INVESTMENT CASE STUDY

SUBMISSION

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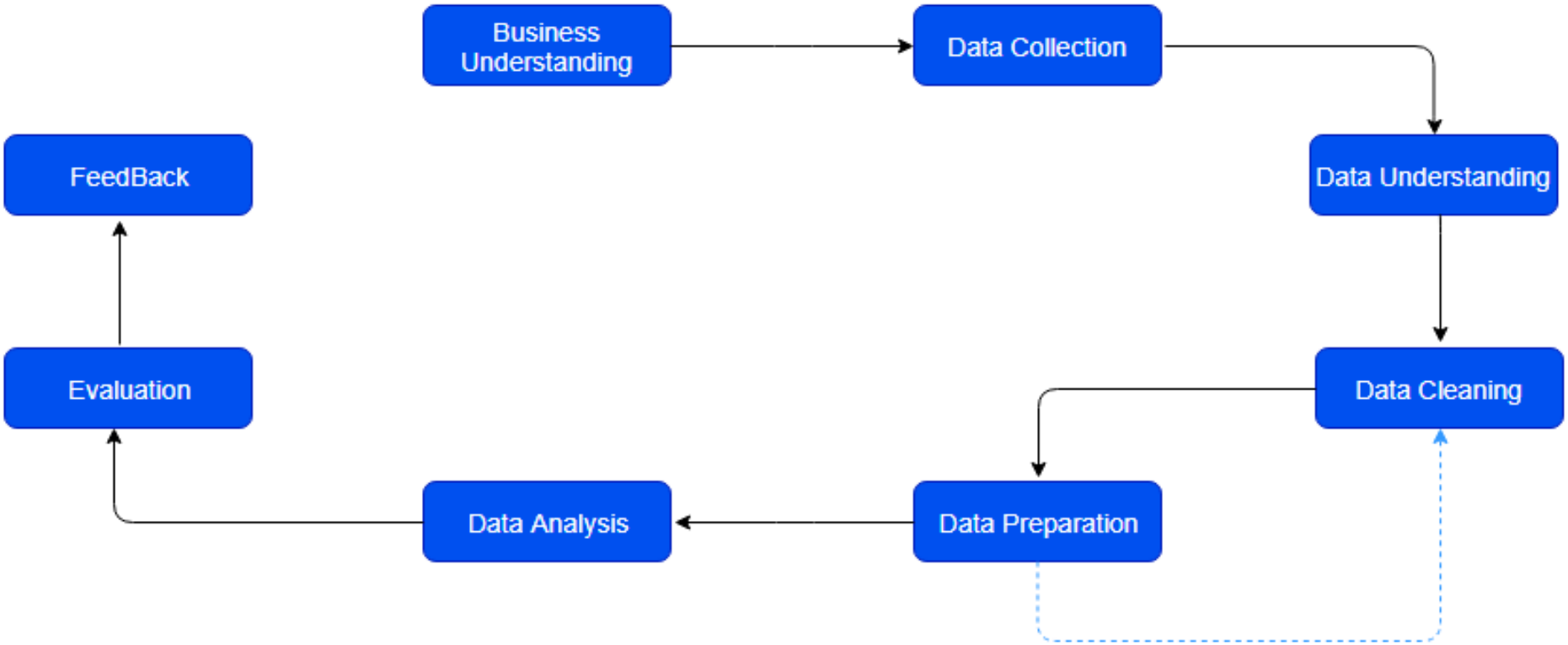
Problem solving methodology



Business Objective | Data Collection/Cleaning/Preparation | Data Analysis | Evaluation/Results

Abstract

1. The objective is to identify the best sectors, countries, and a suitable investment type for making investments.
2. Understand the global trends in investments.
3. Identifying the countries which have been the most heavily invested in the past.
4. Identify the funding types suitable for the spark funds investment range.
5. Understanding the distribution of investments across the eight main sectors.

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Data Collection

1. Company Details csv file – Company Name , homepage URL, Country Code and State information.
2. Rounds excel file - company_permalink, funding type and funding amount information.
3. Mapping File - Category and Sector information.
4. Countries_where_English_is_an_official_language.pdf – English Speaking country information.

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Data Understanding

1. Understanding the data type ,data frame dimensions ,data structure etc.
2. Understanding the required columns and not required data's from the collected information for the analysis.
3. Identify the junk data and null values which will significantly effect the analysis.
4. Combining the companies data frame and rounds data frame to get the complete company ,funding and company country information in to a single data frame.
5. Understanding the Sector Information file Mapping.
6. Understand the special characters ,common patterns and logical understanding of all the data files.

Data Cleaning/Preparation

The main principle followed is to maintain at least 70% of the original data after removing the unnecessary data's**.**

Data Formatting

1. Formatting the columns which are not in correct format to avoid special characters (Encoding and decoding).
2. Trimming and Lowercase conversions for the mapping columns.
3. Understanding and replacing some special patters followed in the files

(ex: category 'Nanotechnology' is written as '0notechnology')

Treat Missing Values in Column

1. Identify the null value percentage for each column and remove the columns which are having huge null value and will not be using for analysis

Treat Missing Values in Row

1. All the rows with values that were null in the columns like country, funding type and the amount raised in USD was removed since they play a vital row in our analysis.
2. Removed a few rows which had blank values

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Data Analysis

Data Analysis has been done below three steps.

Investment Type Analysis

1. Objective to understand the funding type which has an invest amount average comes between $5 million to $15 million.
2. Find the average of all investment type form the master data which is having 114949 rows funding amount for different investment types.

Country Analysis

1. Objective is to find the top 3 invested English speaking country.
2. Analysis has done on the master data with 114949 rows of information and comparing with the English speaking country list Countries_where_English_is_an_official_language.pdf

Sector Analysis

1. Objective is to identify the distribution of investments across the eight main sectors.
2. Analysis done on master data and mapping file which is having the primary and main sector mapping information.

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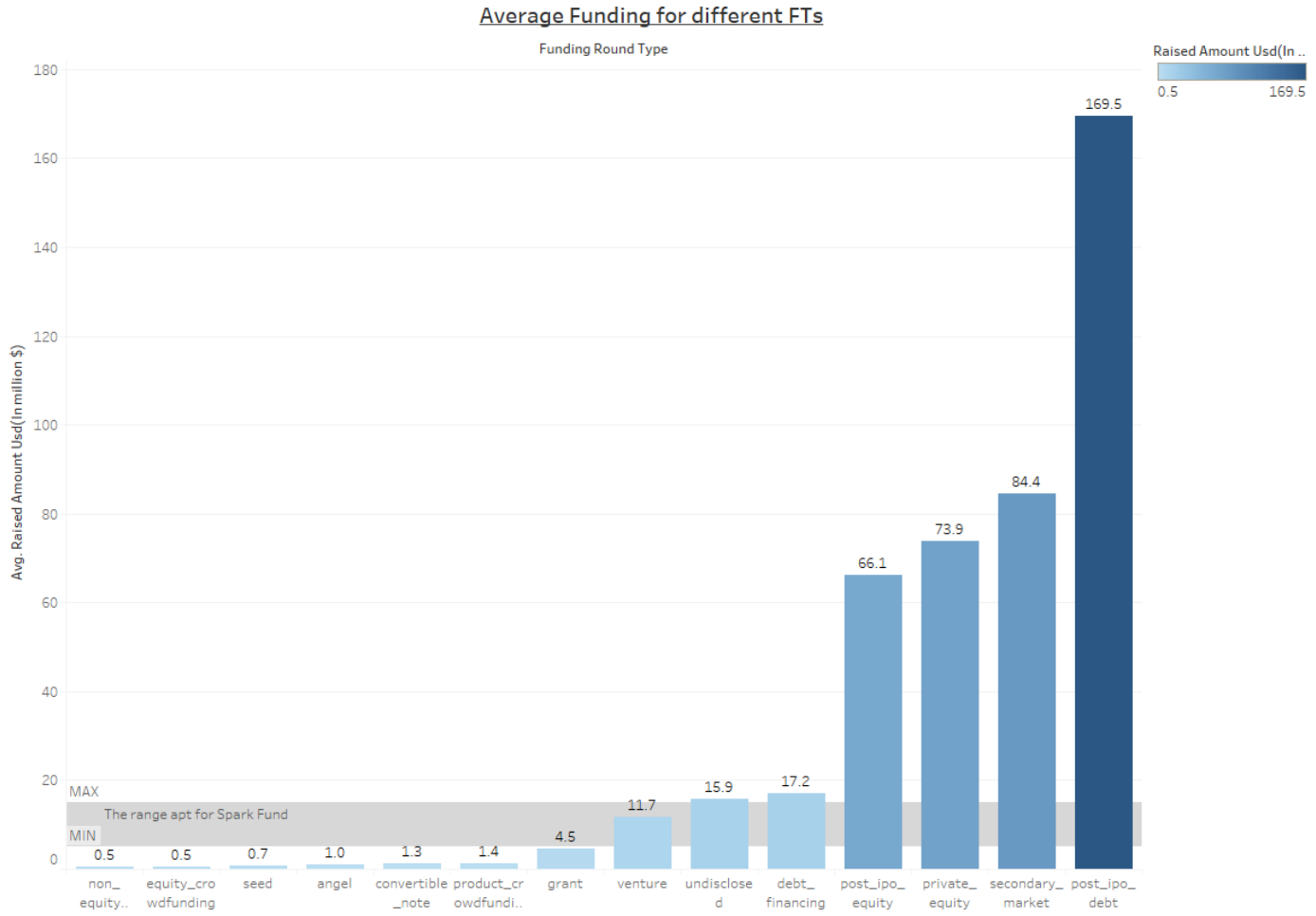
Investment Type Analysis (Plot 1)



Average of Raised Amount Usd(In million $) for each Funding Round Type. Color shows sum of Raised Amount Usd(In million $). The marks are labeled by average of Raised Amount Usd(In million $). The view is filtered on Funding Round Type, which keeps 14 of 14 members.

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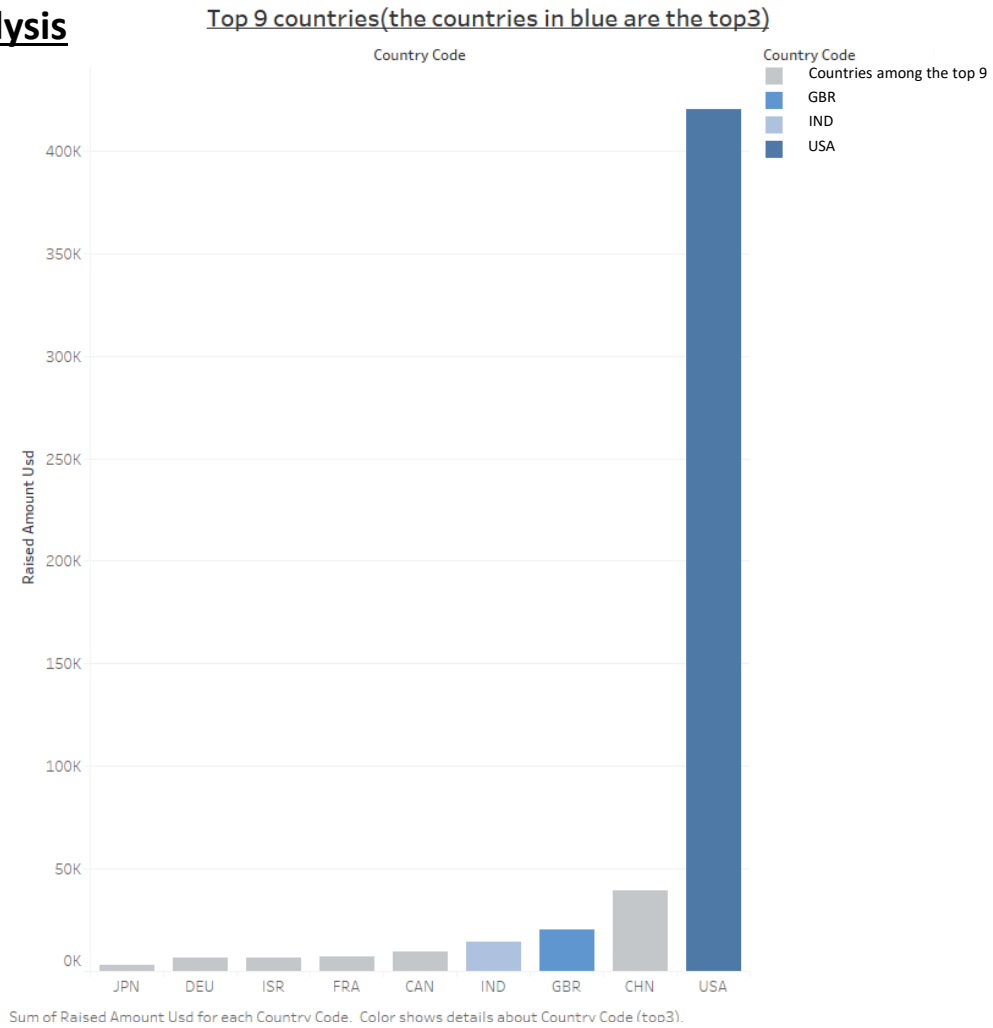
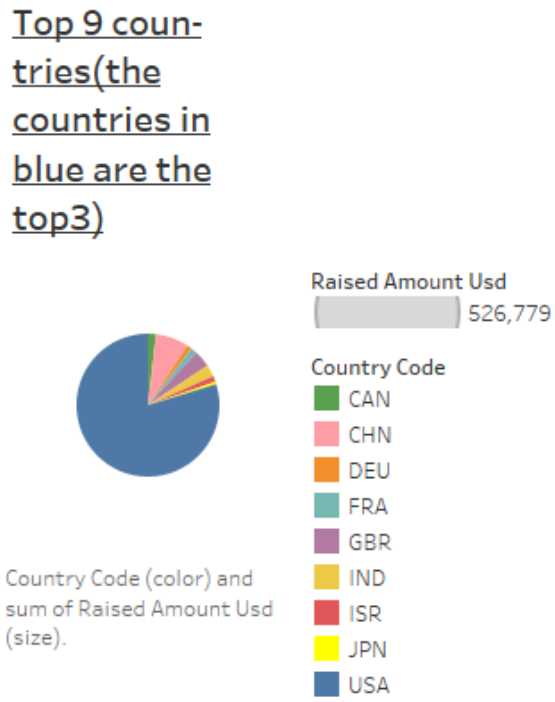
Country Analysis (Plot-2)



1. Pie chart and Heat map to give a feel of the amount.
2. Bar graph showing the amount of money in each country. The country in blue are the top 3 selected(the gradient shows it's rank)



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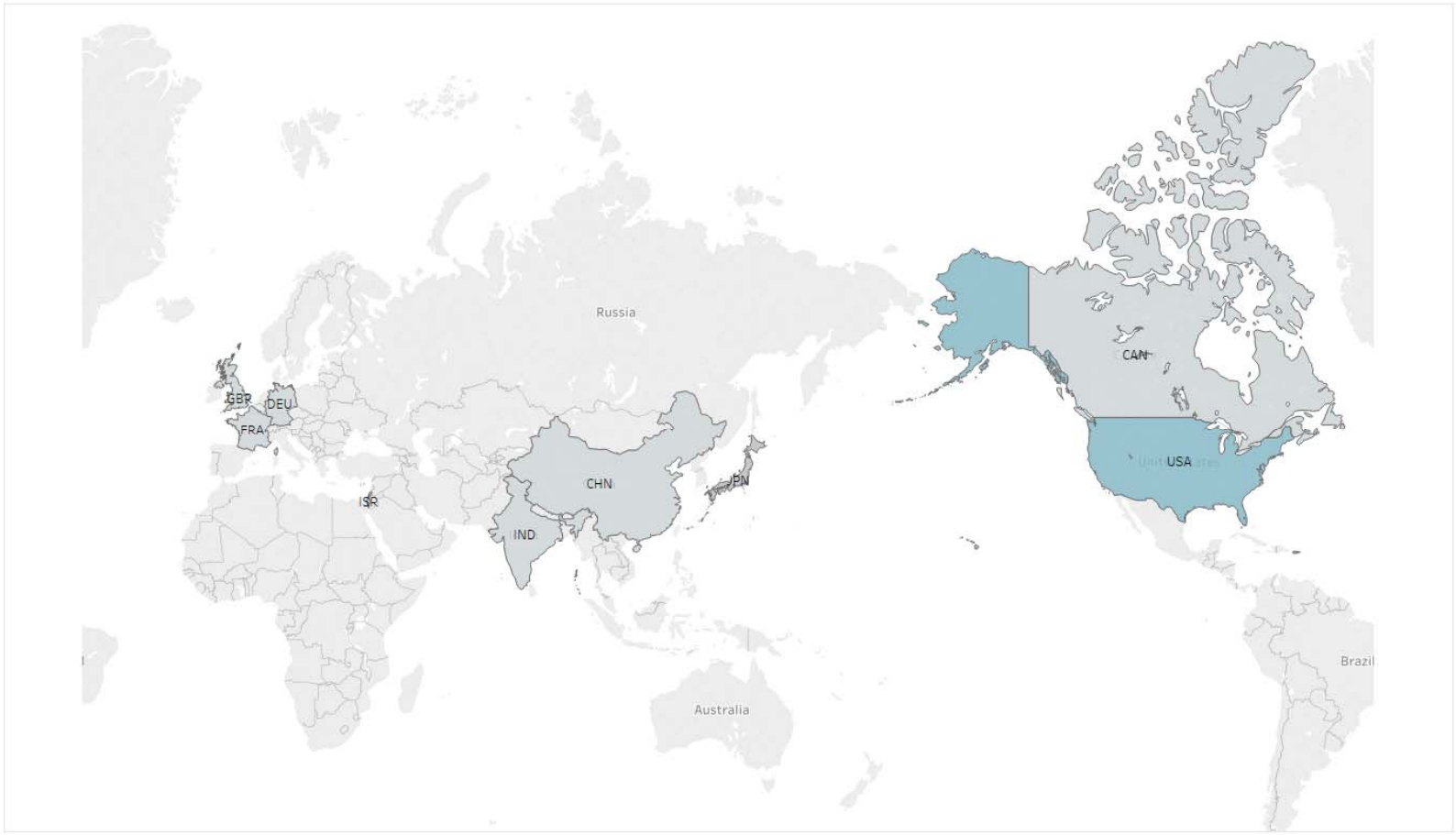
Country Analysis (Plot 2)

Top 9 countries with the max. amount of investment



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Raised Amount Usd. The marks are labeled by Country Code. Details are shown for Country Code.

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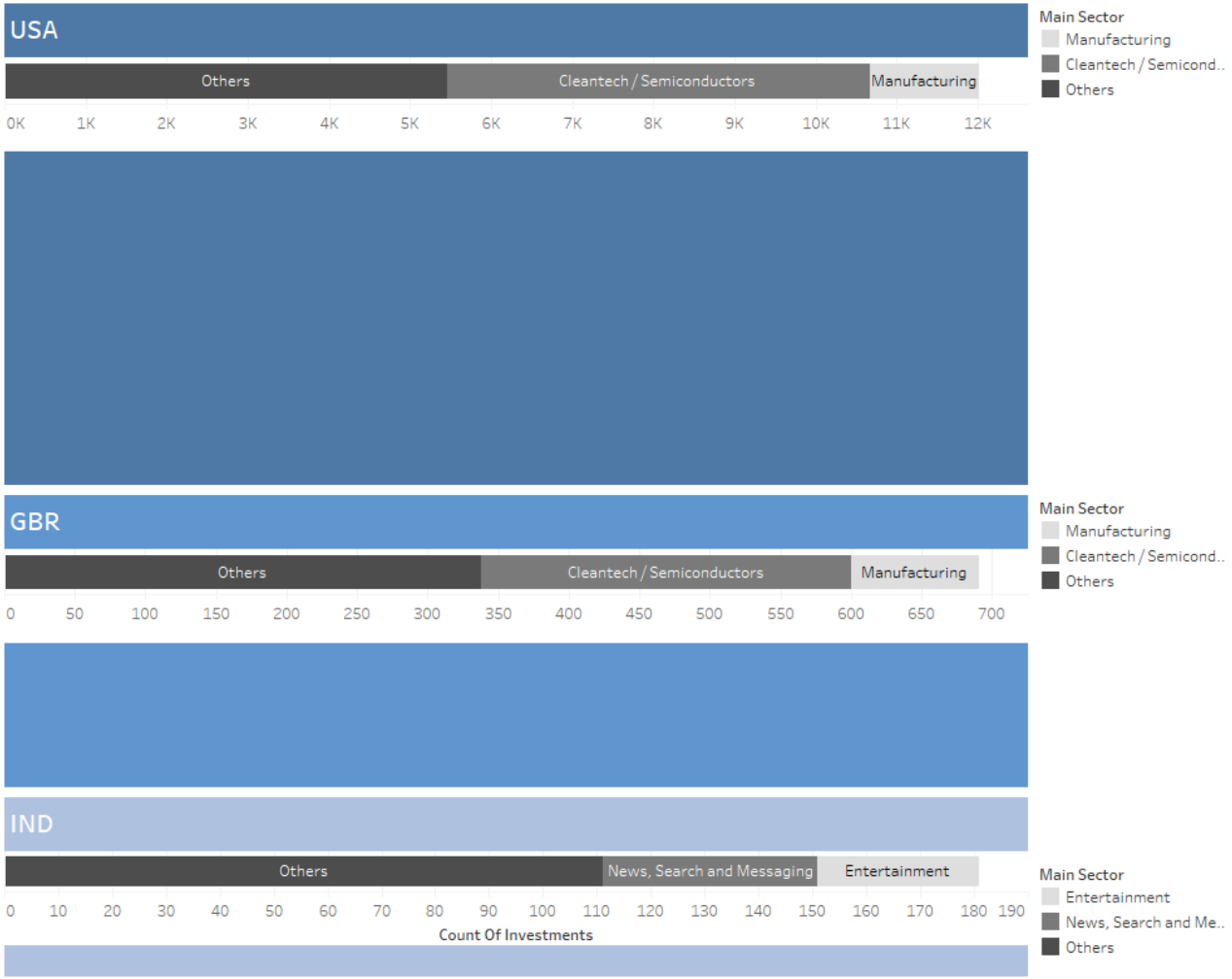
Sector Analysis (Plot 3)



Conclusion

Theme of the Assignment :

Goal is to analyse where Spark fund company has to invest. We took Venture Investment companies as our main funding type.

We worked as Team to achieve the results as per the Six checkpoints expected.

The result are as follow:

1. Using Python we analysed which country to invest in and profit guidelines, according to the given conditions for Spark Funds company.
2. As per our analysis Venture type is best investment type for the Spark Fund company.
3. As Spark fund has to invest only in English speaking countries , the top 3 countries where English is their official language were USA, GBR and IND.
4. As the outcome of our analysis we found OTHERS will be the Top sector.