



INVESTMENT CASE STUDY

SUBMISSION

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PGC DL C3

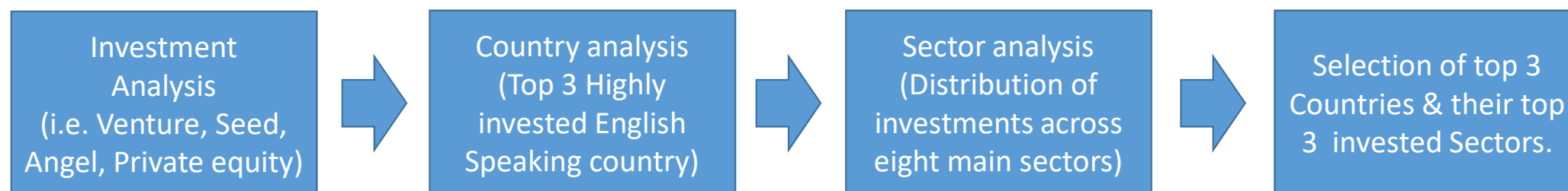
Investment Analysis

- Spark Funds is an Asset Management Company. It is looking for new investment opportunity across companies depending upon their profile & suitability. Global Investment data is available from which the task is to deduce the global trends so that effective decision can be taken.
- Spark Funds want to invest in those companies where most of the investment is flowing because it is implied that the 'best' sectors and countries are the ones 'where most of the investment is happening.
- Spark Funds has two minor 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**.*

Problem Solving Approach

The Analysis task is divided into sub-parts described in the flow-chart below:

-Pandas library in python is used to import and analyze the available data of global trends in investment to deduce required information.





Investment Type Analysis

| | mean | median | <lambda> |
|--------------------|-------------------|-------------------|-------------------|
| | raised_amount_usd | raised_amount_usd | raised_amount_usd |
| funding_round_type | | | |
| angel | 0.971574 | 0.414906 | 0.5 |
| private_equity | 73.938486 | 20.000000 | 100.0 |
| seed | 0.747794 | 0.300000 | 1.0 |
| venture | 11.724223 | 5.000000 | 10.0 |

| | raised_amount_usd | | fraction_raised_amount_usd | |
|--------------------|-------------------|---------------|----------------------------|-----------|
| | count | sum | count | sum |
| funding_round_type | | | | |
| angel | 4400 | 4274.925121 | 4400 | 0.597774 |
| private_equity | 1820 | 134568.045021 | 1820 | 18.816994 |
| seed | 21095 | 15774.707732 | 21095 | 2.205818 |
| venture | 47809 | 560523.362596 | 47809 | 78.379415 |

From the attached two table on Investment type we can confirm below points:

Table 1:

- 1) Mean of only Venture funding type is in our required range i.e. 5-15 Million USD.
- 2) Median also shows that funding category (angel, private equity and seed) sample distribution lies mostly on one side of our required range. For Venture fund ideally it should lie near 10 Million but still 5 Million is better.
- 3) Mode (lambda) data shows that for Venture most investment are concentrated at 10 Million USD.

Table 2:

- 1) It is evident that major portion of investment (78%) is going in Venture type.

We can conclude here that **Venture type** is best suited of investment.

Country Analysis

| country_code | raised_amount_usd |
|--------------|-------------------|
| USA | 420068.029342 |
| CHN | 39338.918773 |
| GBR | 20072.813004 |
| IND | 14261.508718 |
| CAN | 9482.217668 |
| FRA | 7226.851352 |
| ISR | 6854.350477 |
| DEU | 6306.921981 |
| JPN | 3167.647127 |

After the country Analysis for Venture type funding:
Following results can be drawn:

- Most highly invested countries are:
 - 1) USA
 - 2) CHN
 - 3) GBR
 - 4) IND
 - 5) CAN
- Our Interest lies in ***Only 3 Highly invested English speaking countries*** so following countries are selected for further study:
 - 1) USA
 - 2) GBR
 - 3) IND



Sector Analysis (No. of investments in sector)

| Country 1 : USA | | | | Country 2 : GBR | | | | Country 3 : IND | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|
| From the above table : | | | | From the above table : | | | | From the above table : | | | |
| Top Three Sectors are | | | | Top Three Sectors are | | | | Top Three Sectors are | | | |
| 1) Others | | | | 1) Others | | | | 1) Others | | | |
| 2) Social, Finance, Analytics, Advertising | | | | 2) Social, Finance, Analytics, Advertising | | | | 2) Social, Finance, Analytics, Advertising | | | |
| 3) Cleantech / Semiconductors | | | | 3) Cleantech / Semiconductors | | | | 3) News, Search and Messaging | | | |

| main_sector | count | sum | main_sector | count | sum | main_sector | count | sum |
|---|-------|--------------|---|-------|-------------|---|-------|-------------|
| Others | 2951 | 26330.493931 | Others | 147 | 1283.624289 | Others | 110 | 1013.409507 |
| Social, Finance, Analytics, Advertising | 2714 | 23807.376964 | Social, Finance, Analytics, Advertising | 133 | 1089.404014 | Social, Finance, Analytics, Advertising | 60 | 550.549550 |
| Cleantech / Semiconductors | 2350 | 21633.430822 | Cleantech / Semiconductors | 130 | 1163.990056 | News, Search and Messaging | 52 | 433.834545 |
| News, Search and Messaging | 1583 | 13971.567428 | News, Search and Messaging | 73 | 615.746235 | Entertainment | 33 | 280.830000 |
| Health | 909 | 8211.859357 | Entertainment | 56 | 482.784687 | Manufacturing | 21 | 200.900000 |
| Manufacturing | 799 | 7258.553378 | Manufacturing | 42 | 361.940335 | Cleantech / Semiconductors | 20 | 165.380000 |
| Entertainment | 591 | 5099.197982 | Health | 24 | 214.537510 | Health | 19 | 167.740000 |
| Automotive & Sports | 167 | 1454.104361 | Automotive & Sports | 16 | 167.051565 | Automotive & Sports | 13 | 136.900000 |

Country 1 : USA

From the above table :

Top Three Sectors are

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

Country 2 : GBR

From the above table :

Top Three Sectors are

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

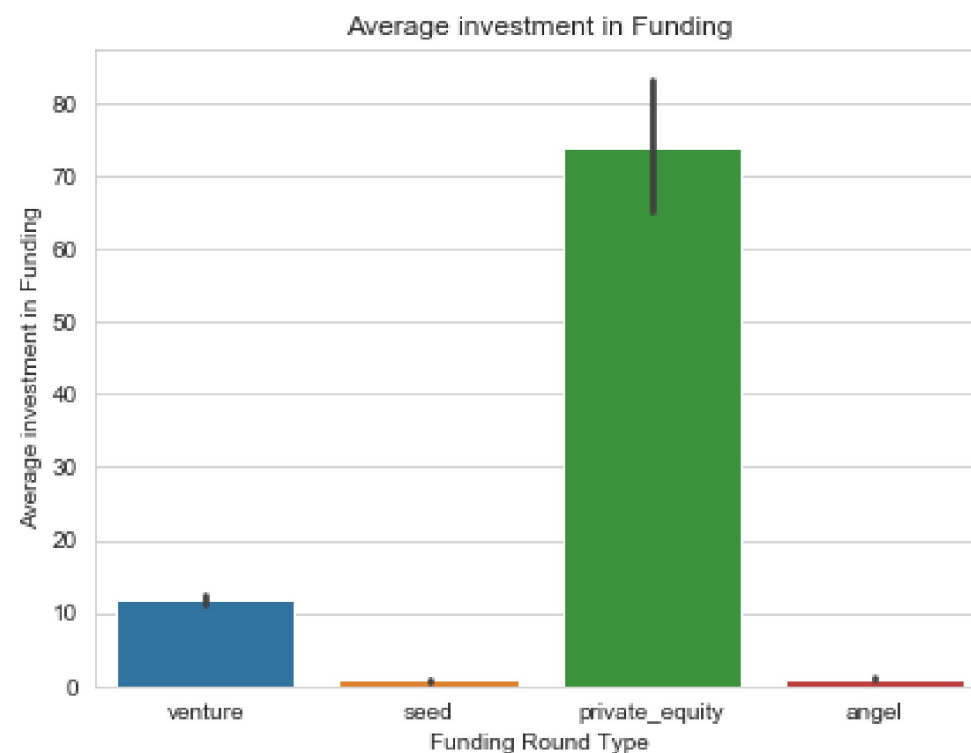
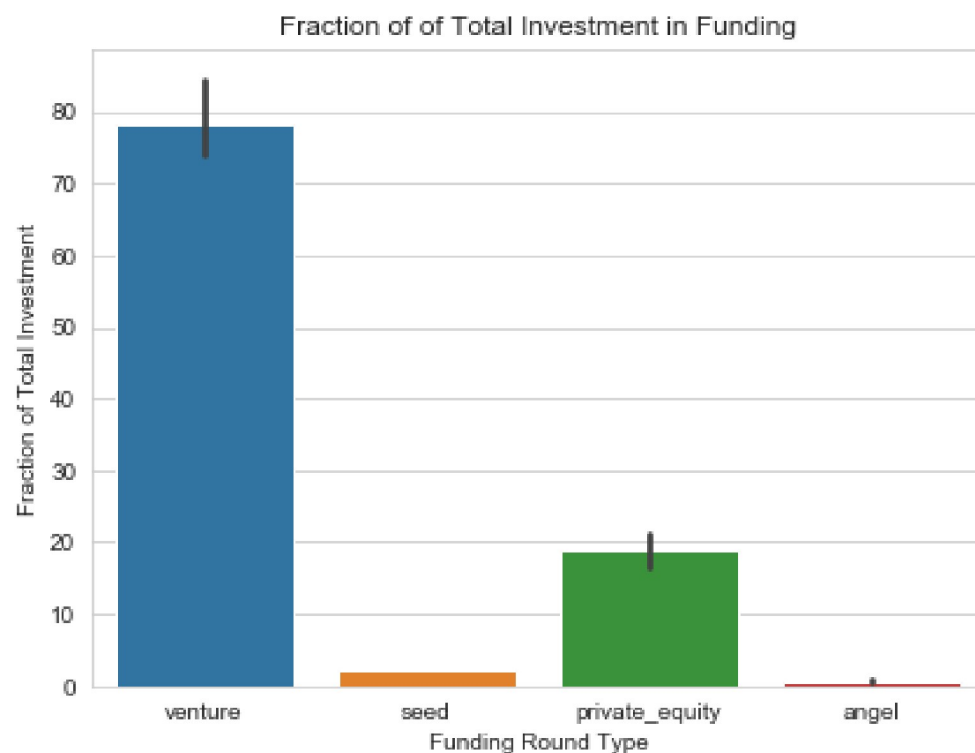
Country 3 : IND

From the above table :

Top Three Sectors are

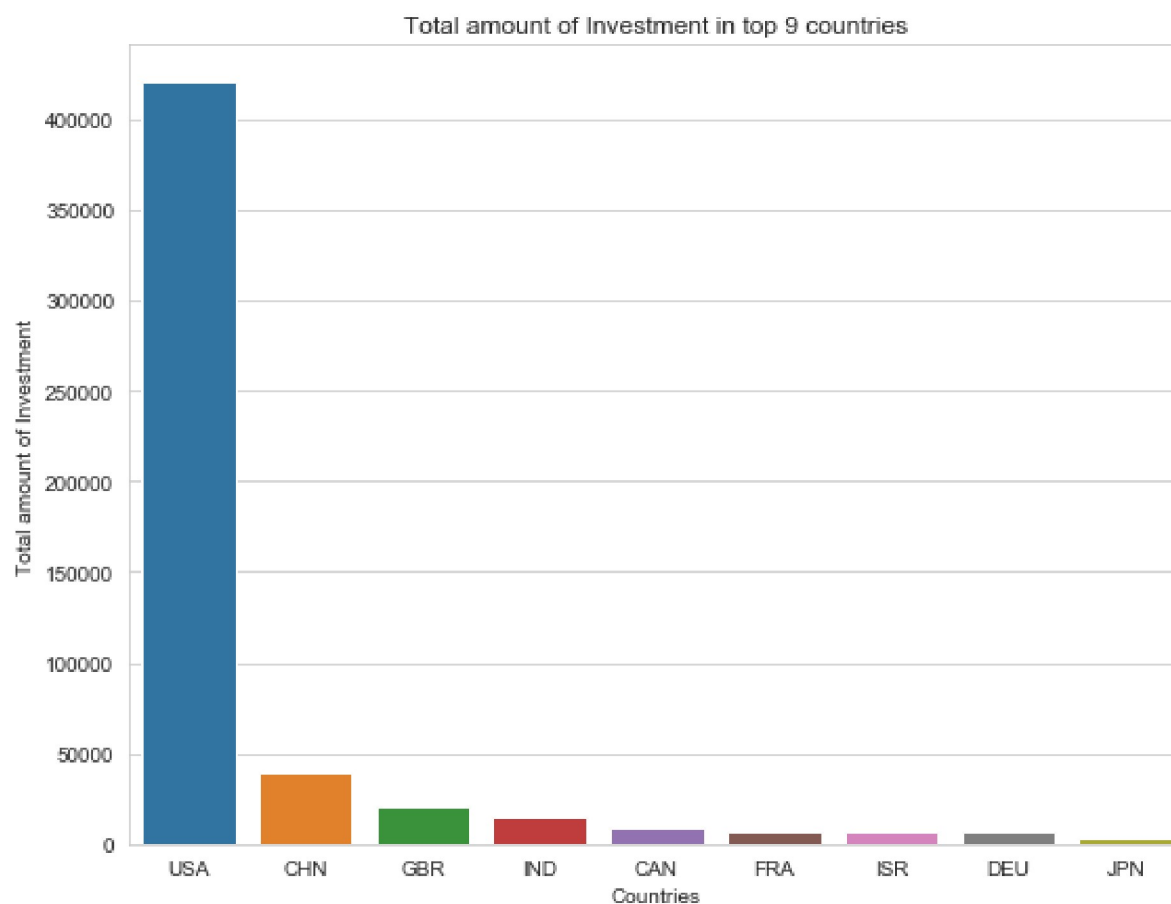
- 1) Others
- 2) Social, Finance, Analytics, Advertising
- 3) News, Search and Messaging

Plot 1 (Fraction & Average Investment in different Funding.)



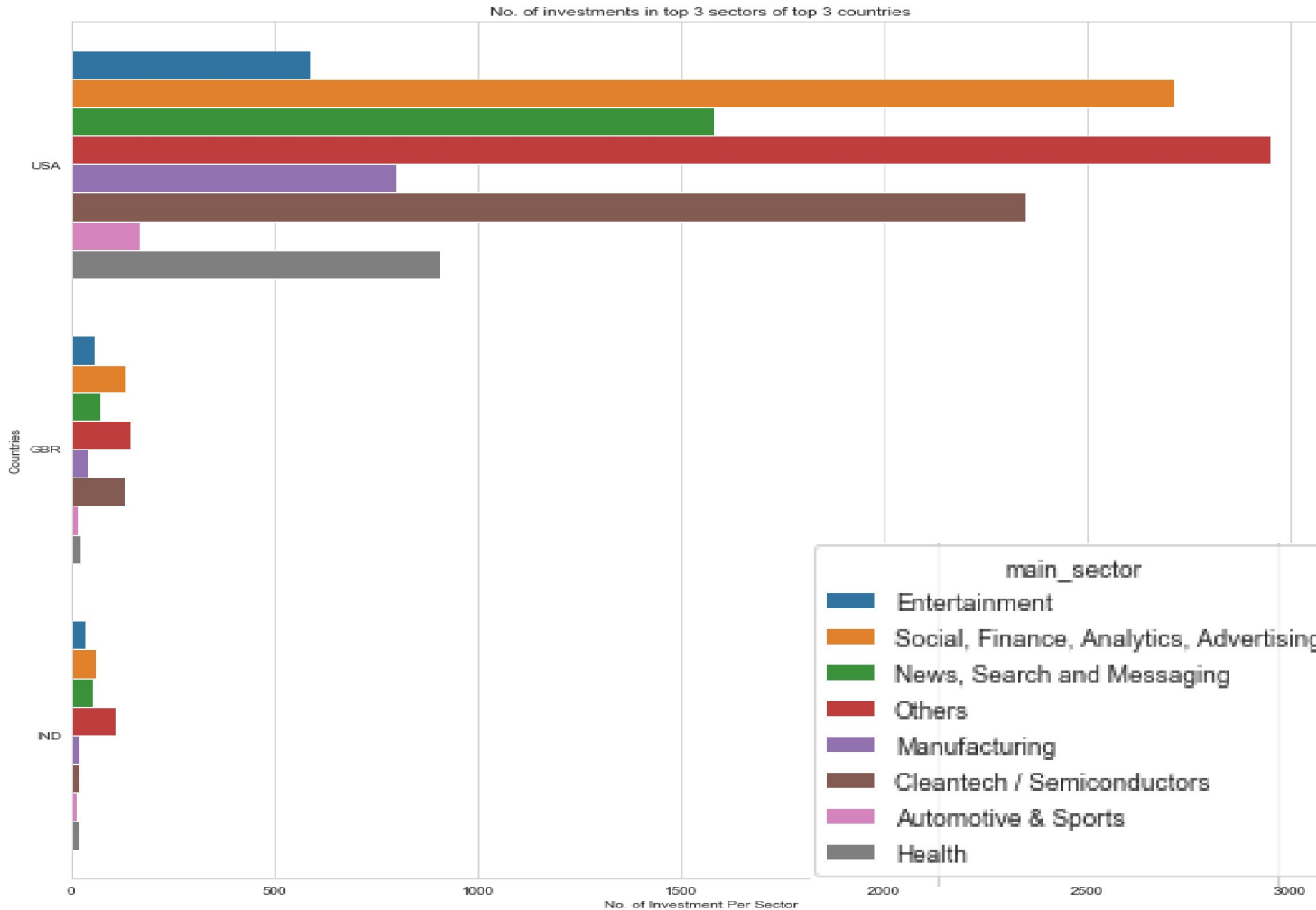
Plot 1 clearly shows that **Venture Type Funding** is best suited for our investment Strategy. As the Fraction of total investment is approx 78% & amount of investment is also suitable.

Plot 2 (Total amount of investment in top 9 countries.)



Plot 2 clearly shows the that **USA, GBR, IND** are best suited for our investment strategy because these are 3 Highly invested English speaking countries.

Plot 3 (Top 3 sectors in top 3 countries)



Plot 3 shows that top 3 sectors of top 3 countries suitable for investment.

Country 1 & 2 : USA & GBR

From the above table :

Top Three Sectors are

- 1) *Others*
- 2) *Social, Finance, Analytics, Advertising*
- 3) *Cleantech / Semiconductors*

Country 3 : IND

From the above table :

Top Three Sectors are

- 1) *Others*
- 2) *Social, Finance, Analytics, Advertising*
- 3) *News, Search and Messaging*

Study is concluded with below results:

Fund type

Venture

Countries

USA, GBR, IND

Main 3 Sectors for Investment (Ranking)

1) Others

2) Social, Finance, Analytics, Advertising

3.1) Cleantech / Semiconductors (Only for USA, GBR)

3.2) News, Search and Messaging (Only for IND)



Thank You