INVESTMENT ASSIGNMENT

SUBMISSION

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Objective

Spark Funds wants to make investments in best sectors and contries where investors are already investing. For the purpose we need to understand the global trends in investments.
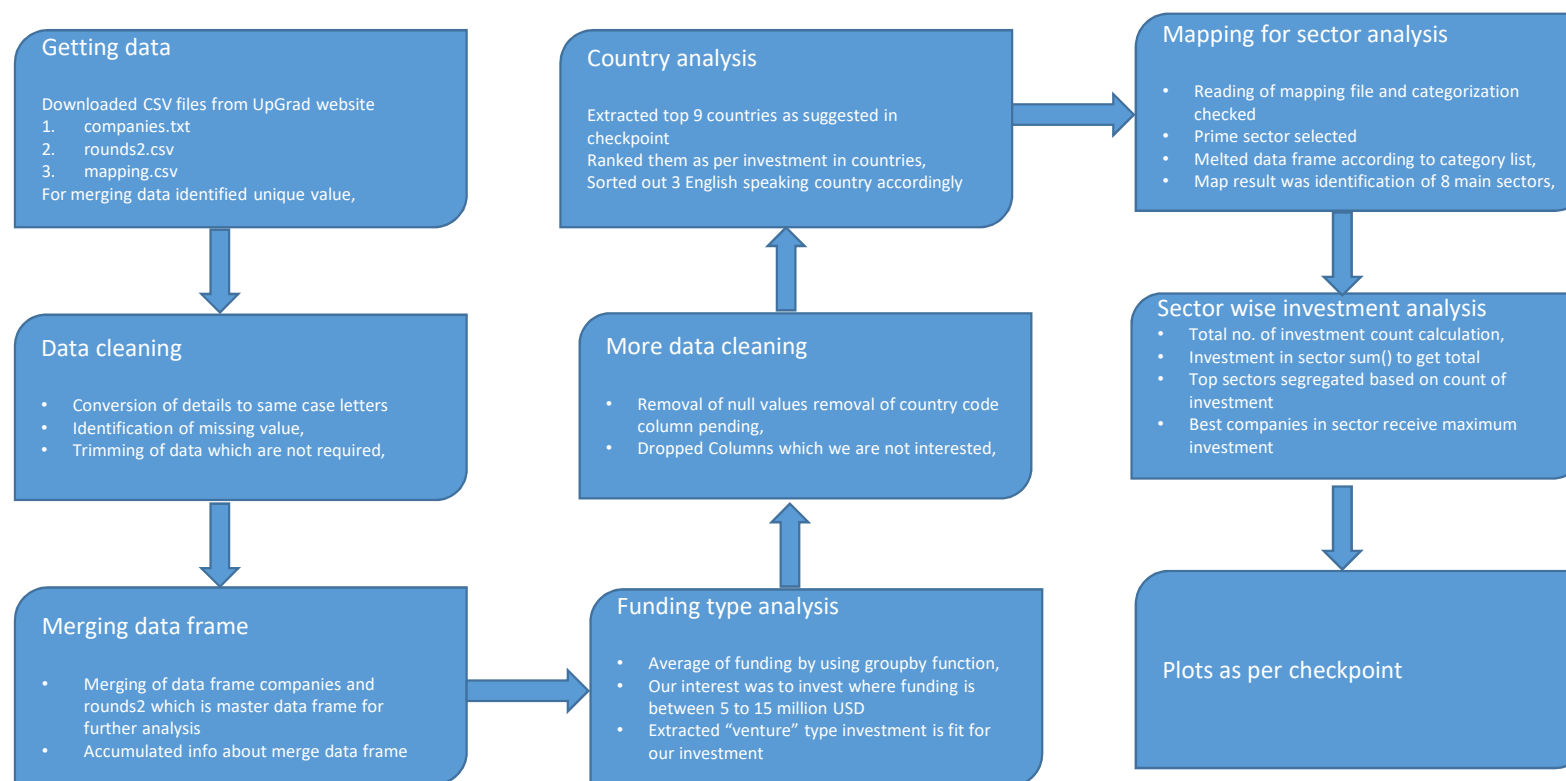
Data available

Investment analysis is to identify which company is better to invest. For the purpose we have 3 data files companies.txt, rounds2.csv and mapping.csV

Steps of analysis

I.   Investment type need to identify we have to narrow down to 4 investment type venture, seed, angel, private equity, need to keep in mind investment amount bracket is 5 to 15 million USD

II.   Countries need to analysis which are heavily invested and speaking English only

III.   Sector analysis given 8 sectors need to find out which sector is invested more invested and to be invested,

Flow chart: Steps

Getting data

Downloaded CSV files from UpGrad website
1. companies.txt
2. rounds2.csv
3. mapping.csv
For merging data identified unique value,

Data cleaning

- Conversion of details to same case letters
- Identification of missing value,
- Trimming of data which are not required,

Merging data frame

- Merging of data frame companies and rounds2 which is master data frame for further analysis
- Accumulated info about merge data frame

Funding type analysis

- Average of funding by using groupby function,
- Our interest was to invest where funding is between 5 to 15 million USD
- Extracted "venture" type investment is fit for our investment

More data cleaning

- Removal of null values removal of country code column pending,
- Dropped Columns which we are not interested,

Country analysis

Extracted top 9 countries as suggested in checkpoint
Ranked them as per investment in countries,
Sorted out 3 English speaking country accordingly

Mapping for sector analysis

- Reading of mapping file and categorization checked
- Prime sector selected
- Melted data frame according to category list,
- Map result was identification of 8 main sectors,

Sector wise investment analysis
- Total no. of investment count calculation,
- Investment in sector sum() to get total
- Top sectors segregated based on count of investment
- Best companies in sector receive maximum investment

Plots as per checkpoint

Analysis : Understanding provided data

- Loaded all necessary files and changed all letter in small

- Data details understanding

- Before merging we should know unique values

- Compared both files can be merged so that data set not get much disturbed,

- Merging of Data frames and created master data frame

- Compared unique values equal in both data files companies and rounds2

- Merged two data frames and got required data frame to work on

Analysis : Funding Type investment analysis

- Analyzed and got concise mater frame data,

- Calculated average amount of investment in given funding type

- Average investments are mentioned below
    - Venture   11.9 Million USD
    - Angel   0.99 Million USD
    - Seed   0.76 Million USD
    - Private Equity 75.6 Million USD

- According to data found Venture type funding is proper

Analysis : Country wise investment analysis

- Funding type venture is suited for our analysis as it is in bracket of 5-15 million USD,
- Retrieved from data top 9 countries heavily invested,
- From Wikipedia identified top 3 English speaking country
- We got USA,GBR,IND are countries where we need to invest

Analysis : Sector wise investment analysis

- Sector to be analyzed to get which sector to be invested,
- As data having many sectors mapped with provided file
- Total number of investment were highest in USA followed by GBR and IND
- Investment wise as well USA is on top followed by GBR and IND

Analysis : Sector wise investment analysis cont.

- Main sectors invested for USA are Others, Cleantech/Semiconductors, Health
- Main sectors invested for GBR are Others, Cleantech/Semiconductors, News, search and messaging
- Main sectors invested for IND are Others, News, search and messaging , Health
- Number of counts in top 3 sectors for USA are 1924,1606, 562
- Number of counts in top 3 sectors for GBR are 101,95, 31
- Number of counts in top 3 sectors for IND are 73,29, 22
- Top sector company which received highest investment in USA are NantMobile, Stion
- Top sector company which received highest investment in GBR are Tribold, Elixent
- Top sector company which received highest investment in USA are ItzCash Card Ltd., Mobile2Win India
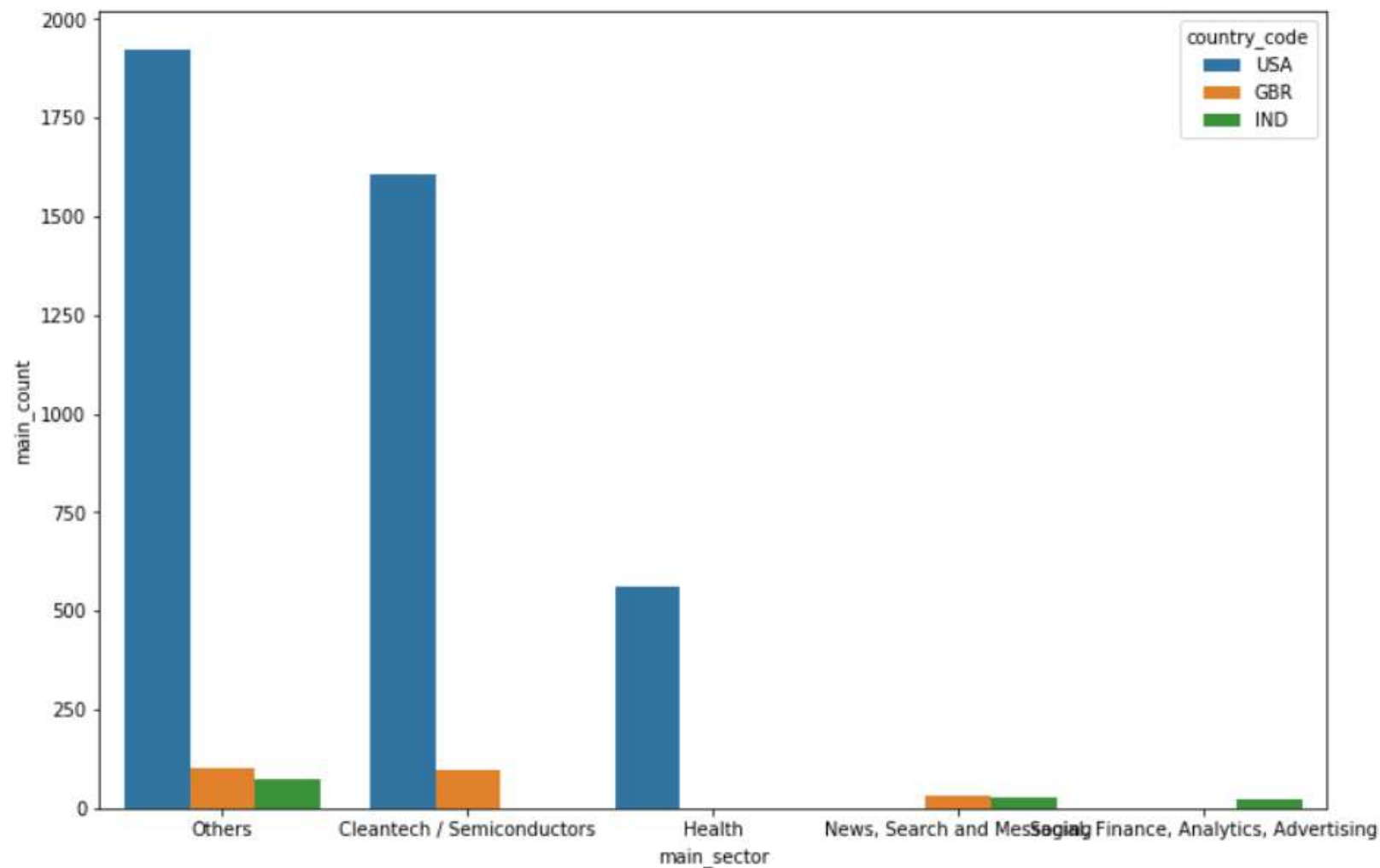
Plot: Total investments based on funding type with mean
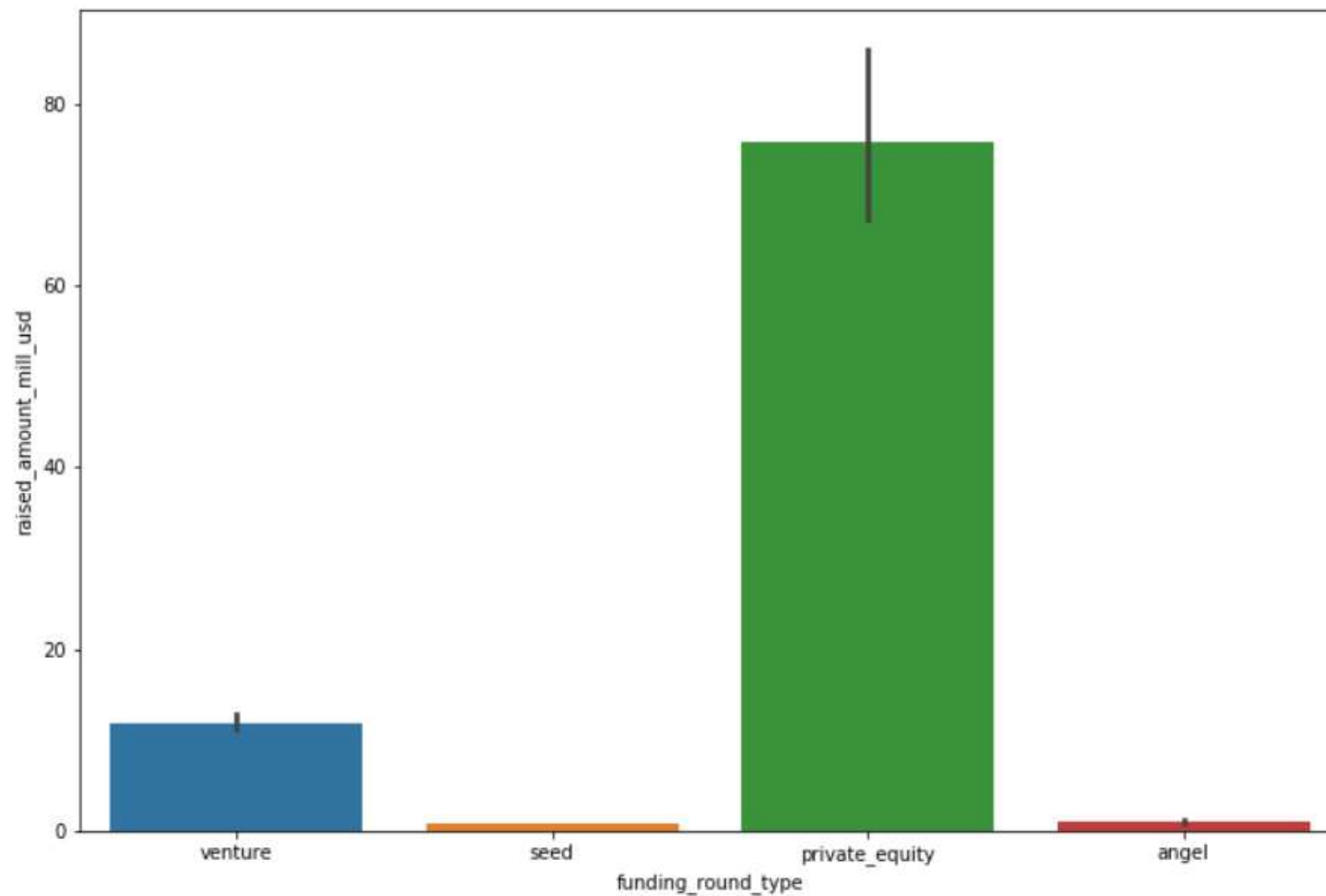
Plot:Top3 English speaking countries based on investment
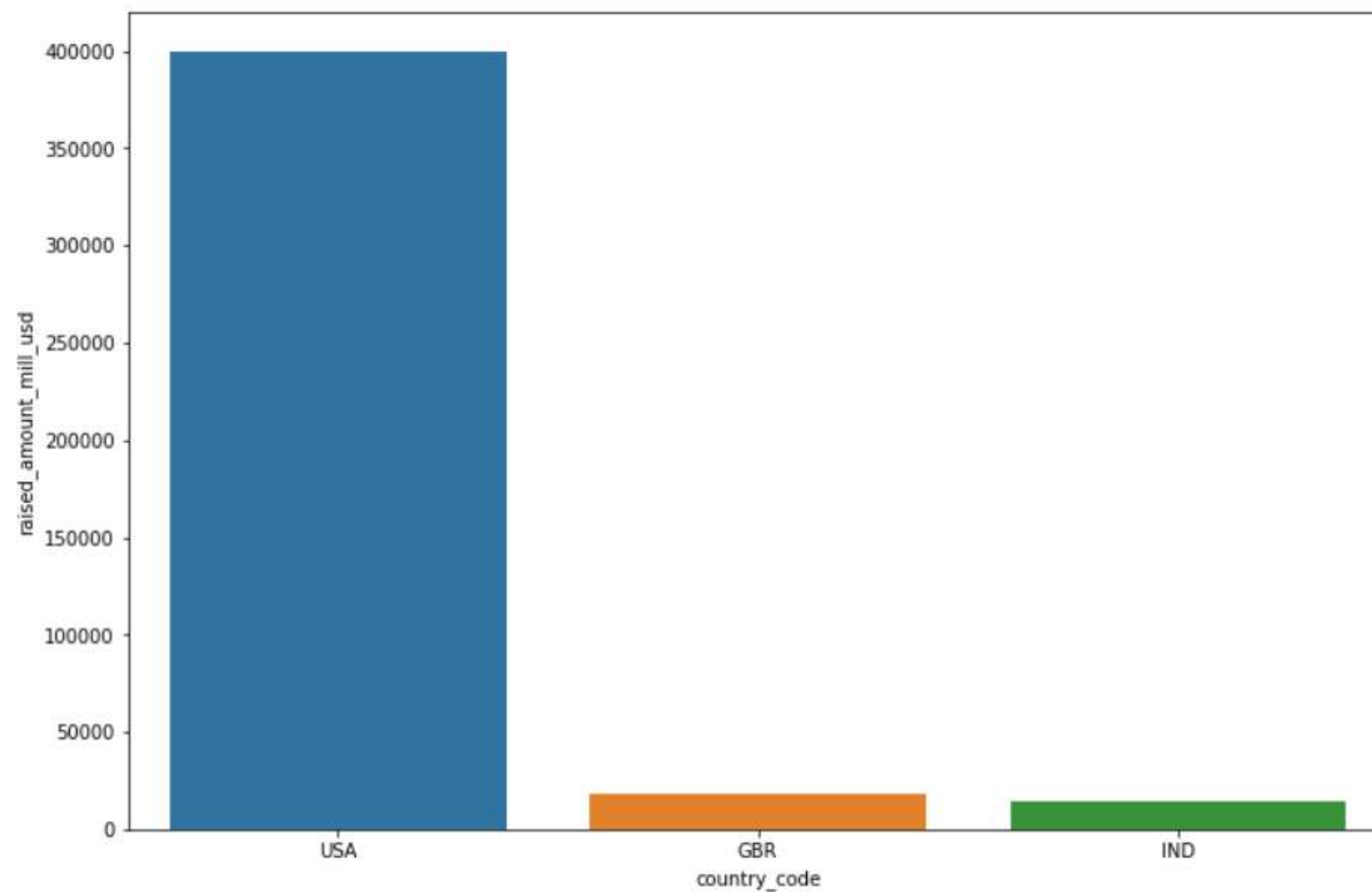
Plot: Top sectors having top3 countries based on counts

Conclusions

Based on analysis for Spark Funds we can conclude as below:

➤ Spark Funds have to invest in **Venture** capital

➤ Top3 English speaking countries where spark fund prefer to invest are

 1. **USA**

 2. **Great Britain**

 3. **India**

➤ The most suitable sectors for investment are

 1. **Others**

 2. **Cleantech/Semiconductors**

 3. **News, Search and Messaging**