

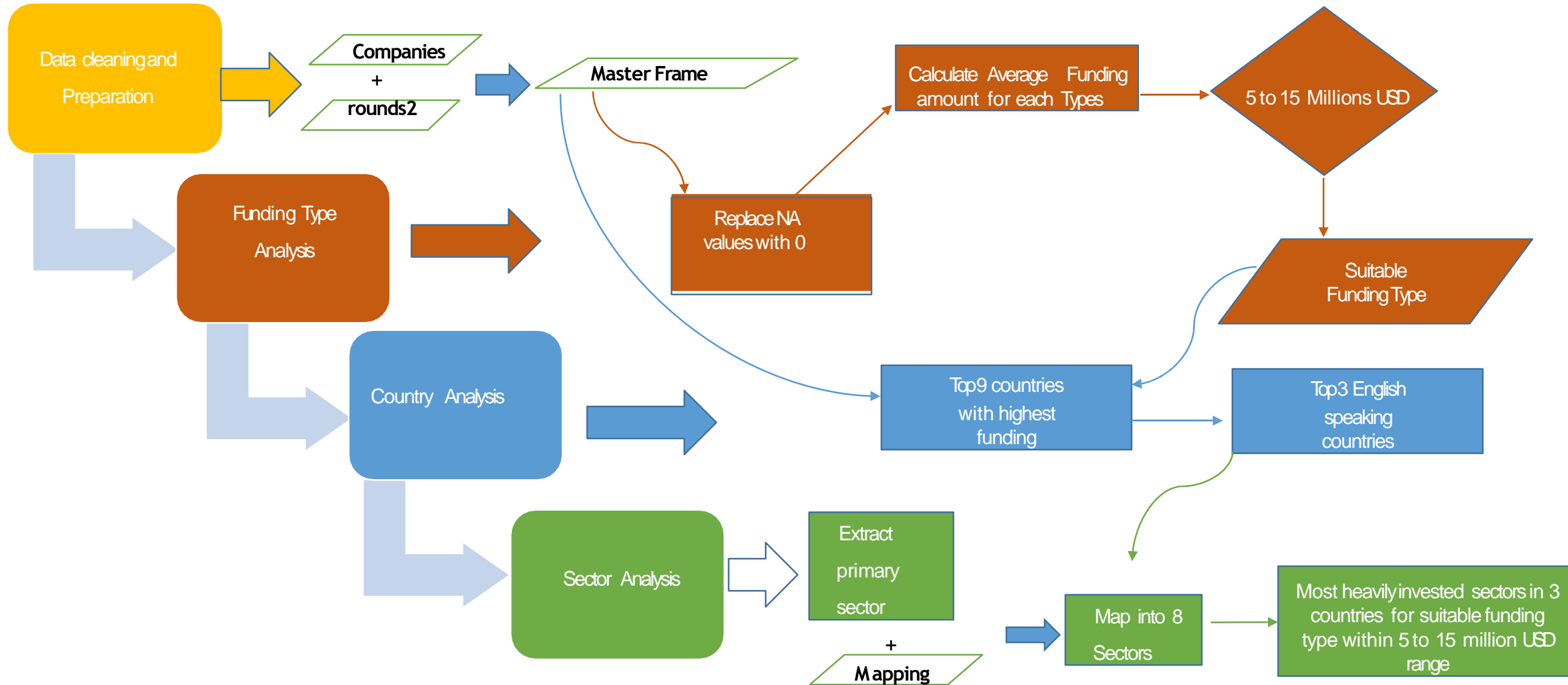
INVESTMENT ASSIGNMENT SUBMISSION

Name: Rakesh Kumar

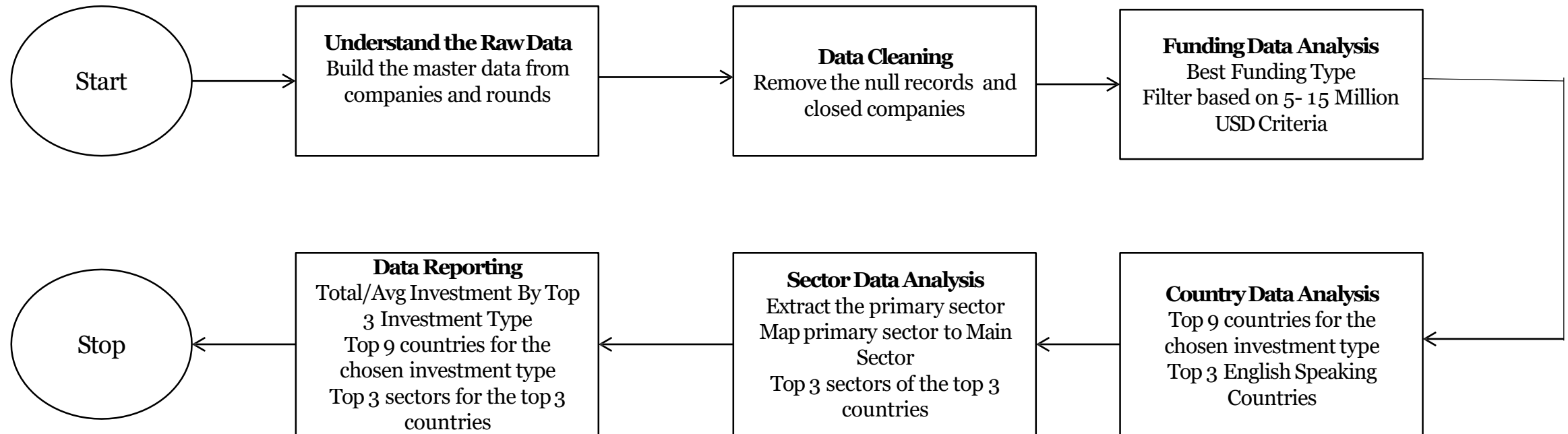
Objectives: Spark Funds Investment Analysis

- To analyse the global trends in investments and identify,
 - The Best Investment Type Suitable for Spark Funds
 - Spark Funds is looking to invest 5- 15 Million USD per round of investment
 - In line with the above investment strategy, our goal is to identify the best investment type among the 4 major types –Angel, Seed, Venture Capital and Private Equity
 - Country of Investment
 - Spark Funds wants to invest in English Speaking Countries for the ease of communication
 - Goal is to identify and report the best countries to invest where English is one of the official languages
 - Identification of best country is also based on the amount of investments the country has attracted in the past
 - Best Sector
 - Spark Funds wants to invest in sectors where most investors are investing
 - Identify the potential sectors (within the best countries) from within the 8 main sectors based on the number of investments made in the past.

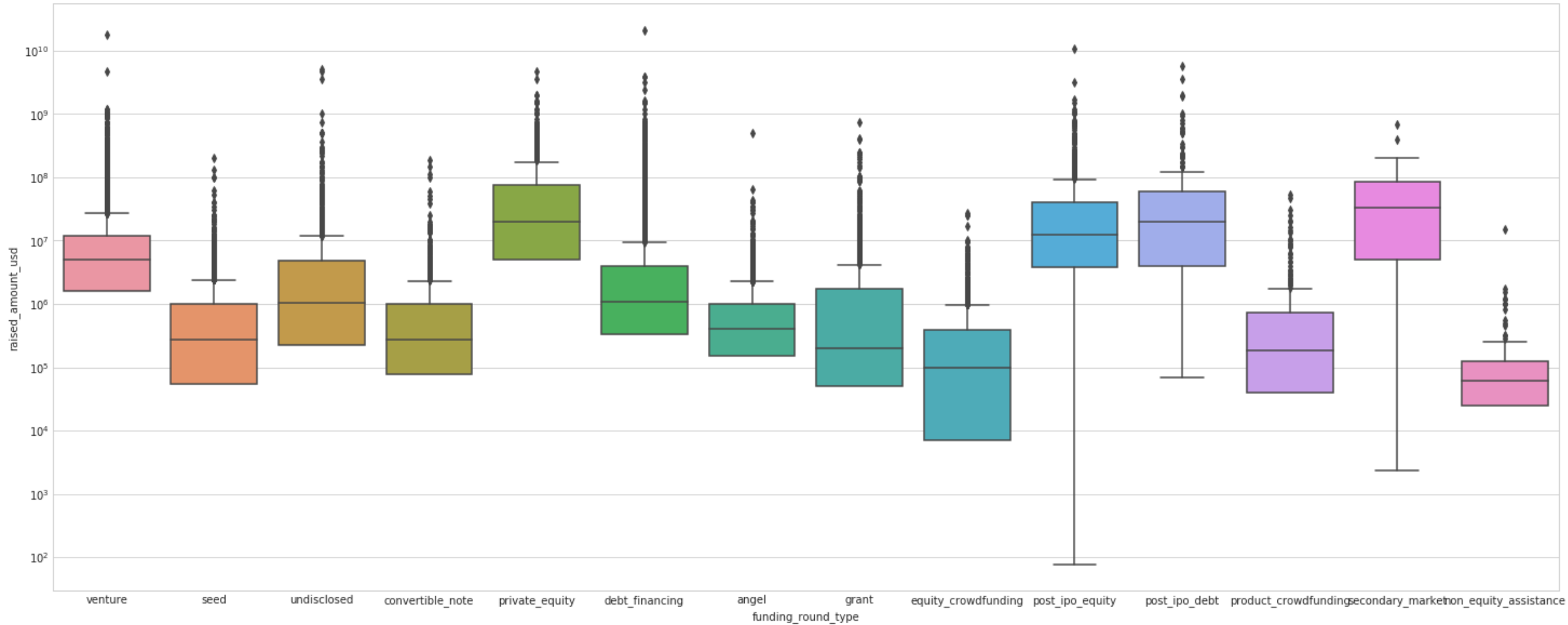
Problem solving methodology

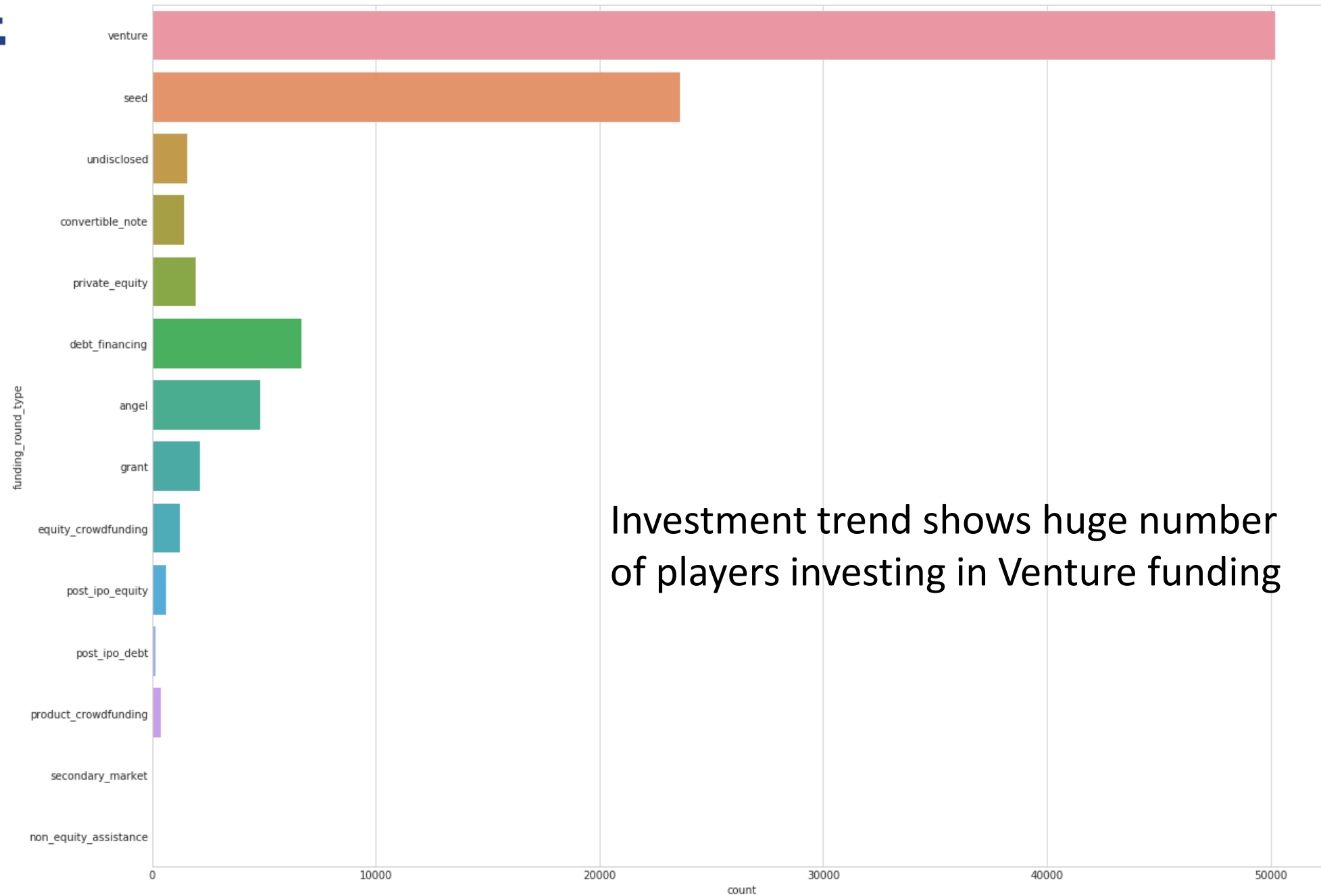


Problem Solving Venn Diagram

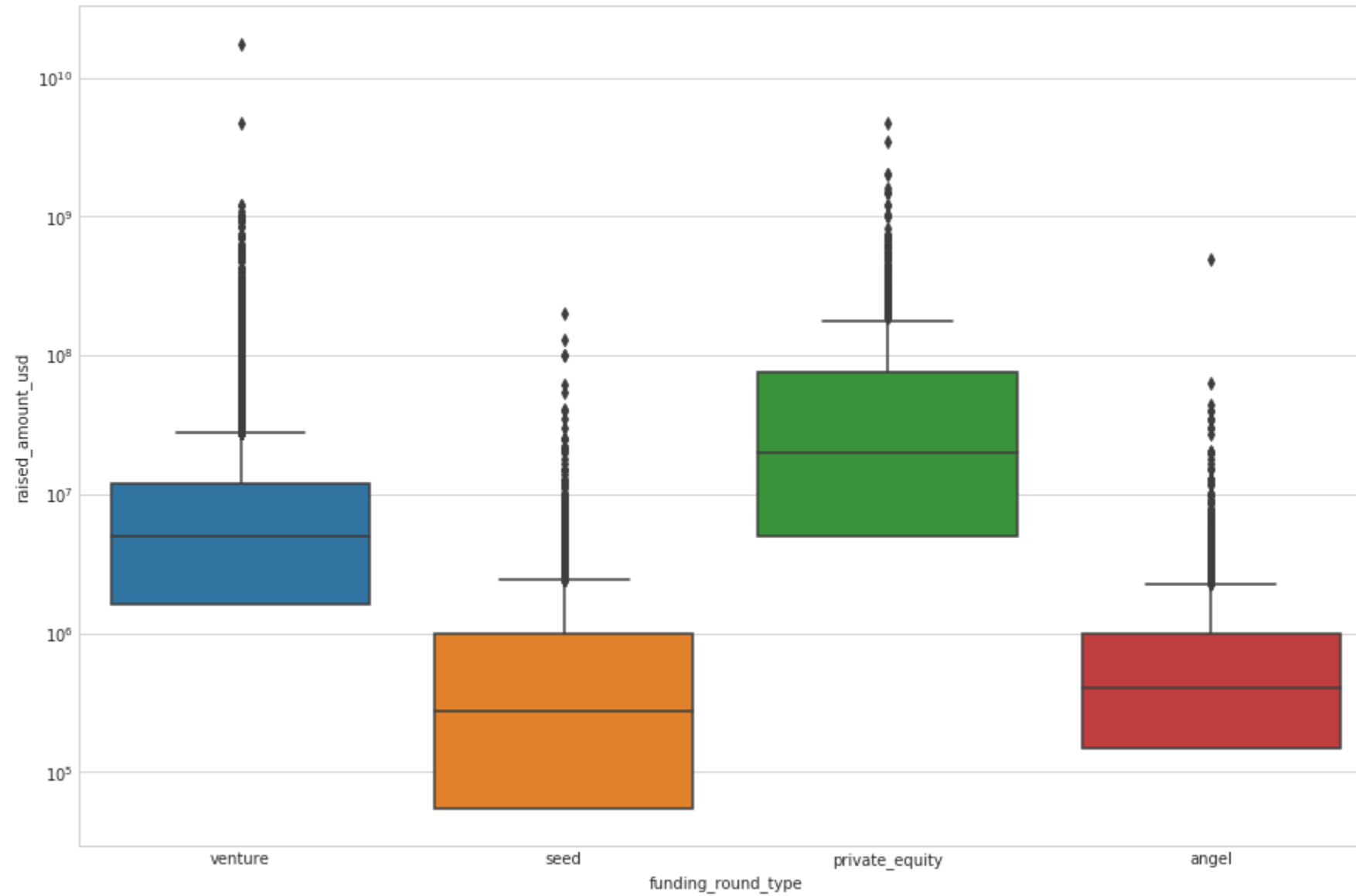


Investment across all Fund type





Investment trend shows huge number of players investing in Venture funding



Boxplot of a raised USD amount across various 4 targeted categories

Analysis

This analysis starts with cleaning of the data where out of the 114949 rows, 31672 rows were removed which included null values and unnecessary data.

This case study was mainly divided into 3 categories.

1. Funding Type Analysis
2. Country Analysis
3. Sector Analysis

The flow of the analysis is as follows:

The Suitable Funding Type for Sparks Funds was analyzed first.

For this particular funding type only, the countries were studied.

And finally decided the best suitable sector to invest into.

Analysis

1. Funding Type Analysis:

The Dataset contains a number of investment type.

We found Private Equity, Seed, Angel and Venture Types to be prominent in our analysis.

Private Equity has the highest average amount of investment i.e. \$75.80 Million USD. Since it does not fall into the margins set by Sparks Funds, this was not suitable.

Venture, seems to be the best funding type as it has avg. investments of 11.9 Million Dollars. Notably, this is the most invested type by sum of investments.

Has 60.14% of investments occurring.

2. Country Analysis:

The Country Analysis is done on Venture Type Funding.

If you look into the dataset provided here, we can see there are more than 100 countries included. But the major investment was done in a very few countries including USA, China, Great Britain, India, Japan, Germany.

Analysis

(...country analysis continued)

China was among the top 3 heavily invested countries, but being a non English speaking country, it was excluded and will not be considered by Sparks Funds to invest in.

The amount of investments in USA is about \$400 Billion Dollars. It beats the second highest, China, by a margin of \$360 Billion Dollar. Or roughly, it is 10 times more invested than China.

3. Sector Analysis

Having a large number of sectors in the dataset, it was difficult to categorize them.

Hence we mapped these sectors with 8 major sectors to make the analysis simple and clean.

Top 3 sectors for the top 3 countries were identified in this study.

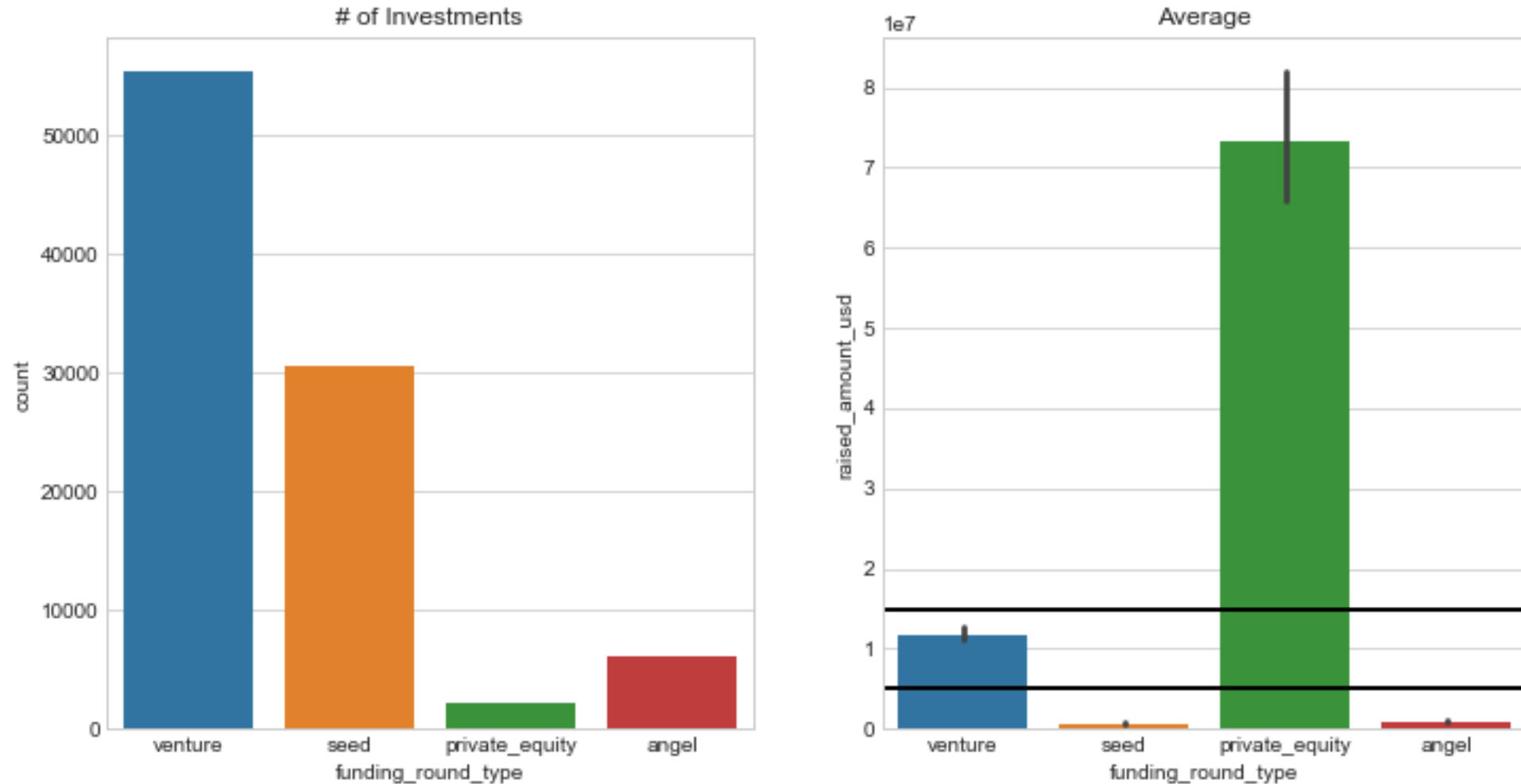
It was seen that the prominent sectors for these countries were the same which are

'Others'

'Cleantech / Semiconductors'

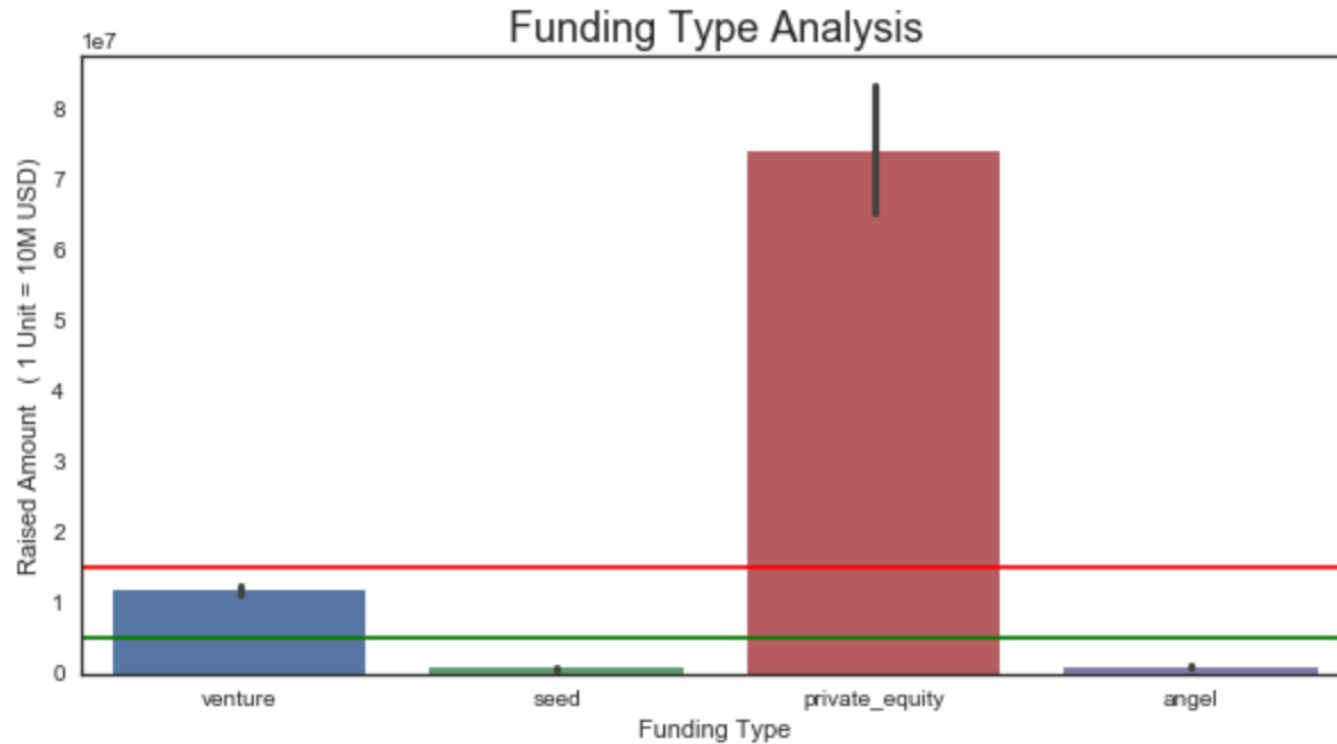
and 'Social/Finance/Analytics/Advertising' in the order, top to bottom.

Fraction of total investments (globally) in venture, seed, and private equity, and the average amount of investment in each funding type



Venture has lot of investments and it also falls into the 5-15 million budget

Funding Type Analysis



- There are 14 different type of investments.

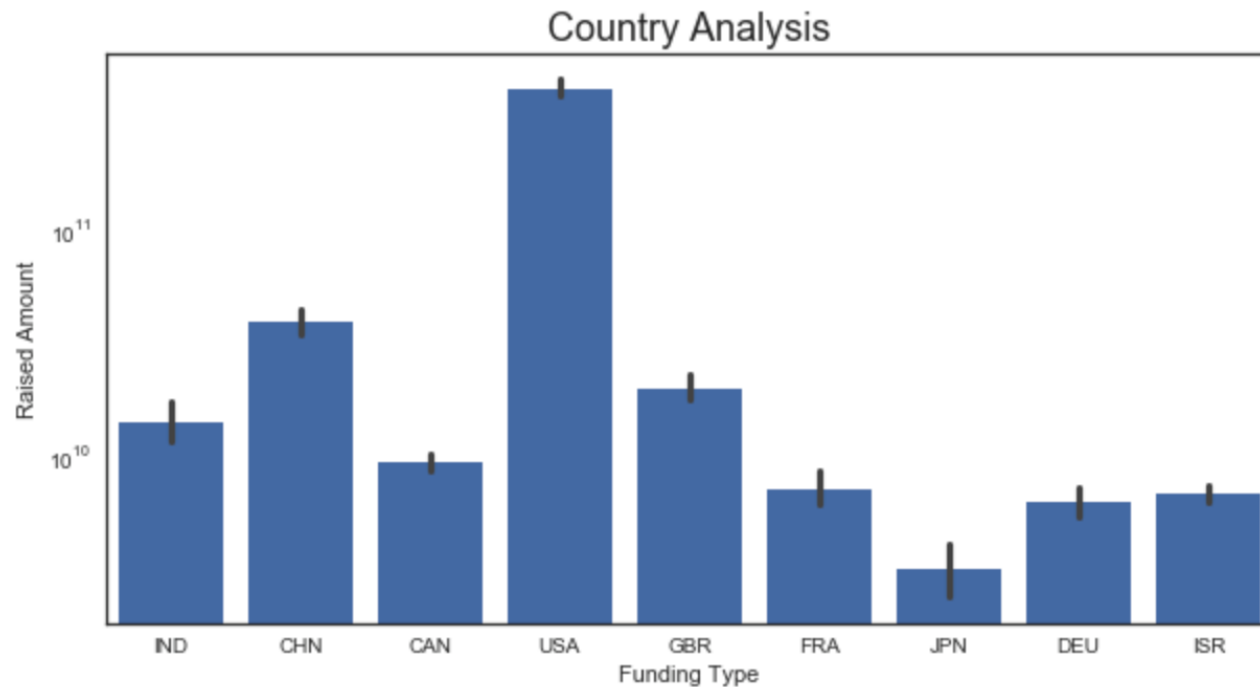
- Avg. amount invested in private equity is beyond the 15M USD investment limit.

- Avg. investment amount for seed and angel type are well below the 5M USD starting limit of Spark Fund.

- **Venture** is the only investment funding type which is $\geq 5M$ and $\leq 15M$ USD.

Country Analysis

- USA amounts as the most invested country with a total of 420,068,000,000 USD.
- China follows USA, but is **NOT** a English speaking country.
- United Kingdom and India are among the Top 3 countries to attract investments.
- Canada, France, Germany, Israel and Japan are other among the top 9 invested countries.



*** Only for venture type investment*

Country Analysis

Identifying the top 9 prospect countries based on the total amount invested received.

Country	Total Investment Amount Received in USD
USA	420,068,000,000.00
CHN	39,338,920,000.00
GBR	20,072,810,000.00
IND	14,261,510,000.00
CAN	9,482,218,000.00
FRA	7,226,851,000.00
ISR	6,854,350,000.00
DEU	6,306,922,000.00
JPN	3,167,647,000.00

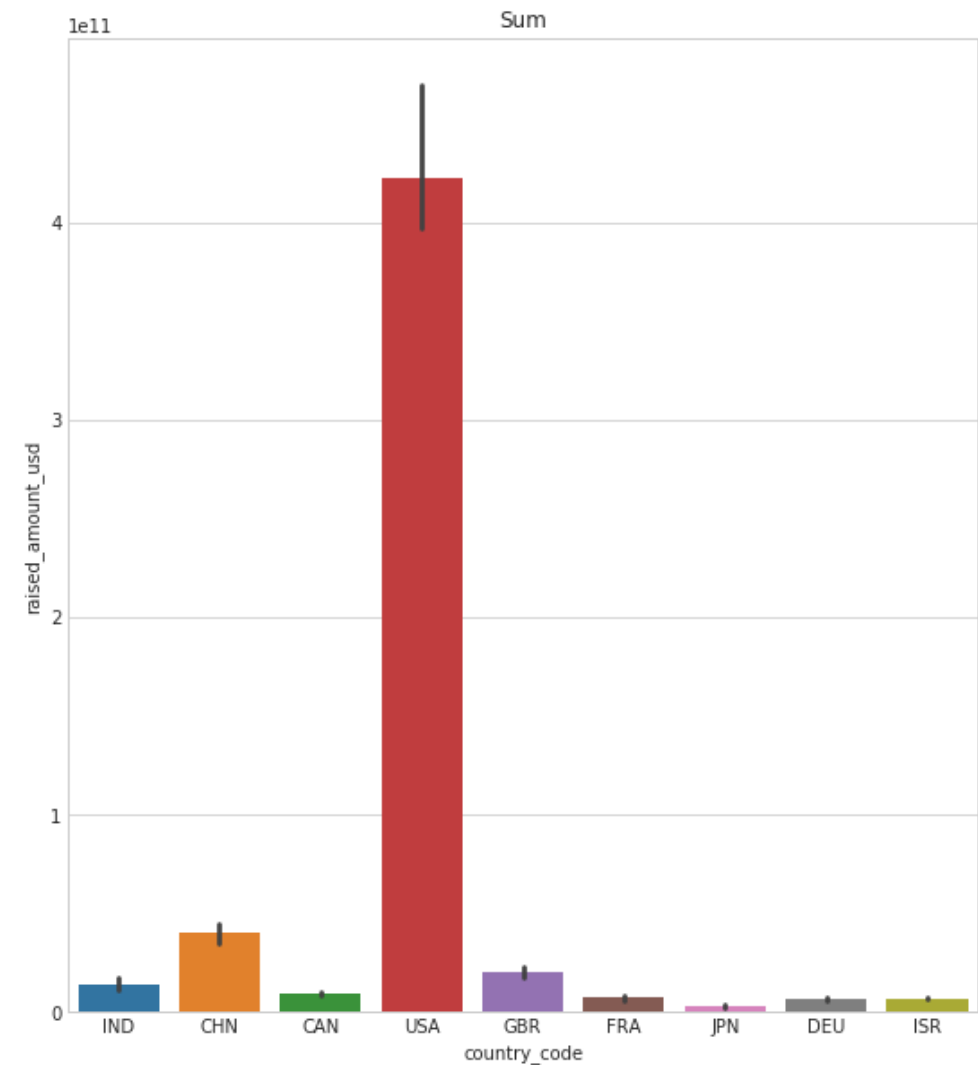
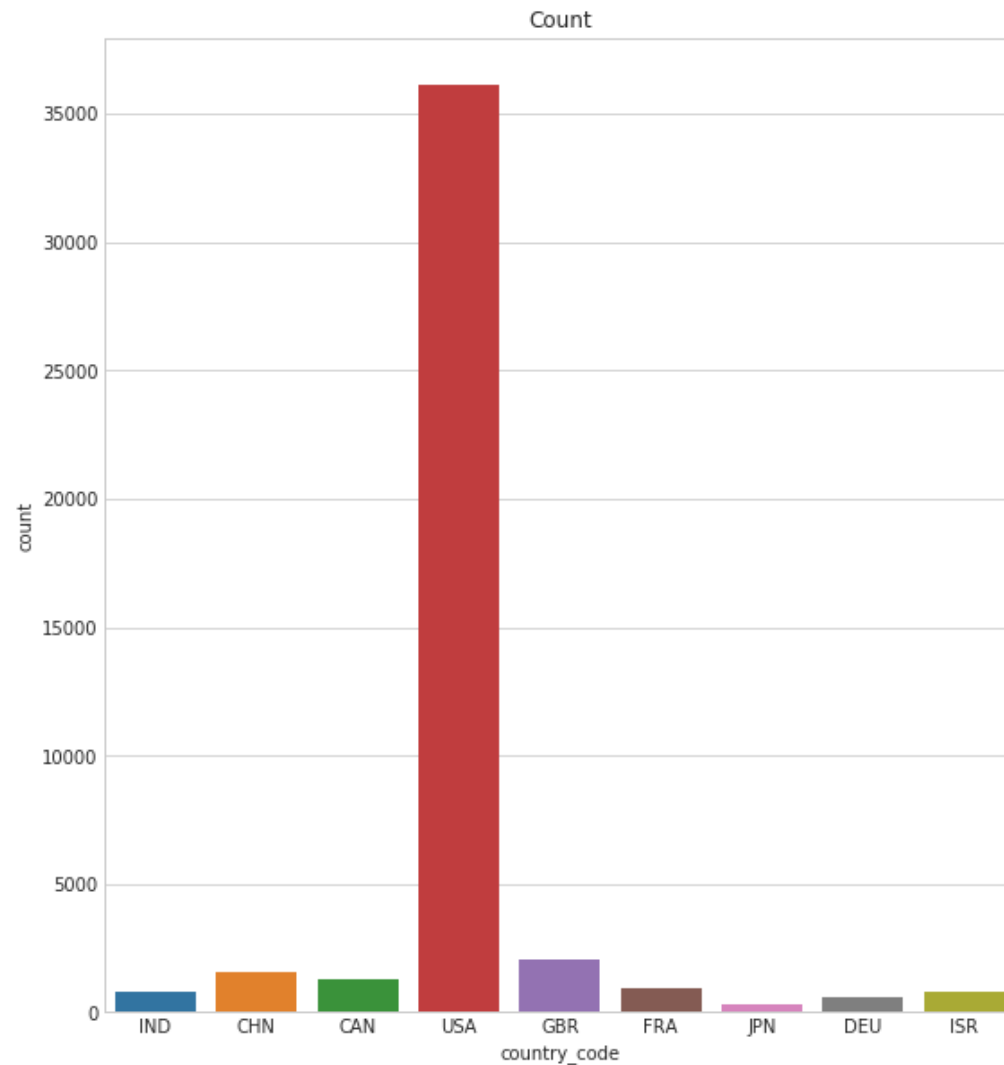
*** Only for venture type investment*

- USA receives the highest investment amount (approx. 420k Million USD)
- Top 3 English-speaking countries with most investment amount are
 - USA
 - GBR
 - IND

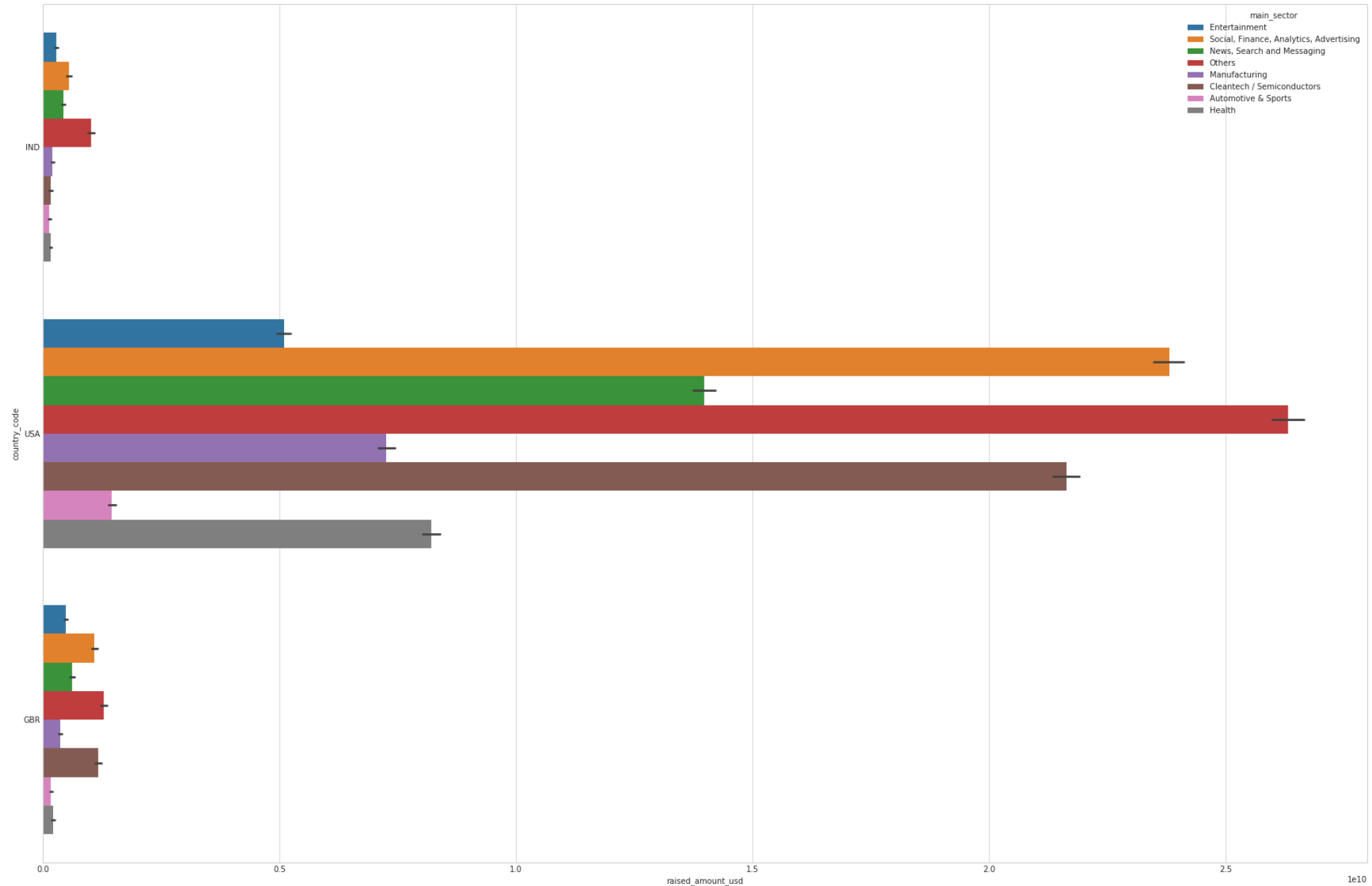
Sector Analysis

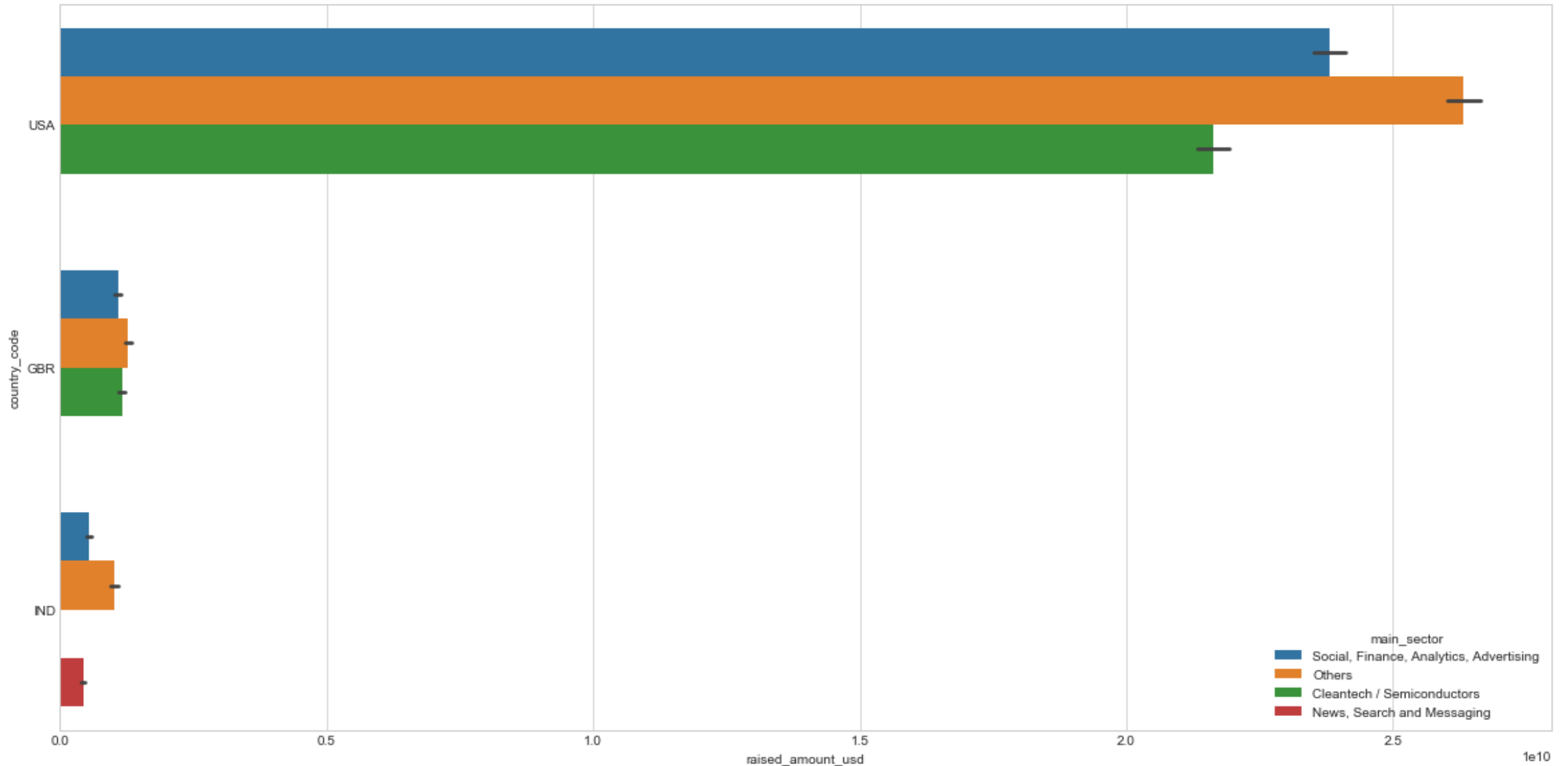
Country Name	Top 3 sectors	Count of Investments	Best Company Name(Highest Amount)
USA	Others	2950	virtustream
	Social, Finance, Analytics, Advertising	2714	shotspotter
	Cleantech / Semiconductors	2350	biodesix
GBR (United Kingdom)	Others	147	electric-cloud
	Social, Finance, Analytics, Advertising	133	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

Top 9 countries against the total amount of investments of funding type “Venture”

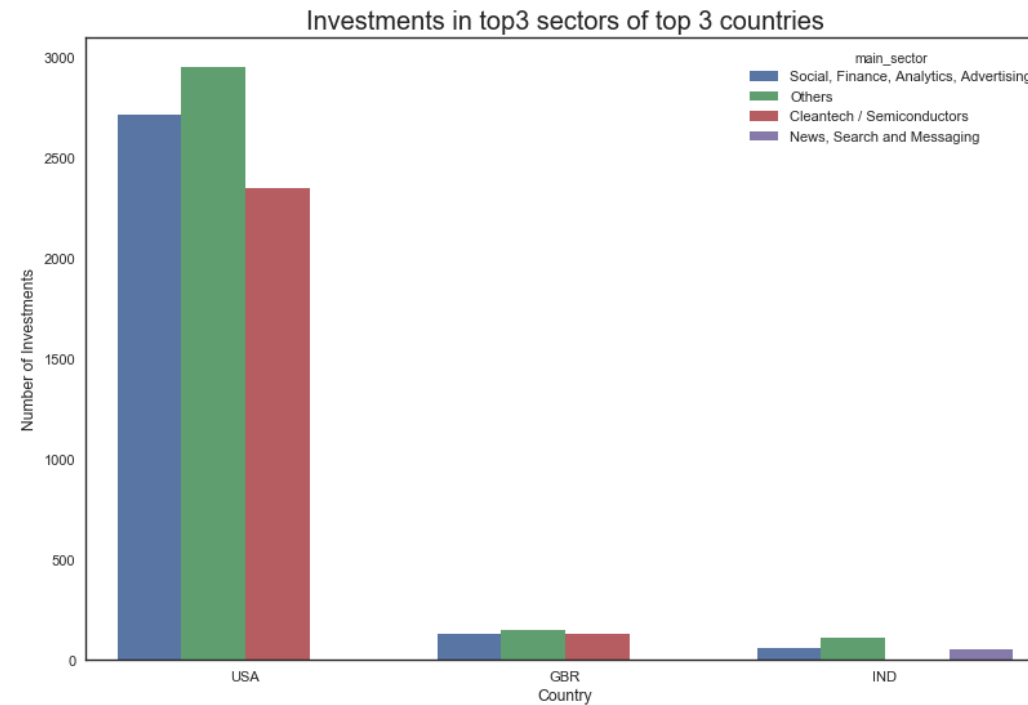


Investments in the top sectors of the top 3 countries





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



Conclusions

As the analysis report,

- Identified the best sectors, countries, and a suitable investment type for making investments.
- These are subject to the assumptions made in the provided data set and the business rules decisions.
- To summarize,
 - **Venture – most suitable investment type**
 - **USA, GBR, IND – most suitable countries for investment**
 - **Others – most suitable sector for investment in USA, GBR and IND**