

# INVESTMENT ASSIGNMENT SUBMISSION

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# Spark Funds Investment Analysis Assignment

Spark Funds, an asset management company, is looking for investment.

The overall strategy is to invest where others are investing, implying that the 'best' sectors, countries and investment type where most investors are investing.

Business constraints:

- It wants to invest between 5 to 15 million USD per round of investment
- It wants to invest only in English-speaking countries

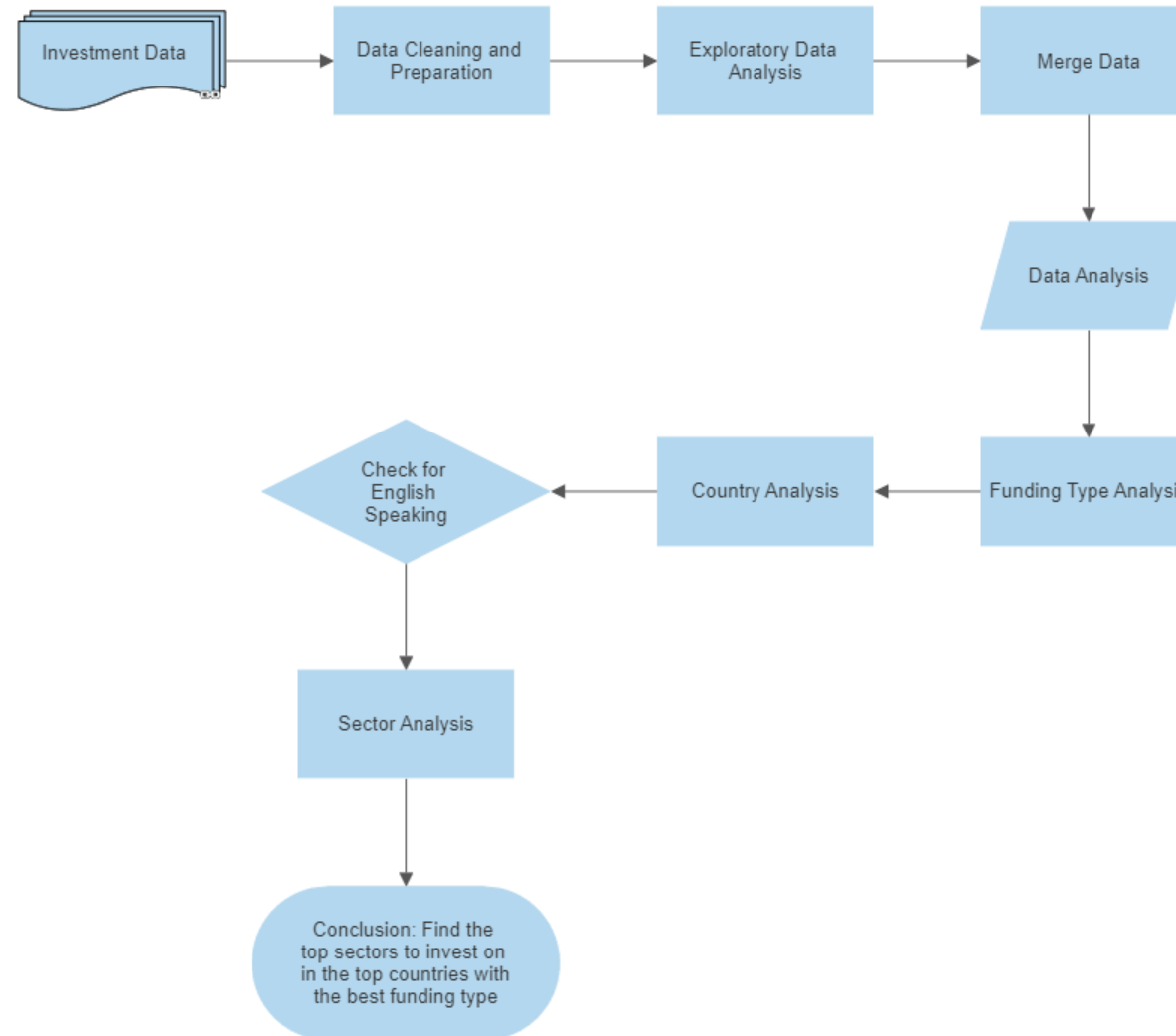
Business objective:

To identify the best sectors, countries, and a suitable investment type for making investments.

Goals of data analysis:

- Investment type analysis
- Country analysis
- Sector analysis

# Problem Solving Methodology



# Data Cleaning, Collection and Preparation

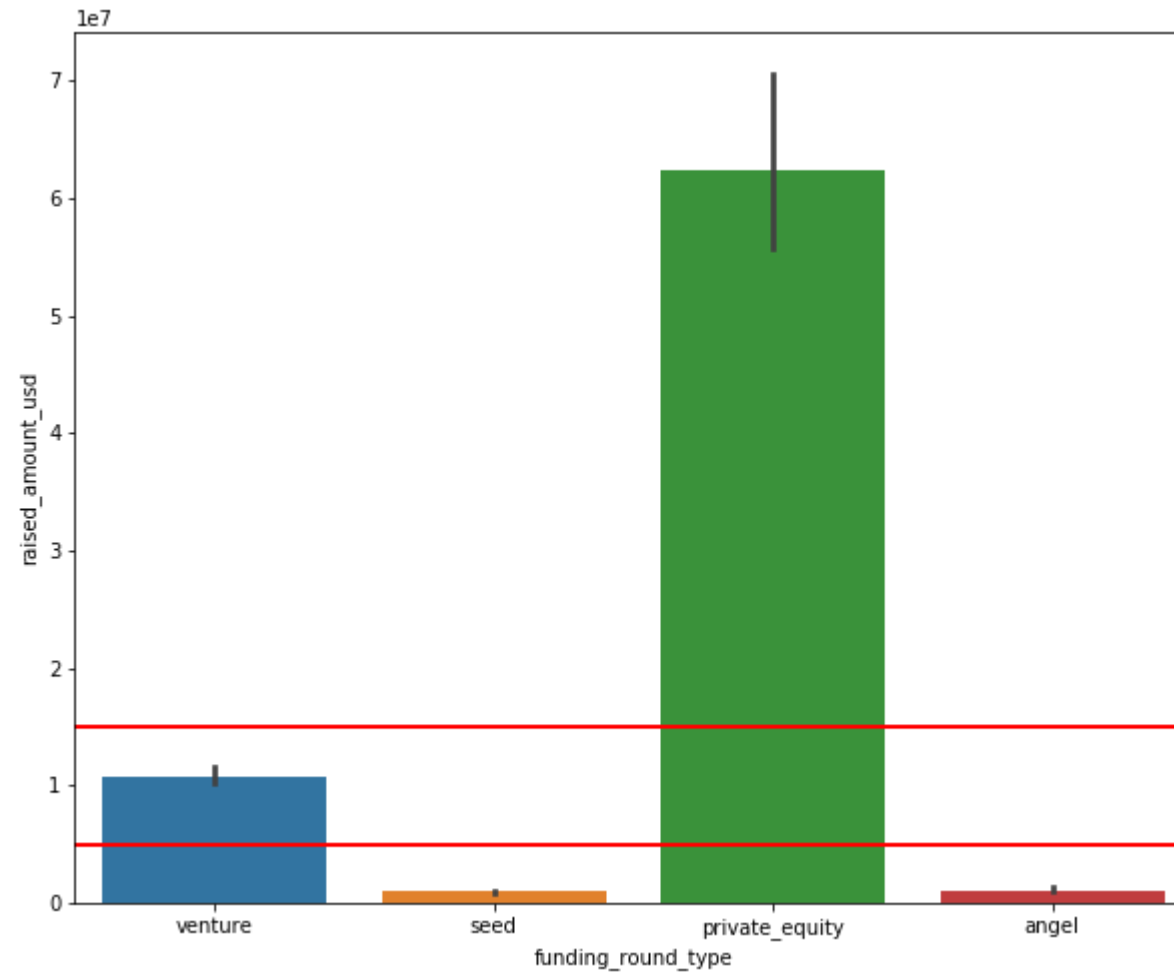
- Data from all three files is imported into panda's data frames.
- The dataframes are then checked for missing values
  - We find out the percentage of missing values for each column and determine how we deal with it, remove column/ impute with median, impute with mean/ knn imputation based on the type of our data. Median is used here as the data has outliers and for sake of simplicity.
- We check the data for outliers using a box plot.
  - Given data has a lot of outliers and a copy of our data is created and then outliers are removed based on the inter-quartile range concept
- The dataframes are then merged to form a master dataframe.
- Columns Trivial for our analysis are removed.
- Now we proceed to the analysis.
- However after a rudimentary analysis it becomes evident that the outliers removed were important to the data and hence we go back to our data of which we had saved a copy earlier and then perform the analysis again/

# Data Analysis

- Funding Type Analysis:
  - Here we find out which funding type is most relevant for us: We choose amongst the four venture, seed, private equity and angel. Which of these have maximum number of funding rounds that fall under the 5-15 million range that we desire.
- Country-wise Investment Amount Analysis
  - Here we check the countries which have previously received most fundings for the funding type which we have chosen and they also need to be an English speaking country.
- Sector wise Analysis
  - Here we find out which sectors are the highest funded for every country individually
  - We then find out the top companies in that sector which have received the highest funding.

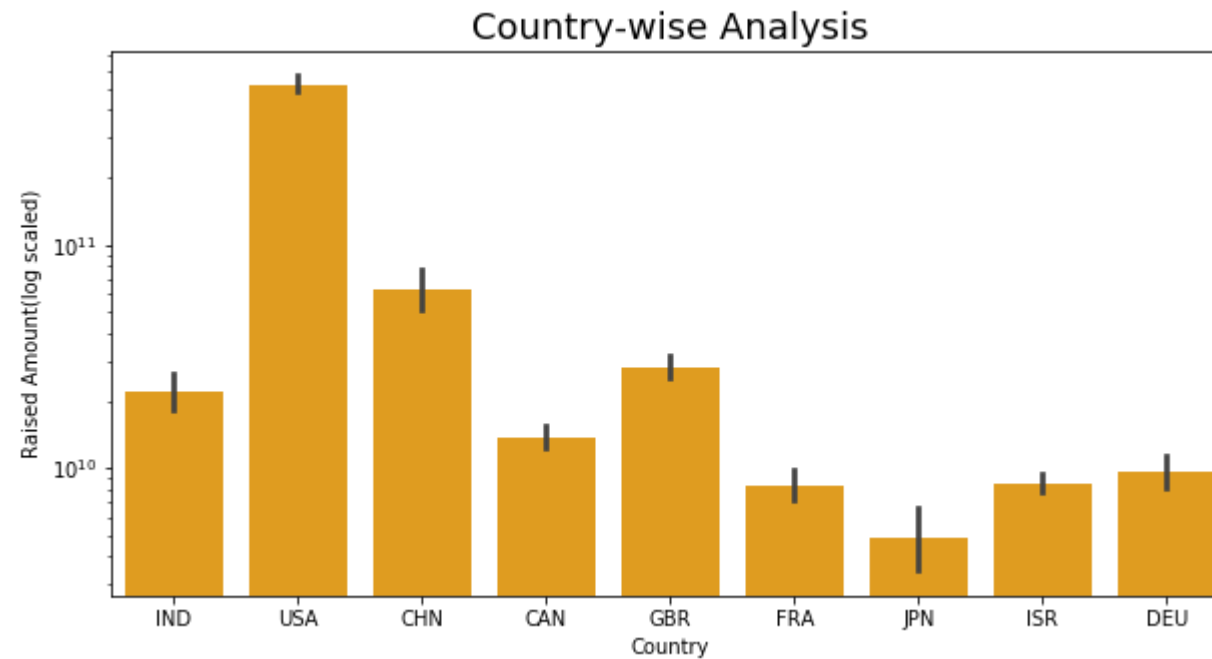
# Funding Type Analysis

Plot1



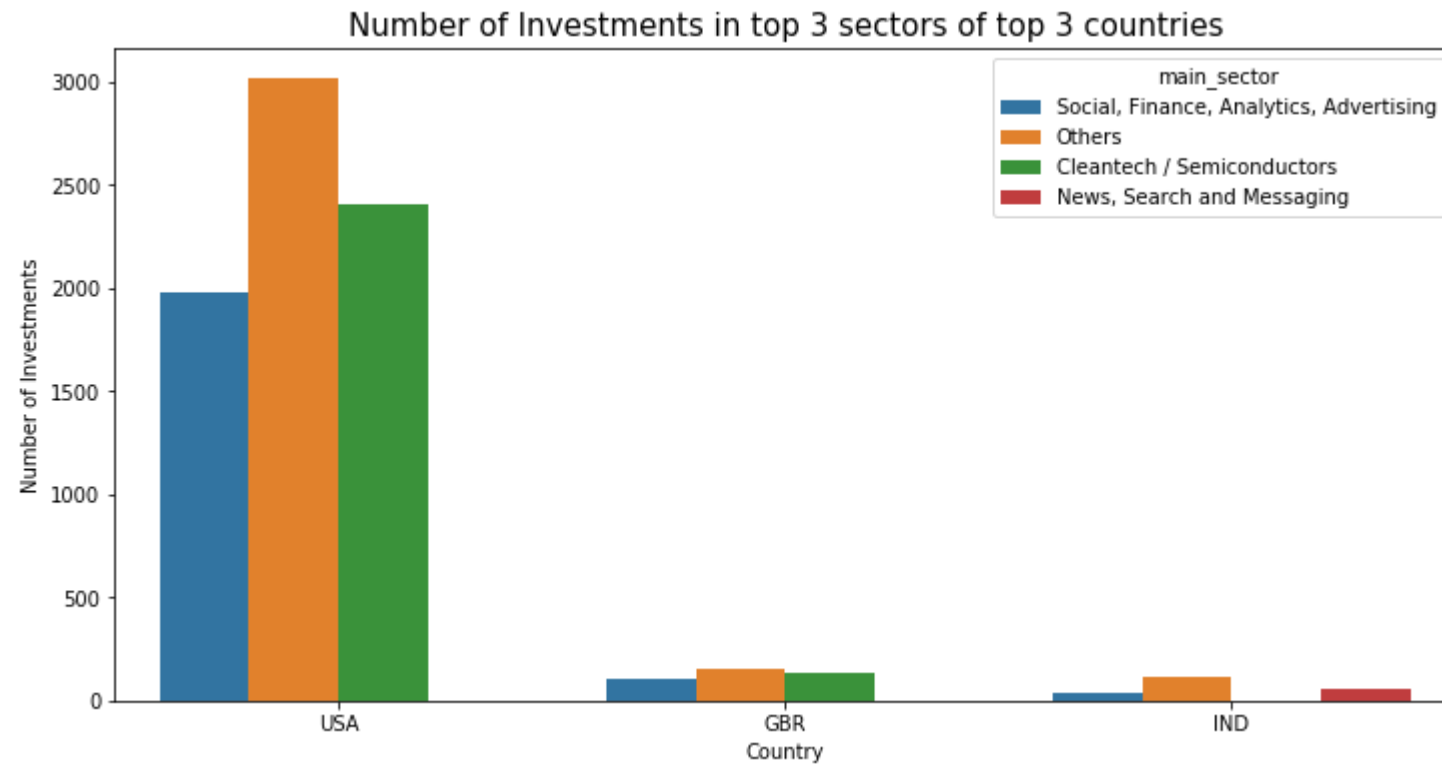
# Country-wise Investment Amount Analysis

Plot 2



# Number of Investments in top 3 sectors of top 3 countries

Plot 3





# Results

Sl.no	Observations:	USA	UK	India
1	Total number of Investments (count)	12635	664	342
2	Total amount of investment (USD)	\$ 1,12,56,26,37,512.00	\$ 5,72,69,36,263.00	\$ 3,06,55,43,502.00
3	Top Sector name (no. of investment-wise)	Others	Others	Others
4	Second Sector name (no. of investment-wise)	Cleantech/Semiconductors	Cleantech/Semiconductors	News, Search and Messaging
5	Third Sector name (no. of investment-wise)	Social, Finance, Analytics, Advertising	Social, Finance, Analytics, Advertising	Social, Finance, Analytics, Advertising
6	Number of investments in top sector (3)	3014	149	113
7	Number of investments in second sector (4)	2408	130	53
8	Number of investments in third sector (5)	1614	103	34
9	For point 3 (top sector count-wise), company which received highest investment	Virtustream	Electric Cloud	Firstcry.com
10	For point 4 (second best sector count-wise), company which received the highest investment	Capella	Sensage	Myntra

# Conclusions

- Clearly USA is the best Country to invest in followed by UK and India.
- Venture is the best Funding Type for our investments ranging between 10-15 million
- Best Sectors to invest in USA are Others, Cleantech/Semiconductors, (Social, Finance, Analytics, Advertising)
- Best Sectors to invest in UK are Others, Cleantech/Semiconductors, (Social, Finance, Analytics, Advertising)
- Best Sectors to invest in India are Others, (News, Search and Messaging), (Social, Finance, Analytics, Advertising)
- Companies in the USA which received highest funding are: Virtustream and Capella
- Companies in the UK which received highest funding are: Electric Cloud and Sensage
- Companies in the USA which received highest funding are: Virtustream and Capella
- Companies in India which received highest funding are: firstCry.com and Myntra