

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELAGAVI-590018**



**Internship / Professional Practice Report  
On  
“*Foreign Direct Investment Data analysis*”**

*Submitted in partial fulfillment of the requirements for the Final year degree of Bachelor of Engineering in Information Science and Engineering of Visvesvaraya Technological University, Belagavi by*

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**Carried out at Inflow  
Technologies**

**Under the Guidance of:**

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**DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING**

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Channasandra, Dr.Vishnuvardan Road, Bengaluru-560098 2022-2023**

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**DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING**



***INTERNSHIP CERTIFICATE***

Certified that the Internship/ Professional Practice work entitled "**FDI Data Analysis**" has been successfully carried out at "**Inflow Technologies**", by **Vivek Singh** bearing USN **1RN19IS179** and **Sumant Kumar Yadav** bearing USN **1RN20IS416**, bonafide student of **RNS Institute of Technology** in partial fulfillment of the requirements for the Final year degree in **Bachelor of Engineering in Information Science and Engineering** of **Visvesvaraya Technological University, Belagavi** during academic year 2022-2023. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Internship report has been approved as it satisfies the academic requirements in respect of Internship work for the said degree.

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## **ABSTRACT**

“Foreign direct Investment is that investment, which is made to serve the business interests of the Investor in a company, which is in a different nation distinct from the Investors country of origin. A parent business enterprise and its foreign affiliate are the two sides of the FDI relationship.

Foreign direct investment is Investment of foreign assets into domestic structures, equipment, and organizations. It does not include foreign investment into the stock markets. Foreign direct investment is thought to be more useful to a country than investments in the equity of its companies.

We evaluate the analysis of FDI using tableau to get desired Fiscal years data. A data trained on this model that is seen as a good fit could then be used to make certain predictions about a total FDI received. A model like this would be very valuable for a real economy viewers who could make use of the information provided in a daily basis.

## **ACKNOWLEDGMENT**

At the very onset, I would like to place on record our gratefulness to all those people who have helped us in making this internship work a reality. Coming up with this Internship work to be a success was not easy. Our Institution has played a paramount role in guiding us in the right direction.

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# CHAPTER 1 INTRODUCTION

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from data in various forms. Data science is a "concept to unify statistics, data analysis, machine learning and their related methods in order to understand and analyze actual phenomena with data. It employs techniques and theories drawn from many fields within the context of mathematics, statistics, information science, and computer science.

## 1.1 ORGANIZATION / INDUSTRY

### 1.1.1 COMPANY PROFILE

Inflow Technologies is IT Services Company registered under Govt. of India, Ministry of Micro, Small and Medium Enterprises. It also offers customized training programs, workshops and internship programs across engineering colleges in India.

**Mission:** To empower the students with necessary knowledge and industry skills for them to succeed in their future endeavors.

The Core Services they offer:

- Software Development and Testing Services on cutting edge technologies for small, midsize and large enterprise clients.
- Permanent and Temporary staffing solutions to IT companies.
- Career Coaching, Mentoring, and Consultation to IT professionals.
- Technology trainings, Training on Leadership skills and Training on soft skills

### 1.1.2 DOMAIN / TECHNOLOGY

Data Analytics refers to the set of quantitative and qualitative approaches for deriving valuable insights from data. It involves many processes that include extracting data and categorizing it in order to derive various patterns, relations, connections, and other valuable insights from it.

The larger the size of the data the bigger the problem. So, big data may be defined as the data the size of which itself poses the problem and which needs newer ways of handling it. So, the analysis of data at high volume, velocity, and variety means that the traditional methods of working with data would not apply here.

### 1.1.3 Types of Data Analytics

- **Descriptive Analytics:** In descriptive analytics, you work based on the incoming data, and for the mining of it you deploy analytics and come up with a description based on the data.
- **Predictive Analytics:** Predictive analytics ensures that the path is predicted for the future course of action.
- **Diagnostic Analytics:** This is about looking into the past and determining why a certain thing happened. This type of analytics usually revolves around working on a dashboard.
- **Prescriptive Analytics:** This is the type of analytics that talks about an analysis based on the rules and recommendations in order to prescribe a certain analytical path for the organization.

### 1.1.4 The applications of Data Science

#### □ Data Analytics in Finance

Big Data is used to track and monitor the movements in the financial market. Stock exchanges use Data Analytics to catch illegal trade practices in the stock market, banks, retail traders, hedge funds, and other aspects of the financial markets.

The finance industry relies heavily on Data Analytics for anti-money laundering purposes, “Know Your Customer”, fraud mitigation, and demand enterprise risk management.

#### □ Data Analytics in Healthcare

In recent years, data collection in the healthcare environment has become more streamlined. Data helps enhance daily operations and improve patient care. Both historical and current datasets can be used to track trends and make predictions.

Preventive measures and tracking outcomes are now possible with the use of Data Analytics. In cases where hospitalization is required, It can help predict infection risks, deterioration, and re-admission, thereby, lowering expenses and improving patient care outcomes.

## □ Data Analytics in Marketing

Data Analytics now plays a crucial part in Marketing. It aids in learning about customers and consumers with target precision. Some examples are the movie preferences on Netflix and learning about favorite food and items on e-commerce sites or food apps.

## □ Data Analytics in IoT

The IoT market is predicted to reach \$6.1 billion by 2024 as reported by Mordor Intelligence. As a result, the global market clearly seems to be in favor of IoT development and its economic potential. Combining IoT and Big Data, dubbed as IoT Data Analytics, is a major contributing component to its growth.

It was extremely challenging and expensive to analyze massive volumes of data even a decade ago. But, with time, the cost of storing data has gone down considerably and it is making huge leaps in this segment creating favorable conditions in IoT. Businesses have started to invest in IoT use cases related to Data Analytics.

Corporate giants like Microsoft, Amazon, GE, Salesforce, and SAP are already implementing Data Analytics in IoT.

## □ Data Analytics for Business

Data Analytics in business employs a specific set of techniques, procedures, and competencies to effectively make use of past and current business data. The purpose of doing so is to obtain insights about a business and encourage improved decision-making.

It can help a business in major aspects like personalizing a marketing pitch for a customer or identifying and mitigating business risks.

## □ Data Analytics in HR

HR professionals have vast amounts of data in their possession but oftentimes, go unused. Using this data can help analyze human resource challenges and engage in HR Data Analytics. Just as analytics has revolutionized marketing, it has positively transformed HR too. It helps

- make smart data-driven decisions
- create HR intervention business cases
- test the effectiveness of interventions
- make the switch from an operational partner to a tactical or strategic partner

## 1.2 PROBLEM STATEMENT

Given a list of attributes of the household, the goal is to analyze the total FDI received during Fiscal years. The features can be summarized as follows:

- FDI: Foreign Direct Investment.
- PN: This is the proportion of total FDI received.
- INS: This is the proportion of non-retail business investment
- SEC: This is the no. of investment per sector.
- CN: This is the no. of countries invested.
- SL: This is the average number of sales per year

### 1.3 PROPOSED SYSTEM

In this project, we will evaluate the performance and analysis power of a data that has been collected and verified by world bank .A analysis held on this data that is seen as a *good fit* could then be used to make certain predictions about the future Investment. The dataset for this project originates from the Kaggle. The dataset is collection of data from the 2000-2001 to 2015-2016. The model can be also be used to give the information about the growing economy.

## **CHAPTER 2 REQUIREMENT ANALYSIS, TOOLS & TECHNOLOGIES**

### **2.1 Hardware & Software Requirements**

- Windows / Unix Os
- RAM – 4 GB
- MS Excell
- kaggle
- Tableau

### **2.2 Functional Requirements**

- The system should be able to predict the ACTD (Actual data based on investment) i.e. the Actual data for any new sector based on previous sectors.
- The system should predict results with accuracy greater than 70 percent.
- The system should be able to visualize the difference between predicted and actual data.

**Tools:** Tableau is a visual analytics platform transforming problems—empowering people and organizations to make the most of their data. Tableau is greatly used because data can be analyzed very quickly with it. Also, visualizations are generated as dashboards and worksheets. Tableau allows one to [create dashboards](#) that provide actionable insights and drive the business forward. Tableau products always operate in virtualized environments when they are configured with the proper underlying operating system and hardware. Tableau is [used by data scientists](#) to explore data with limitless visual analytics.

## CHAPTER 3

### DESIGN AND IMPLEMENTATION

#### 3.1 FLOW CHART

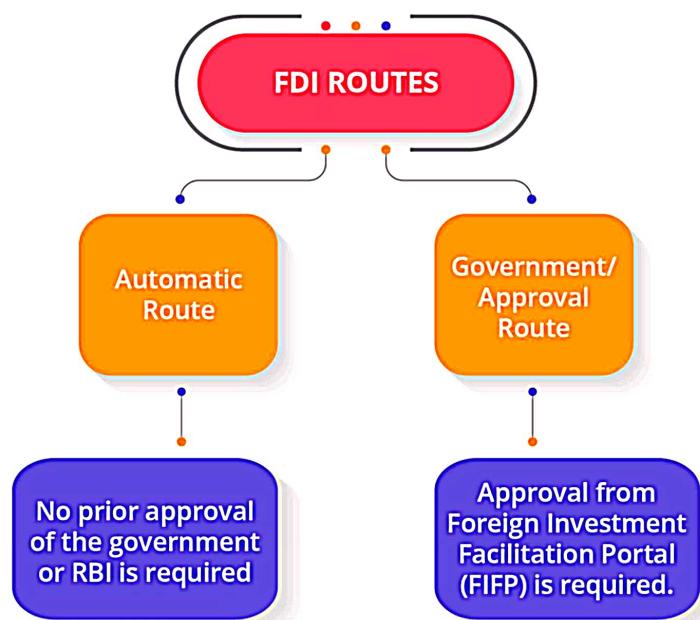


Fig 3.1 Flowchart representing FDI process

## CHAPTER 4 OBSERVATIONS & RESULTS

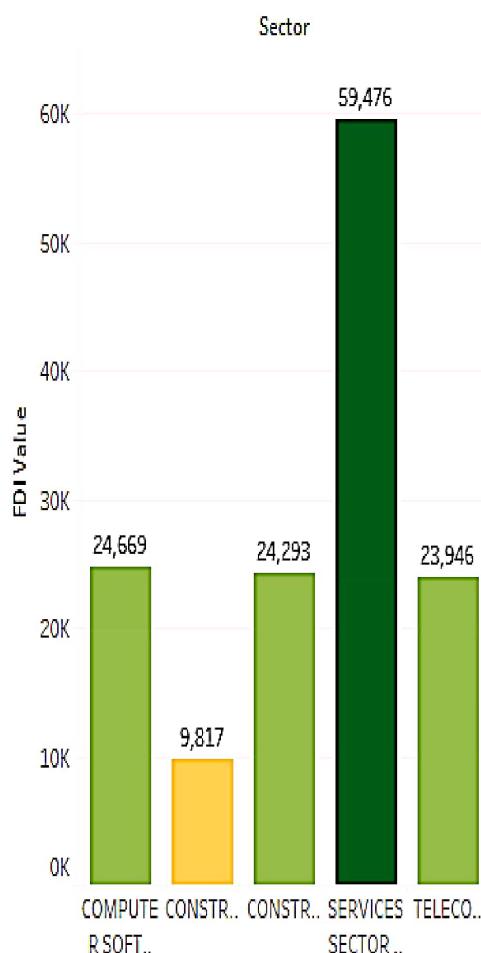
## 4.1 Data Visualization

Data Visualization is the graphical representation of information and data. Visualization by using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data.

- India's total amount of FDI inflow during 16 years, i.e. 2000 to 2016. The FDI inflow from 2000-2001 i.e. ₹2,028Cr in 2005-2006 it was ₹5,540Cr. It shows a Good result in the FDI inflows in India.
- A little bit of ups and downs in FDI inflows up to 2008-09 but after that great hike in the year 2009-10 i.e. ₹35,121Cr as compared to earlier years. In 2010-2011 there was a huge investment in FDI in ₹40,343Cr. But then there was a downfall in the Inflow of FDI in two consecutive years 2011-2012 and 2012-2013, with figures ₹22,424 Cr and ₹24,299Cr respectively.
- A little bit of ups and downs in FDI inflows up to 2008-09 but after that great hike in the year 2009-10 i.e. ₹35,121Cr as compared to earlier years. In 2010-2011 there was a huge investment in FDI in ₹40,343Cr. But then there was a downfall in the Inflow of FDI in two consecutive years 2011-2012 and 2012-2013, with figures ₹22,424 Cr and ₹24,299Cr respectively.

## 4.2 GRAPHS

Max Direct Funding of a given year



Min Direct Funding of a given year

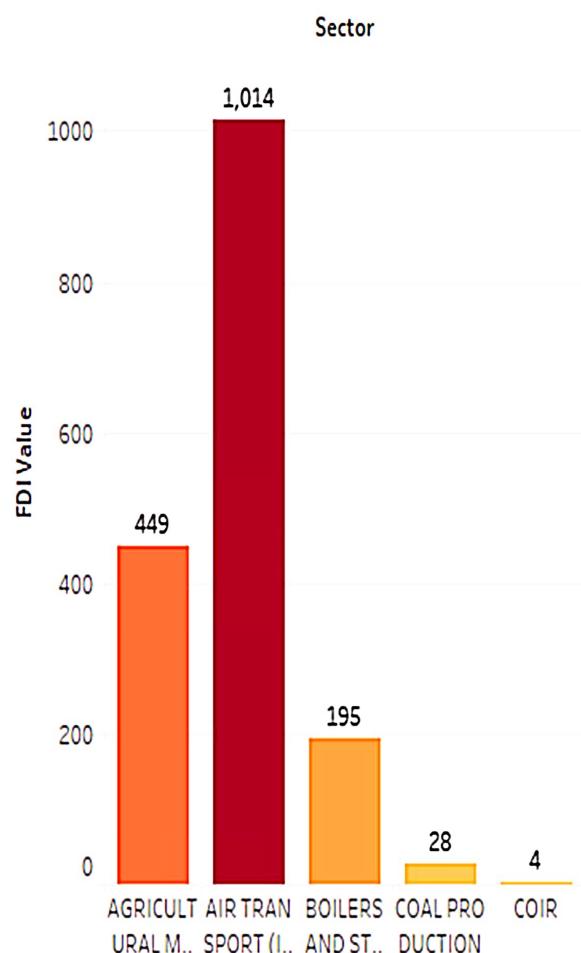


Fig 4.2.1: Max Direct Funding

Fig 4.2.2 : Min Direct Funding

### 4.3 SNAPSHOT

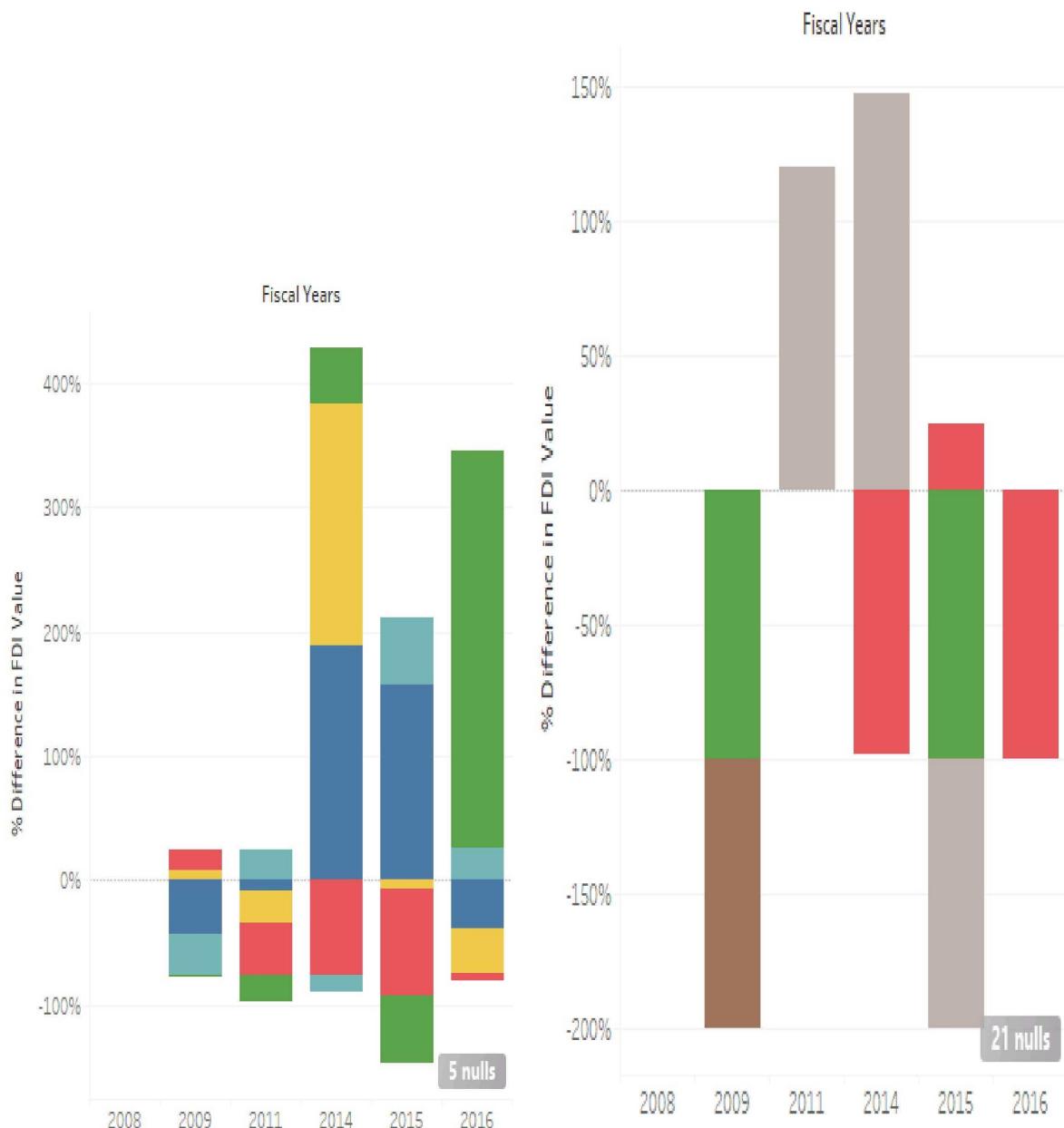


Fig 4.3.1: Highest growth

Fig 4.3.2: Highest Decline

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## Foreign Direct Investment

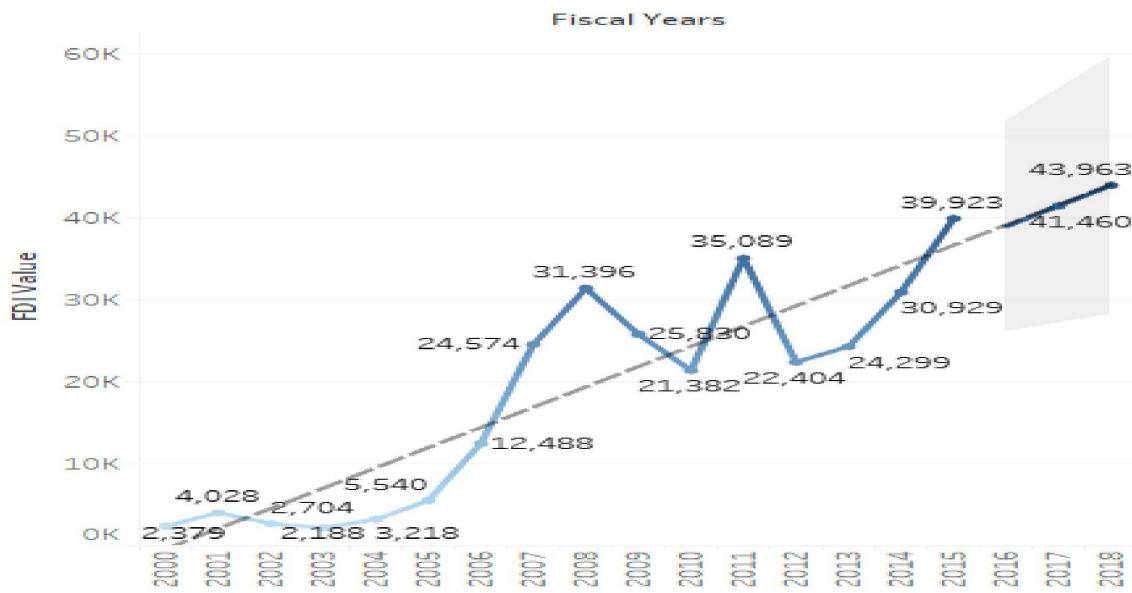


Fig 4.3.3: Trend Forecast

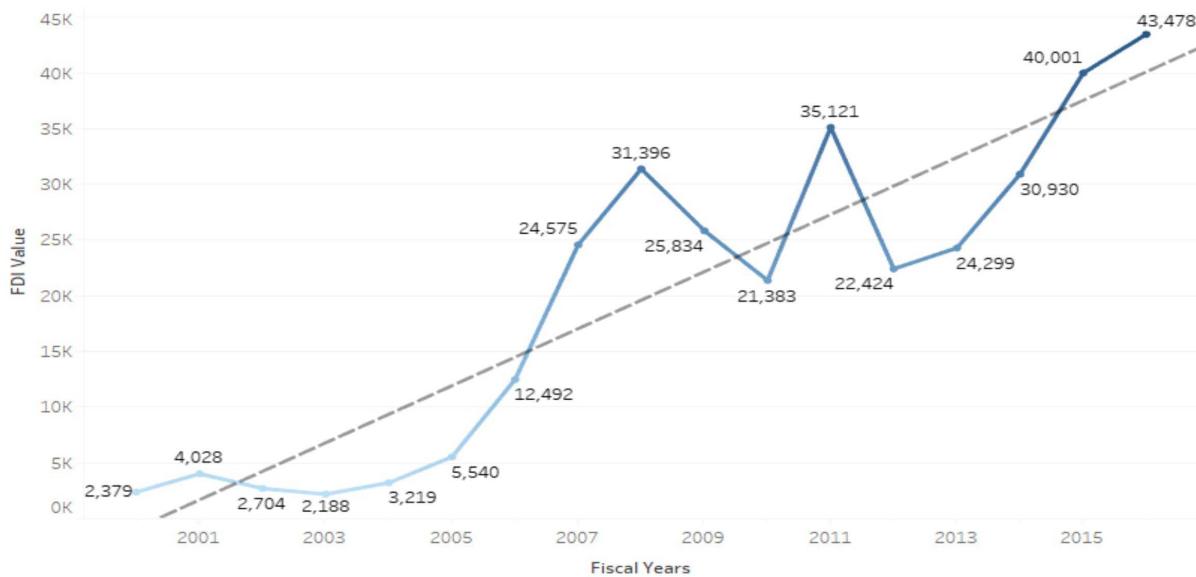


Fig 4.3.4: Overall trend

## Foreign Direct Investment

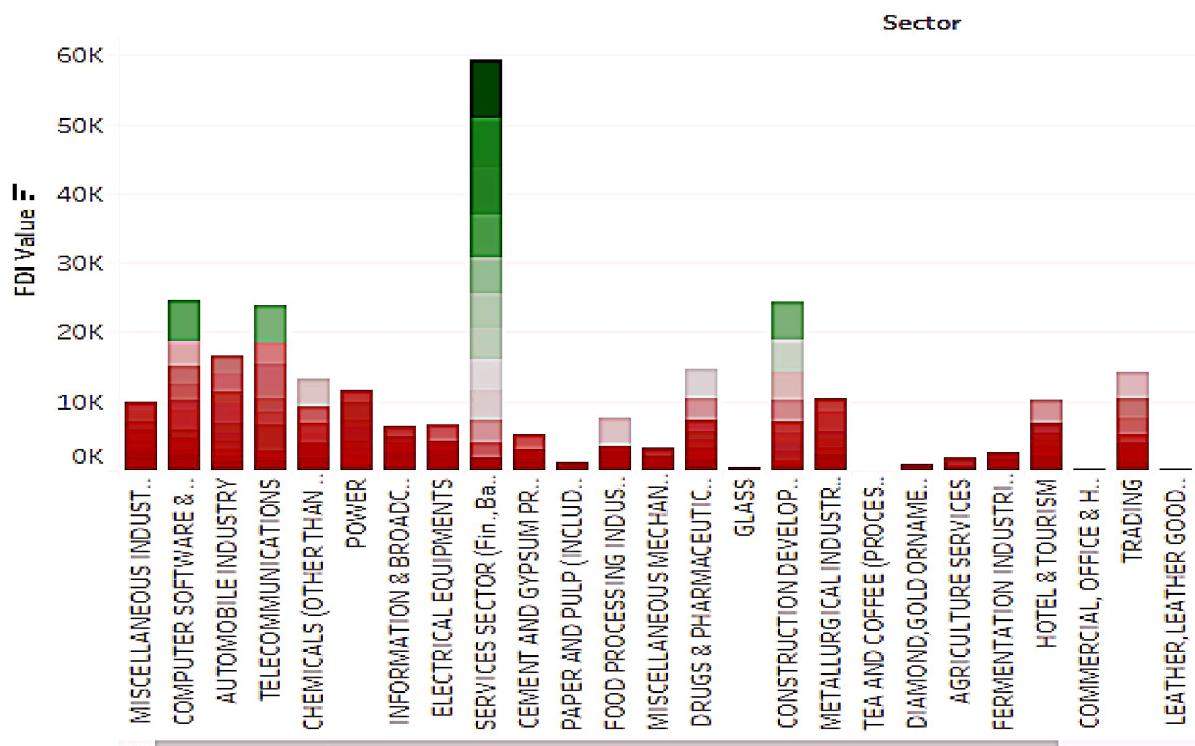


Fig 4.3.5: Variance

J

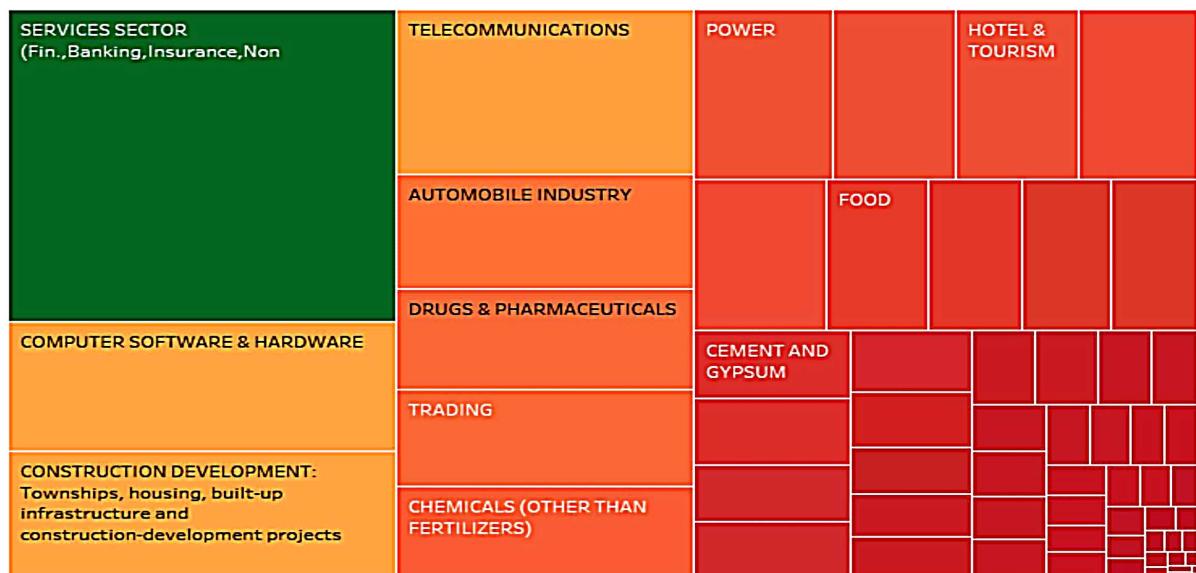


Fig 4.3.6: Proportion to FDI

## Foreign Direct Investment

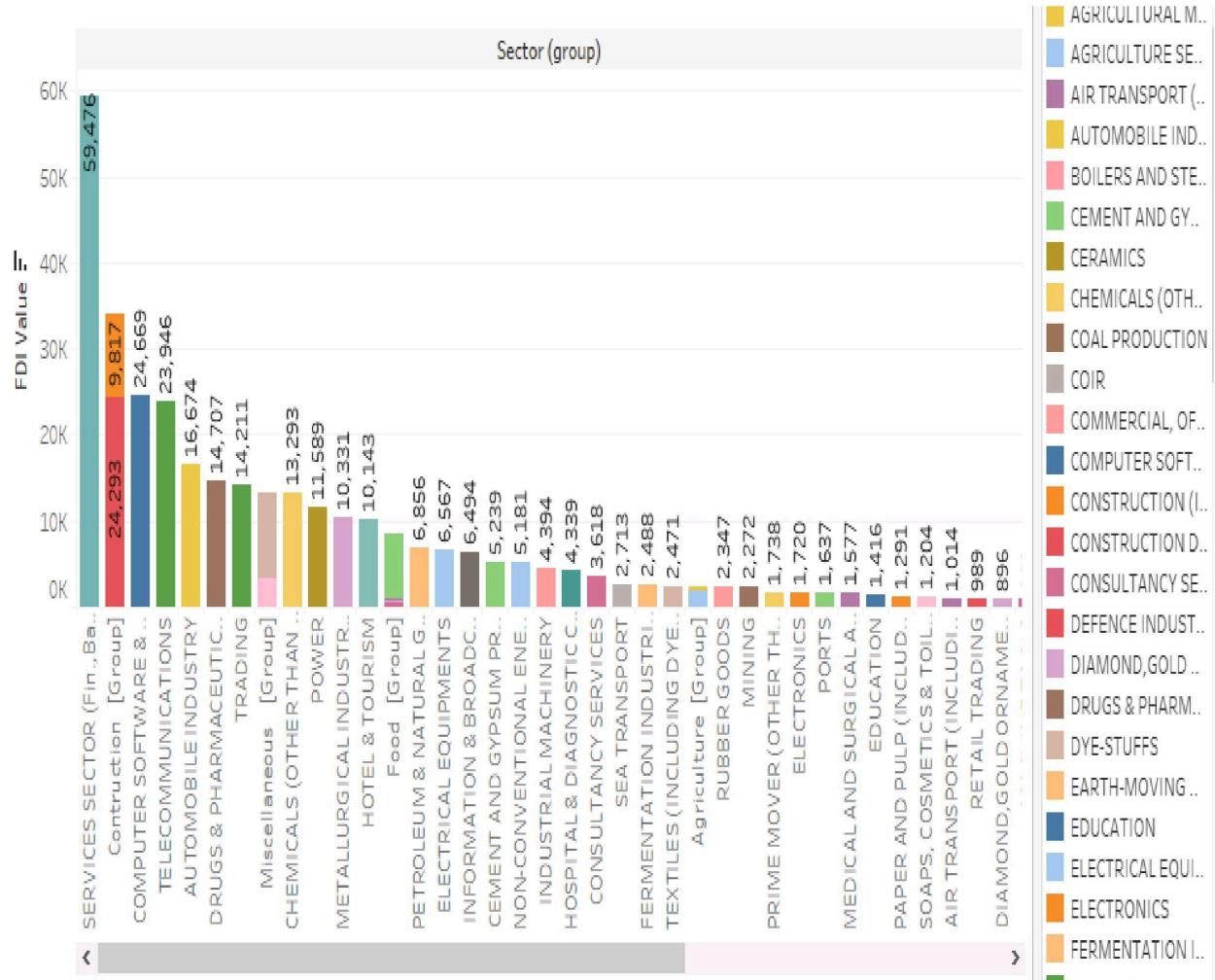
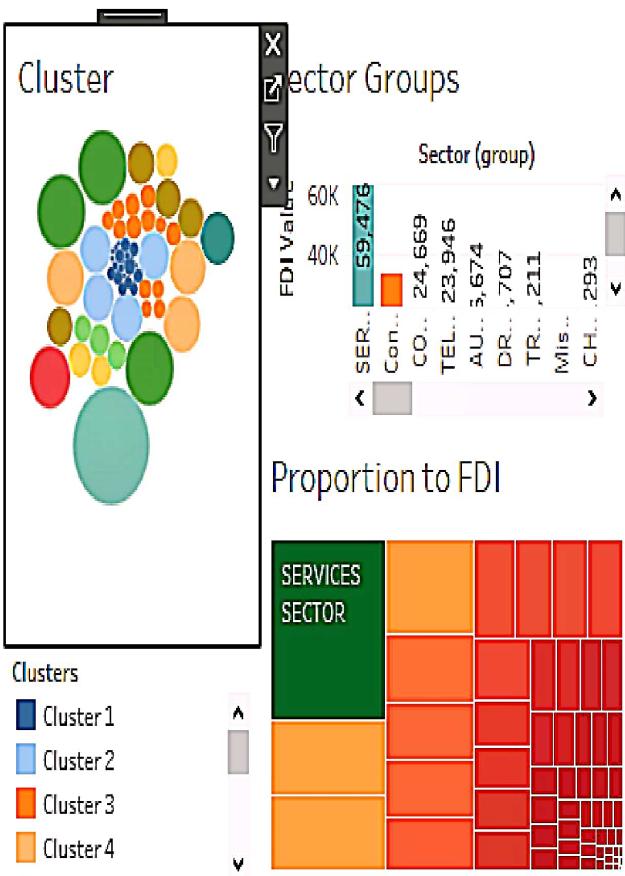
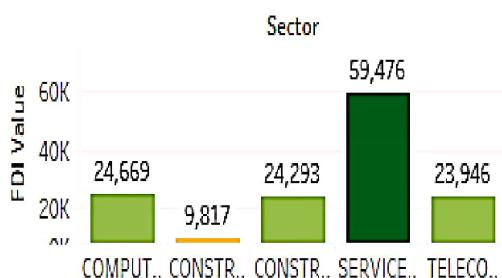


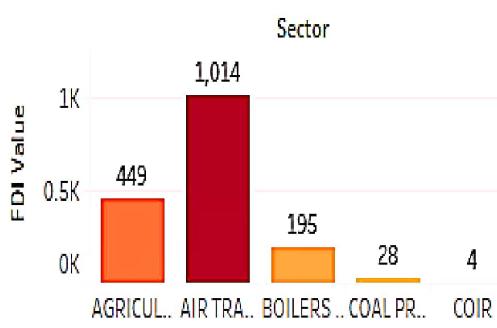
Fig 4.3.7: Sector Groups

## 4.4 RESULT

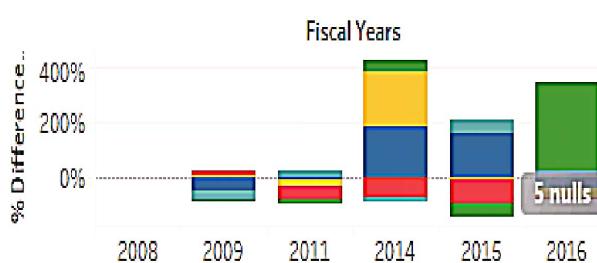
Max Direct Funding of a given year



Min Direct Funding of a given year



Highest Growth



Highest Decline

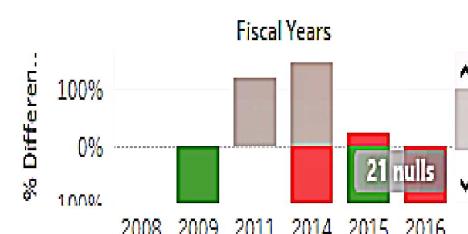


Fig 4.4.1: Dashboard1

## Foreign Direct Investment

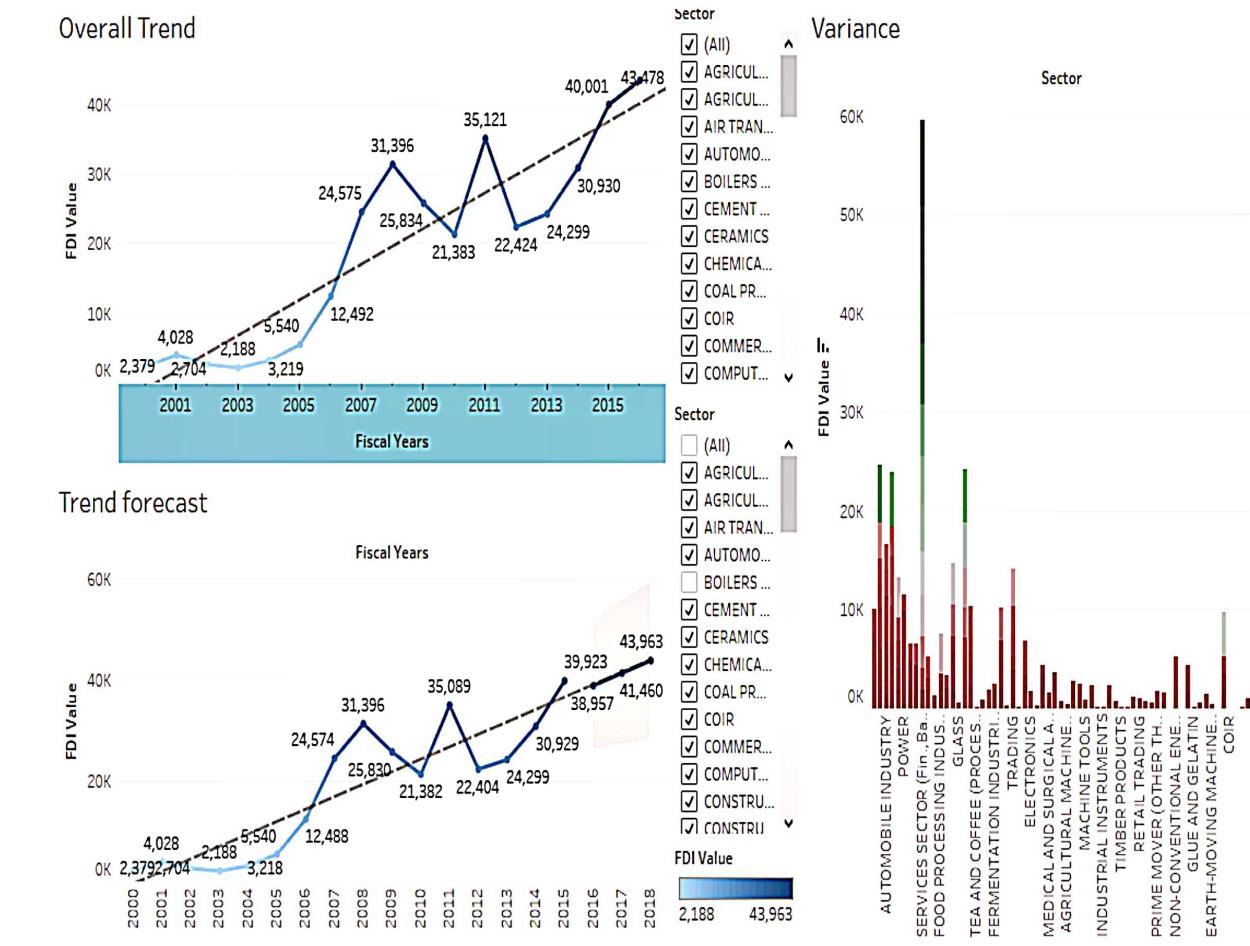


Fig 4.4.2: Dashboard2

## CHAPTER 5 CONCLUSION & FUTURE WORK

The Sectoral composition of FDI over the period of April 2000 to June 2016, we can find that the largest recipient of such investment is Service sector (Financial and non-financial services). The share of this sector comparing to all sector is 17.65 % of the inflow total foreign direct investment.

The foreign investors are interested in mainly financial services due to its profit generating advantage. This sector gives scope for the foreign investor to take back the profits to the home country. As service sector the services are consumed in the host country and there by generating outflow of funds from the host country.

The second recipient is Computer software and Hardware sector which shares 7.66% of total FDI. Construction development, Telecommunication, Automobile Industry sector having 7.31%, 6.43% and 5.17% respectively. The keys takeaways regarding global flows are – the increase in the relative share of developing countries as both destination and sources and flow to the sector gaining over manufacturing.

## REFERENCES

- Data Analytics by Lorenz fin
- Dataset at [www.kaggle.com](https://www.kaggle.com)
- Tools revision : Ramu Sen Youtube channel
- Visualization at <https://public.tableau.com>