

CHHANDITA
CHAVAN

INVESTMENT ANALYSIS ASSIGNMENT

Abstract

Business Objective

Spark Funds, an asset management company wants to make investments in a few companies and wants to understand the global trends in investments to make their decisions effective.

Constraints for Investment

Spark Funds has the following constraints for investment:

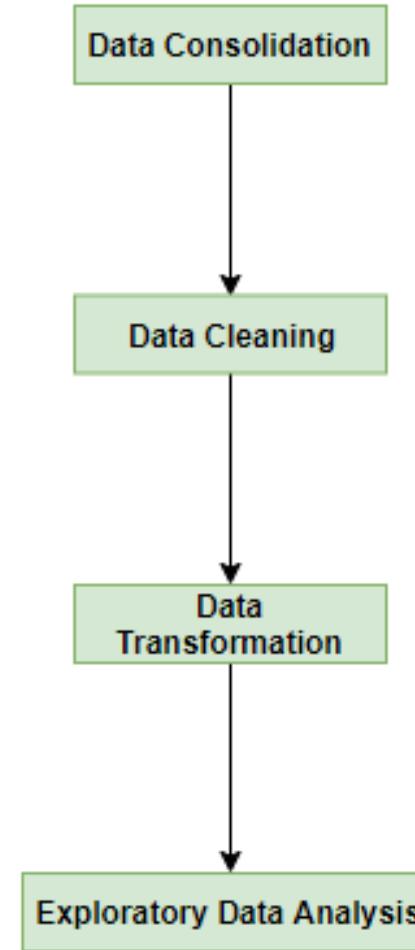
- It wants to invest between *5 to 15 million USD* per round of investment
- It wants to invest only in *English-speaking countries* because of the ease of communication with the companies

Strategy for Investment

Being an early stage start-up investor, Spark Funds has the following objectives in place:

- **Investment Type Analysis:** Understand the investments in venture, seed, angel, private equity categories.
- **Country Analysis -** Countries which have had the most investments in the past.
- **Sector Analysis -** Distribution of investments across the eight main sectors.

Approach



Consolidating the following dataframes:
1) companies
2) rounds2
3) mapping

- 1) Normalising the case before merging dataframes
- 2) Calculating the % missing values
- 3) Dropping missing values in rounds2 [raised_amount_usd]
- 4) Analysing the spread of data

- 1) Merging companies and rounds2
- 2) Filtering and removing unwanted fields
- 3) Creating primary sector and main sector from mapping

- 1) Investment Type Analysis
- 2) Country wise Analysis
- 3) Sector wise Analysis
- 4) Company wise Analysis

Data

The data is gathered from the following data frames:

- Companies
- Rounds2
- Mapping

Companies Data frame

- 66,368 companies with 10 attributes defining the companies
- “permalink” uniquely defines the companies

Rounds2 Data frame

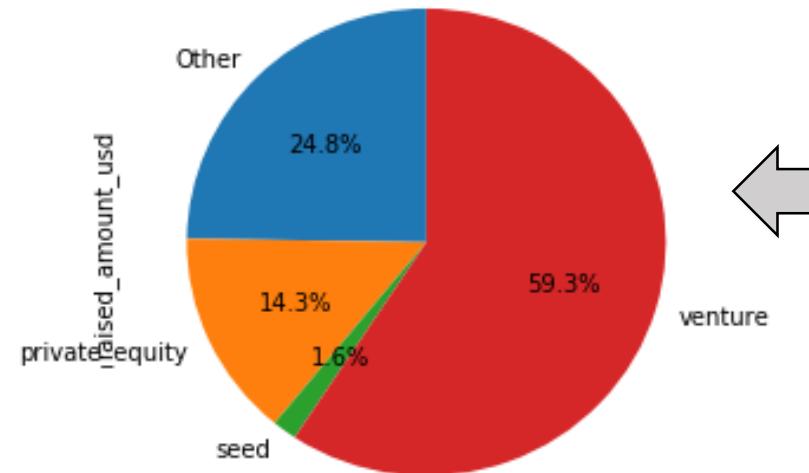
- Information on fundings raised by companies in different types of funding rounds across the globe
- Log of 66,368 companies and their fundings
- Records 1,14,949 fundings in total
- This data consists of **17% of missing values** in raised_amount_usd

Mapping Data frame

- Consists of mappings between main sectors and primary sectors
- Data in one-hot encoding format

Funding Analysis

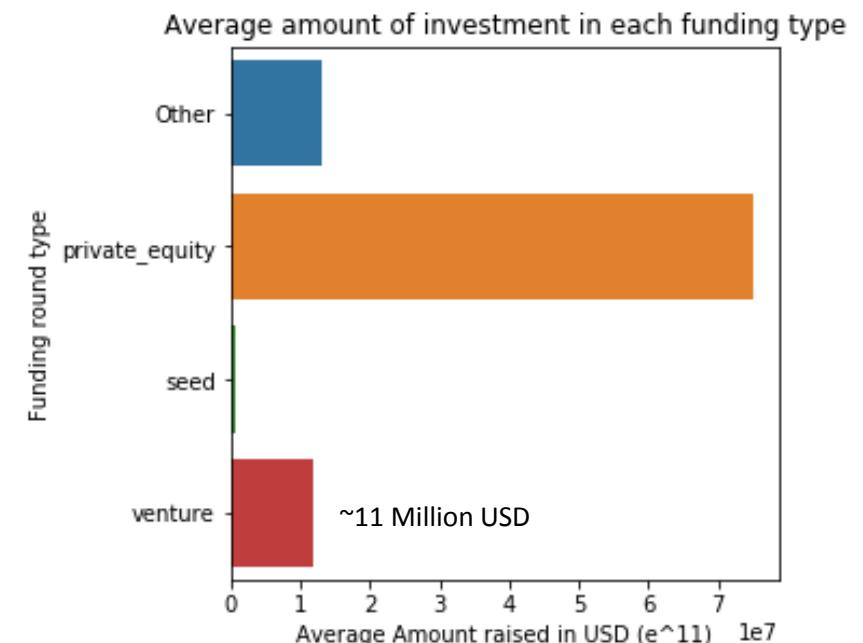
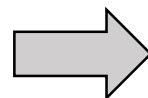
Spark Funds' focused funding types: Angel, Venture, seed and private equity



Fraction of total investments (globally) in venture, seed and private equity

Average amount of investment in each funding type

Here, only venture funding qualifies to have average funding between 5-15 Million USD



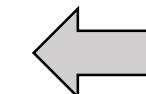
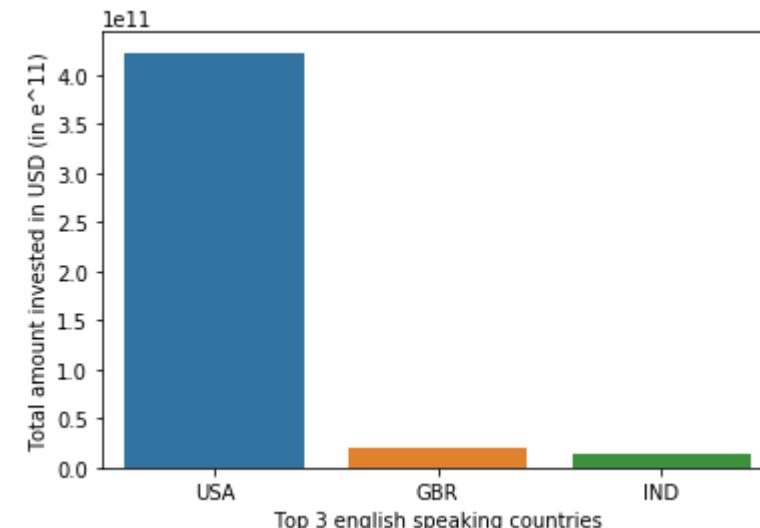
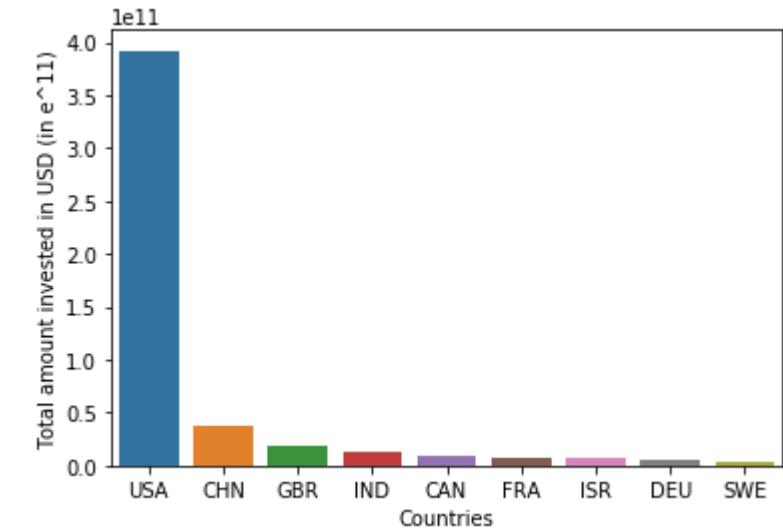
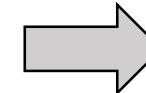
Country Analysis

Being an early stage start-up investor, Spark Funds aims to learn from the past by looking at the global trends in investments.

It aims to achieve this by:

- Understanding which countries had the most investments in the past
- Aiming at English speaking countries for better business communications

Top 9 countries with highest total investments in the past in venture fundings

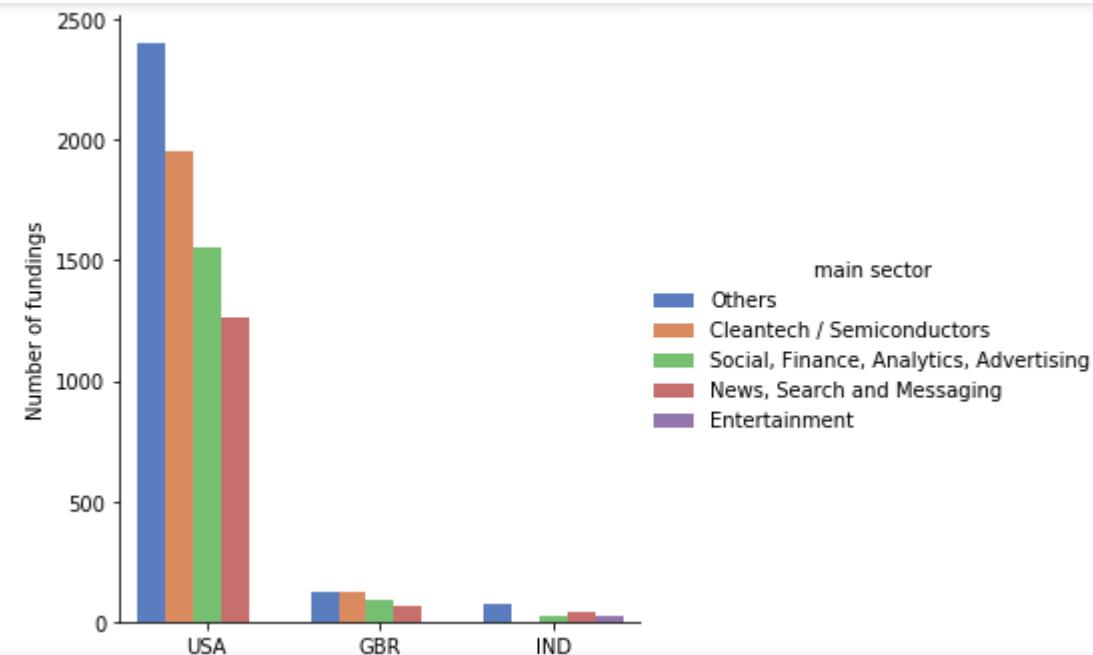


Top 3 English speaking countries in venture fundings

Sector Analysis

Digging deeper into the analysis, it is important for Spark Funds to know in which sectors of operation should the investments be made. Also, a further deeper analysis should include the companies which contribute to the highest investments in these sectors.

Top sectors funded in venture funding type



The above plot represents distribution of Number of investments across top 3 English speaking countries. Here, “Others” is not considered a sector as it consists of many different individual sectors.

Top funding type for investments with investment amount between 5-15 Million USD: **venture fundings**

Top 3 English speaking countries investing in venture fundings:

- United States of America
- Great Britain
- India

Top sectors in top 3 English speaking countries:

- USA
 - Cleantech / Semiconductors
 - Social, Finance, Analytics and Advertising
 - News, Search and Messaging
- Great Britain
 - Cleantech / Semiconductors
 - Social, Finance, Analytics and Advertising
 - News, Search and Messaging"
- India
 - Social, Finance, Analytics and Advertising
 - News, Search and Messaging
 - Entertainment

Results

After performing a thorough exploratory data analysis for Spark Funds, the company should focus on investing in venture investments.

Spark Funds should also focus on investing in countries like USA, Great Britain, India as they are the largest investors in venture fundings.

There are 8 main sectors, out which “Social, Finance, Analytics and Advertising” and “News, Search and Messaging” stand out the most amongst the above listed countries. “Cleantech / Semiconductors” is a major investment sector too, but it is very less relevant in India.

“Others” main sector although has the highest amount of fundings, this sector cannot be consider as an individual sector. “Others” is a combination of sectors which do not fall under other 7 main sectors.

Out of the major sectors listed above, following companies are dominant across each of the sectors respectively:

- Biodesix
- EUSA Pharma
- GupShup