



INVESTMENT ASSIGNMENT SUBMISSION

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Spark Funds Investment Problem Statement

Objective

Find out the best sectors, countries, and a suitable investment type for making investments.

Strategy

Do the investment where most of the other investors are investing.

Data Analysis Goals

Investment analysis: To find out best suited investment type for Spark Funds.

Country analysis: To find out which English speaking countries have received the most investments in the past.

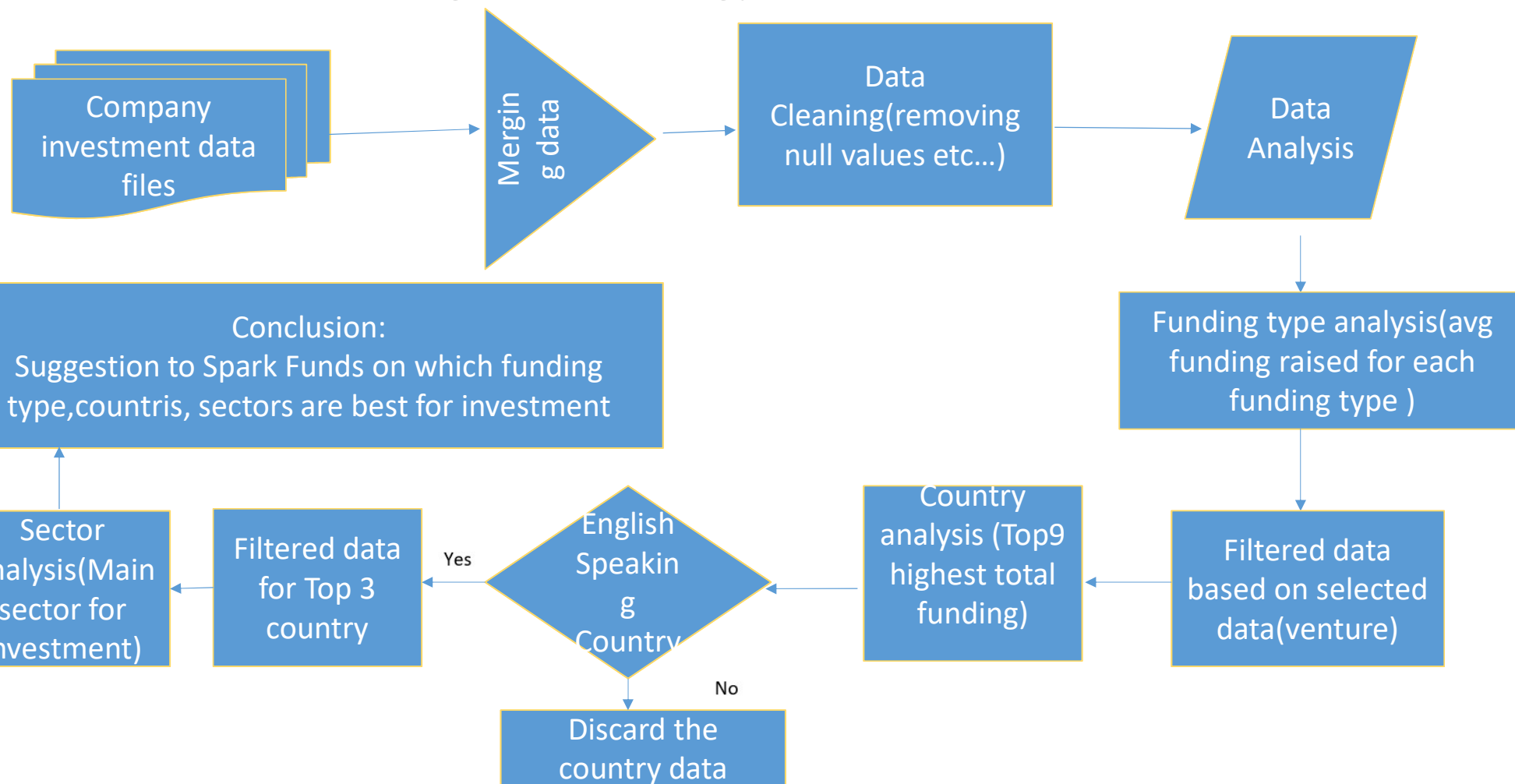
Sector analysis: To find out the distribution of investments across the eight main sectors.

Investment Constraints

Invest between 5 to 15 million USD per round of investment.

Invest only in English-speaking countries because of the ease of communication with the companies.

Problem solving methodology



Data Analysis

The Source data is real investment data and that has been taken from **crunchbase.com**.

We have following data files available for our analysis.

- Company Data(companies.csv), file with basic details of companies
- Investment Rounds Data(rounds2.csv), companies past investment round details.
- Mapping File(mapping.csv), category to main sector mapping.
- English-speaking countries reference link.
(https://en.wikipedia.org/wiki/List_of_territorial_entities_where_English_is_an_official_language)

Assumptions:

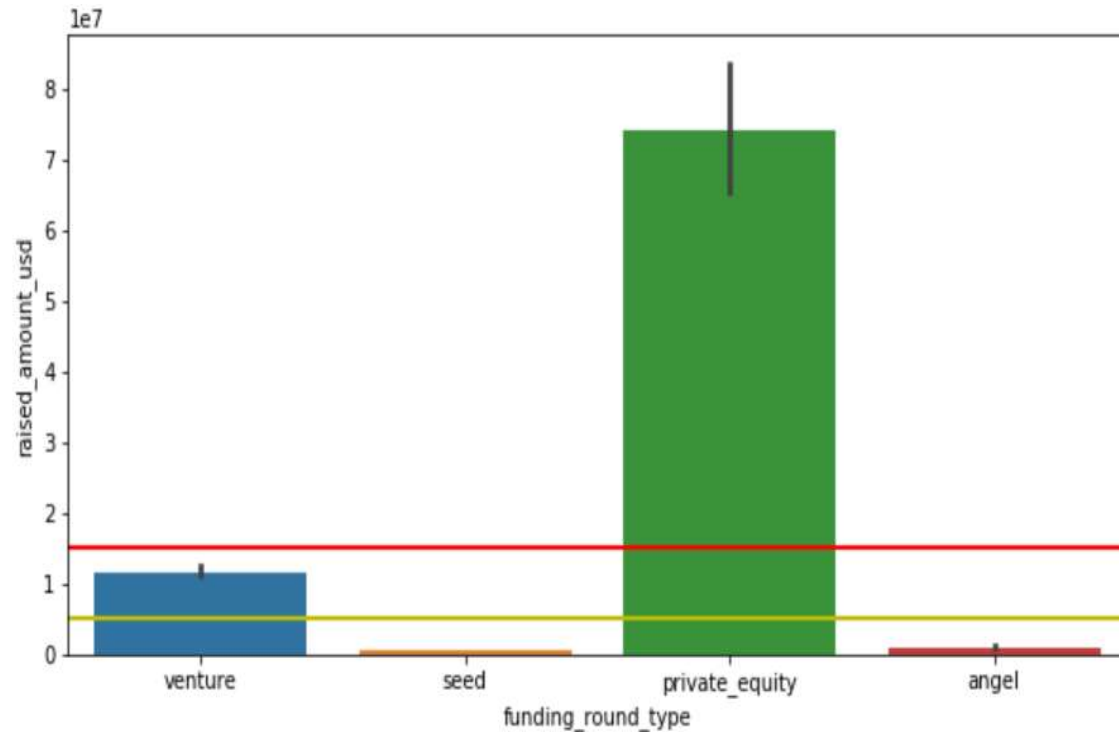
- All the information given is a trusted source for analysis.

Data cleaning performed:

- Dropping rows and columns having null values and the columns which are not required for the current analysis.
- Correcting incorrect or missing data wherever needed to make the data clean for analysis.

Funding Type Analysis

- Data set contains **14 different type** of investments. But only seed, angel and venture are common for startup funding. And Private equity type investments for larger company.
- Avg. amount invested in private equity is beyond the 15M USD investment limit and Avg. investment amount for seed and angel type are well below the 5M USD.
- **Venture** is the only one investment funding type which is within expected range of investment for SPARK Funds i.e. $\geq 5M$ and $\leq 15M$ USD.



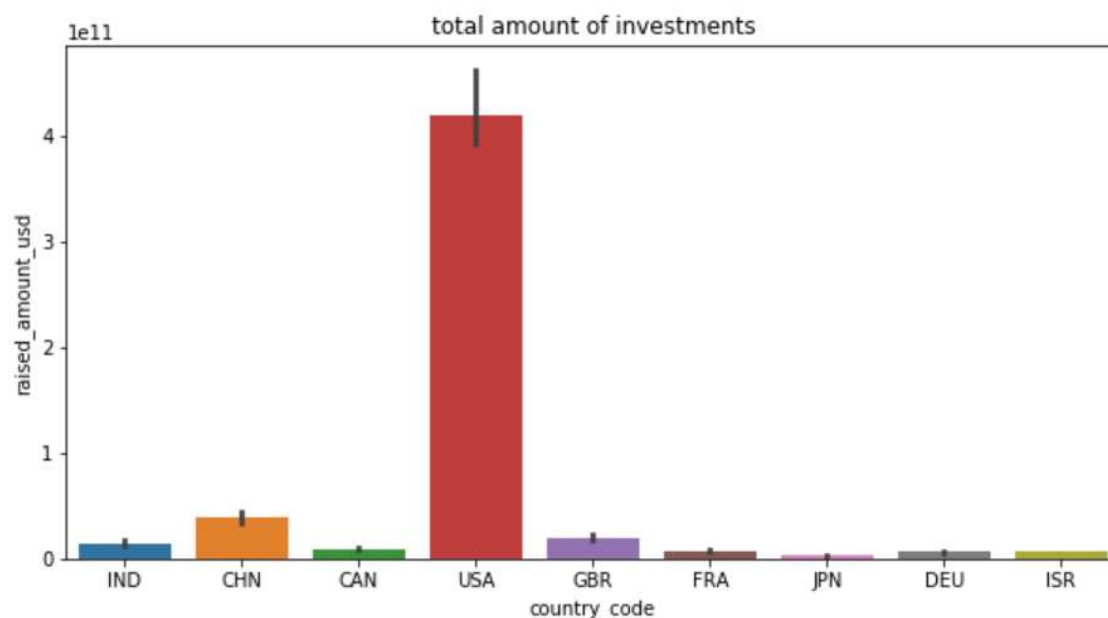
Country Analysis

Top 9 Countries which have received the highest total funding in USD, across ALL sectors for the venture investment type

Country	Total Investment Amount in USD
USA	420068029342.00
CHN	39338918773.00
GBR	20072813004.00
IND	14261508718.00
CAN	9482217668.00
FRA	7226851352.00
ISR	6854350477.00
DEU	6306921981.00
JPN	3167647127.00

Country Analysis

Top 3 English Speaking Countries are USA,GBR and IND, which have received the highest total funding, across ALL sectors for the venture investment type

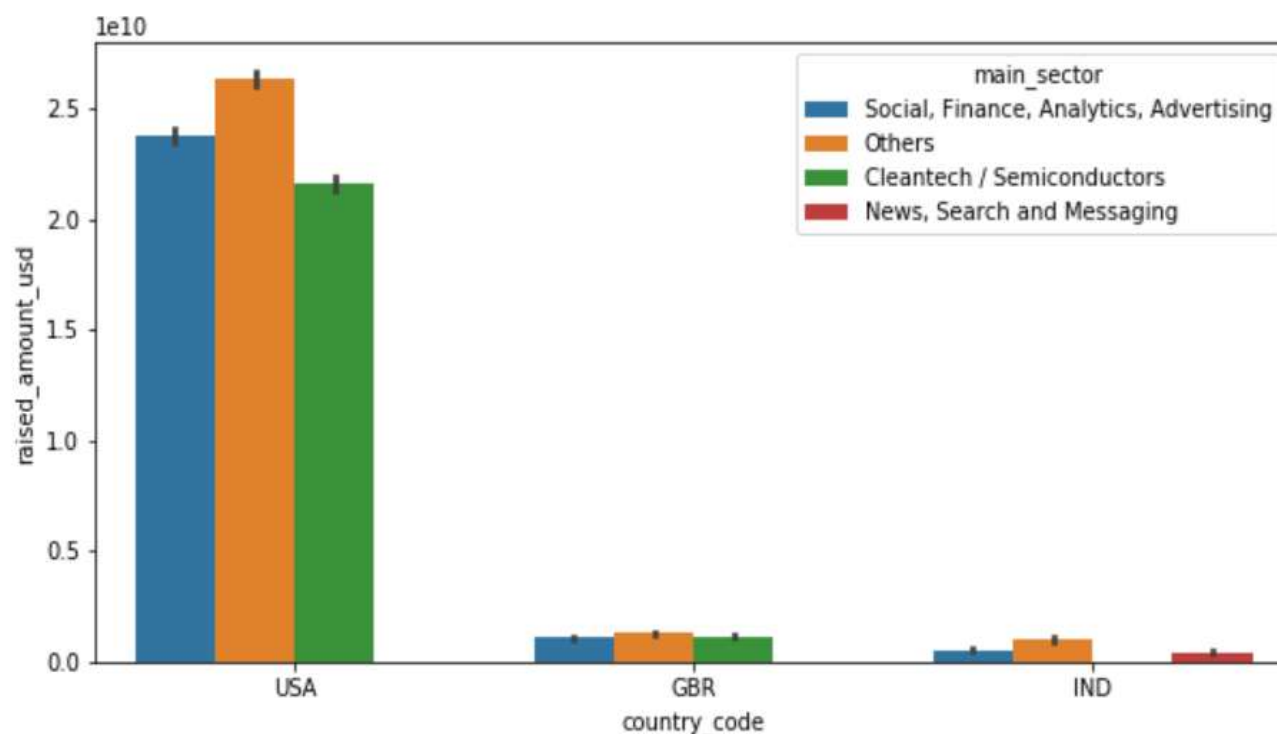


- **USA** is the most invested county with a total of 420,068,029,000 USD.
- China is after USA, but China is NOT a English speaking country.
- **United Kingdom and India** are among the **Top 3 English speaking countries** to get the high number of investments.

Sector Analysis

Country	Top3 Sectors	Investment Count	Best Company Name(based on count which received highest investment)
USA	Others	2950	Virtustream
	Social, Finance, Analytics, Advertising	2714	SST Inc
	Cleantech / Semiconductors	2350	biodesix
GBR	Others	147	Electric Cloud
	Social, Finance, Analytics, Advertising	133	Celltick Technologies
	Cleantech / Semiconductors	130	eusa-pharma
IND	Others	110	FirstCry.com
	Social, Finance, Analytics, Advertising	60	Manthan Systems
	News, Search and Messaging	52	gupshup-technology-india-pvt-ltd

Number of Investment in top 3 Sectors of the top 3 countries



- **Others** is most invested sector in Top 3 countries.
- **Social, Finance, Analytics, Advertising** sector at # 2.
- **Cleantech / Semiconductors** sector at # 3 in USA,GBR whereas **News, Search and Messaging** sector in IND.

Conclusions

Spark Fund should consider **Venture** fund type for investment in the countries **USA, United Kingdom and India**, and should invest in following top three sectors respectively.

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