

INVESTMENT ASSIGNMENT SUBMISSION

Name:

<Abstract>

Background

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

Investment 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

Strategy

- Spark Funds wants to invest where most other investors are investing.

Business Objectives

- Identify the best sectors, countries and a suitable investment type for making investment decisions

Given the dataset from [crunchbase.com](https://www.crunchbase.com), we will need to analyse the investment type, country and sector to find the right investment options

Problem solving methodology (1/2)

Step 1:

- **Data merging and cleaning.** Merged the rounds2 and companies datasets using inner join and cleaned null values of funding_amount_usd. Clean the dataset for null values in funding_amount_usd

Step 2:

- **Funding Type Analysis.** Find the most representative value of investment amount for the four funding types (venture, angel, seed and private equity)

Decision

- Does the representative value of investment for the given 4 funding types fall within the Spark Funds USD 5 to 15mn investment criteria?

Yes

- Select the most suitable investment type and filter the dataset accordingly to select the right countries and sectors for investment. In our case, it is "**Venture**"

Step 3:

- **Country Analysis:** Find the top 9 countries that have received the highest total funding amount (across all sectors for the chosen investment type i.e. "Venture")
- Validate English speaking countries from an external source (Wikipedia) and identify the top 3 English speaking countries

Problem solving methodology (2/2)

Step 4:

- **Mapping and Data cleaning before Sector analysis.** Before we start the sector analysis, we need to map the primary sector to one of the eight main sectors. Following sub steps are taken
 - After discussion with CEO, extract the first string from the vertical bar to be considered as primary sector
 - Clean the mapping.csv for errors related to 0 and na
 - Remove any null primary_sectors and map the primary sector to one of the eight main sectors
-

Step 5:

- **Sector Analysis:** Across the top 3 countries identified in Step 3, find the Top 3 sectors based on number of investments done across sectors
-

From the given dataset, we identified a suitable investment type

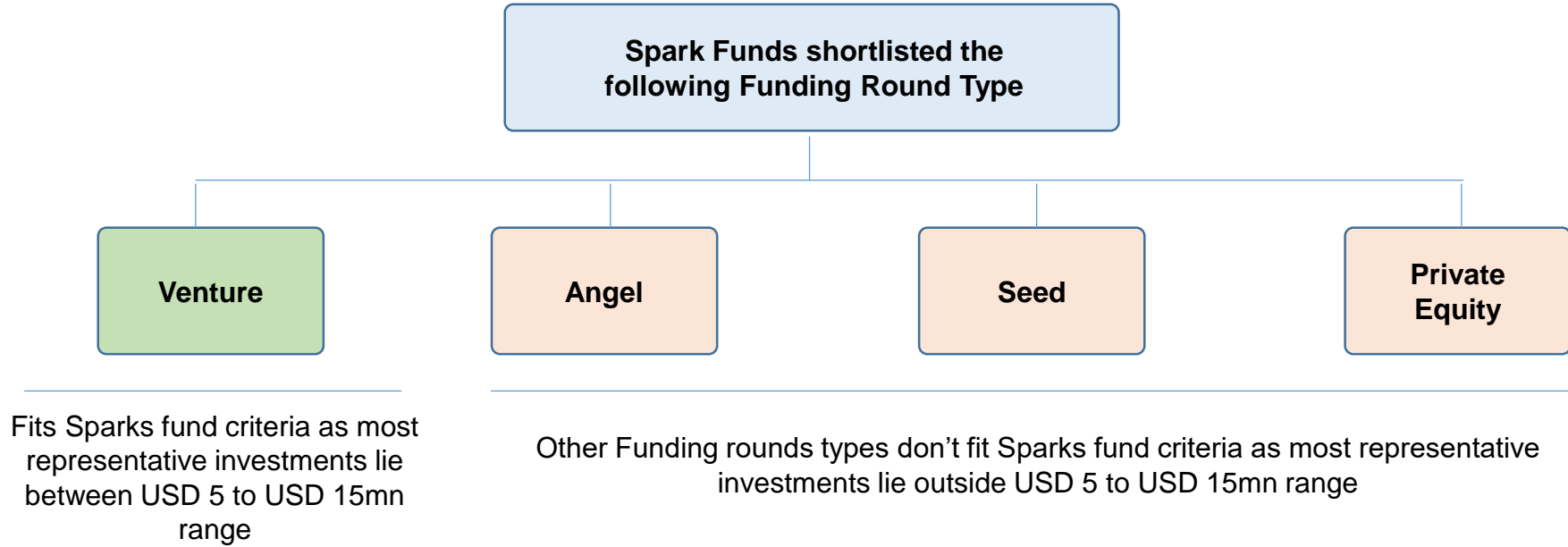
Then shortlisted the most interesting countries to invest

And then the attractive sectors to invest

Data quality issues identified

- Null values across columns such as raised_amount_usd, category_list, 0 instead of na in mapping.csv
- 0 is converted to na in mapping.csv and data is corrected
- Rows with null values for raised_amount_usd removed
- Rows with null values for category_list removed as this would lead to mismatch while mapping from mapping.csv

Analysis – Which is the most suitable Funding Round Type?



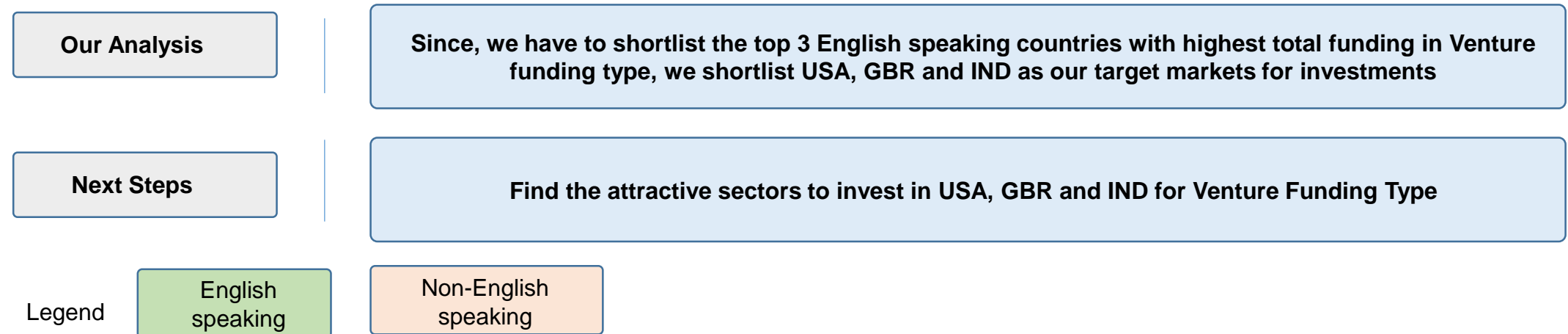
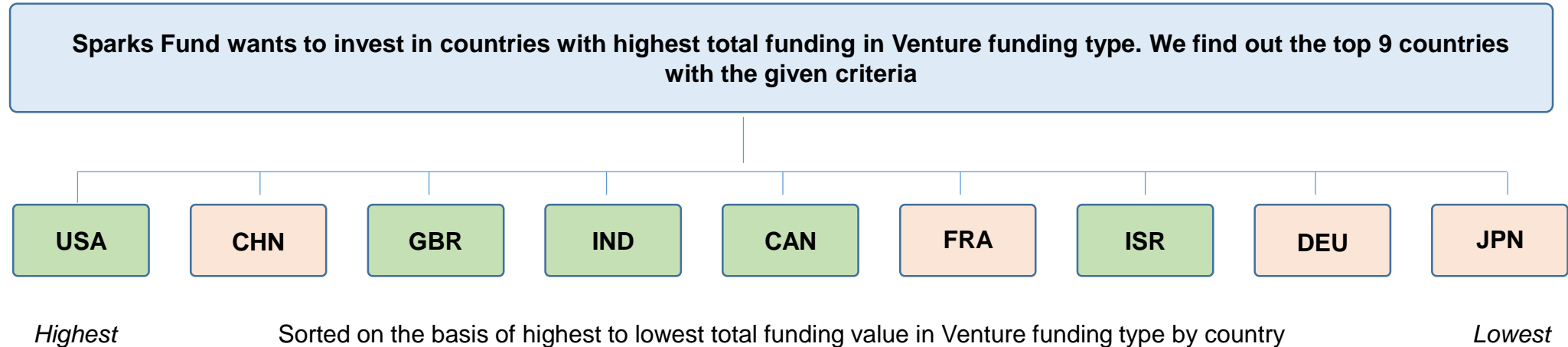
Our Analysis

So, to make investments in future, Spark Funds should look at “Venture” Funding rounds type

Next Steps

Understand which are the interesting countries and sectors to invest?

Analysis – Which are the most interesting countries to invest?



Analysis – Which are the most interesting sectors to invest in shortlisted countries?

We shortlist sectors based on total number of investments across sectors. We shortlist sectors that have the maximum investment count and are witnessing investor interest. We shortlist top 3 sectors across each country

Top sectors across countries

USA

Others

Social, Finance, Analytics ,
Advertising

Cleantech /
Semiconductors

GBR

Others

Social, Finance, Analytics ,
Advertising

Cleantech /
Semiconductors

IND

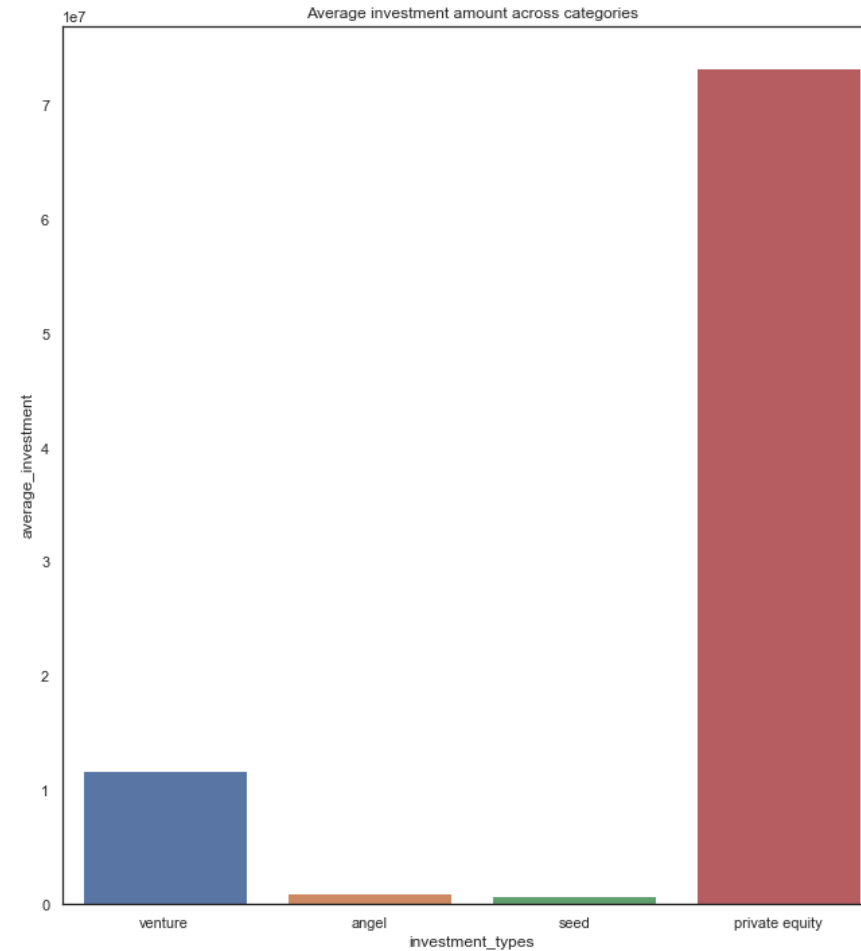
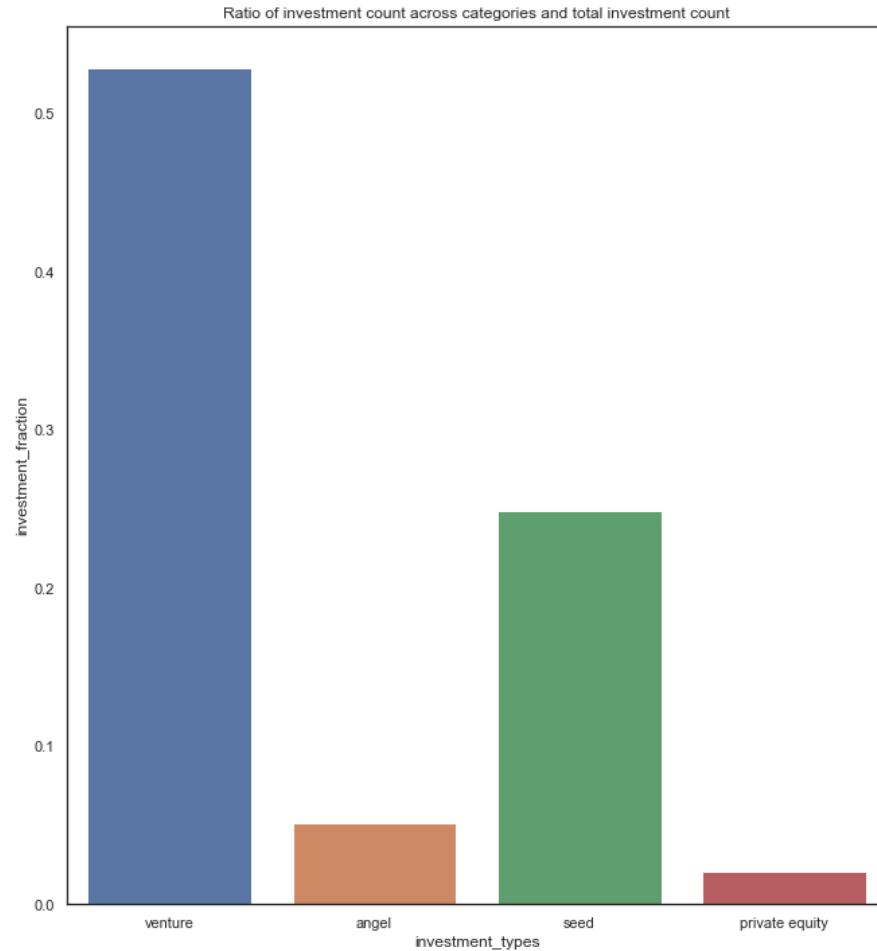
Others

Social, Finance, Analytics ,
Advertising

News, Search and
Messaging

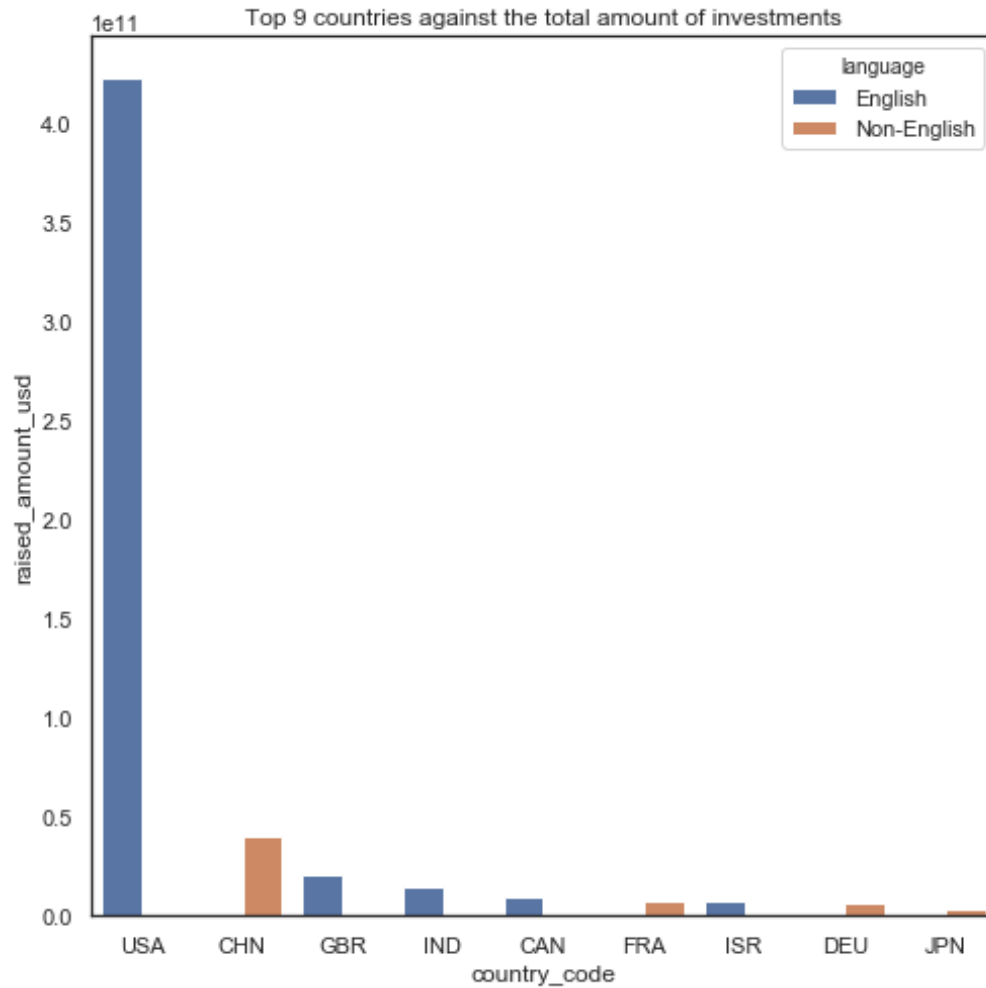
Venture accounts for majority of the investment types and also the representative investments are in USD 5 to USD 15mn range

Plot 1



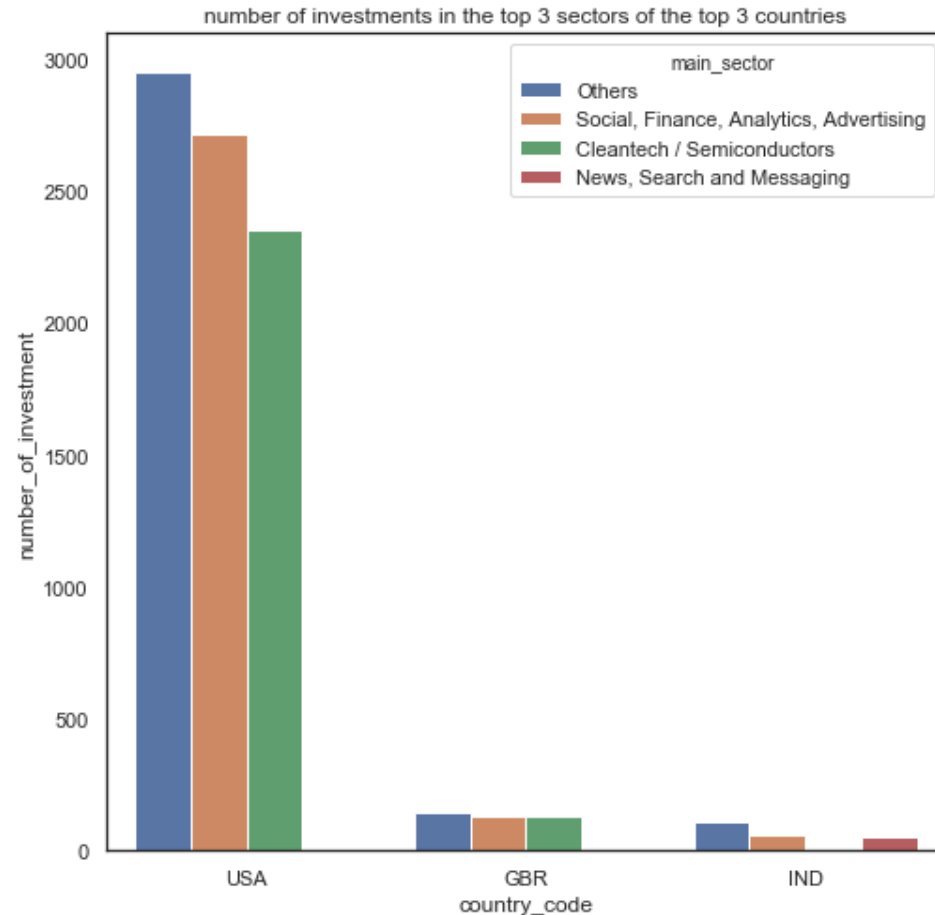
USA, GBR and IND are the top 3 English countries for investment

Plot 2



USA accounts for majority of investments and Others, Social, Finance, Analytics, Advertising, Cleantech / Semiconductors and News, Search and Messaging are key sectors of interest

Plot 3



Final Conclusion

Spark Funds should look for “Venture Funding Type” investment opportunities in USA, GBR and India across Others, Social, Finance, Analytics, Advertising and Cleantech / Semiconductors space

As Sparks Funds strategizes to invest where others are investing Sparks Fund should prioritize investments in USA as that's where others are investing