INVESTMENT CASE STUDY

SUBMISSION

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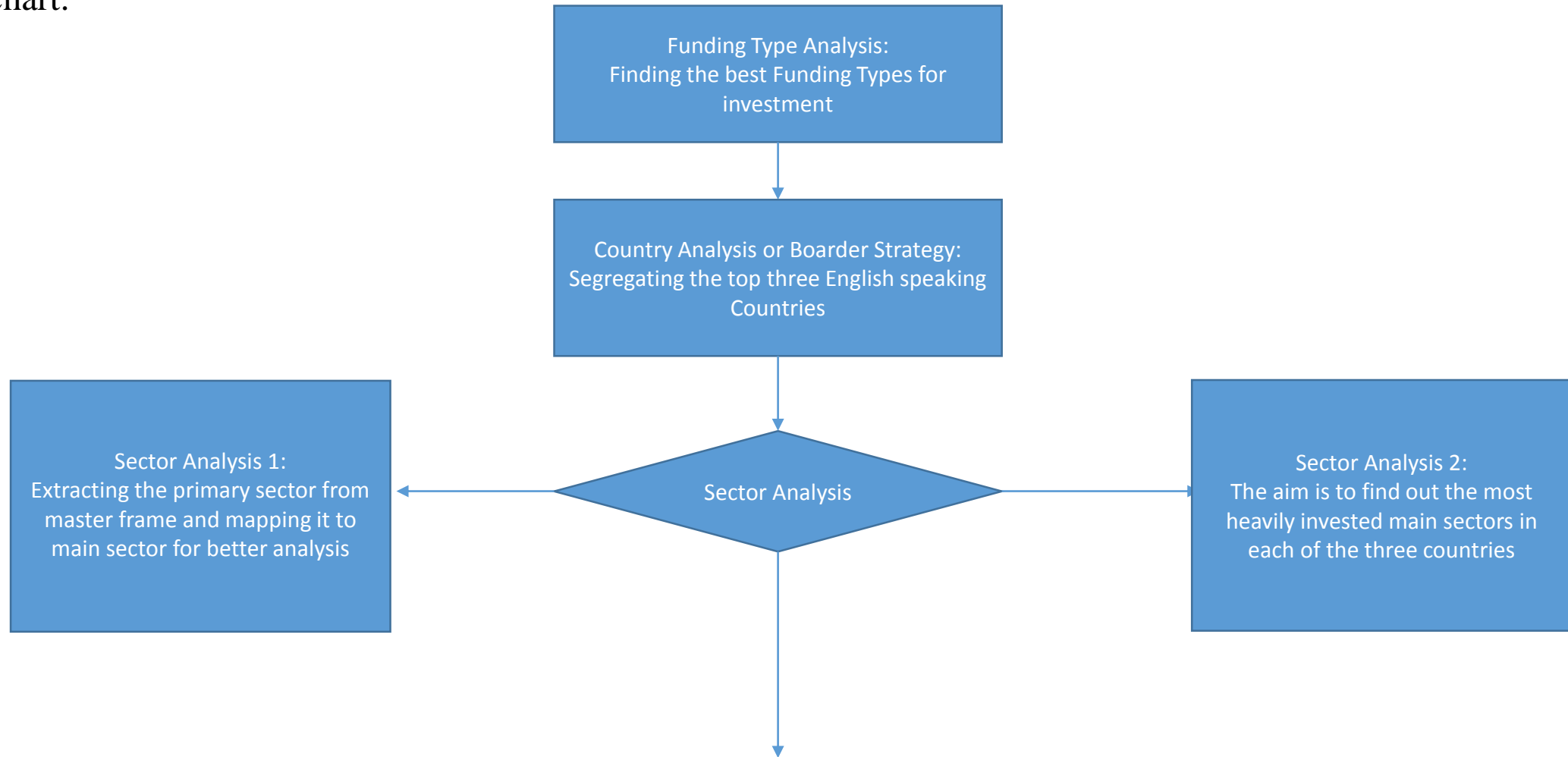3.   Mohammad Muffasir Ali Khan
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Abstract

The main focus of the analysis is to help and suggest spark funds CEO understand the global trends in investments so that a prior investment decision can be made .The whole analysis is carried out at different break points to have a better understanding of the business techniques and also to reduce the maximum risk. The main motto of the company is to invest money on various best sectors by identifying the top three English speaking countries. The overall strategy is to invest where others are investing, implying that the best sectors and countries are the ones where most investments are happening.
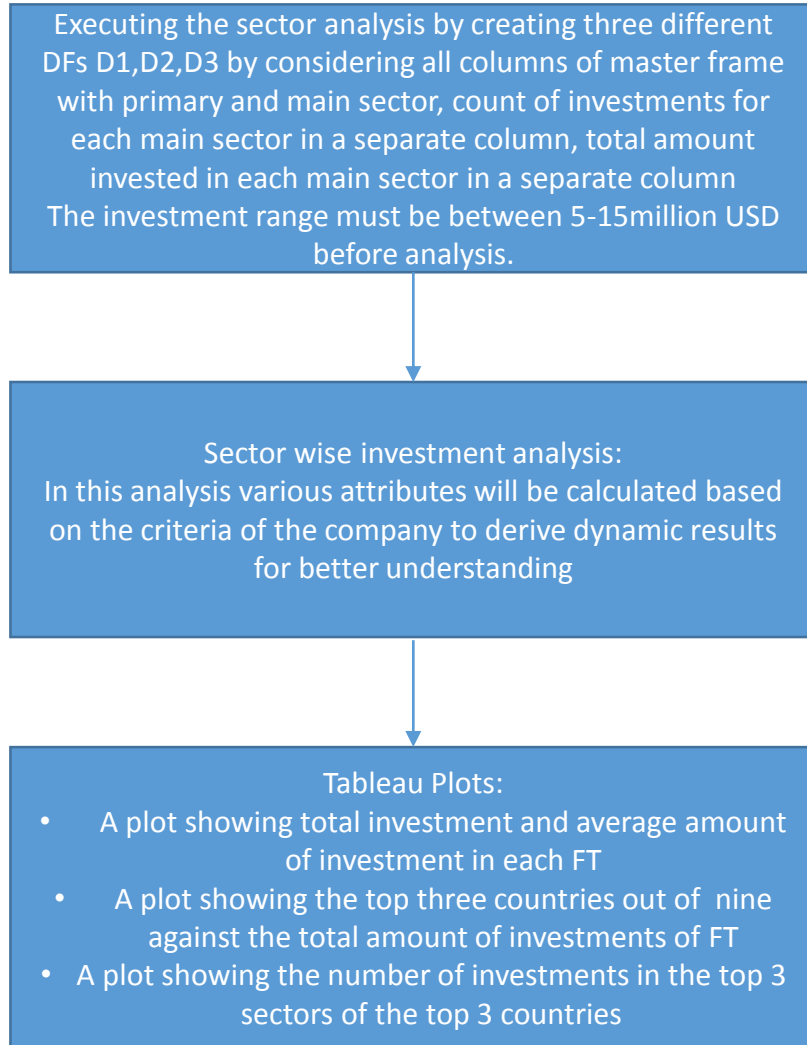
Based on the above criteria the goals have been categorized into three simple structures:

• Investment type analysis

• Country type analysis

• Sector type analysis

The above analysis will give us a deep understanding of the global trends in investments and hence prior conclusion can be made with the derived analysis we had with the CEO

Problem solving methodology

Flow chart:

Funding Type Analysis:
Finding the best Funding Types for investment

Country Analysis or Boarder Strategy:
Segregating the top three English speaking Countries

Sector Analysis

Sector Analysis 1:
Extracting the primary sector from master frame and mapping it to main sector for better analysis

Sector Analysis 2:
The aim is to find out the most heavily invested main sectors in each of the three countries

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Executing the sector analysis by creating three different DFs D1,D2,D3 by considering all columns of master frame with primary and main sector, count of investments for each main sector in a separate column, total amount invested in each main sector in a separate column
The investment range must be between 5-15million USD before analysis.

Sector wise investment analysis:
In this analysis various attributes will be calculated based on the criteria of the company to derive dynamic results for better understanding

Tableau Plots:
• A plot showing total investment and average amount of investment in each FT
• A plot showing the top three countries out of nine against the total amount of investments of FT
• A plot showing the number of investments in the top 3 sectors of the top 3 countries

DATA CLEANING

This part rather can be concluded as the heart of the whole analysis operation which is data cleaning with out which not even a single criteria can be achieved nor derived. We have been provided with various data sets called companies.txt and rounds2.csv both of them are to be considered as the primary sheets because neither of the results can be produced even a single sheet is not given. Before putting the sheets into use we have to do our first operation data cleaning. It depends on the criteria and what kind of operation we want to perform by using these two sheets.

Lets say I want to merge the sheets and can it be done by simply using "merge" in built code? I would say no, even if you try it for million times it wont happen unless data cleaning operation is done. Only then merging sheets can be performed! Before performing the data cleaning you have to cross check the given data sets multiple times before making a decision. First you have to identify unique column and rows which represents the entire data set uniquely and also ensure the there should be no "NAs" this is the most important observation we have to check or else the entire process of deriving the results will troublesome when you go further and deep into the analysis. The data cleaning we have used in this analysis is changing the unique company IDs either in small or caps. Like this many operation would be performed and is purely dependent on the criteria and what kind of operation we want to perform

You have to make sure everything is sorted and all the data cleaning is done before proceeding to your goals and accessing the data. This is a must operation to avoid any inconvenience or else you will have to regret it later after you been through half a mile of your whole process only knowing that the so far results which were produced are of no use and the entire analysis is waste of time

Data Analysing

After data cleaning we would be dealing with analysis part.

- Investment type analysis

- Country type analysis

- Sector type analysis

Investment Analysis: There is a major criteria for the spark funds company of which they can only invest 5 to 15 million USD per investment round. And we also been suggested to come up with a option out of four categories i.e Venture, Angel, Seed and private Equity

Country Analysis: Spark funds to find out the top nine countries which have received the highest total funding and asked us to choose top three English speaking countries out of those nice countries because the criteria of spark funds is that they are much more interested in investing only English speaking countries so that there would be steady growth in the business

Sector Analysis: In this analysis we have to find out the top sectors where spark funds could invest their money
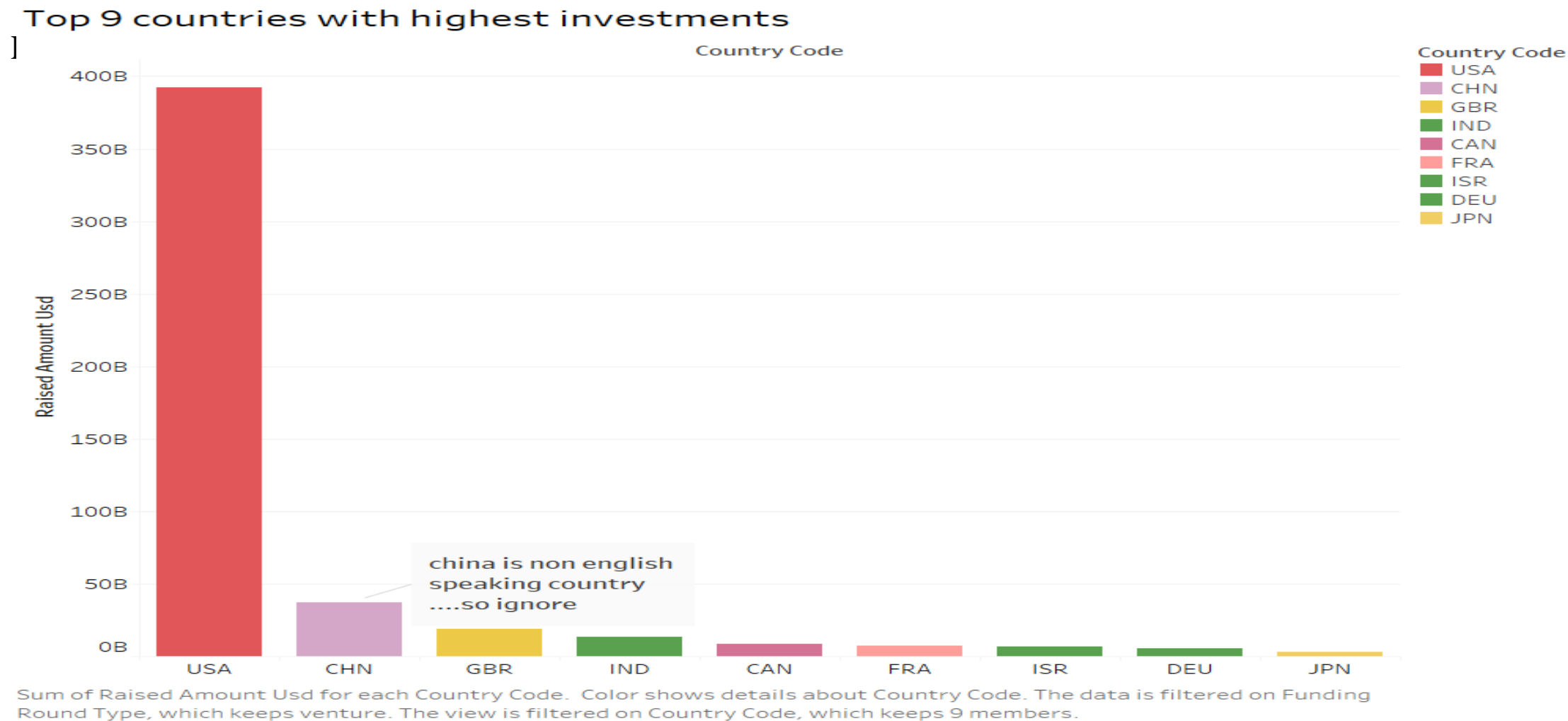
Various Data Sheets

The various sheets we used for this analysis are

- Companies.txt

- Rounds2.csv

- Master_frame which we have derived by merging top two mentioned files the whole analysis and coding has been run on this file

- Mapping.csv which we have used to map primary sector to main sector which later can be used to derive top sectors depending on the spark funds criteria

- D1,D2,D3 data frames were prepared inside the R console based on four major constraints

1. Funding type FT falling within the 5-15 million USD range.

2. It must contain all the columns of master_frame including primary sector and main sector

3. Total number of count of investments for each main sector in a separate column

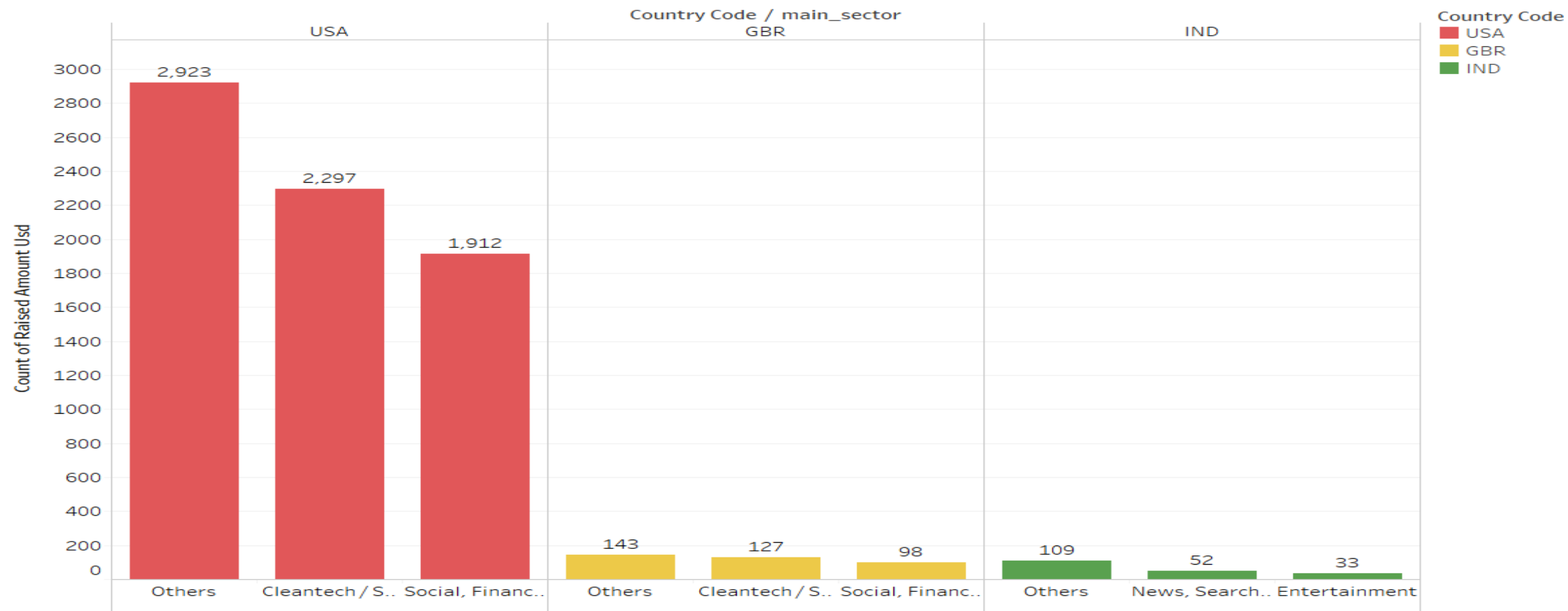4. The total amount invested in each main sector in a separate column

Avg Investment In Mlns and PER global for each Funding Round Type. Color shows details about Avg Investment In Mlns and PER global. The view is filtered on Funding Round Type, which keeps private_equity, seed and venture.

Plot 3: Top 3 sectors of the top 3 countries

Total Investments in Top 3 sectors of top 3 counties

Conclusion

- The best invest funding type is "Venture" based on the criteria venture could be the best investment funding type

- Top three English speaking countries USA,GBR and IND

- Top three sectors

1. Others

2. Cleantech /semi conductors

3. Social,Finance,Analytics,Advertising

After cracking various checkpoints and plot charts It is strongly recommended that spark funds CEO choose "Venture" for funding type investment and that too for the recommended countries only and as of sectors they can choose any of the options mentioned above for a steady growth in the business.