

INVESTMENT ASSIGNMENT

SUBMISSION

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Business Objective:



The CEO of Spark Funds wants to understand the global trends in investments so that she can take the investment decisions effectively.

The objective is to identify the best sectors, countries, and a suitable investment type for making investments. The overall strategy is to invest where others are investing, implying that the 'best' sectors and countries are the ones 'where most investors are investing'.



Constraints:

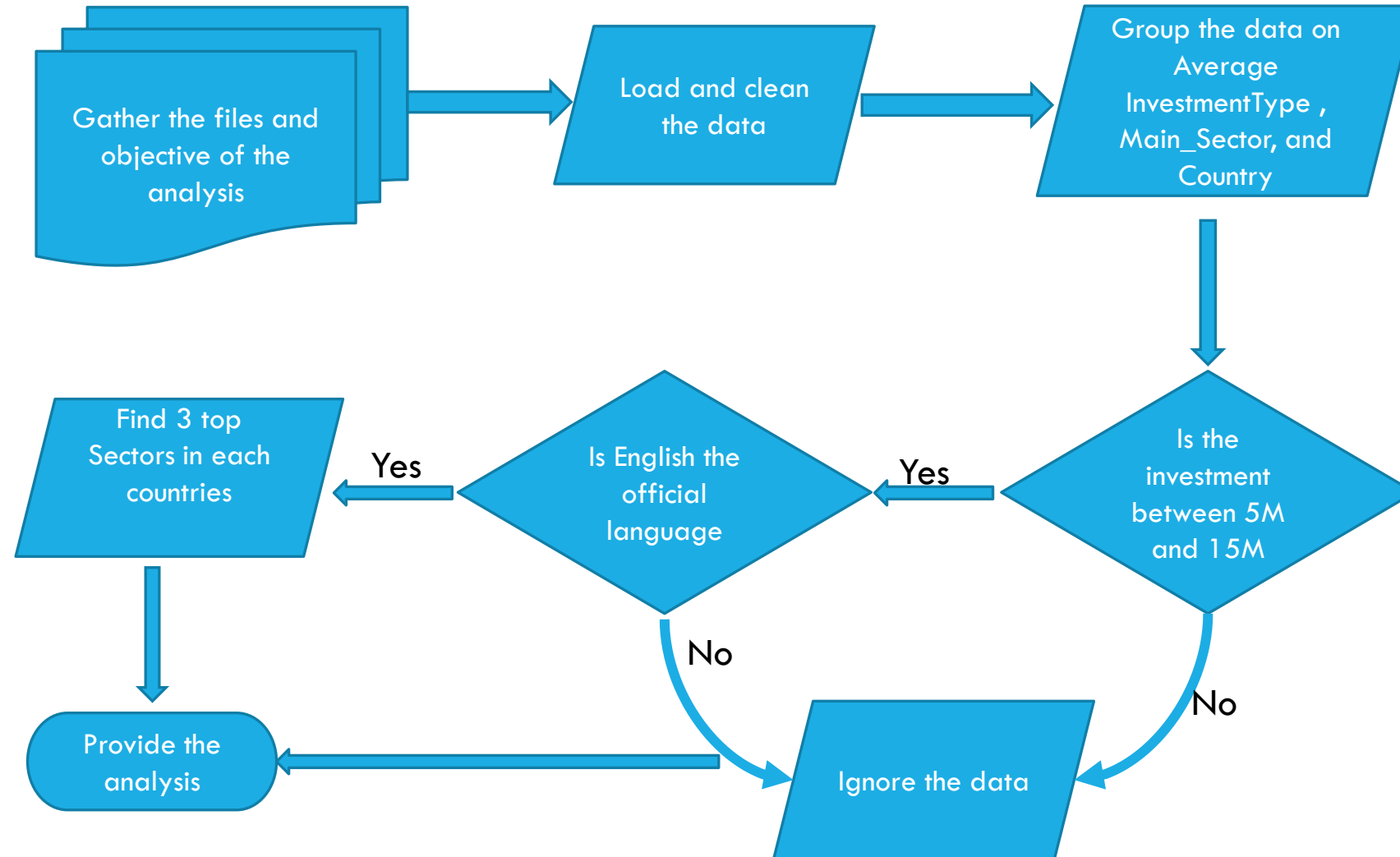


It wants to invest between **5 to 15 million USD** per round of investment



It wants to invest only in **English-speaking countries** because of the ease of communication with the companies it would invest in.

PROBLEM SOLVING METHODOLOGY



PROBLEM ANALYSIS

Following are the main steps while analyzing the data

1. **Data Import** : Importing the files
2. **Data Cleansing**: Removing the dirty data and imputing
3. **Merging Data**: Data is merged from **Companies** and **Rounds2** file
4. **Data Mapping**: Mapping the dataset to identify the best sectors and investment.
5. **Data Filtering and Aggregation** : Data is filtered based on the suggested Investment Amount , Country and Main sector.
6. **Explore the data** : Plotting the data in various charts to explore the data.

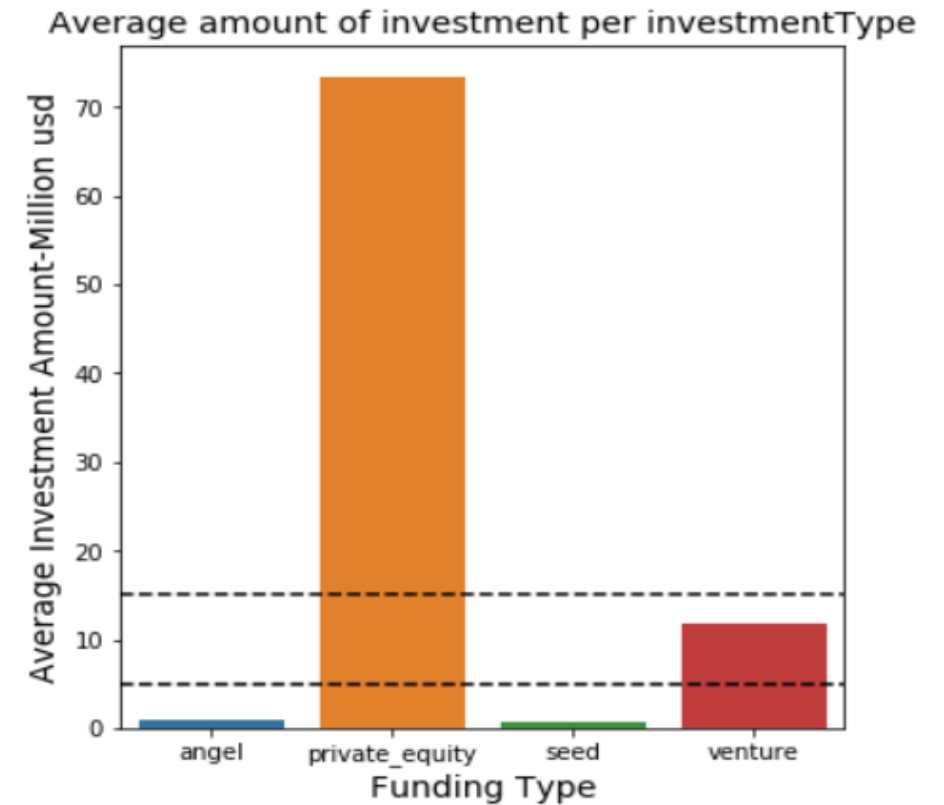
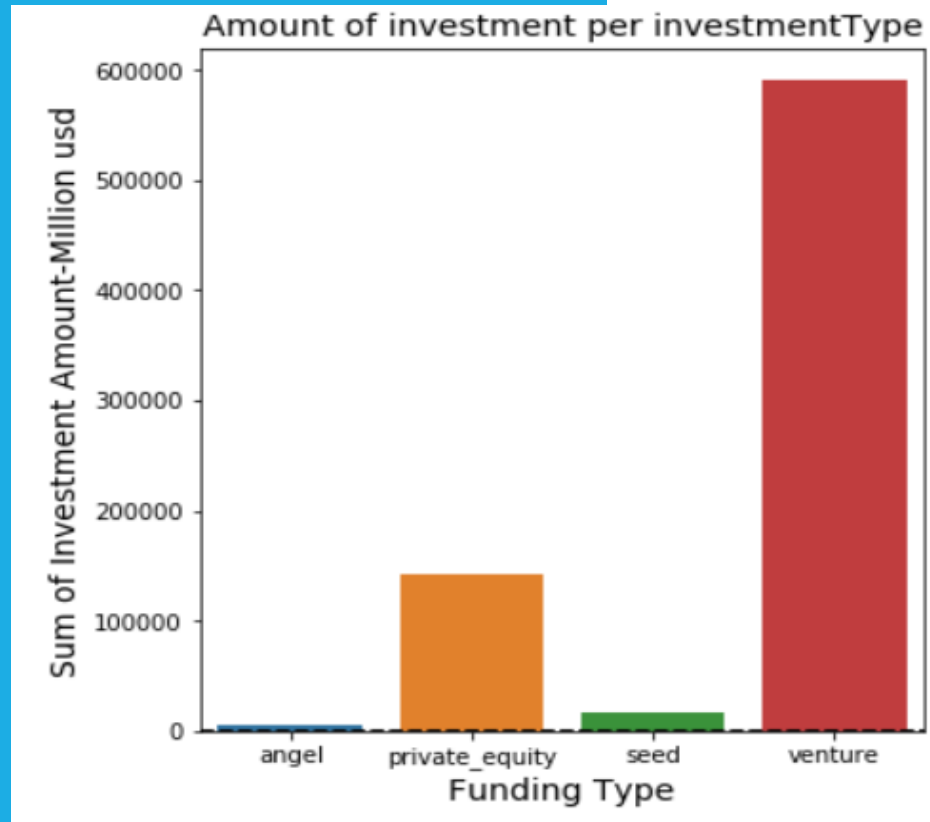
| Understand the Data Set | | |
|-------------------------|--|-----------|
| Sl. No | Questions | Answer |
| 1 | How many unique companies are present in rounds2? | 66,368 |
| 2 | How many unique companies are present in the companies file? | 66,368 |
| 3 | In the companies data frame, which column can be used as the unique key for each company? Write the name of the column . | permalink |
| 4 | Are there any companies in the rounds2 file which are not present in companies ? Answer Y/N. | N |
| 5 | Merge the two data frames so that all variables (columns) in the companies frame are added to the rounds2 data frame. Name the merged frame master_frame . How many observations are present in master_frame ? | 114,949 |

PROBLEM ANALYSIS

| Average Values of Investments for Each of these Funding Types | | |
|---|--|-------------------|
| Sl.No | Questions | Answer |
| 1 | Average funding amount of venture type | 11.748949 Million |
| 2 | Average funding amount of angel type | 0.958696 Million |
| 3 | Average funding amount of seed type | 0.719819 Million |
| 4 | Average funding amount of private equity type | 73.308591 Million |
| 5 | Considering that Spark Funds wants to invest between 5 to 15 million USD per investment round, which investment type is the most suitable for them? | venture |

| Sector-wise Investment Analysis | | | | |
|---------------------------------|---|---|---|---|
| Sl.no | Questions | C1 | C2 | C3 |
| 1 | Total number of Investments (count) | 12,041 | 620 | 328 |
| 2 | Total amount of investment (USD) | 107,563,318,000 | 5,380,228,000 | 2,949,544,000 |
| 3 | Top Sector name (no. of investment-wise) | Others | Others | Others |
| 4 | Second Sector name (no. of investment-wise) | Social, Finance, Analytics, Advertising | Social, Finance, Analytics, Advertising | Social, Finance, Analytics, Advertising |
| 5 | Third Sector name (no. of investment-wise) | Cleantech / Semiconductors | Cleantech / Semiconductors | News, Search and Messaging |
| 6 | Number of investments in top sector (3) | 2,957 | 148 | 110 |
| 7 | Number of investments in second sector (4) | 2,718 | 133 | 60 |
| 8 | Number of investments in third sector (5) | 2,305 | 128 | 52 |
| 9 | For point 3 (top sector count-wise), which company received the highest investment? | virtustream | electric cloud | firstcry.com |
| 10 | For point 4 (second best sector count-wise), which company received the highest investment? | sst inc. (formerly shotspotter) | celltick technologies | manthan systems |

A plot showing the fraction of total investments (globally) in venture, seed, angel and private equity, and the average amount of investment in each funding type.



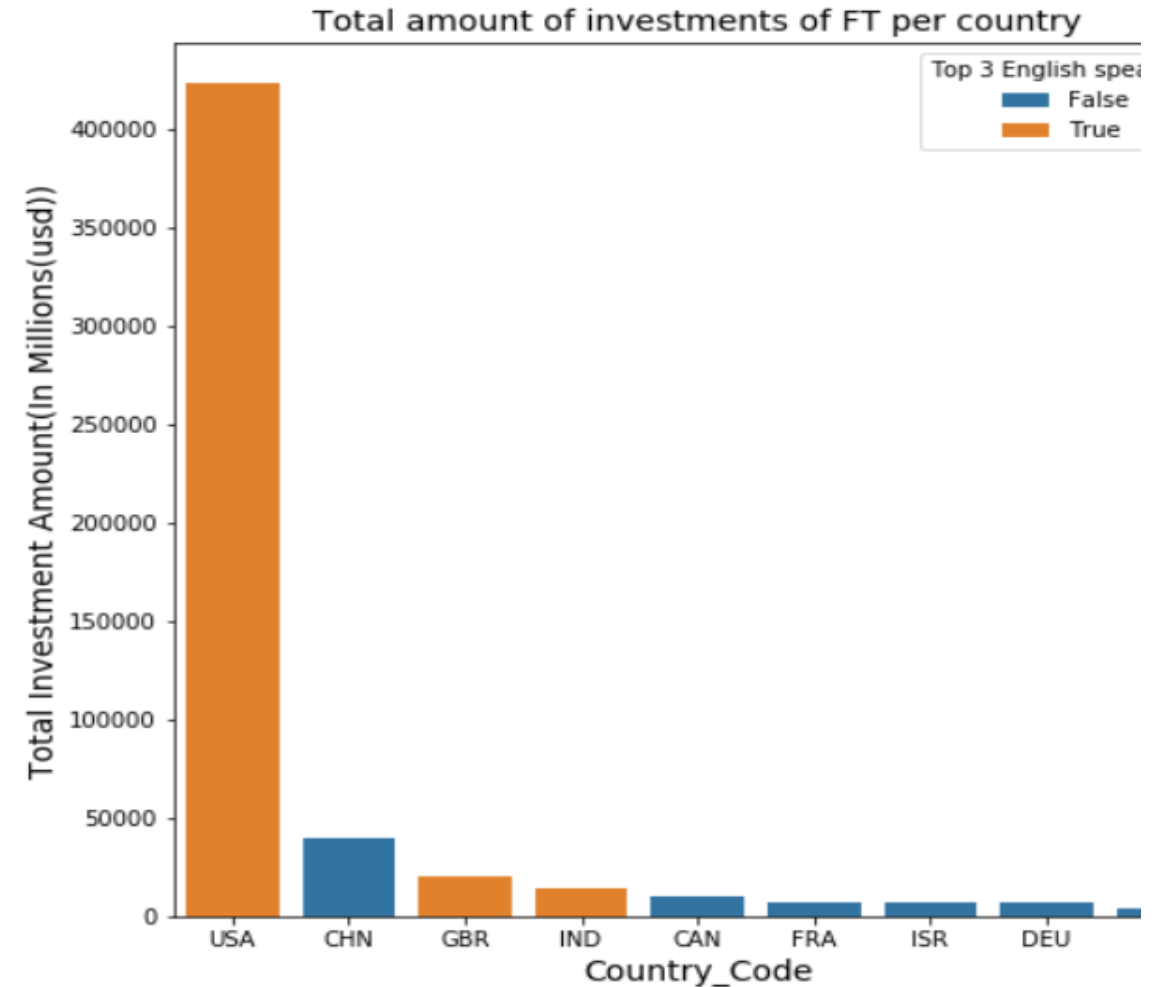
Venture is the most suitable type for investment between 5M – 15M USD

- Average investment is approx. 11M USD

Plot showing top 9 countries against the total amount of investments of funding type FT. This should make the top 3 countries (USA, Great Britain and India) very clear.

Top Venture Countries – USA, GBR and IND

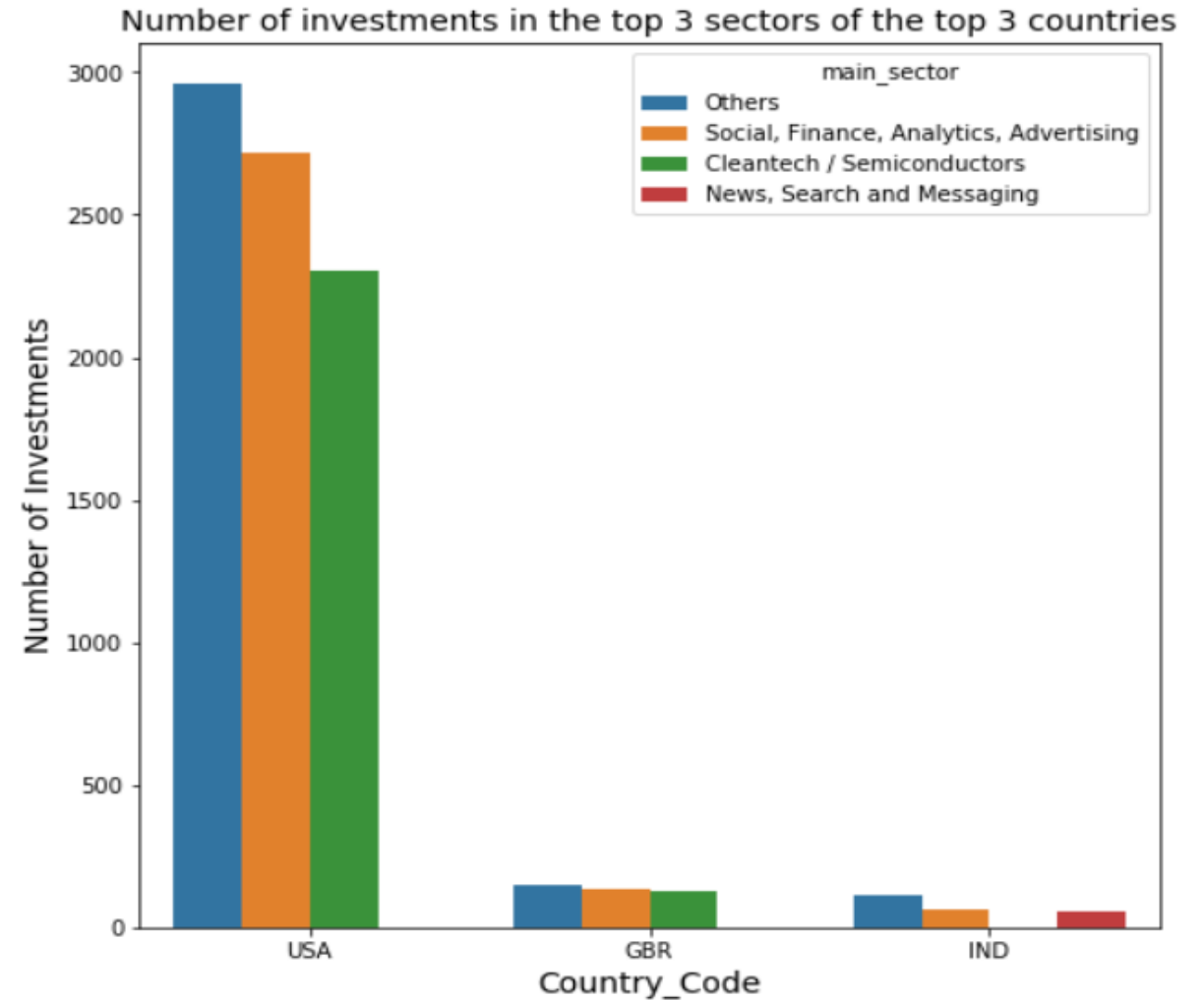
*CHN – China is not the top 3 English speaking country.



A plot showing the number of investments in the top 3 sectors of the top 3 countries on one chart (for the Venture investment type)

Top 3 sectors :

- Others
- Social, Finance, Analytics, Advertising
- Cleantech / Semiconductors



CONCLUSIONS



After the analysis, Spark Funds can choose the Investment Type - Venture that is best suited for their strategy.



United States is the topmost country which has been the top English-Speaking country most heavily invested in the past(followed by Great Britain and India).



Most heavily invested main sectors in each of the three countries is Others , Social, finance, analytics, advertising followed by Cleantech / Semiconductors.