 is due to the stock split. And the share price was affected by the U.S crisis.

In table 14 it can be seen that contribution of Infosys was maximum in 2006 after which it didn't regain its position. But it can be seen that there is steady increase after 2008 till 2010 after which it is fluctuating. But if we see the market capitalization of the company it is on an increase.

In the fig 9, it can be found that the trend of Infosys is fluctuating that is it was on an increase in 2006 but fell in 2007 and further decreased in 2008 to 77.54%. This may be due to U.S crisis which affected the whole world. But it is seen that it recovered from it in 2009 and increased till 2010 and again came down in 2012. In recent period from 2014 to 2015 there is an increasing trend.

#### **WIPRO Ltd.**

In table 7 it can be observed that the market capitalization of Wipro is increasing. But the price of the shares is not increased much. But the number of outstanding shares has increased and nearly doubled in the year 2006 and similarly in the year 2011. This helped the company to increase their market capitalization value. The market price of the share has increased since 2011 that is it has increased from Rs. 398.8 to Rs. 568.85 in 2015.

In the table 15 shows the contribution of Wipro towards BSE market capitalization. It can be observed that it contributed maximum in 2006 after which it could not regain the same value. The contribution of the company is fluctuating and it's not steady. Even though the market capitalization increased significantly from 2005 but contribution didn't as such. It is also seen that the company's contribution is decreasing since 2013.

In the fig 8, the trend of Wipro was increasing in a tremendous rate but decreased to 104.68 in 2008 which may be due to U.S crisis. But later on it is showing an upward trend till 2013 after which we can see that it is nearly a straight line. Here the growth is low which resulted in a straight line.

## **TCS:**

In table 6, it can be observed that number of outstanding shares increased almost double in 2009 and also it can be seen that the market price of the price is increasing significantly which shows that the market performance of the company is very good. This has resulted in increase in market capitalization from Rs. 83,301 cr in 2005 to Rs. 500,288.51 in 2015. TCS had the highest market capitalization with respect to the all the companies listed in the BSE.

By referring to table 13, it can be found that in the Information Technology companies which have been taken for this study only TCS has increased contribution to great extent. From 2.76% in 2005 it has increased to 5.28% in 2015 that is it has nearly doubled. This is one of the major contributors to the BSE market capitalization. We can see 2013 was its peak. It is more than the combined contribution of the pharma companies which are taken into study.

In the fig 7, the trend analysis of TCS shows it has increased to great extent but in the year 2005-09 the upward trend was less and there is drastic downward trend in 2008 where it went down to 56.17% which shows it lost its capitalization to great extent during this period. But in 2009 it seen that it was able to recover its capitalization and also increased to great extent and it is also seen in 2014 it increased 600% compared to the base year 2005.

## **Information Technology AND PHARMACEUTICAL SECTOR:**

In fig 1 and table 16, it is clearly evident the contribution of pharma sector towards the BSE market capitalization is increasing and even though the growth is little slow but compared to 2005 1.21% it has increased to 4.05% in 2015. It is found that the the trend is an increasing trend as compared to Information Technology sector.

According to table 17 and the fig it can shows that contribution and Information Technology sector companies increased significantly from 2005 but declined during 2008 due the crisis and again regained its position later on. Its peak was in 2013 after which

declined to a certain extent and in 2015 it is contributing 9.44%. it is found that the contribution is fluctuating it is not in increasing trend.

In table 24, correlation and regression analysis was applied on the data and it was found that Information Technology and BSE have strong correlation between them that is 0.94. And also the regression statistics shows that R square value is 0.90 that is change in dependent variable BSE market capitalization is strongly due to independent variable that is Information Technology market capitalization. This is clear indicator that Information Technology sector was high influence on BSE market capitalization.

In table 25, correlation and regression is performed between combined pharma and BSE market capitalization. It was found that the correlation coefficient between pharma and BSE is 0.88 which is not as strong as Information Technology . and also in regression statistics that R square is 0.78 there is relation but weak when compared to Information Technology . But it can said that there is a positive relationship but not that strong thus it is found that pharma has less influence when compared to Information Technology on BSE market capitalization.

Finally in table 26 correlation and regression analysis is done be on combined market capitalization of all the seven companies and the BSE market capitalization. The correlation coefficient is high that is 0.94 which relates that both are highly correlated. And also R square value is 0.89 which is understood that the relation is very strong and positive and there is a good fit. Thus it is found the combined market capitalization has influence on BSE market capitalization.

## **SUGGESTIONS:**

According to the findings that have been discovered above the following suggestions are formulated. The investors can go for investing in pharma sector as performance in the market is good and also because of their positive trend in contribution and also the growing net worth that is market capitalization of the sector. These pharma companies represent the pharmaceutical sector in BSE sensex.

In the pharma sector the investor can invest in Sun pharma, Lupin and Dr. Reddy as these companies are doing extremely well in the market and especially Sun pharma and Lupin. The trend of these companies is extremely good and there is a tremendous increase in the market capitalization of these companies that is the net worth.

In case of investing in Information Technology companies the investor can go for investing in TCS as the value of the share has increased along with the increase in number of outstanding shares and it is the company having the highest market capitalization. Other this the investor can go for Infosys because of its strong market capitalization.

In future scope of the study the researcher can go for all the companies present in the Information Technology and pharma sector that is taking the complete market capitalization of the sector. This will help in getting a better view of the sectors.

## **CONCLUSION:**

The research attempts to evaluate the contribution in terms of market capitalisation of Information and technology sector and Pharmaceutical sector in the stock market with reference to the companies quoted in BSE SENSEX. Market capitalization is the total value of a company's free float as determined by its share price in the stock market; it is calculated as the number of free float of ordinary shares multiplied by the previous day's closing share price.

At the end of the study period, 2014-2015, the Information Technology sector contribution to total BSE market capitalization is at the rate of 9.44 percent. The study observes that TCS has contributed 5.28 percent of the combined contribution of 9.44 percent by all the three companies that is TCS, Infosys and Wipro.

In case of pharmaceutical sector contribution total market capitalization is at the rate of 4.05 percent. And here Sun pharmaceutical is contributing around 2.03 percent which is half of the total contribution followed by Lupin then Dr. Reddy and Cipla. And all the seven companies combined are contributing to the BSE total market capitalization around 13.49 percent in the year 2015.

In this study also correlation and regression is applied to find the influence of Information Technology and pharma companies to BSE total market capitalization. From regression it is observed that R square value is 0.90 for Information Technology and BSE total capitalization which indicates the relation is strong and positive and also there is a good fit between the market capitalization and Information Technology . And for pharma companies the correlation coefficient was 0.88 and also R square value was 0.78 which indicates the relation is weak when compared to Information Technology .

To conclude it can be said that the contribution of pharma companies has been on an increasing trend and whereas Information Technology fluctuating. The increasing trend of pharma companies may provide stability to the stock market in the long run.

## REFERENCES

1. Anushan, S., & B, P. (2014). Relative strength index: An analysis of select scripts in National stock exchange and bombay stock exchange.
2. Janglani, S., & Sandhar, S. K. (2011). An Emperical study on impact of public sector and private sector banks of bank Ex-index of NSE and BSE.
3. Krishnankutty, R., & Chakraborty, K. S. (2014). Growth and long term debt of Indian corporate sector: A study with reference to Bombay stock exchange 500 Index companies.
4. Kumar, R., & Mishra, S. (2012). Impact of financial indicators on BSE SENSEX.
5. Mishra, P. R., & Avadhanam, D. P. (2011). Study of the contribution of Central public sector enterprises and Public sector financial companies to the Bombay Stock Exchange market capitalisation.
6. Prasad, D. U. (2014).Market capitalisation of Central public sector enterprises in India.
7. Rajavat, S. Y., & Amitabh, J. (2013). Study of interdependency of BSE Sensex with respect to NSE, NIKKEI and HANGSENG.
8. Ramesh, S. (2015). Mumbai: NISM Series VII- Securities operations and Risk Management.
9. Pradhan, J & Sahn, P. (2008). Defining the role of government in transnationalisation efforts of Indian SMEs: A case study of Indian Pharmaceutical Industry.
10. Pharma summit 2013- India Pharma Inc. Changing landscape of the Indian pharma industry.
11. A brief report on pharmaceutical industry in India May,2014 by Corporate Catalyst India Pvt. Ltd.

12. <http://www.ibef.org/industry/pharmaceutical-india.aspx>
13. <http://www.ibef.org/industry/information-technology-india.aspx>
14. <http://www.indiastudychannel.com/resources/151102-History-Information-Technology-India.aspx>.
15. <http://www.bseindia.com/static/about/introduction.aspx?expandable=0>
16. <http://www.investopedia.com/terms/m/marketcapitalization.asp>
17. Ramesh, S. (2015). Mumbai: NISM Series XV- Research analyst.