

INVESTMENT ASSIGNMENT SUBMISSION

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Spark Funds – Investment Assessment

Spark Funds, an asset management company wants to make investments in a few companies.

Business Objective

The objective is to identify the best sectors, countries, and a suitable investment type for making investments

"Invest in best sectors and best countries where most investors invests"

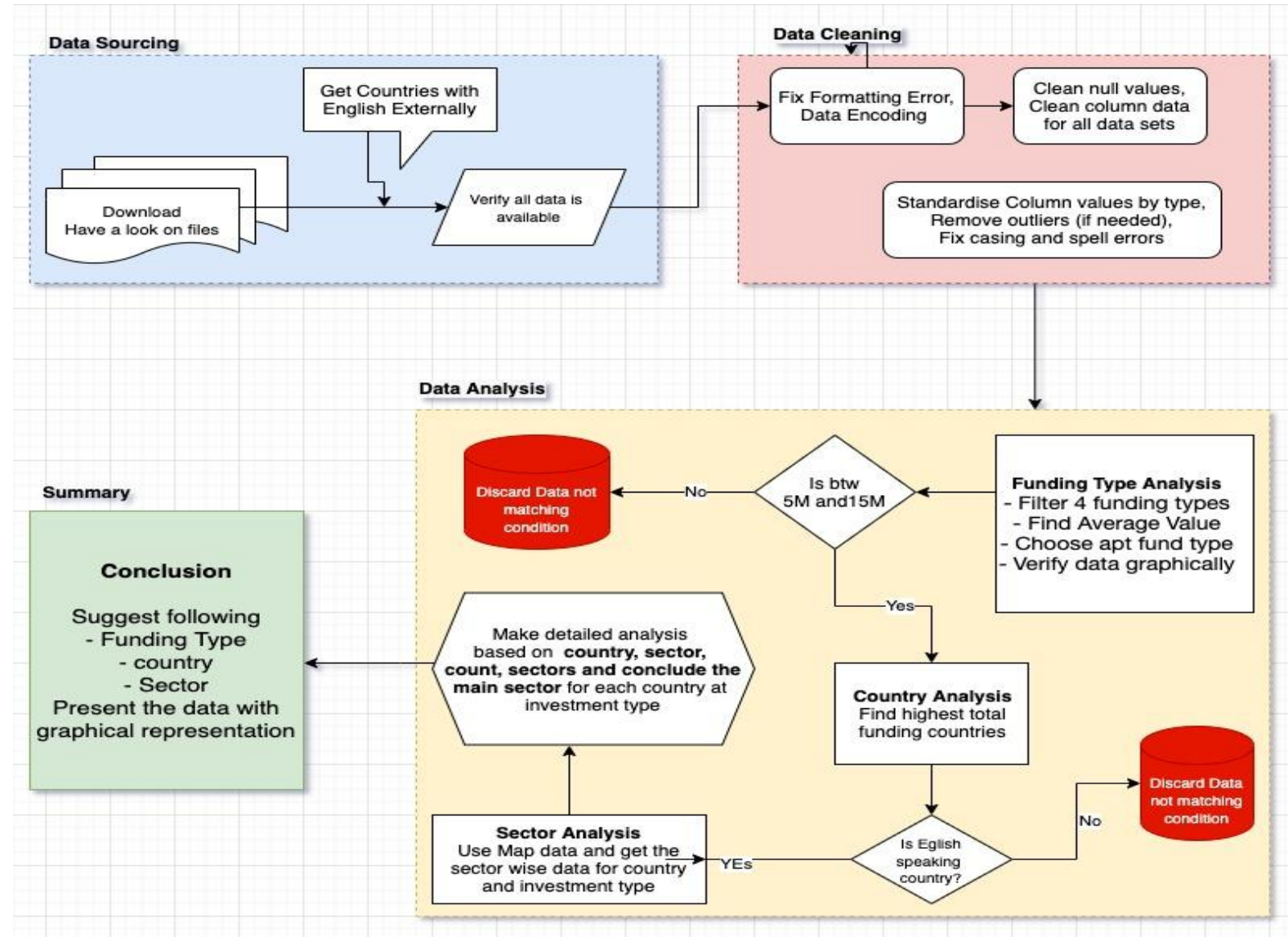
Investment Constraints

- **Investment Range** - 5 to 15 million USD per round of investment.
- **Geographic Range** - English-speaking countries (Ease of Communication)

Goals in Data Analysis

- **Investment type Analysis** - Comparing the investment in the venture, seed, angel, private equity.
- **Country Analysis** - Identify the heavily invested countries in the past
- **Sector Analysis** - Understand and distribute the investments across the eight main sectors.

Problem Solving Process



Data Sourcing

Required data is collected directly from the company or manipulated from outside source where the data authenticity is confirmed within the company

Required Dataset

- **Companies Data** - List of companies and its details
- **Investment Round Data** - Details of past investment of each companies
- **Mapping Data** - List of all categories data mapped to eight main categories.
- **English Speaking Countries** - Outsource the data from wikipedia or any suitable data stores.

The above document data is collected and assuming it as a source of all type of analysis in upcoming processes

Data Cleaning

From the collected data various analysis is done and the quality of data is maintained without making any deviation to goal and business objective

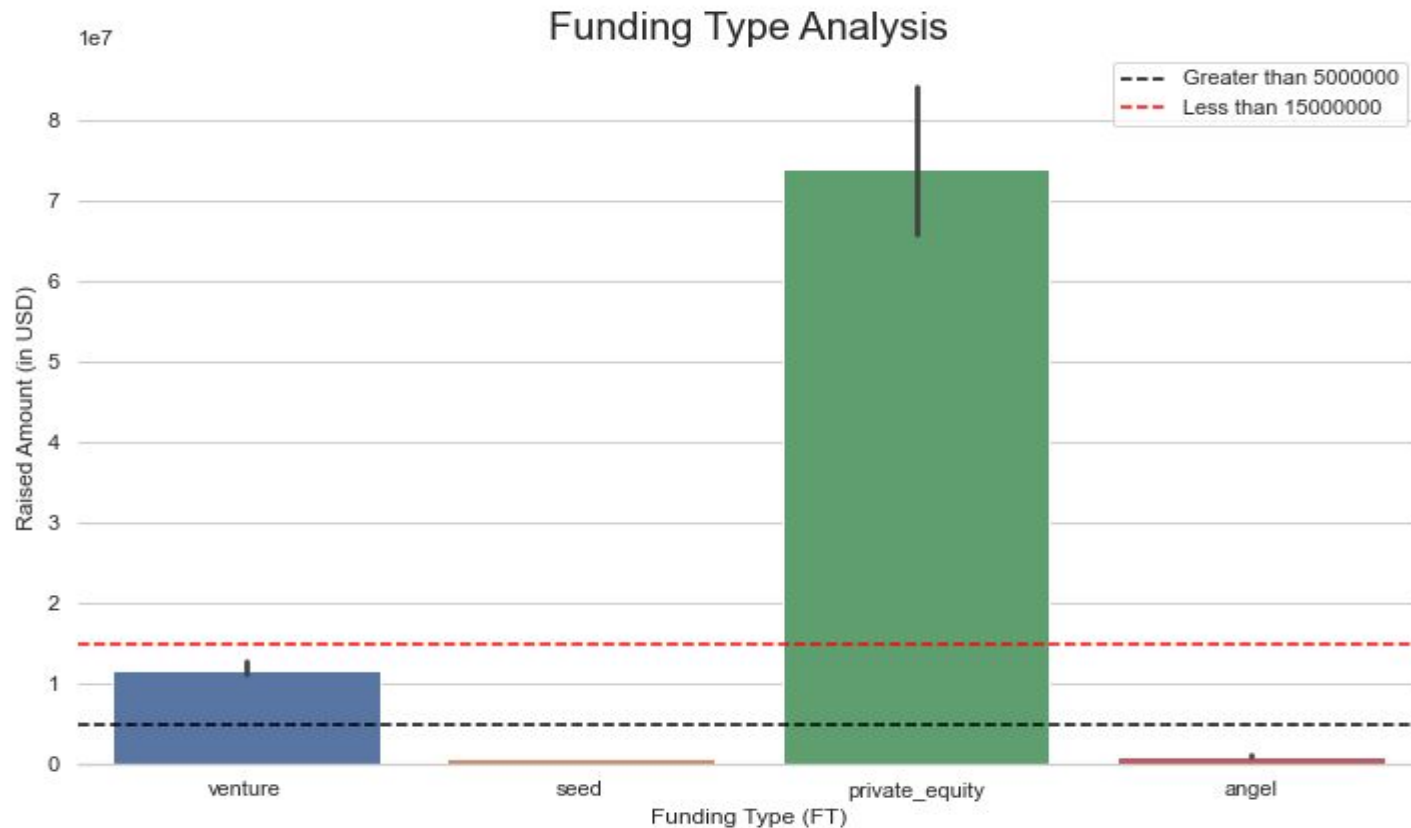
Steps Involved

- **Remove Columns** - Containing null values or not required for analysis
- **Remove Rows** - Containing most number of empty values
- **String Manipulations** - Replacing cell values, case changes, fill partial values, rename cols.
- **Data Correction** - Correcting incorrect data, data types, fill missing data, etc.

Data Cleaning needs to be done for all data sets collected and data can be merged and maintained as a master data frame for upcoming process.

Data Cleaning checks are performed after confirming with the company and its team.

Funding Type Analysis

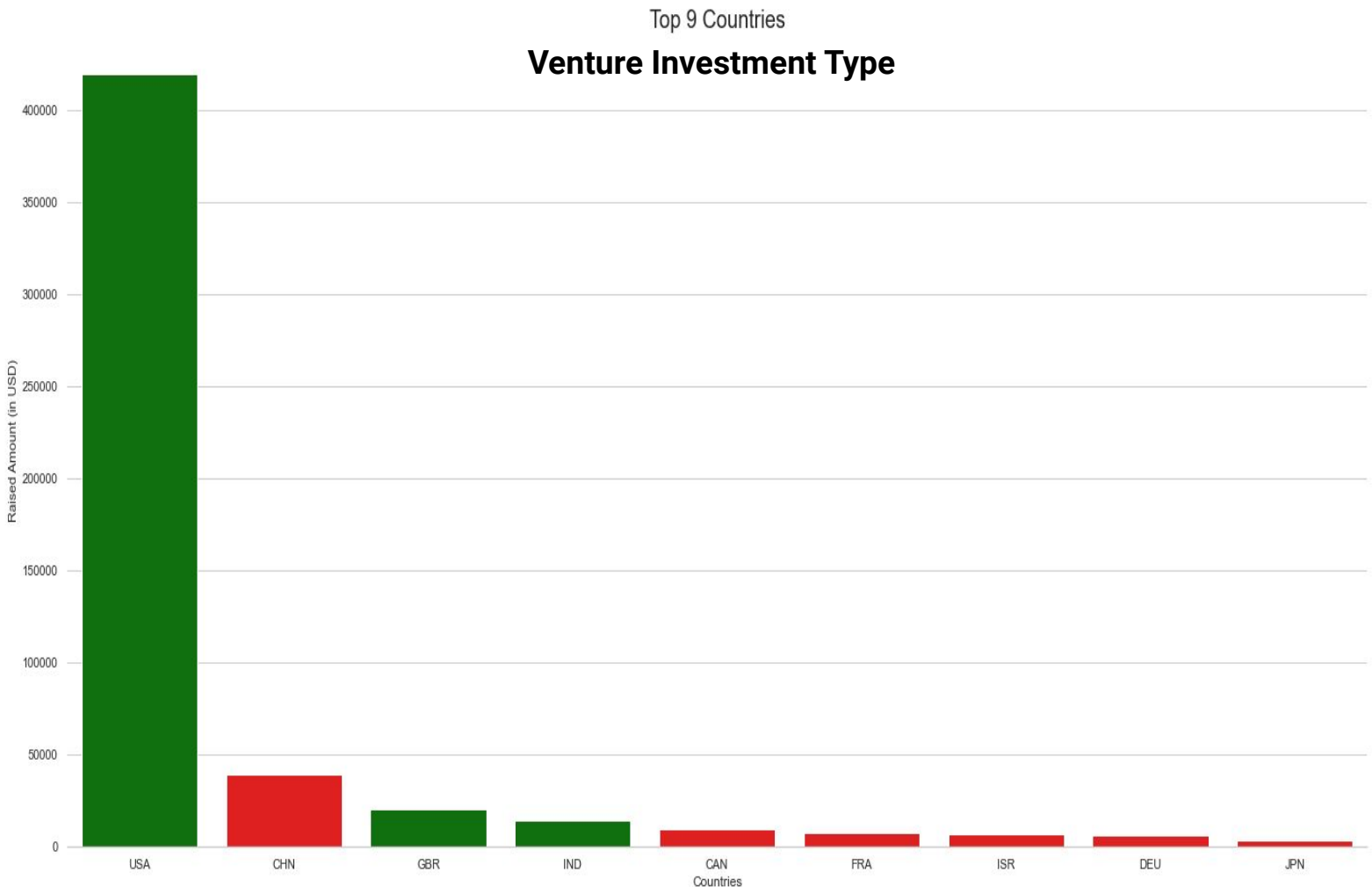


- Total of 14 Fund Type was found in datasets
- Considering our investment constraint following are details have been detected
 - Private Equity - Beyond 15M USD
 - Angel Equity - Less than 5M USD
 - Seed - Less than 5M USD
 - **Venture - Between 5M and 15M USD**

Inv. Type	Inv. Count	Inv. Amount
Angel Equity	4400	971,574
Seed	21090	747,916
Venture	47809	11,724,223
Private Equity	1820	73,938,486

Thus after the detailed analysis we can see that **Venture Investment type** met company's Investment criteria.

Country Analysis



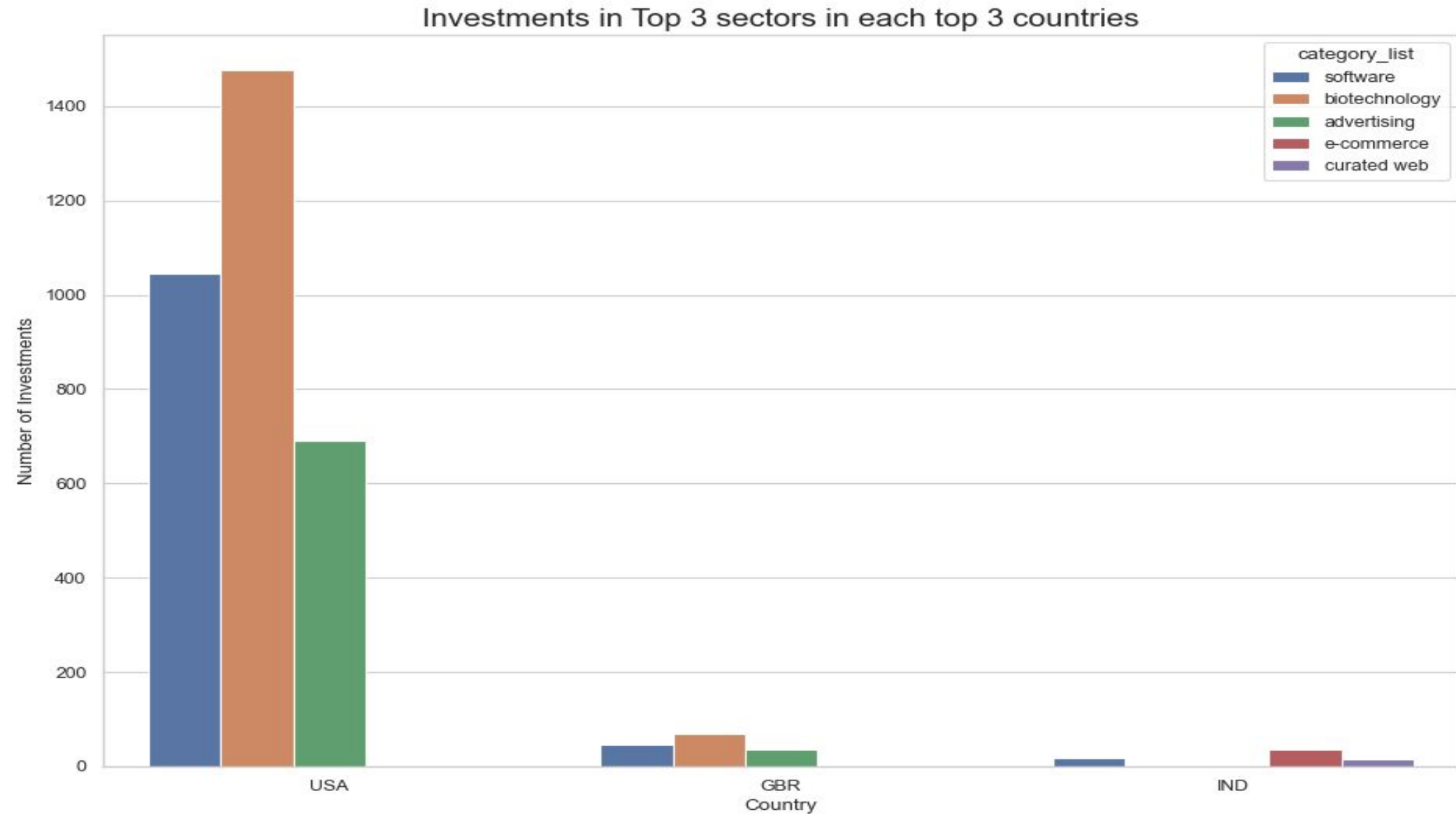
- USA is most invested country with \$420,068,029,342 USD
- English Speaking country is sourced from wikipedia and other sources
- China cannot be 2nd as it's not a english speaking country
- **USA, UK (GBR), India** are the top 3 invested countries

Country	Total Investment	Count
USA	420,068,029,342	35943
CHN	39,338,918,773	1548
GBR	20,072,813,004	2041
IND	14,261,508,718	819

Sector Analysis

Country	Top 3 Sectors	Investment Count	Best Company (Sector Based)
USA	Biotechnology	1477	Biodesix
	Software	1044	BTI Systems
	Advertising	691	ChoiceStream
GBR	Biotechnology	70	EUSA Pharma
	Software	45	Electric Cloud
	Advertising	35	Celltick Technologies
IND	E-commerce	37	FirstCry.com
	Software	19	NxtGen Data Center & Cloud Services
	Curated Web	15	Bluestone.com

- In USA and Great Britain we can conclude that **Biotechnology, Software, Advertising** are the three leading sectors tops high in investment.
- In India we can conclude that **E-commerce, Software, Curated Web** are the three leading sectors that tops high in investment.
- It's good to invest more in USA companies of **Biodesix, BTI Systems, ChoiceStream**(around 50 - 60%) of investments since it has more investment count.
- Rest of the investments can be done in next two countries Great Britian, India



Conclusions

- Based on the analysis, the sure fact we have is **USA** is the best country to make investments.
- Biotechnology, Software, Advertising are the sectors which is highly invested than other companies.
- Ratio of Investment can be classified based on **number of companies invested more** in a country.
- Around 60% of investments can be done in top companies of each sectors in **USA** since it has high traffic of investments
 - Biotechnology - **Biodesix**
 - Software - **BTI Systems**
 - Advertising - **ChoiceStream**
- Around 25% of investments can be done in top companies of each sectors in **Great Britain** as it has medium level of investments
 - Biotechnology - **EUSA Pharma**
 - Software - **EUSA Pharma**
 - Advertising - **Celltick Technologies**
- Around 15% of investments can be done in top companies of each sectors in **India** as it has low level of investments by count
 - E-commerce - **FirstCry.com**
 - Software - **NxtGen Data Center & Cloud Services**
 - Curated Web - **Bluestone.com**