

# *INVESTMENT CASE STUDY*

## *SUBMISSION*

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# Objective

This case study ascertains the best sectors across geographies suited for investment by Spark Funds.

As per Spark Funds' corporate strategy and philosophy, the following constraints were kept to filter from the data available:

- Investment is expected in the sector and geography where the maximum investments are happening.
- The investment geography is limited to countries where English is an official language.
- Only investments in the range of 5 Million to 15 Million per investment round were considered for the analysis

Employing the CRISP-DM methodology, data on 66368 companies with 114949 rounds of funding in the major sectors was analysed to understand the investment patterns in the English speaking countries to identify the potential geographies and sectors which can be considered for investment.

Based on the analysis, recommendations were placed for the approval of the company

# Overview: CRISP -DM

**Business Understanding:** To find the best suited geography, sector and funding type for investments by Spark Funds

**Data Understanding:** Historical data from Crunch base was collected in text and csv format.

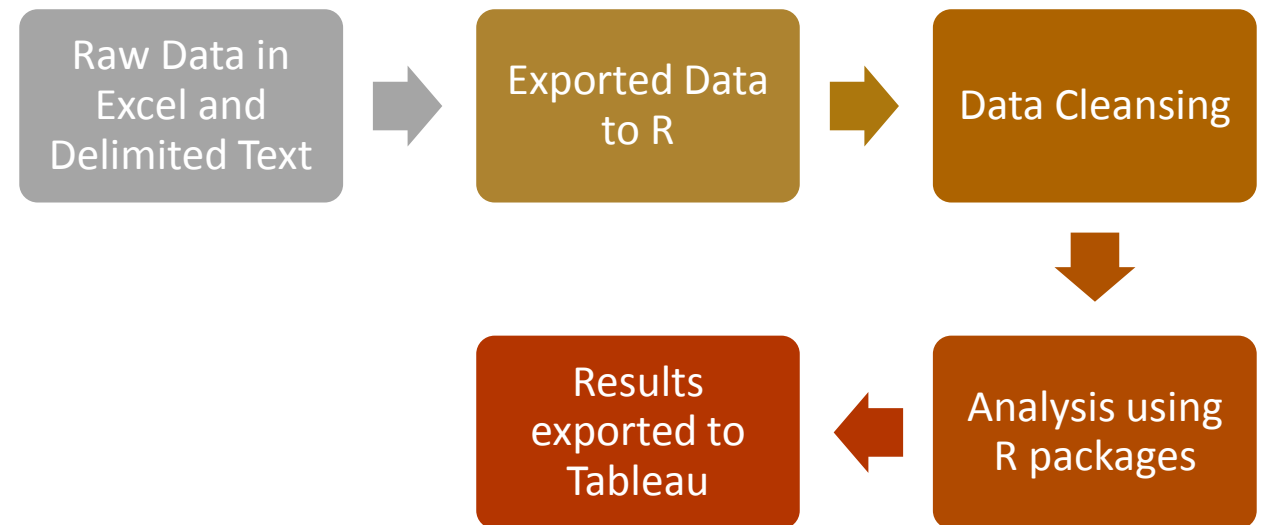
**Data Preparation:** Data selection, cleaning, data formatting and integration, constructing the final dataset for modelling.

**Modelling:** Based on the data, a model was finalized. The modelling technique used was taking the average of funded amount for arriving at suitable country , sector or company.

**Evaluation:** Evaluation of results in the context of business objectives, reviewing the quality of the process, further decisions on deployment.

**Deployment:** Deployment, final report and review of the analysis by the company CEO.

*The phases of CRISP-DM methodology was broadly carried in the below shown steps :*



# Overview: Data Set

The following assumptions were made during the data analysis:

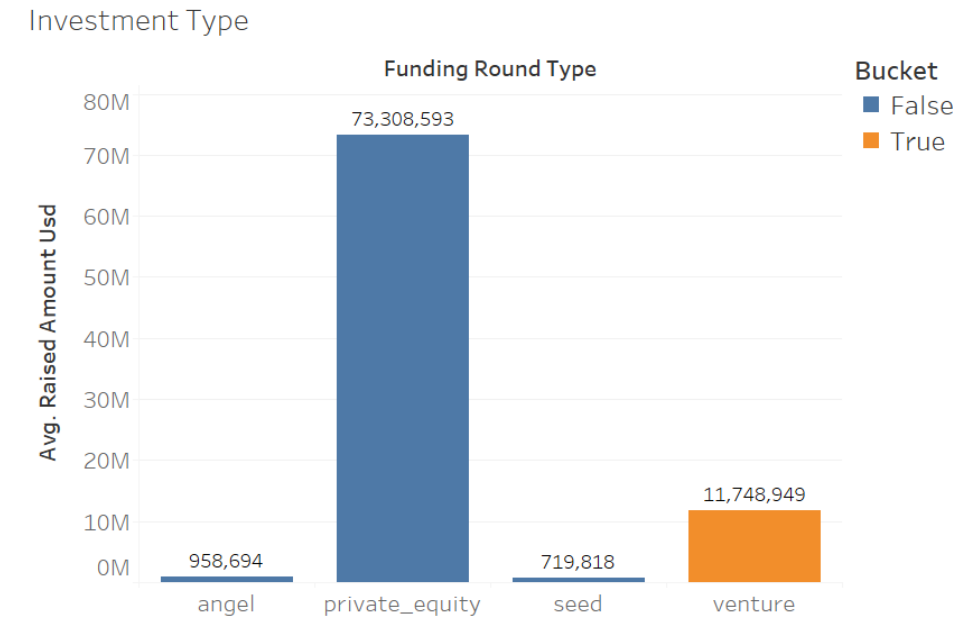
- Countries with Investment Amount as 0 have been considered while finding the suitable investment type.
- Companies with country related details missing have been excluded from the dataset.
- For companies with multiple rounds on investment between 5-10 M USD, each round has been considered entry.

# Analysis

The analysis has three separate aspects. First to find the type investment which will be most suitable keeping in mind that Spark Funds want to invest between 5-15 million USD. Second , to analyse the data thoroughly to find the favourable geographies. Third , to find the best sectors across the selected geographies.

The following points summarize the broad areas of analysis:

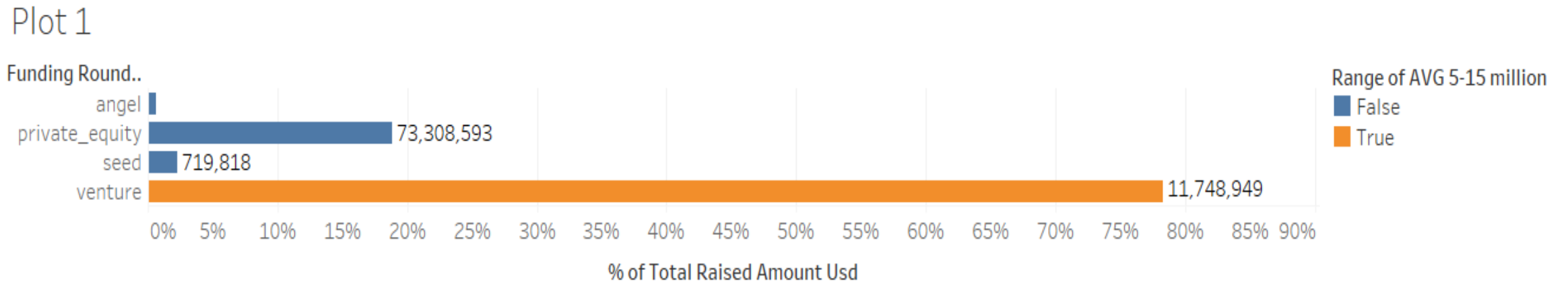
- 1. Investment type Analysis :** Analysis of the funding amount per investment round of majorly angel, seed, venture and private equity type of funding showed that venture type of funding was suitable for Spark Funds. This is mainly driven by the fact that Spark Funds wants to invest between 5-15 million USD for each investment round. On analyzing the data , we found the average funding amount of venture type falls well within the bucket marked by Spark Funds. The same has been illustrated in the plot.



Average of Raised Amount Usd for each Funding Round Type. Color shows details about Bucket. The view is filtered on Funding Round Type, which keeps angel, private\_equity, seed and venture.

# Analysis

Below plot shows the fraction of total investments (globally) in venture, seed, and private equity, and the average amount of investment in each funding type. This chart clearly shows venture to be the most suitable type of funding type for Spark Funds.



% of Total Raised Amount Usd for each Funding Round Type. Color shows details about Range. The marks are labeled by average of Raised Amount Usd. The view is filtered on Range and Funding Round Type. The Range filter excludes Null. The Funding Round Type filter keeps angel, private\_equity, seed and venture.

# Analysis

**2. Country Analysis :** From the data which was taken for analysis , a subset of 85996 companies was taken where the funding type was Venture. Focus was to find the countries where maximum investments have happened.

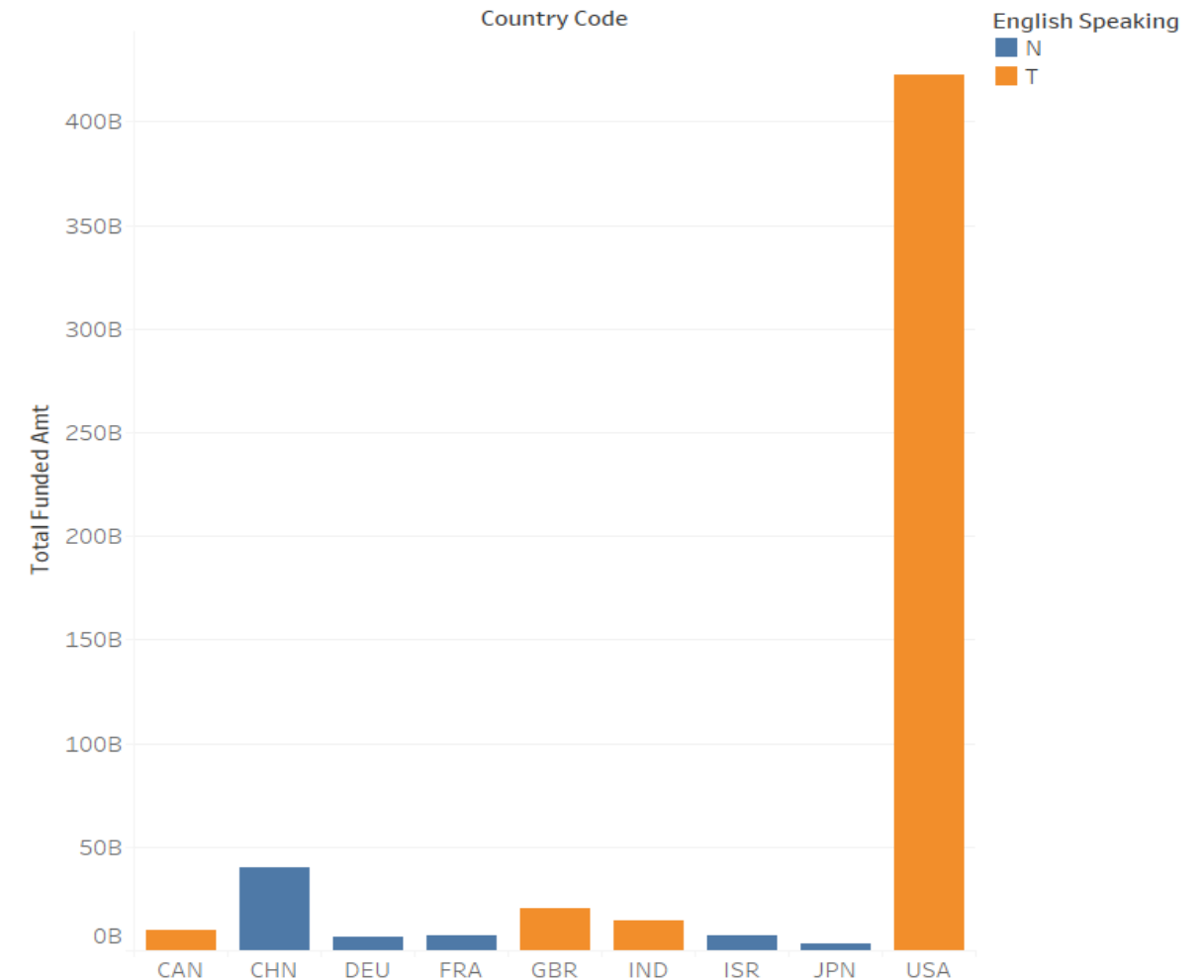
Analysis majorly involved finding the total amount invested in each country and then finding the top 9 countries.

As Spark Funds prefers English speaking countries for the ease of communication, out of the top 9 countries only 4 countries have English as the official language. Out of the 4 , United States of America appeared to be the most suitable country having a total of 669,482 million USD investment. Followed by United Kingdom , having 327,67 million USD of investment and India having approx. 276,86 million USD of investments.

Top 3 countries suitable for investment keeping English as the official speaking language would be:

- United States of America (USA)
- United Kingdom (GBR)
- India (IND)

*A plot showing the top 9 countries against the total amount of investments of venture funding type.*



Sum of Total Funded Amt (top9 (2)) for each Country Code. Color shows details about English Speaking (top9 (2)).

## Analysis Contd..

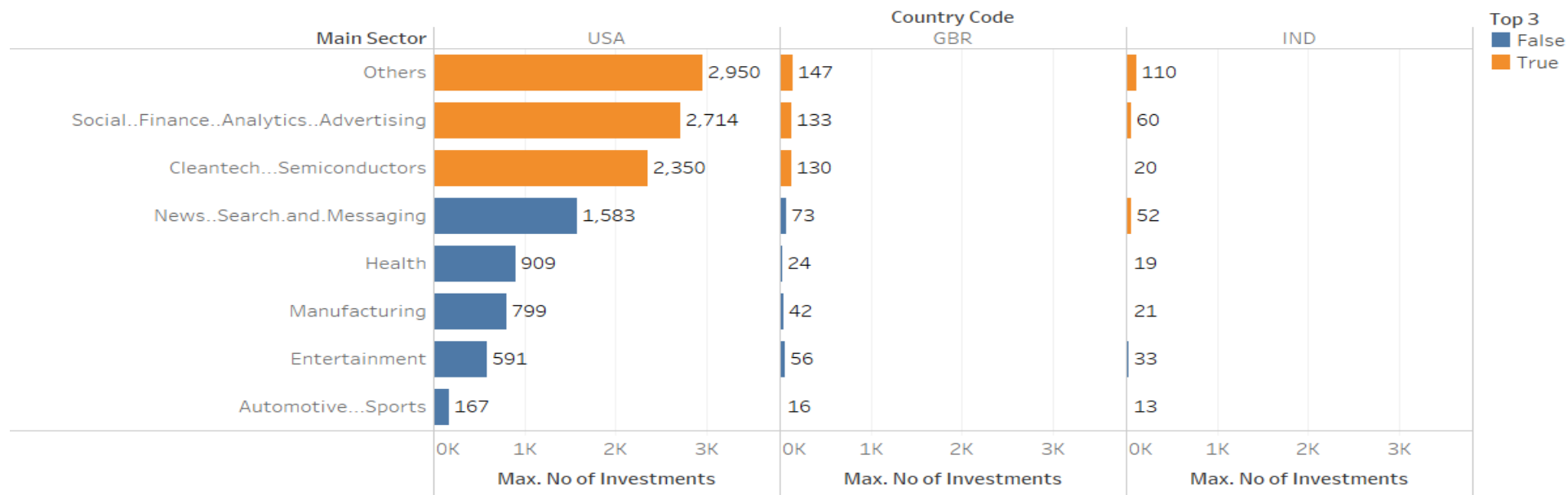
**3. Sector Analysis :** *For the three countries identified suitable for investment , distribution of investment pattern was studied for 8 major sectors. The major 8 sectors considered are as follows:*

- a. Automotive and Sports*
- b. Cleantech and Semiconductors*
- c. Entertainment*
- d. Health*
- e. Manufacturing*
- f. News , Search and Messaging*
- g. Social , Finance , Analytics and Advertising*
- h. Others*

➤ *The analysis was carried out in two broad steps:*

- *Mapping each company to one of the 8 major sectors.*
- *Finding the total amount invested in sector to find the sector with highest investment amount.*





Maximum of No of Investments for each Main Sector broken down by Country Code. Color shows details about Top\_3.

## Top 3 Sectors – Country wise

USA

UK

India

- 1.) Others
- 2.) Social, Finance, Analytics & Advertising
- 3.) Cleantech & Semiconductors

- 1.) Others
- 2.) Social, Finance, Analytics & Advertising
- 3.) Cleantech & Semiconductors

- 1.) Others
- 2.) Social, Finance, Analytics & Advertising
- 3.) News, Search & Messaging

# Conclusions

Based on the detailed analysis conducted, the following conclusions are placed before Sparks Funds:

- Spark Funds should focus on Venture Funding in the range of 5-10 Million USD in the USA, the UK and India.
- Primary focus of investment should be in the USA with additional outreach to the UK and India.
- Investment priority should be in companies falling under Other Main Sectors in each of the three geographical area.
- Virtustream and SST Inc. (Formerly ShotSpotter) should be the companies to be considered for investment to start with in USA.
- Companies falling under Social, Finance, Analytics & Advertising can also be considered for investment in the three countries as above.