

# SPARK FUNDS INVESTMENT ANALYSIS ASSIGNMENT

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# Project Abstract

- Identify the **suitable investment type**
- Identify the **top 3 English** speaking countries
- Identify the **best sectors** where most investors are investing

Business Objective

- **Investment analysis** in the seed, angel, venture and equity
- **Country analysis** where have been most heavily invested in the past
- **Sector analysis** for understanding the distribution in 8 main sectors

Data Analysis Goals

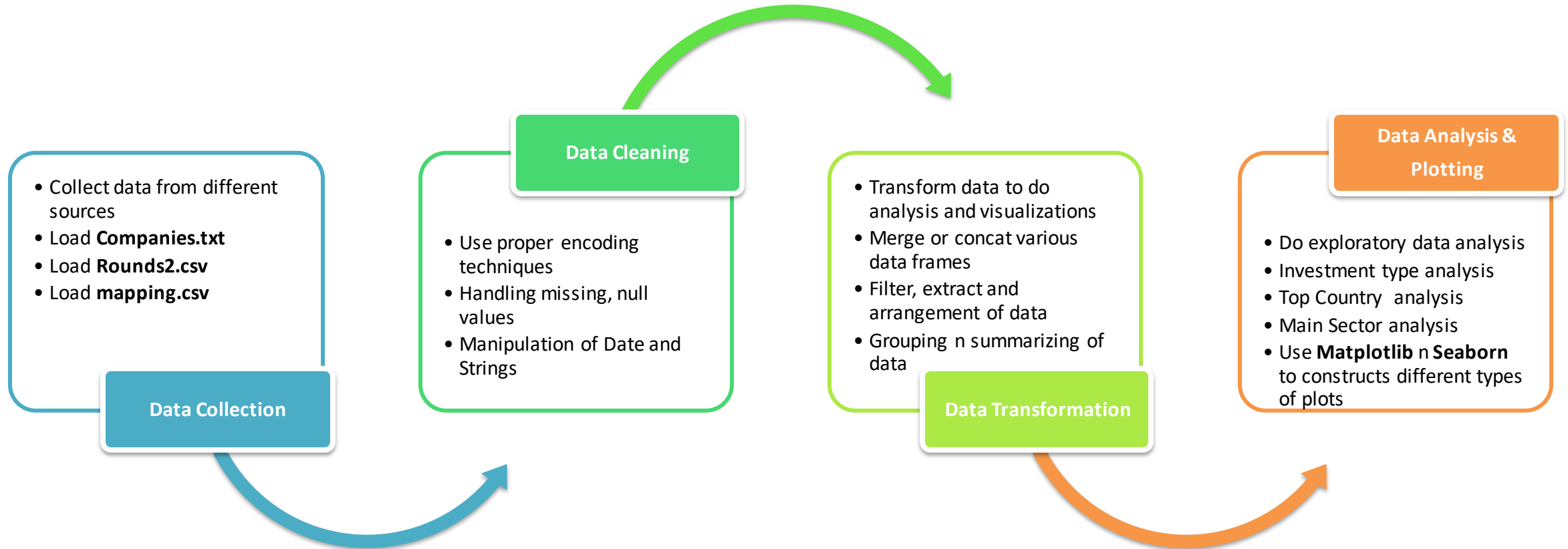
- Spark Funds only wants to invest between **5 to 15 million** USD per round of investment
- It wants to invest only in **English-Speaking countries**
- Consider a country to be English speaking only if English is one of the **official language**

Points to be noted

- Checkpoint 1 – **Data Cleaning**
- Checkpoint 2 – **Funding Type Analysis**
- Checkpoint 3 – **Country Analysis**
- Checkpoint 4 – **Sector Analysis 1**
- Checkpoint 5 – **Sector Analysis 2**
- Checkpoint 6 – **Plots and Visualizations**

Checkpoints

# Problem Solving Methodology



# Funding Type Analysis

Spark funds wants to choose one of these four investment types (venture, private equity, seed and angel) for each potential investment they will make.

Calculate most representative value of the investment amount for each of the funding types

Funding round type	Raised amount USD
private equity	73308593.0
venture	<b>11748949.1</b>
angel	958694.5
seed	719818.0

1. We have to extract data where funding round type is venture, private equity, seed and angel

2. Extract the data from the master frame and check info of master frame

3. Apply grouping on the data on the behalf of funding round type and take out the mean of raised amount USD.

4. Spark fund want to invest between the 5 to 15 Million USD per investment round so after this we got VENTURE as a funding type which is most suitable for the company

# Country Analysis

Spark funds wants to invest in countries with the highest amount of funding for the **VENTURE** investment type  
It wants to invest in only English speaking countries.  
Consider a country to be English speaking only if English is one of the official languages in that country

Country Code	Raised Amount USD
<b>USA</b>	<b>422510842796.0</b>
<b>GBR</b>	<b>20245627416.0</b>
<b>IND</b>	<b>14391858718.0</b>
CAN	9583332317.0
SGP	2793917856.0
IRL	1676131350.0
AUS	1322934948.0
NZL	448316383.0
NGA	245440000.0

1. Fetch the list of English-speaking countries from the given link:

[https://en.wikipedia.org/wiki/List\\_of\\_territorial\\_entities\\_where\\_English\\_is\\_an\\_official\\_language](https://en.wikipedia.org/wiki/List_of_territorial_entities_where_English_is_an_official_language)

2. Drop the unnecessary columns from the table and rename the columns and split the data to get official languages and store all the clean data in countries frame

3. Extract the data from the master frame across all sectors for the chosen investment type i.e. venture

4. Merge your master frame with countries frame to get countries with official language as English

5. Apply grouping on your data on the behalf of country code and apply sum on raised amount usd you will get the data with top 9 countries

# Sector Analysis

Main Sector	No. of Investments	Sum of Investments
Cleantech / Semiconductors	2297	21181003033.0
<b>Others</b>	<b>2923</b>	<b>26089280296.0</b>
Social, Finance, Analytics, Advertising	1912	16680695048.0



Main Sector	No. of Investments	Sum of Investments
Cleantech / Semiconductors	127	1136905008.0
<b>Others</b>	<b>143</b>	<b>1249124289.0</b>
Social, Finance, Analytics, Advertising	98	821888357.0



Main Sector	No. of Investments	Sum of Investments
Entertainment	33	280830000.0
News, Search and Messaging	52	433834545.0
<b>Others</b>	<b>109</b>	<b>1007409507.0</b>



Spark Funds aim is to find out the most heavily invested main sectors in each of the 3 countries and for the best funding type and investment range between 5-15 M USD

1. Extract the data from the frame of top 3 countries and check for the % of null data

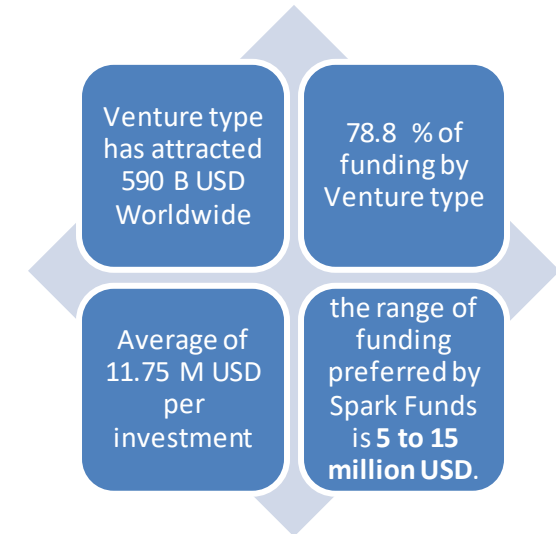
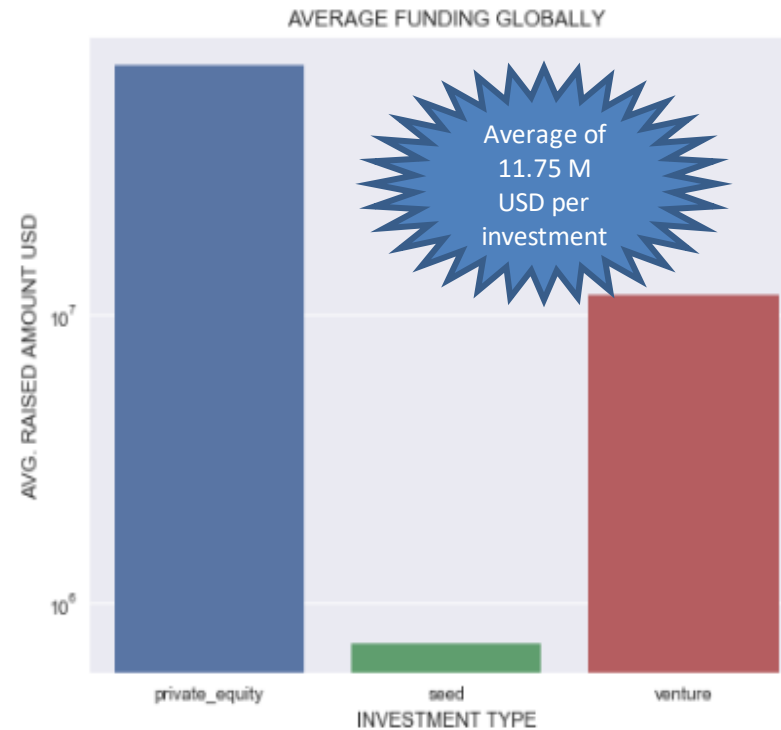
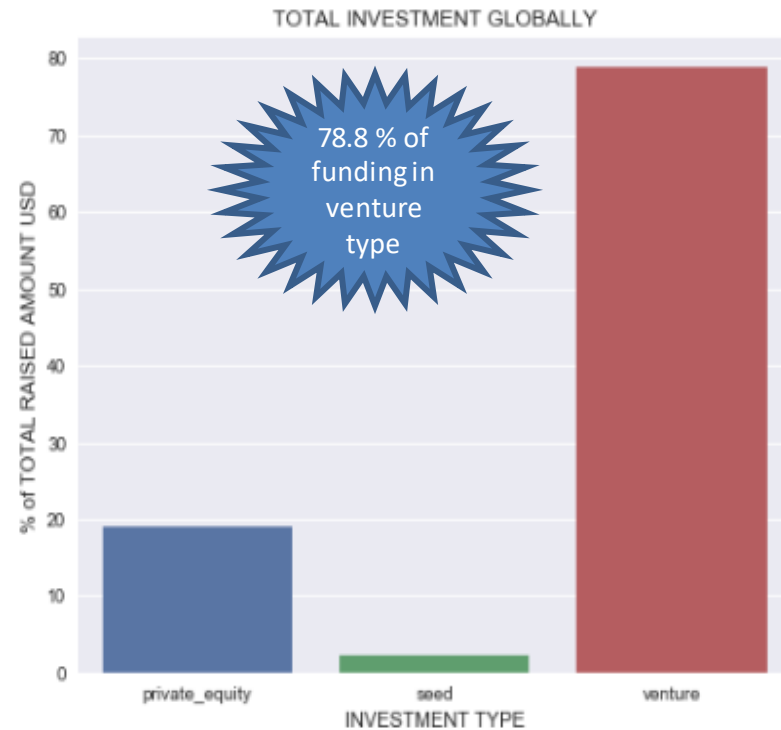
2. Extract first string before the vertical bar will be considered the primary sector (Business Rule.)

3. Using the mapping.csv file to map each primary sector with its main sector

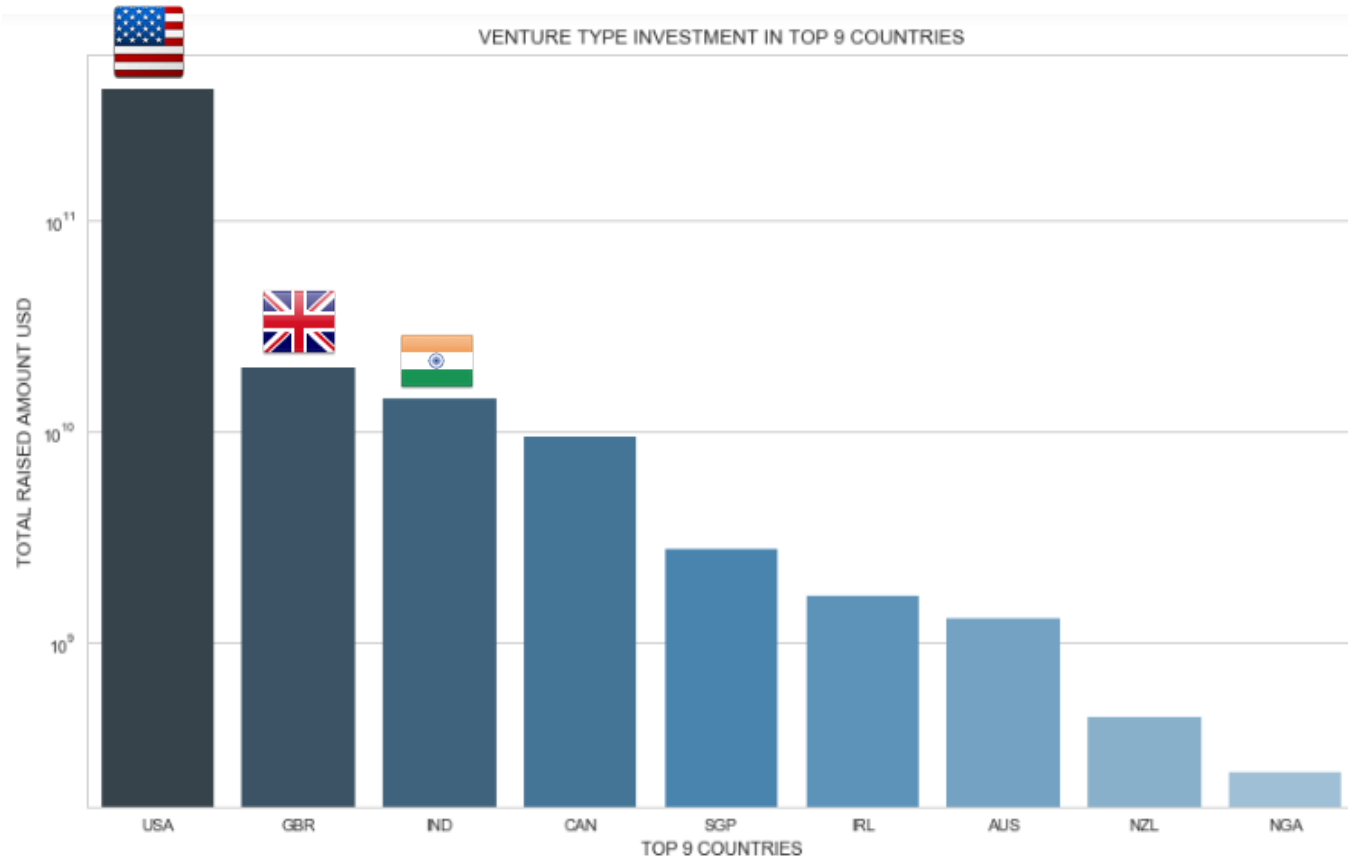
4. Merge the mapped data frame with our master frame3. Using the mapping.csv file to map each primary sector with its main sector

5. Create 3 separate data frames for each of the three countries containing the observations of venture type in between 5-15 M. Apply grouping and get top sectors for all the countries

Plot 1: A plot showing the fraction of total investment (globally) in venture, seed and private equity and the average amount of investment in each funding type



Plot 2: A plot showing the top 9 countries against the total amount of investments of funding type FT (i.e. VENTURE)



**Top three English speaking country  
invested by venture fund type**

**USA** is the best  
country for venture  
investment

**\$ 422510.84 M**

**GBR** is second best  
country for venture  
investment

**\$ 20245.63 M**

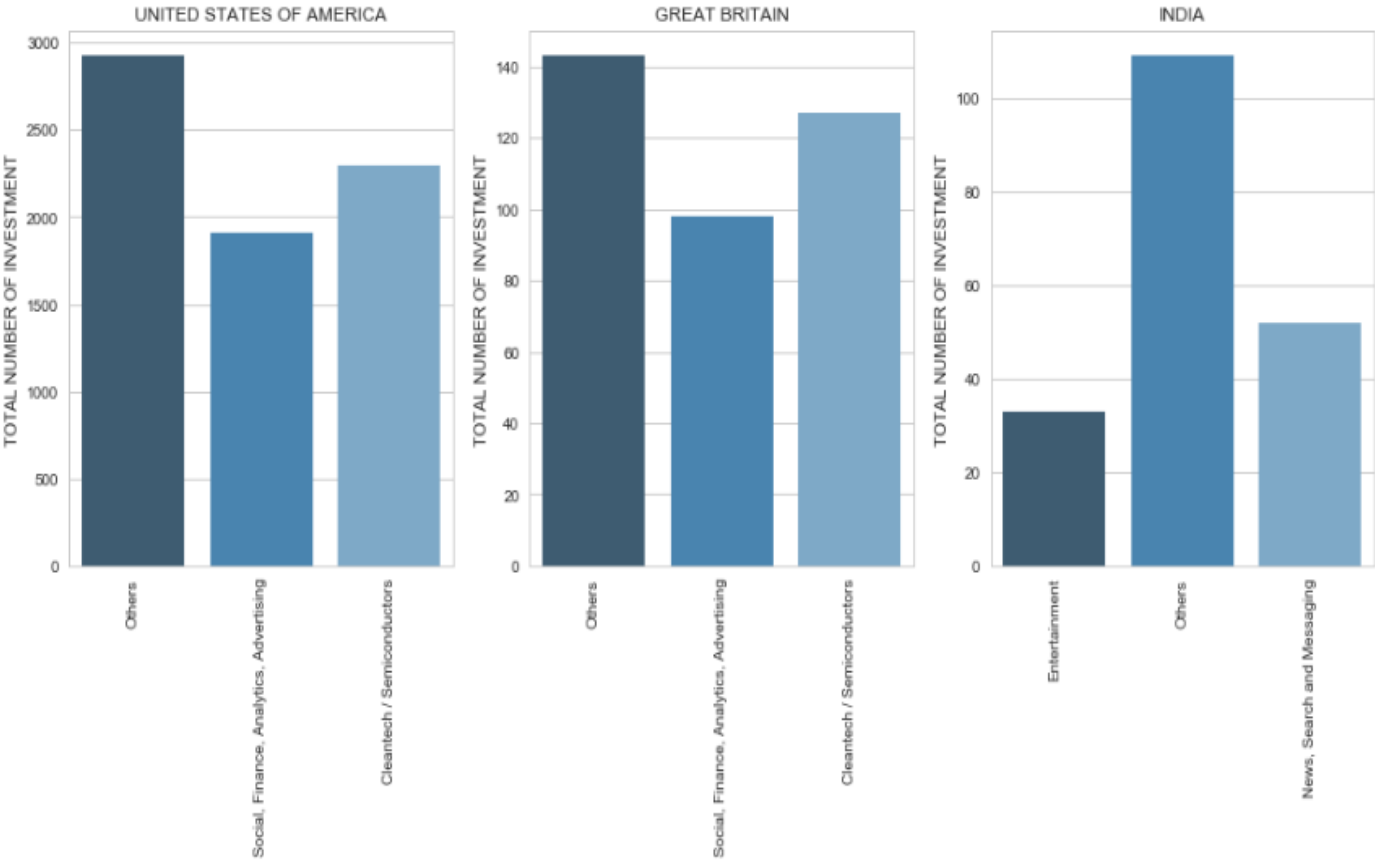
**IND** is the third best  
country for venture  
Investment

**\$ 14391.86 M**



# Plot 3 : A plot showing the number of investments in the top 3 sectors of the top 3 countries

INVESTMENTS OF TOP 3 COUNTRIES IN TOP 3 SECTORS



Count of total investments in top 3 sectors of the top 3 countries



1. Others
2. Social, Finance, Analysis and Advertising
3. Cleantech / Semiconductors



1. Others
2. Social, Finance, Analysis and Advertising
3. Cleantech / Semiconductors



1. Others
2. News, Search and Messaging
3. Entertainment

# Project Conclusions

## Investment Type Goal

- The funding type which is best suited to Sparks Fund is **VENTURE**
- Its average funding globally is between **5 to 15 Million USD** per round of investment
- **78.8 %** of funding is raised by venture globally
- Attracts around **590 B USD** worldwide

## Top Countries Goal

- Top 3 English speaking countries which has been the most heavily invested in the past is: **United States of America, Great Britain and India**
- Also these countries have English as their official language
- Alone in USA the venture fund invested is around **422510.84 M USD**
- GBR invested **20245.63 M USD** in venture
- IND invested **14391.86 M USD** in venture

## Main Sector Goal

- Best sectors where distribution of investments are high are Others sectors including Semiconductors and many more
- **Others, Cleantech / Semiconductors and Social, Finance, Analytics, Advertising** for USA
- **Others, Cleantech / Semiconductors and Social, Finance, Analytics, Advertising** for GBR
- **Others, News Search and Messaging and Entertainment** for IND