

INVESTMENT ASSIGNMENT SUBMISSION

Name: Amirtha Rajan PKS

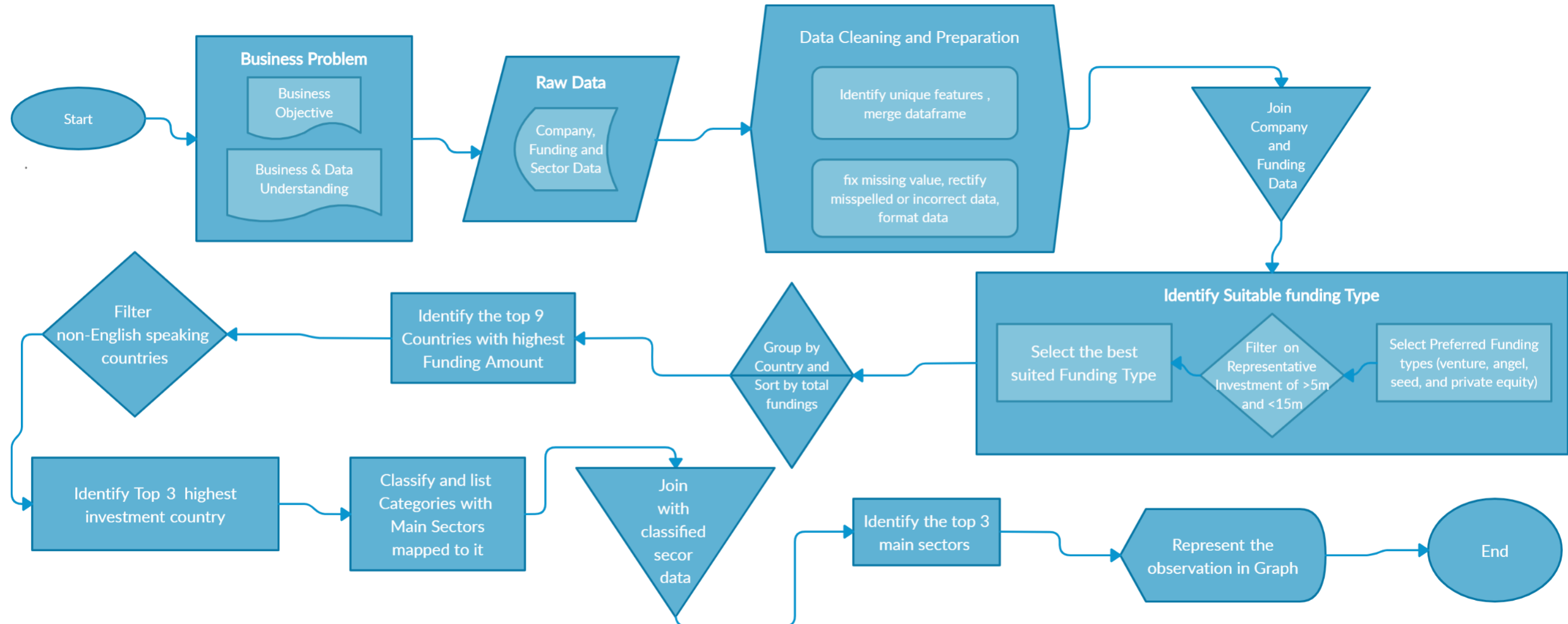
Business Problem & Understanding

Objective

Spark Funds, an asset management company 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

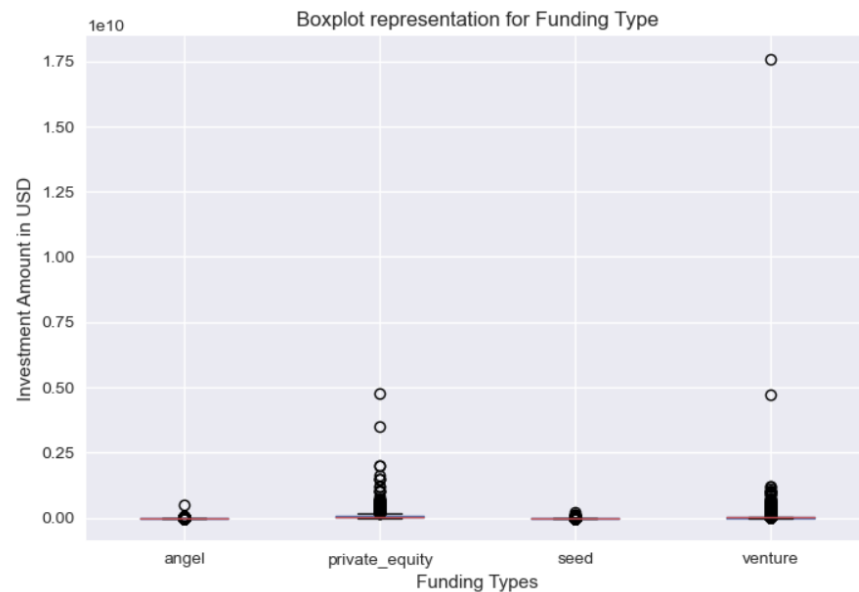
- Spark Funds has few constraints for investments:
 - It wants to invest between 5 to 15 million USD per round of investment
 - It wants to invest only in English-speaking countries because of the ease of communication with the companies it would invest in.
 - It wants to choose one investment type from the 4 major types (Seed, Angel, Venture, Private Equity) for each potential investment they make.
- The overall strategy is to invest where others are investing, implying that the 'best' sectors and companies for the countries that are the ones 'where most investors are investing'.



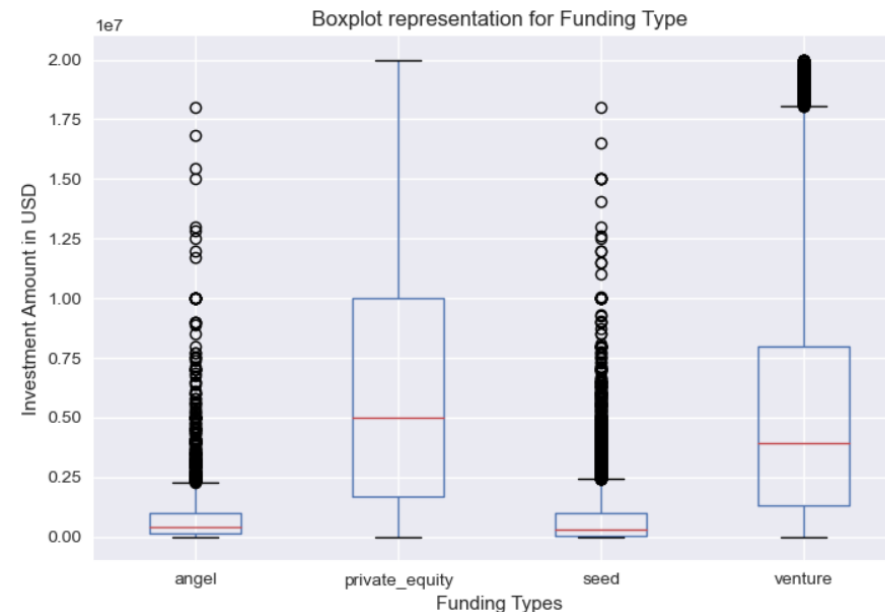
Funding Type Analysis (investment type analysis)

- The funding types **seed**, **venture**, **angel** and **private equity** are the four type that are eminent for spark funds.
- Though spark funds could **invest between 5M to 15M \$** we have to find the funding type that lies between this range.
- For **representative values** we need to visualize the outliers for **mean** and also visualize the **median** observation, this can be visualized through Boxplot.

Funding Type with extreme outliers

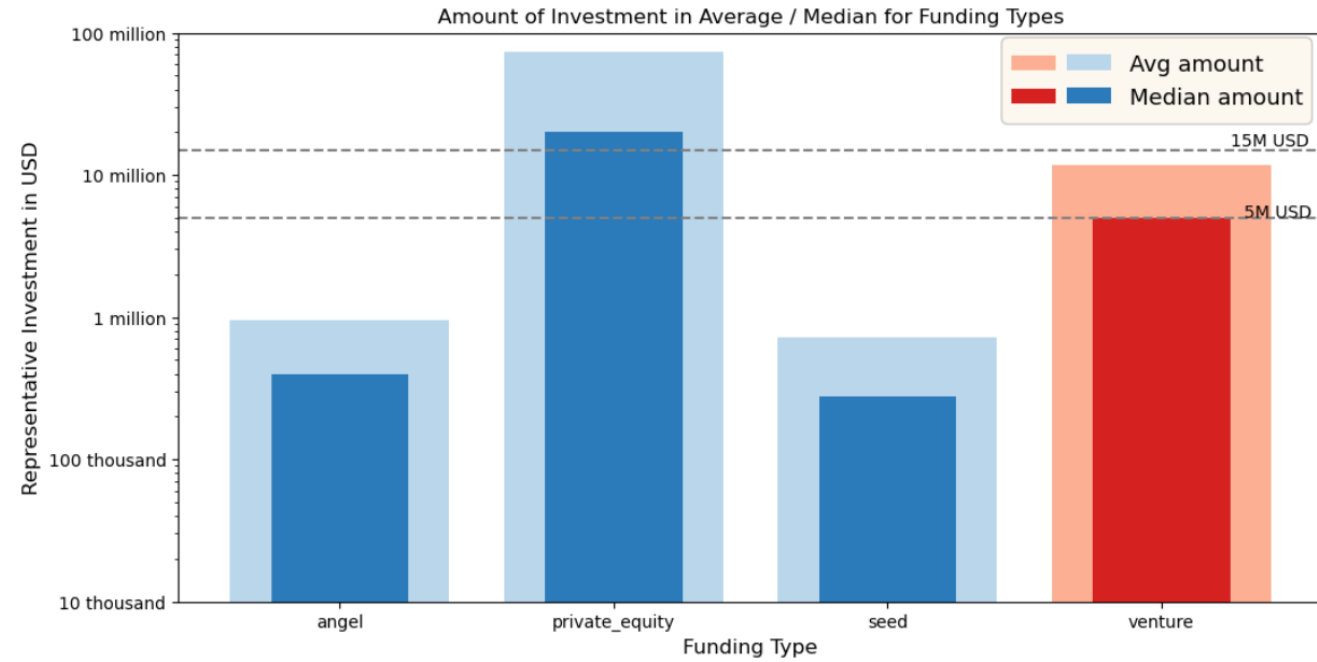


Funding Type without extreme outliers



Funding Type Analysis (investment type analysis)

Funding Type	Average	Median
angel	958694.5	400000.0
private_equity	73308593.0	20000000.0
seed	719818.0	275000.0
venture	11748949.1	5000000.0



From mean and median for the four funding types outputted in the above table, We can consider the **median** as there are outliers in the investment amount, So **considering the median** we could see than **venture** lies between 5M to 15M \$ for investment.

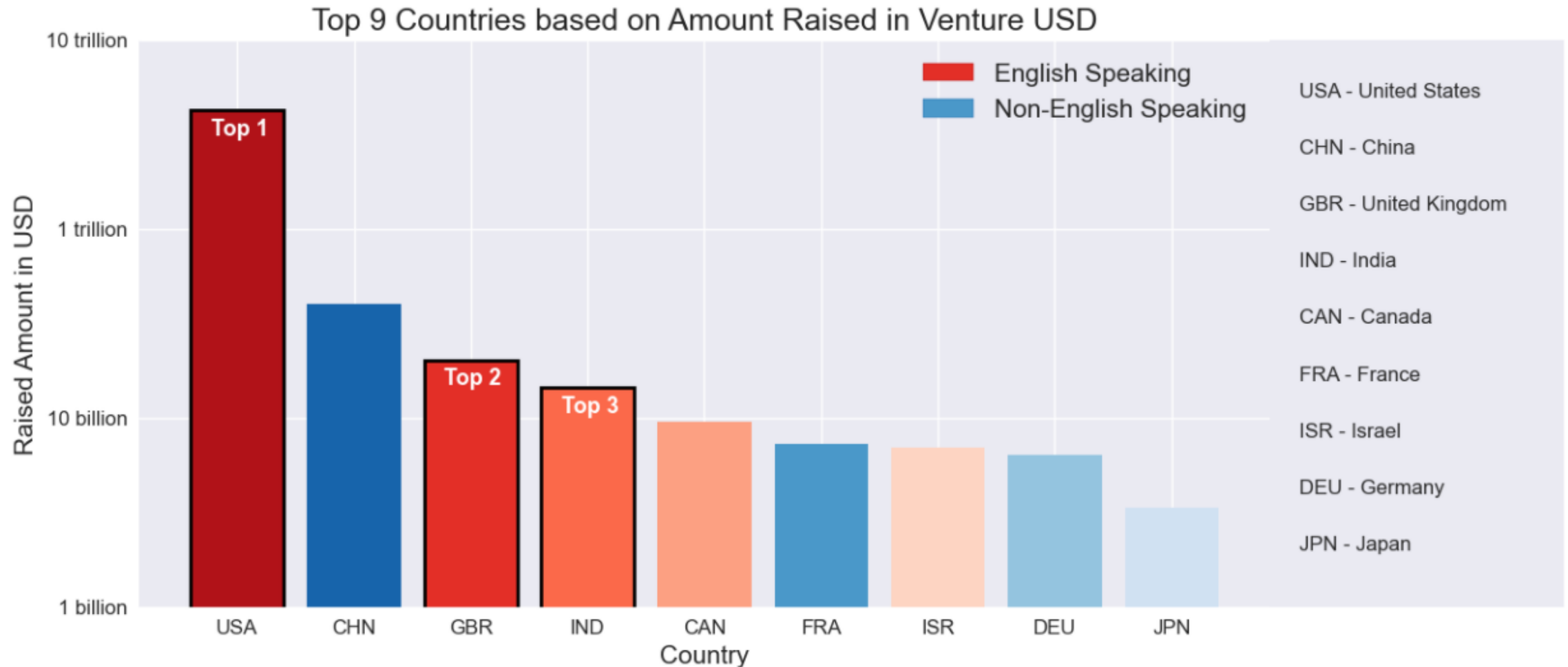
From the graph, it depicts the value range for each funding type from which we can clearly decide the best fit as **venture** type that lies between the lines of 5M to 15M \$ range.

Country Analysis

- Spark Funds wants to invest in countries with the highest amount of funding for the chosen investment type.
- Spark Funds wants to see the top nine countries which have received the highest total funding (across ALL sectors for the chosen investment type).
- The top three English-speaking countries would be USA,GBR and IND.

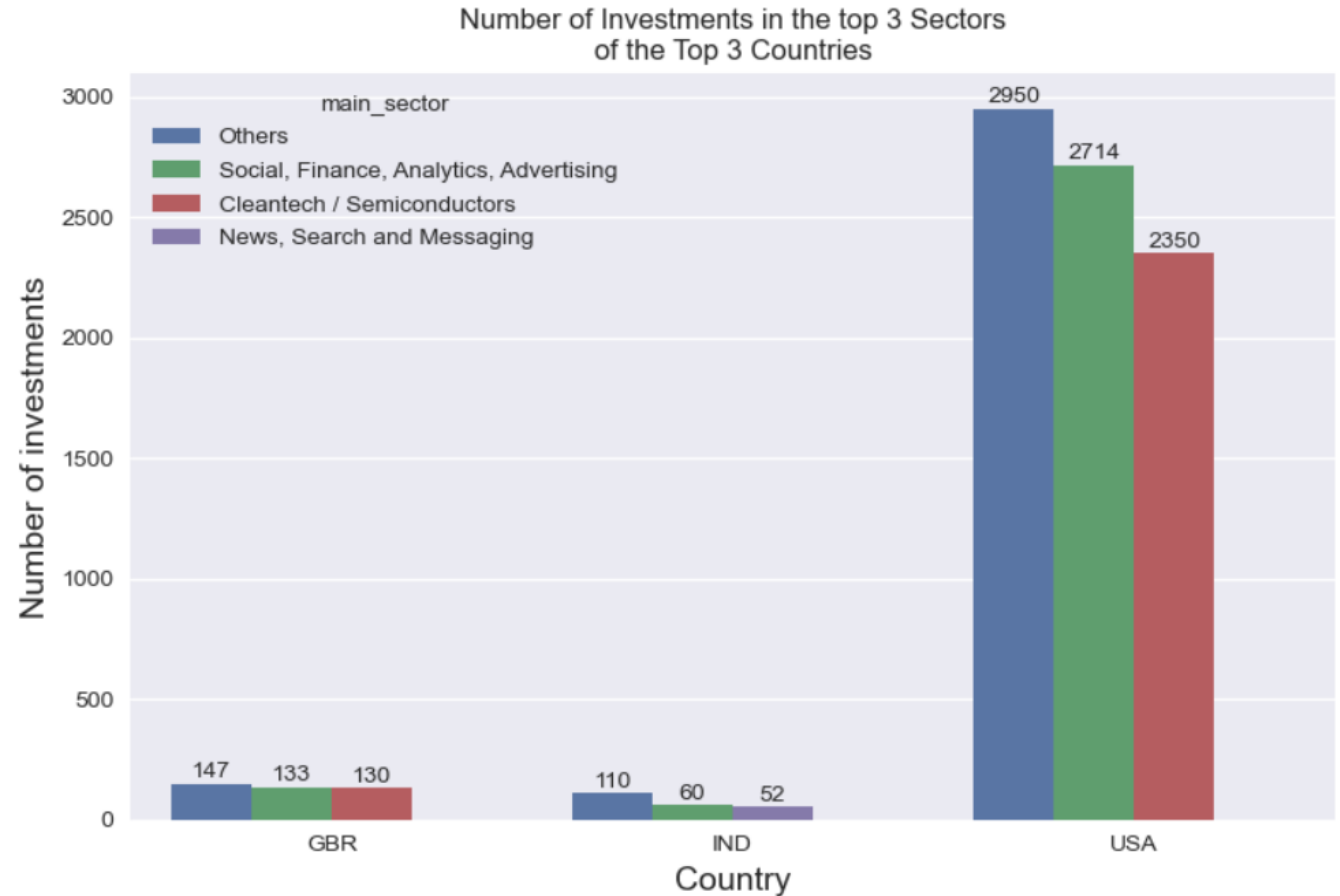
Country	Total Amount raised in USD
USA	422510842796.0
CHN	39835418773.0
GBR	20245627416.0
IND	14391858718.0
CAN	9583332317.0
FRA	7259536732.0
ISR	6907514579.0
DEU	6346959822.0
JPN	3363676611.0

Graph Showing Top 9 English speaking Countries based on Total Investment Amount in Venture Funding



Sector Analysis

- Spark funds wants to invest on top 3 sectors on three countries with highest raised amount for preferred funding type, hence this narrows down the number of main sectors based on the number of investments.
- On Analysis and Identifying the top 3 sectors it has been shown in the graph which depicts it clearly.
- **USA** and **GBR** has same sectors excluding News, Search and Messaging while on the other hand **IND** has shows three sectors excluding Cleantech / Semiconductors.



	Number of Investment			Amount Invested in Millions (USD)		
Country	GBR	IND	USA	GBR	IND	USA
Main Sector						
Automotive & Sports	16	13	167	167.1	136.9	1454.1
Blanks	7	2	86	57.8	27.0	764.8
Cleantech / Semiconductors	130	20	2350	1164.0	165.4	21633.4
Entertainment	56	33	591	482.8	280.8	5099.2
Health	24	19	909	214.5	167.7	8211.9
Manufacturing	42	21	799	361.9	200.9	7258.6
News, Search and Messaging	73	52	1583	615.7	433.8	13971.6
Others	147	110	2950	1283.6	1013.4	26321.0
Social, Finance, Analytics, Advertising	133	60	2714	1089.4	550.5	23807.4

- The tables describes the amount invested and the number of investment in each sector for the top 3 countries.
- The basic strategy that spark fund want to follow is to invest on most invested sectors.

Top Investment companies and sectors					
USA		GBR		IND	
Top Sector	Others	Top Sector	Others	Top Sector	Others
2 nd Best Sector	Social, Finance, Analytics, Advertising	2 nd Best Sector	Social, Finance, Analytics, Advertising	2 nd Best Sector	Social, Finance, Analytics, Advertising
Top Company	/organization/virtustream	Top Company	/organization/electric-cloud	Top Company	/organization/firstcry-com
2 nd Best Company	/organization/shotspotter	2 nd Best Company	/organization/celltick-technologies	2 nd Best Company	/organization/manthan-systems

From our analysis from the gathered data we can conclude with the following key points for decision:

- The best Funding type for investment is **Venture** base on the Spark Funds investment criteria.
- The top 3 English speaking countries with highest investment are
 - United States
 - United Kingdom
 - India
- The Top sectors to invest are
 - Others
 - Social, Finance, Analytics, Advertising
- The Top company from each country we can invest in are
 1. /organization/virtustream (USA)
 2. /organization/electric-cloud (GBR/UK)
 3. /organization/firstcry-com (IND)