INVESTMENT ANALYSIS ASSIGNMENT

SUBMISSION

Name: Mudassar Dildar Majgaonkar

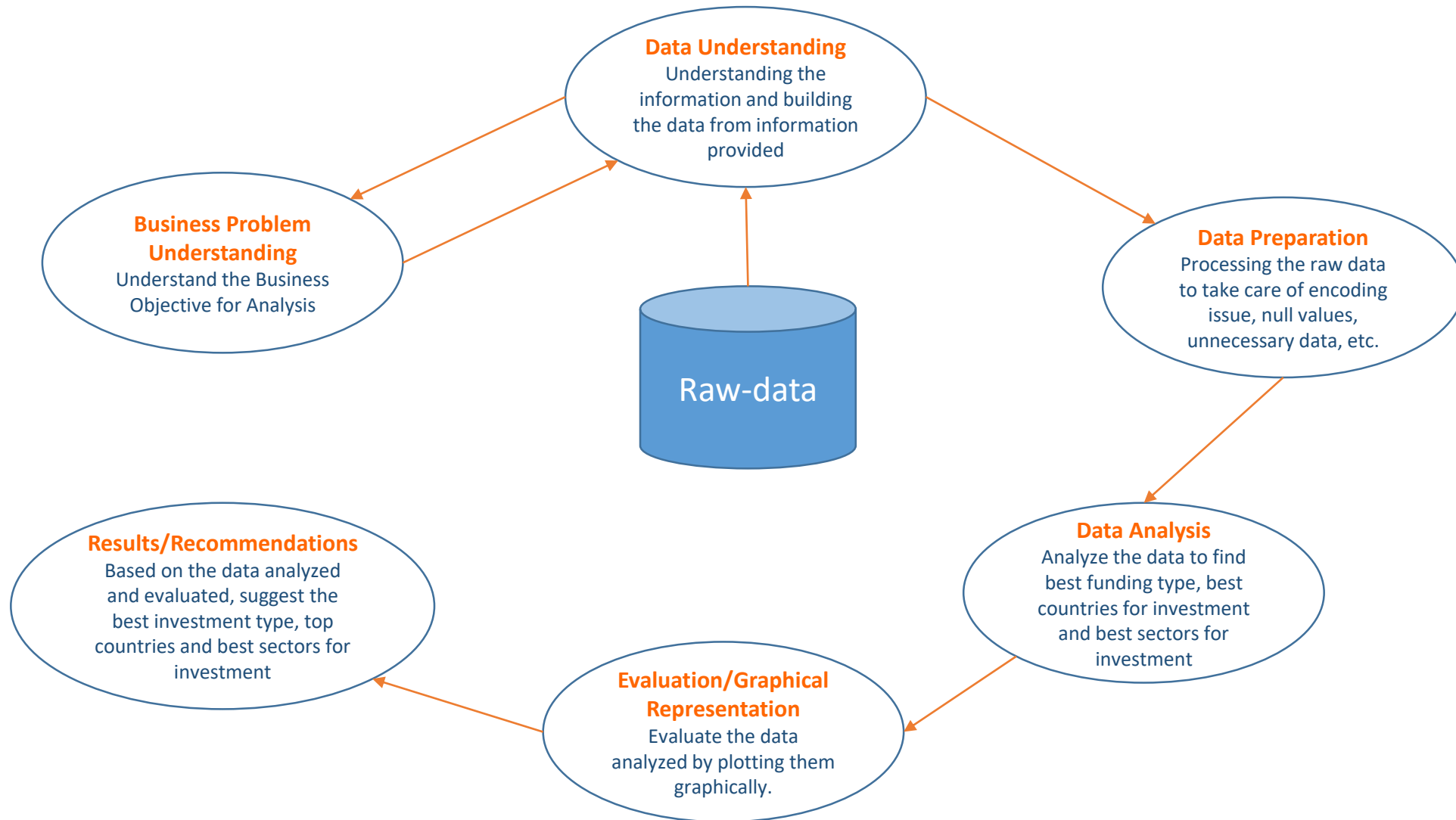Spark Funds wants to identify best investment strategy based on:

1) Investment Type:

- ❑ Company is looking to invest $5 to $15 million per round of investment.

- ❑ Based on the investment amount , find best investment type from the data collected.

2) Investment Based on Country:

- ❑ For ease of communication, company wants to invest only in English Speaking countries.

- ❑ Shortlisting of the company is also based on amount/number of investments done in the country.

- ❑ Based on these requirements, suggest top 3 best countries for investment.

3) Investment Based on Sectors in top 3 Countries:

- ❑ Company is looking to invest in the best sectors in the top 3 countries

- ❑ Based on the number of investments done in the sectors, analyse the data and suggest the top 3 sectors to invest.

Problem solving methodology

Data Understanding
Understanding the information and building the data from information provided

Business Problem Understanding
Understand the Business Objective for Analysis

Data Preparation
Processing the raw data to take care of encoding issue, null values, unnecessary data, etc.

Raw-data

Results/Recommendations
Based on the data analyzed and evaluated, suggest the best investment type, top countries and best sectors for investment

Data Analysis
Analyze the data to find best funding type, best countries for investment and best sectors for investment

Evaluation/Graphical Representation
Evaluate the data analyzed by plotting them graphically.

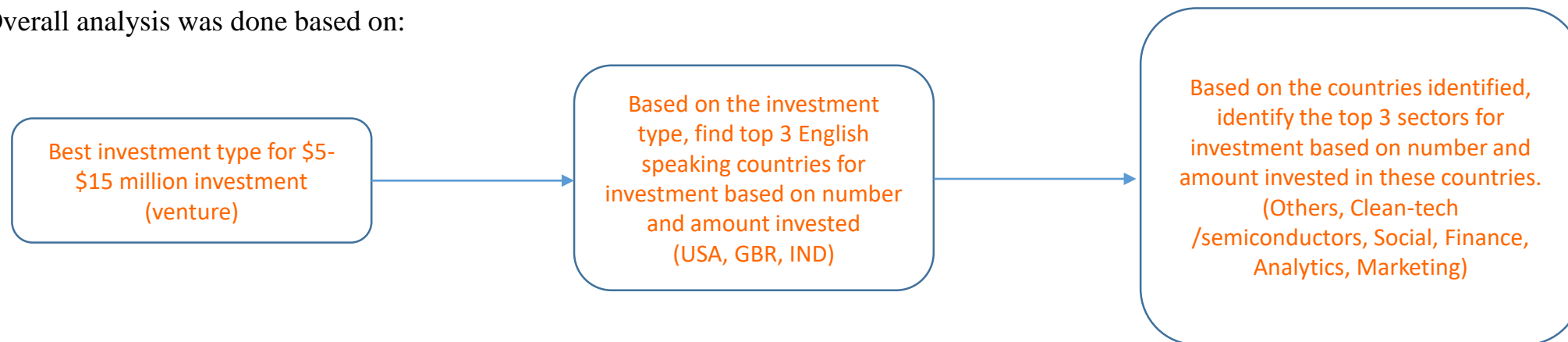Note: The problem solving methodology is based on known CRISP-DM framework

Understanding the exact Business problem and understanding the data provided is the basis for good analysis.

- Business problem is clearly stated in slide – 2.

- Start data pre-processing by taking care of encoding issue (removing non-ascii characters/converting non-asci to ascii).

- Clean the data by removing the null values and removing the unimportant data (companies with status closed and with no investment).
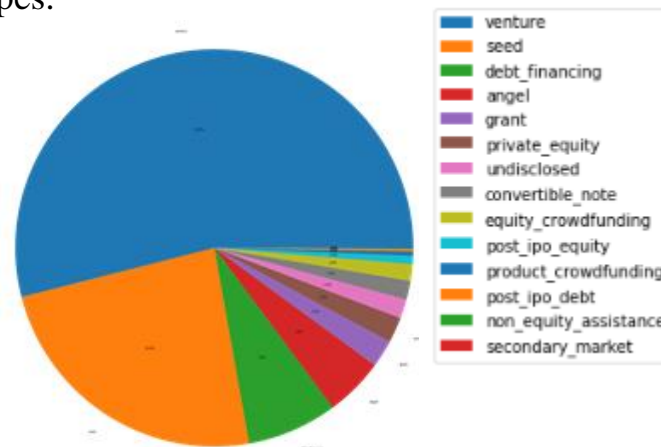
The analysis is mainly based on 3 categories:

1) Best Fund Type for Investment

2) Top 3 English speaking countries for Investment

3) Top 3 best sectors for investment in the countries identified above.

Overall analysis was done based on:
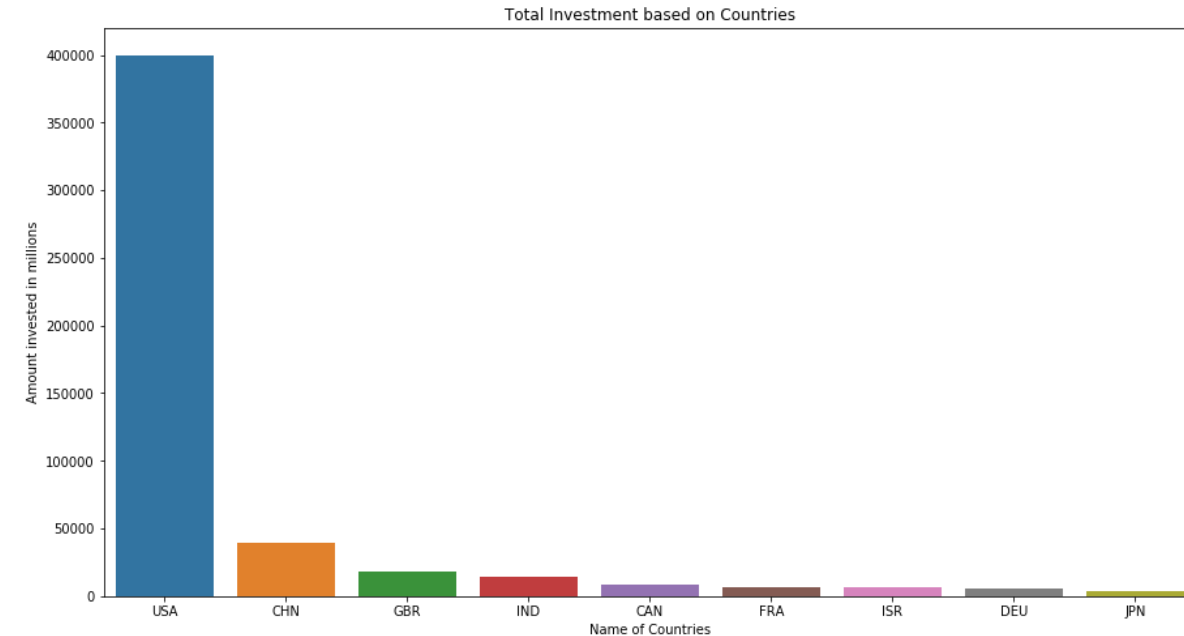
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1) Investment Fund Type Analysis:

- The adjacent table shows the available funds type and the amount raised in millions based on the data provided.

- POST_IPO_DEBT has highest ~ $174.60 million investment while non-equity assistance with ~$0.4 million is lowest.

- Based on requirement from within the suggest fund type: private_equity has highest ~$75 million investment, seed lowest with ~$0.7 million while venture with ~$11.8 million is best suited.

- Also based on the count of investment as seen in the adjacent pie-chart its clear that 'VENTURE' is highest invested ~54% against all the other fund types.

- Clearly 'VENTURE' is the best suited fund

  for business requirement ($5 - $15 investment)

funding_round_type	raised_amount_in_millions
post_ipo_debt	174.609345
secondary_market	91.439808
post_ipo_equity	84.233854
private_equity	75.575805
undisclosed	18.837079
debt_financing	17.774072
venture	11.895604
grant	4.154310
convertible_note	1.479851
product_crowdfunding	1.411511
angel	0.979917
seed	0.738591
equity_crowdfunding	0.519852
non_equity_assistance	0.402853

Pie chart legend:
- venture
- seed
- debt_financing
- angel
- grant
- private_equity
- undisclosed
- convertible_note
- equity_crowdfunding
- post_ipo_equity
- product_crowdfunding
- post_ipo_debt
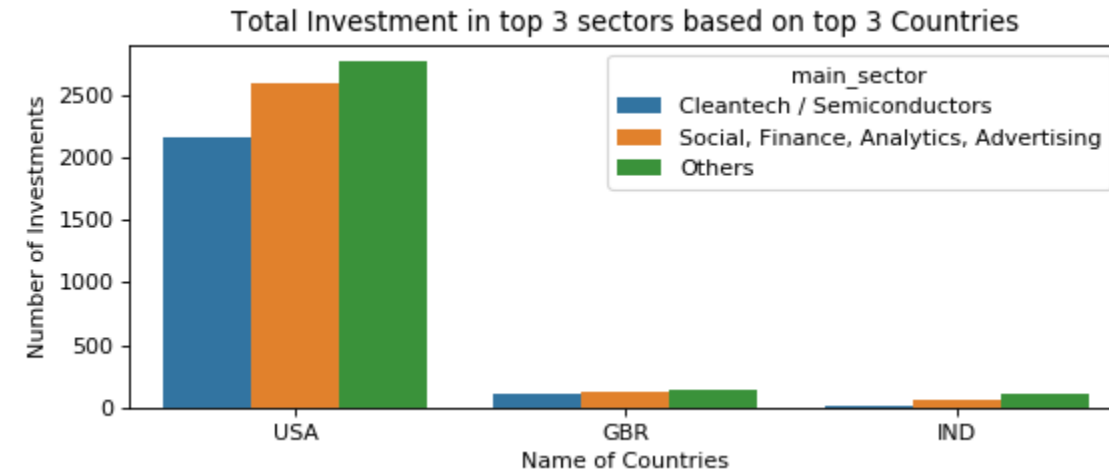- non_equity_assistance
- secondary_market

2) Best top 3 Countries for Investment Analysis:

- Once **'VENTURE'** is analysed as the best suited fund, find out the top 3 English speaking countries for the investment.

- For this the data is filtered based on the fund type i.e. VENTURE and then it is used to calculate the count of investments and total sum of investments done for that fund in the countries within the dataset.

- Adjacent figure, shows top 9 countries for investment based on amount invested.

- Clearly top 3 countries based on requirement (English Speaking) are:
  - ➢ **United States of America (USA)**
  - ➢ **Great Britain (GBR)**
  - ➢ **INDIA (IND)**

Total Investment based on Countries

3) Best top 3 sectors in the Countries for Investment Analysis:

- The category data (category_list) from the top 3 countries is filtered to primary_sector based on first value in the list.

- The data from mapping which maps the sectors to 8 major categories was extracted and mapped to the data from the countries in the form of main_sector.

- Based on the amount of investment and total investment done in the top 3 countries, the adjacent plot shows following sectors were found most suitable.

  - ➢ Others

  - ➢ Social, Finance, Analytics and Advertising

  - ➢ Cleantech / Semiconductors

Total Investment in top 3 sectors based on top 3 Countries

Based on the analysis from the data provided, following are the conclusions derived:

1) Best investment type for $5 - $15 million investment – **VENTURE**

2) Top 3 English Speaking Countries having maximum investment in fund type – VENTURE are

   - **United States of America (USA)**
   - **Great Britain (GBR)**
   - **India (IND)**

   in that order

3) Top 3 sectors based on investment type VENTURE in the top 3 countries are:

   - **Others**
   - **Social / Financial / Analytics / Marketing**
   - **Cleantech / Semiconductors**

   in that order.