Start-up Growth Analysis

Nazim Atakan Erdogan

Abstract

In this project it will be investigated the interrelating features for different industries and countries. The plotting using different python libraries and utilizing business intelligence software like Power Bi; it will be shown that what are contributing factors for start-up growth, valuation and investment amount, and beyond that in which industries and countries will there be more growth and more investments made. It will be moreover emphasised that health-tech industry in general and ed-tech industry in India, a general analysis for Germany will also be made.

Methods and Steps

- Exploratory data analysis (EDA):

Python libraries like **Matplotlib, Seaborn, Pandas and Numpy** were used to manipulate, process and visualize data. Lots of visuals were created and data was splitted into a lot of parts, to investigate country-and industrywise. Enough analysis were done in order to demonstrate lots of facts and inspect the dataset as much as possible, which could be seen in the Github repository.

- Dashboard creation and data visualization:

Power BI tools were utilized to create visuals, charts and graphs, dashboards were created in order to demonstrate the emphasized features.

Insights

General Analysis:

- Healthtech, Saas and Blockchain are the top 3 valuated sectors,
- Fintech, Edtech and Blockchain are the top 3 most growing sectors,
- Australia and Brazil are the top 2 countries with the highest amount of startups
- There are mostly 1 funding round, then comes 9 and 10 funding rounds
- Startup 2078 has the highest valuation

Ed-tech Analysis:

- Edtech is the 5th sector according to sum of the growth rates,
- UK,Australia and India are top 3 countries in amounts of edtech startups#
- After 2020 there is a strict rise after a huge fall period

Specific Analysis

Indian Ed-tech:

- Ed tech is the 3rd industry in India
- Valuation and investment amounts are highly correlated with an amount of nearly 0.84
- Valuation is interestingly negatively correlated with the number of investors
- Growth rate and valuation have a negative relationship
- Funding rounds and investment amount have a negative relationship

Health-tech in general:

- Health tech has the highest sum of growth rates
- India has the highest amount of startups in this field
- Valuation and funding rounds have negatively correlated
- Funding rounds and number of investores are positively correlated
- There are mostly 2 or 8 funding rounds mostly according to investment amount, 2 or 4 according to valuation

Analysis of Germany in different sectors:

- Germany comes as number 5 in name of number of investors
- It lies on the 9th place in investment amounts just after India and before Canada
- Blockchain, AI and healthtech have the highest rate among other industries, while E-commerce, Fintech and Biotech have the highest amount of investment rates.
- Number of investors change according to the sector
- Between 2010-2015 there is a sharp growth rate and following to that a huge decrease
- Valuation and investment amount have a relation of 0.85
- AI industry has funding rounds of 9, 6 and 7 in the first three places
- Number of investors and valuation are NOT negatively correlated this time
- Health tech has the highest sum of growth rates in Germany
- Funding rounds and growth rate are positively correlated

Conclusions:

- Number of investors don't necessarily determine the valuation and investment
- Funding rounds are correlated with investment amount and not necessarily binded to growth rate positively, it depends on the sectors