

# Spark Fund Investment Case Study

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**Group Name : Scilytics**



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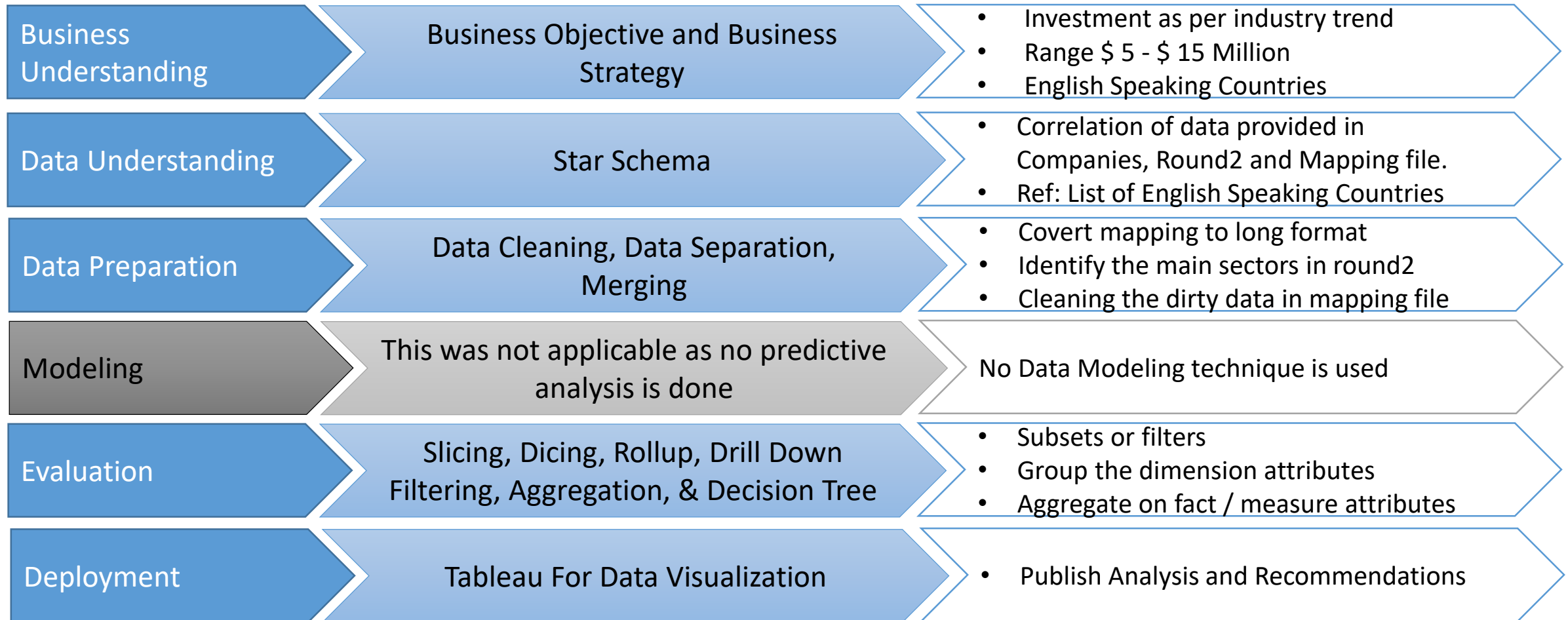


Abhishek Pandey

Business Requirement	Data Set	Data Analysis	Outcome
<ul style="list-style-type: none"> <li>Go with Industry trend in investment – <b>Other Investors are Investing</b></li> <li>Investment <b>range of \$ 5 M to \$ 15 M</b> per round of Investment</li> <li><b>English Speaking Countries</b></li> </ul>	<p><b>Main Dataset:</b></p> <ul style="list-style-type: none"> <li><b>Rounds2.csv</b> – This is a master file with contain information about funding type, funding date, funding amount and company org link</li> <li><b>Companies.txt</b> – It is a delimited file with information about company name, category, country, region and founded at is present along with unique permalink</li> <li><b>Mapping.csv</b> – This file has mapping of category with main sector. Data of category is dirty and need cleaning</li> </ul> <p><b>Reference :</b></p> <ul style="list-style-type: none"> <li>PDF file with list of English speaking countries</li> </ul>	<p><b>Objective:</b></p> <ul style="list-style-type: none"> <li><b>Investment Analysis</b> – best sector to invest</li> <li><b>Country Analysis</b> – Top 3 English speaking countries</li> <li><b>Sector Analysis</b> – Best sectors in those countries to investment in</li> <li><b>Company Analysis</b> – Best companies to invest with</li> </ul> <p><b>Tools:</b></p> <ul style="list-style-type: none"> <li>R</li> <li>Tableau</li> <li>Excel</li> </ul> <p><b>Technique:</b></p> <ul style="list-style-type: none"> <li>CRISP – DM Framework</li> <li>Slicing, Dicing, Roll up, Drill Down, Filtering, Aggregation, Decision Tree</li> </ul>	<ul style="list-style-type: none"> <li><b>“Venture”</b> is most followed investment type with <b>59% investments</b> happen in this type. <b>Average investment in this is ~ \$ 11 M</b></li> <li><b>USA, GBR, IND</b> are top 3 <b>English Speaking destination</b></li> <li><b>“Others”</b> is the most preferred sector followed by <b>“Social, Finance, Analytics and Advertisement”</b></li> <li><b>Virtustream, Electric Cloud, FirstCry.com</b> are most recommended companies followed by <b>SST Inc., Celltick Technologies and Manthan Systems</b></li> </ul>

## Framework and Technique used for Analysis

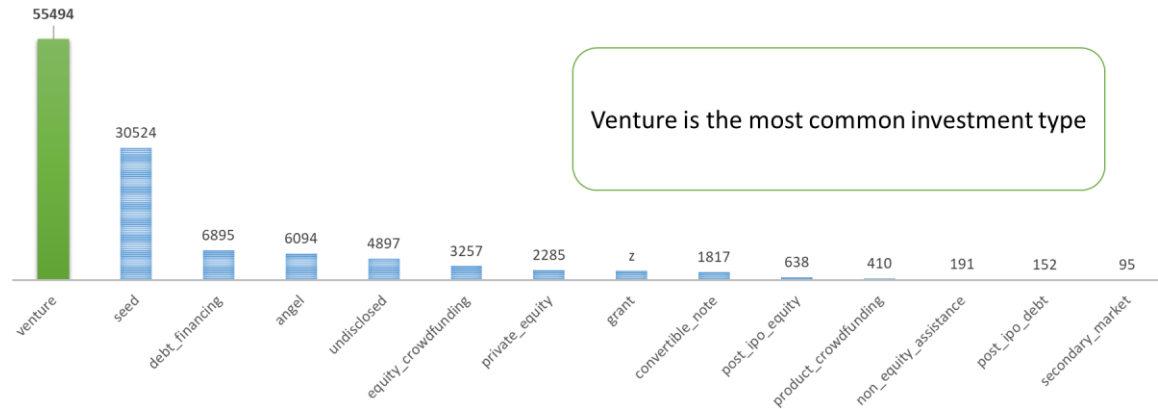
We used CRISP – DM Methodology to breakdown the given dataset. It was done using various techniques



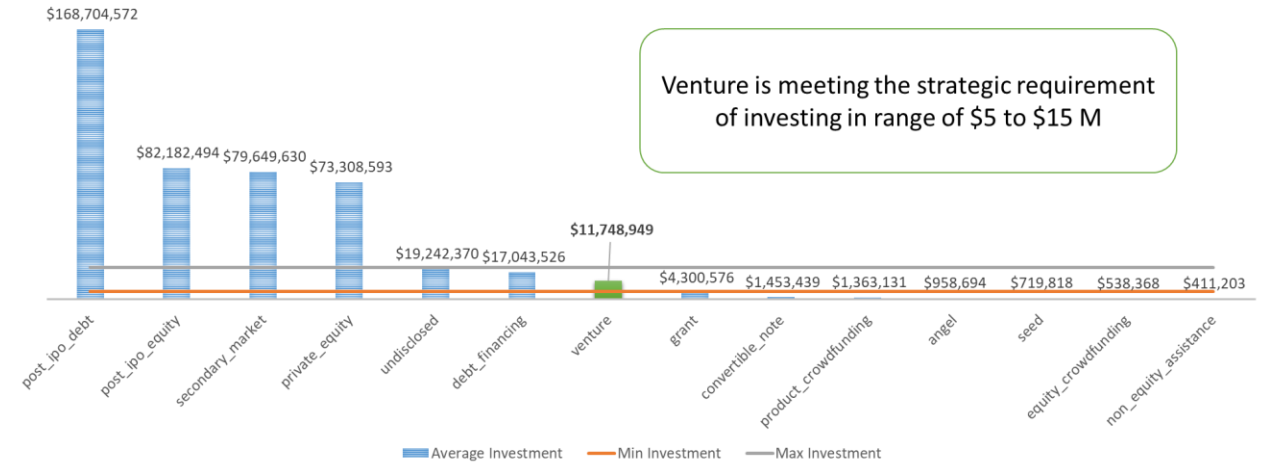
# Analysis to identify best investment Type and Country

Slicing technique and aggregate function is used to identify the recommended countries for Spark Funds

COUNT OF INVESTMENT IN EACH FUND TYPE



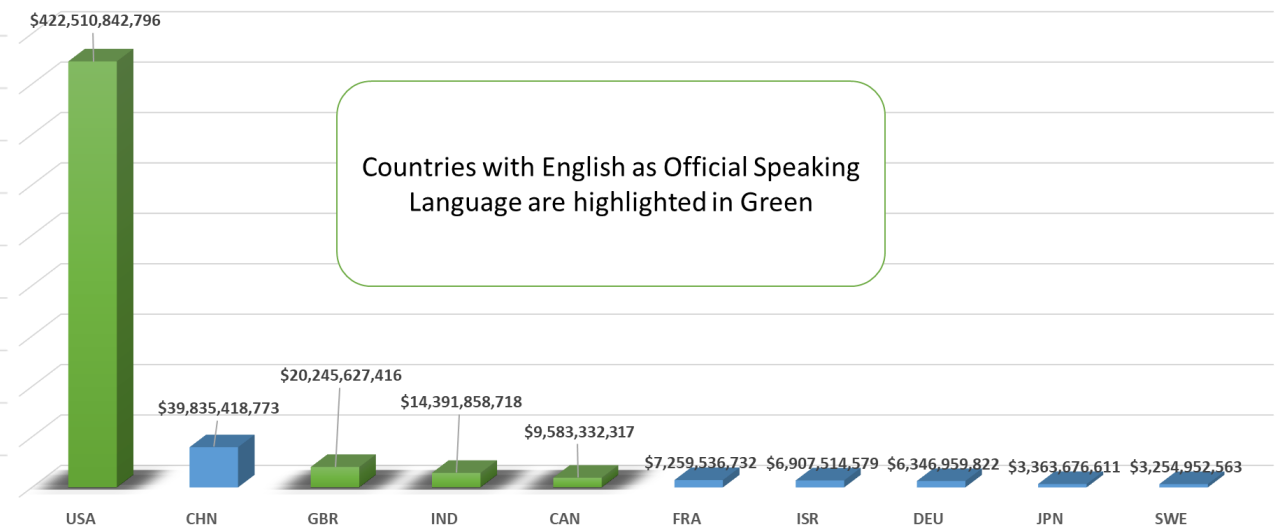
AVERAGE INVESTMENT FOR EACH INVESTMENT TYPE



COUNT OF INVESTMENTS IN VENTURE

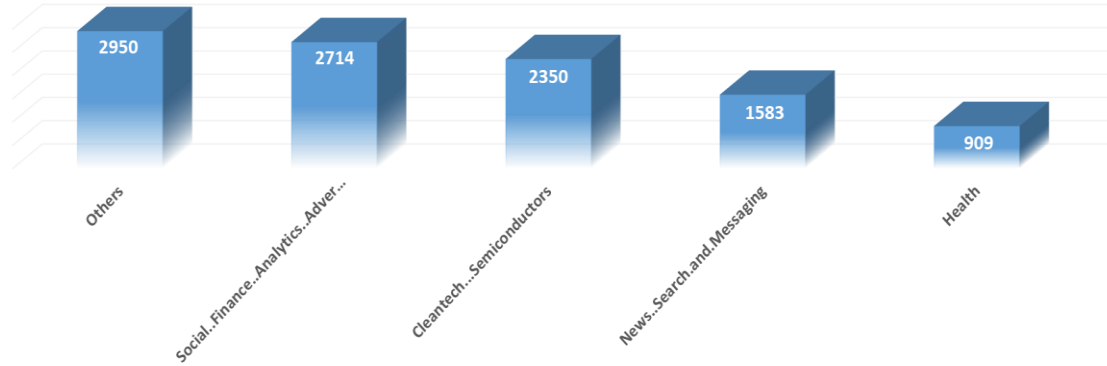


TOTAL INVESTMENTS IN VENTURE



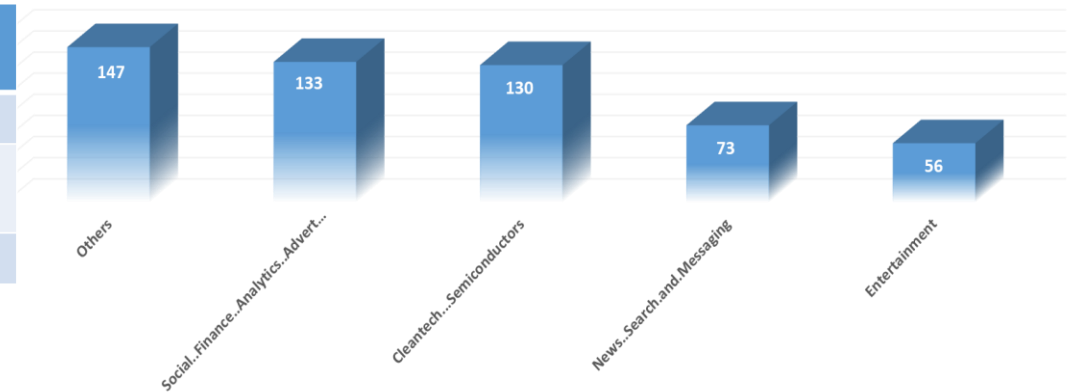
# Analysis to identify best sectors in recommended countries for Venture Investment

COUNT OF INVESTMENTS IN USA



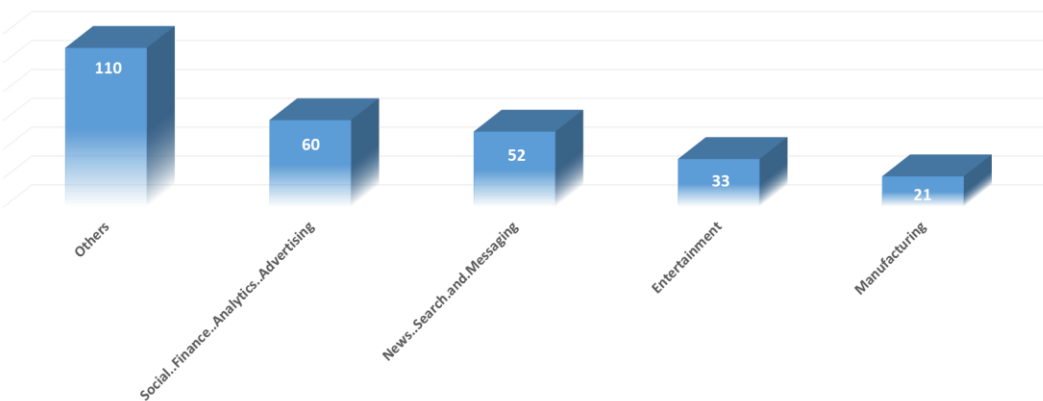
Sector Name in USA	Count of Investment	Average Investment	Total Investment
Others	2950	\$8.92 M	\$26.3 B
Social, Financial, Analytics and Advertisement	2714	\$8.77 M	\$23.8 B
Cleantech Semiconductors	2350	\$9.21 M	\$21.6 B

COUNT OF INVESTMENTS IN GBR



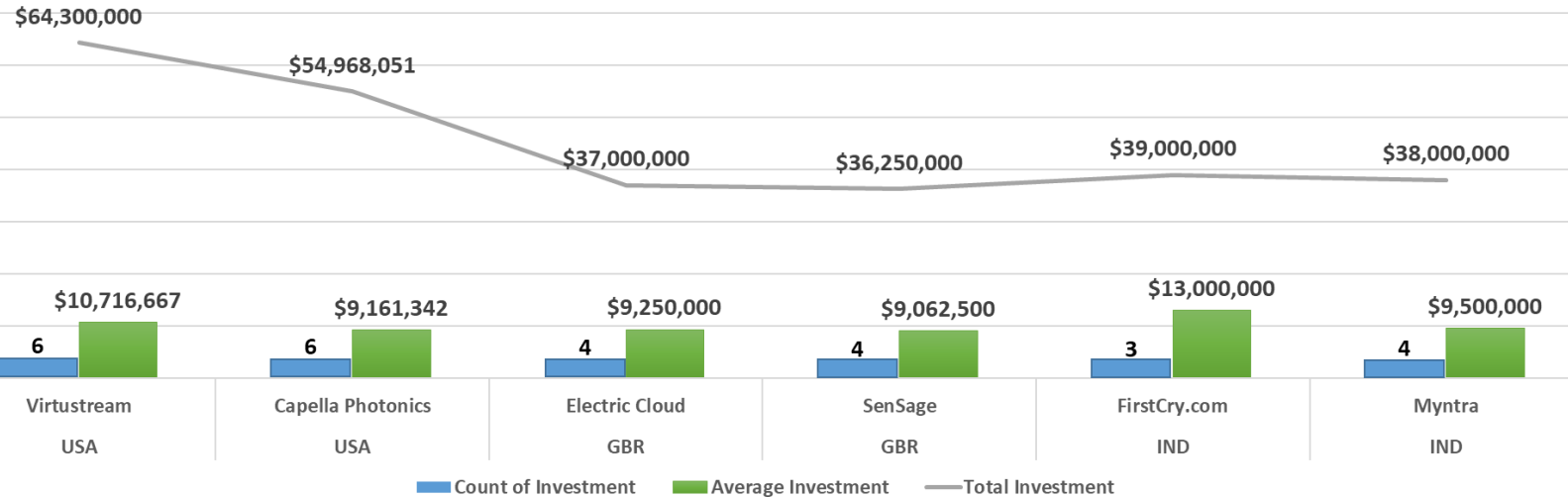
Sector Name in GBR	Count of Investment	Average Investment	Total Investment
Others	147	\$8.73 M	\$1.3 B
Social, Financial, Analytics and Advertisement	133	\$8.19 M	\$1.1 B
Cleantech Semiconductors	130	\$8.96 M	\$1.2 B

COUNT OF INVESTMENTS IN IND



Sector Name in IND	Count of Investment	Average Investment	Total Investment
Others	110	\$9.21 M	\$1.01 B
Social, Financial, Analytics and Advertisement	60	\$9.17 M	\$0.55 B
News, Search and Messaging	52	\$8.34 M	\$0.43 B

## TOP TWO COMPANIES FOR "OTHERS" SECTOR IN RECOMMENDED COUNTRIES



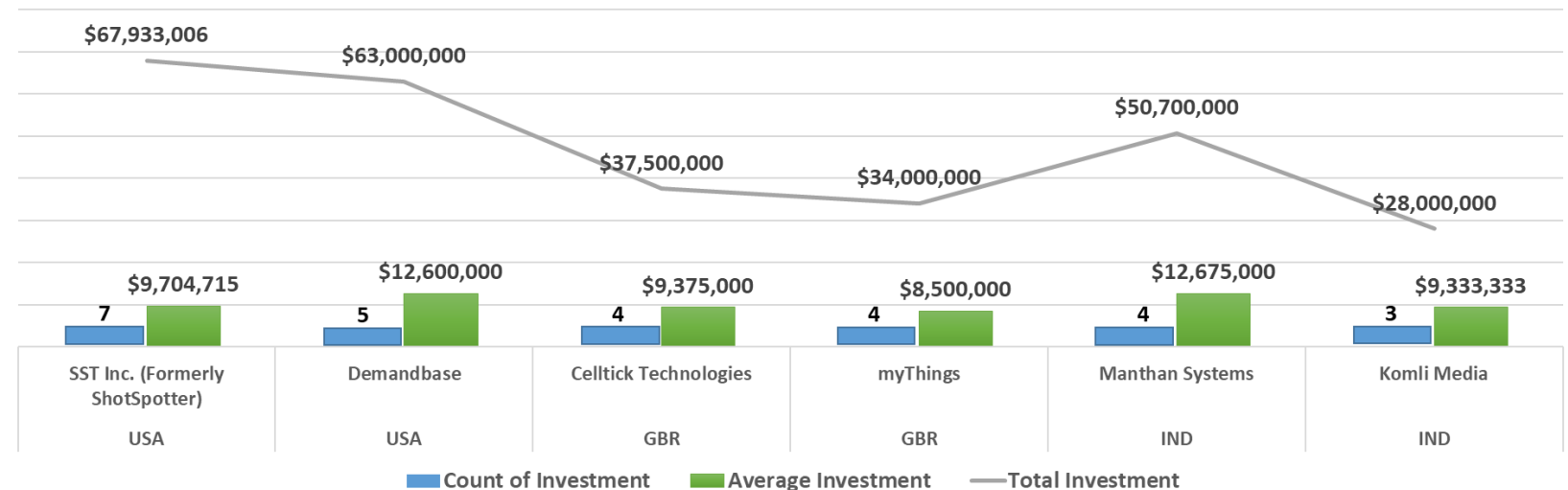
“Others” is the Most recommended Sector for Investment Type Venture.

These are identified as top two companies in each recommended region for this sector

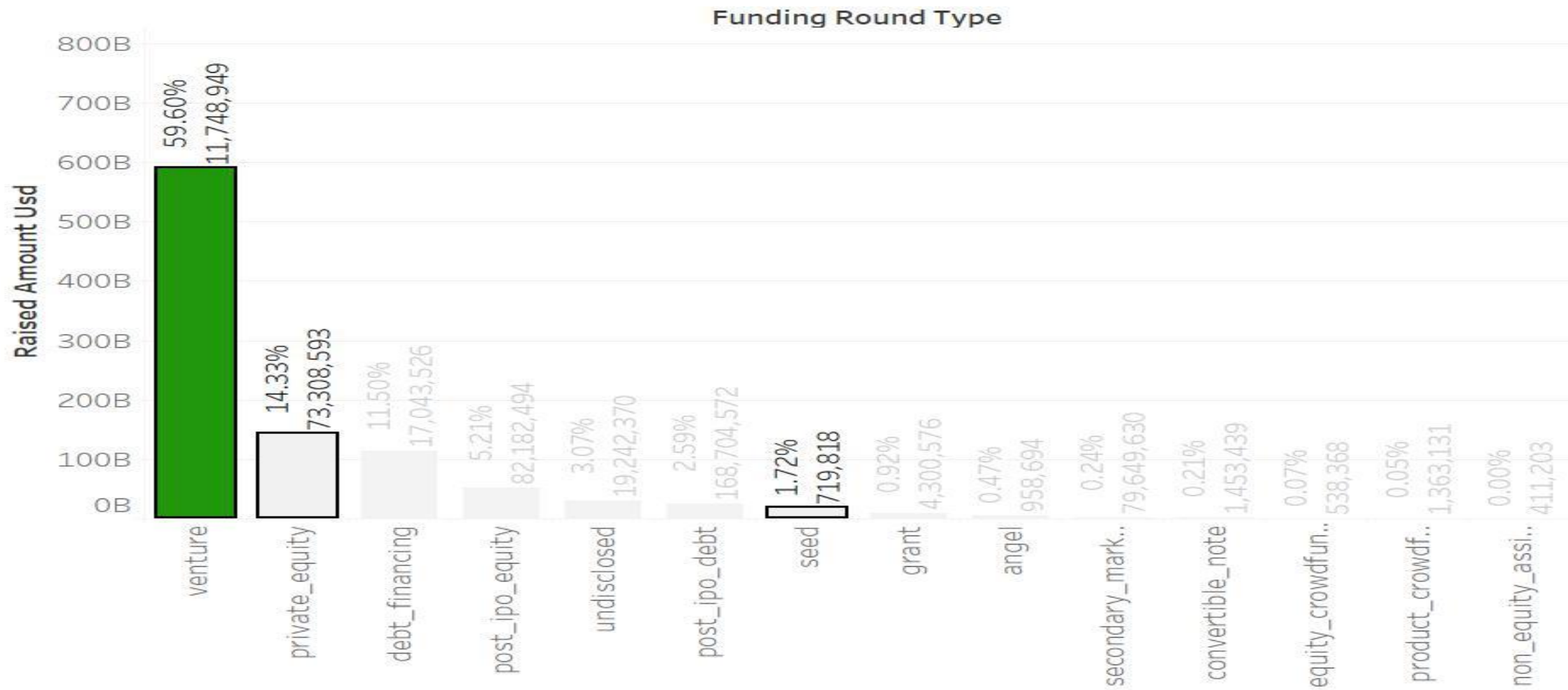
“Social, Finance, Analytics, Advertisement” is the second most recommended Sector for Investment Type Venture.

These are identified as top two companies in each recommended region for this sector

## TOP TWO COMPANIES FOR "SOCIAL" SECTOR IN RECOMMENDED COUNTRIES



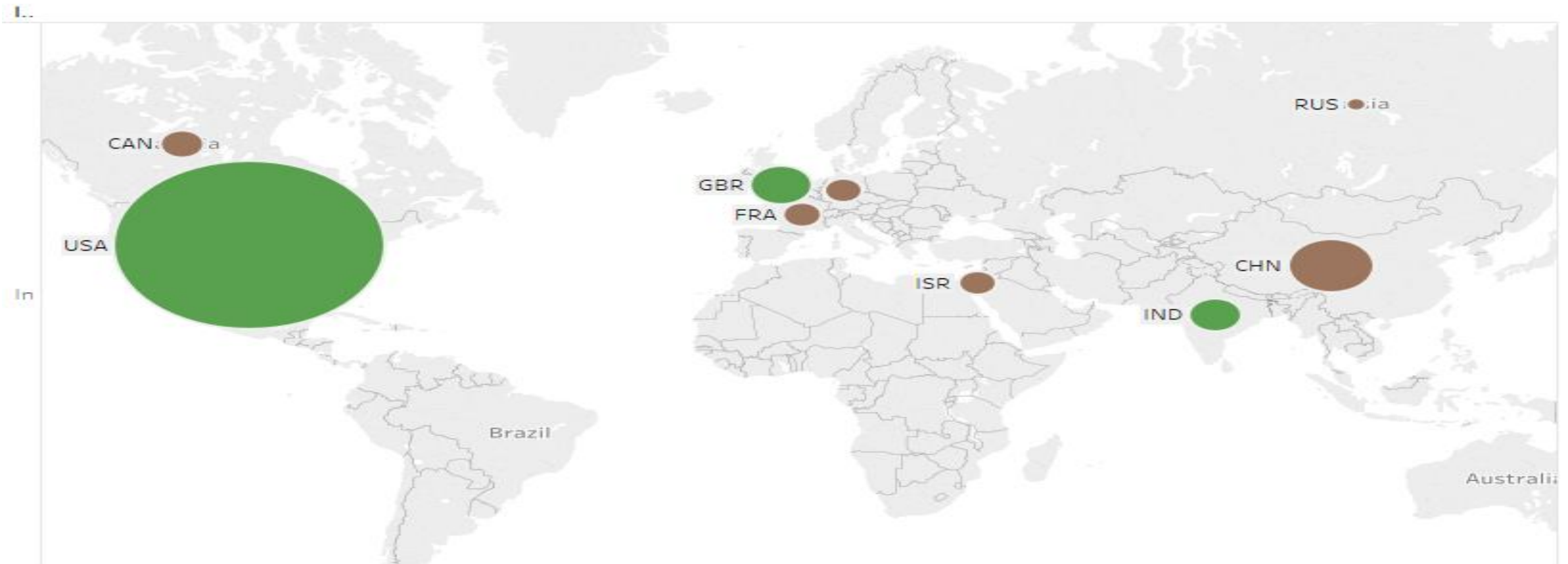
# Plot depicting fraction of total investment along with value of average investment for each investment type



Sum of Raised Amount Usd for each Funding Round Type. Color shows sum of Investment Range. The marks are labeled by % of Total Raised Amount Usd and average of Raised Amount Usd.



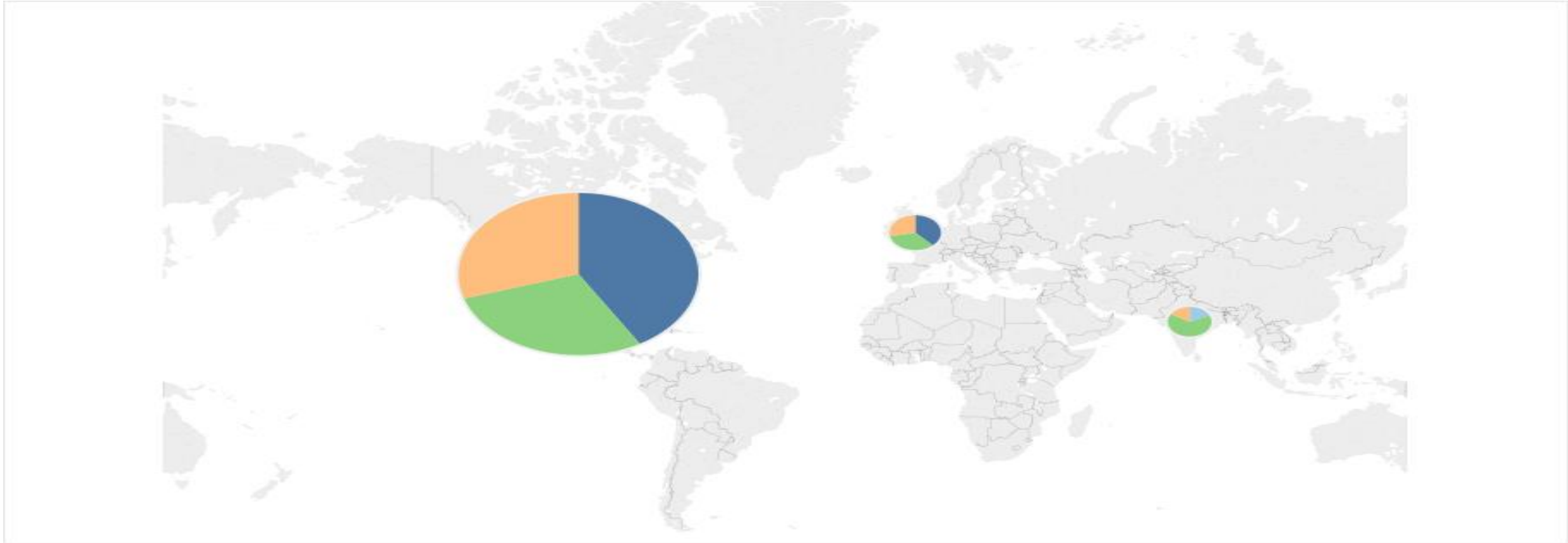
## Top 9 Countries by Investments



Map based on Longitude (generated) and Latitude (generated) broken down by In / Out of Top 9 Countries by Investments. Color shows details about In / Out of English Countries. Size shows sum of Raised Amount Usd. The marks are labeled by country code (Sheet1). The data is filtered on Funding Round Type, which keeps venture. The view is filtered on In / Out of Top 9 Countries by Investments, Latitude (generated) and Longitude (generated). The In / Out of Top 9 Countries by Investments filter excludes Out. The Latitude (generated) filter keeps non-Null values only. The Longitude (generated) filter keeps non-Null values only.



# Plot showing top sectors in recommended countries based on count of investment for Venture



Map based on Longitude (generated) and Latitude (generated). Color shows details about Main Sector. Size shows sum of Raised Amount Usd. Details are shown for Country Code. The data is filtered on Funding Round Type and Rank of Raised Amount Usd. The Funding Round Type filter keeps venture. The Rank of Raised Amount Usd filter ranges from 1 to 3. The view is filtered on Country Code, which keeps GBR, IND and USA.

## Main Sector

- Cleantech...Semiconductors
- News...Search.and.Messaging
- Others
- Social..Finance..Analytics..Advertising

## Average Values of Investments for Each of these Funding Types

1	Average funding amount of venture type	\$ 11,748,949.00
2	Average funding amount of angel type	\$ 958,694.50
3	Average funding amount of seed type	\$ 719,818.00
4	Average funding amount of private equity type	\$ 73,308,593.00
5	Considering that Spark Funds wants to invest between 5 to 15 million USD per investment round, which investment type is the most suitable.	Venture

## Analysing the Top 3 English-Speaking Countries

1	Top English speaking country	USA
2	Second English speaking country	GBP
3	Third English speaking country	IND

## Assumptions

1. All blank cells for country code, category, main sectors, investment type and amount invested were not considered in this analysis. Providing this missing data will help us to analyze and provide more appropriate status and analysis
2. Mapping file was cleaned to have more accurate correlation of sectors with categories mentioned in companies.txt file
3. Provided PDF was used as reference and as no common field was provided to map country with provided country code, assumption is made to provide details about English speaking countries. However, if permitted, we can download the information from external sources to have better integration and firm analysis based on given country codes

## Sector-wise Investment Analysis

Sl.no	Analysis Category	USA	GBR	IND
1	Total number of Investments (count)	12150	628	330
2	Total amount of investment (USD)	\$ 108,531,347,515.00	\$ 5,436,843,539.00	\$ 2,976,543,602.00
3	Top Sector name (no. of investment-wise)	Others	Others	Others
4	Second Sector name (no. of investment-wise)	Social, Finance, Analytics, Advertising	Social, Finance, Analytics, Advertising	Social, Finance, Analytics, Advertising
5	Third Sector name (no. of investment-wise)	Cleantech / Semiconductors	Cleantech / Semiconductors	News, Search and Messaging
6	Number of investments in top sector (3)	2950	147	110
7	Number of investments in second sector (4)	2714	133	60
8	Number of investments in third sector (5)	2350	130	52
9	For point 3 (top sector count-wise), which company received the highest investment?	Virtustream	Electric Cloud	FirstCry.com
10	For point 4 (second best sector count-wise), which company received the highest investment?	SST Inc. (Formerly ShotSpotter)	Celltick Technologies	Manthan Systems