

# INVESTMENT ASSIGNMENT SUBMISSION

Name: Apurv Shingne

## Objective <Abstract>

Spark Funds, an asset management company. 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.

### Business and Data Understanding :

Spark Funds has two minor constraints for investments:

- 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. For the analysis, consider a country to be English speaking
- only if English is one of the official languages in that country

### Business objective:

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,

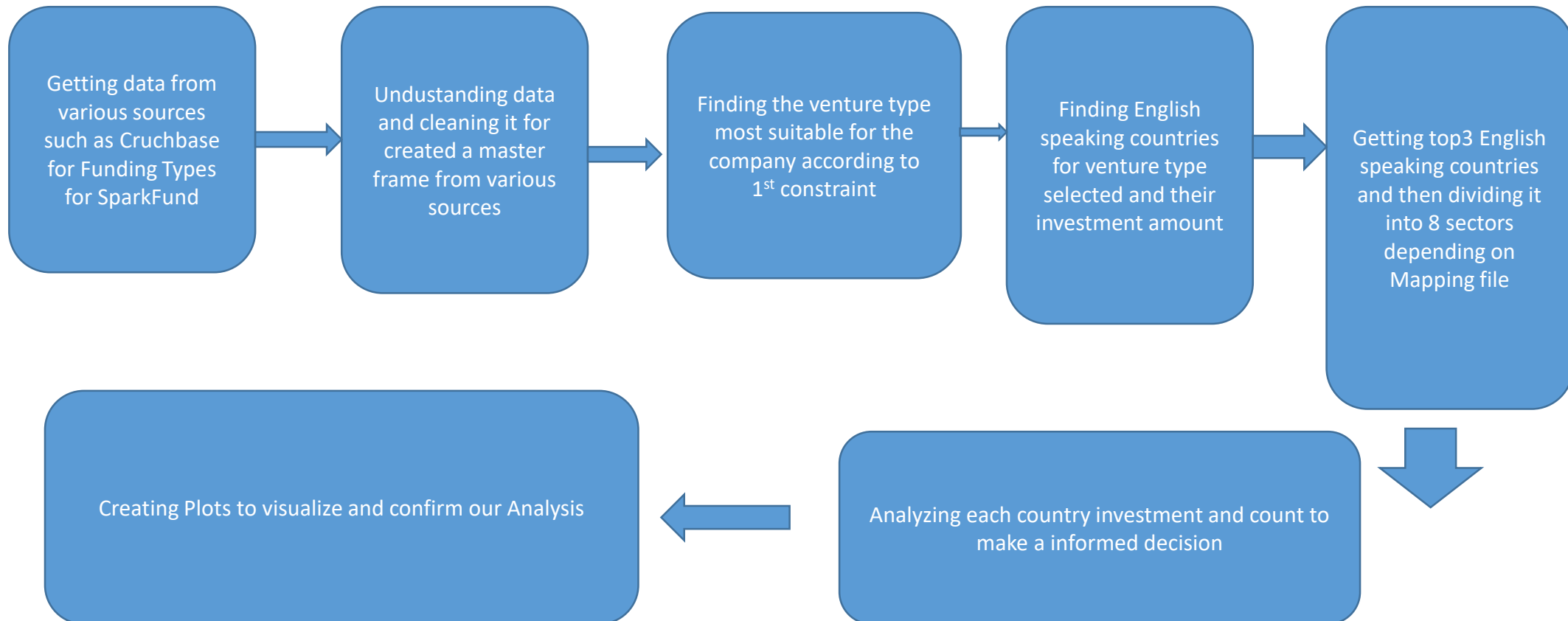
implying that the 'best' sectors and countries are the ones 'where most investors are investing'.

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

This pattern is often observed among early stage start-up investors.)

# <Problem solving methodology>

Use flow chart



## <Analysis>

Duplicate values found in Rounds2

Removed Duplicates and changed case for country\_permalink to upper so that there would be no case sensitive issues.

Compared values with company master and found out some of values are more in round 2

```
: #Round 2 Perma Links not in countries
rounds2['company_permalink'].isin(companies['permalink']).value_counts()

: True      114942
  False        7
  Name: company_permalink, dtype: int64
```

Removed them during merging them in main frame.

Checked for average for all funding type . Based on below table we can observe that angel / seed / private\_equity does not fit the constraint from 5 to 15 million and thus venture is most suitable type.

	raised_amount_usd
funding_round_type	
private_equity	74.164439
venture	11.733933
angel	0.972727
seed	0.747172

## <Analysis>

Loaded country data and according to the investment sum we can get country who has mostly invested in venture type

```
top_countries.head(9)
: country_code
USA      420068.029342
CHN      39338.918773
GBR      20072.813004
IND      14261.508718
CAN       9482.217668
FRA       7226.851352
ISR       6854.350477
DEU       6306.921981
JPN       3167.647127
Name: raised_amount_usd, dtype: float64
```

Also using beautiful soup extracted data from Wiki page and got English speaking countries where its legal and official language as English.

Joined this extracted one with the result above and got top 3 countries investing in venture and also are English speaking

```
top3_countries
country_code
USA      420068.029342
GBR      20072.813004
IND      14261.508718
Name: raised_amount_usd, dtype: float64
```

## <Analysis>

Using mapping file mapped all the primary sector to main ones to using mapping file to find which sector is best for investing.

	category_list	main_sector
1	3D	Manufacturing
2	3D Printing	Manufacturing
3	3D Technology	Manufacturing
7	Advanced Materials	Manufacturing
15	Agriculture	Manufacturing

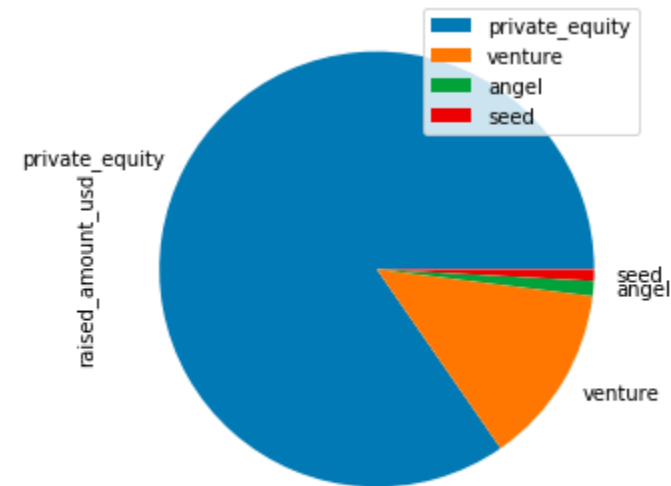
Mapped it in new data frame and depending on condition found out count and total amount invested in the top three countries sector wise.

main_sector	raised_amount_usd	
	Total_amount	Total_count
Automotive & Sports	1678.993953	195
Cleantech / Semiconductors	25549.799589	2795
Entertainment	5548.307380	646
Health	9968.338264	1119
Manufacturing	8129.982494	900
News, Search and Messaging	14841.901285	1696
Others	29143.824813	3294
Social, Finance, Analytics, Advertising	26025.274200	2993

## <Results>

Plot 1

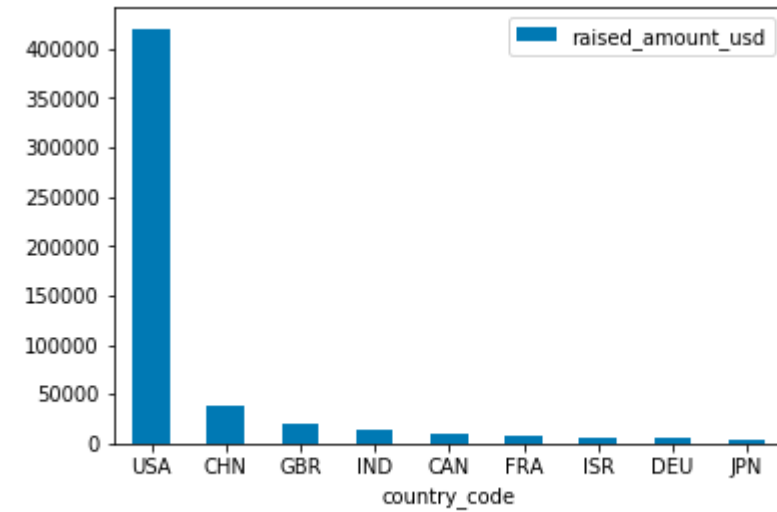
From this plot we can observe that venture has a medium Investment amount which will fulfil our company's constraint.



## <Results>

### Plot 2

From this plot we can observe that USA is country which is heavily invested in and is also English speaking country. Followed by China , Great Britain and India.



1 | Page



## <Results>

Plot 3

## <Conclusions>

From all the above analysis we can conclude that

For Spark Funds best Investment type would be venture and country with huge investment and also high English speaking country is USA

With major investments in Others , Social, Finance, Analytics, Advertising and Cleantech / Semiconductors as main sectors.

EMORY-UNIVERSITY maybe the best company to invest in USA as per current investment market.