**Final Project Report**

**Growth of Indian Startups**

**By**

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## Data Visualization

***Introduction:***

**Startup:** A startup is a company in its early phases of operation. Startups are created by one or more entrepreneurs who desire to create a product or service that they feel will be in demand. These businesses typically begin with high costs and low revenue, which is why they seek money from several sources, including venture capitalists.

India had emerged as the world's third-largest startup ecosystem as of August 29, 2022, with over 77,000 DPIIT-recognized startups spread across 656 districts. These startups create more jobs than major corporations or enterprises in the same industry.

Startup Growth in India: Some Startup Statistics in India

* In the last five years, India has seen rapid rise in digital use.
* By 2021, over 54% of companies became unicorns.
* 15X increase in the total funding of startups
* 9X increase in the number of investors
* 7X increase in the number of incubators

**Unicorn:** A unicorn startup is a private company with a valuation of more than $1 billion. In a 2013 article, venture capitalist Aileen Lee invented the phrase "unicorn startup."

Growth of unicorns in India: Some unicorn Statistics in India

* The digital transformation, the utilization of superior technology, and favorable government regulations are facilitating market expansion.
* India is third in the world in terms of the number of unicorns, with 105 start-ups valued at more than USD 1 billion each.
* The years 2021, 2020, and 2019 had the greatest number of Indian unicorns born, with 44, 11, and 7 unicorns born each year

References:

* <https://timesofindia.indiatimes.com/blogs/voices/role-of-start-ups-in-the-growth-of-the-economy-in-india/>
* <https://www.investindia.gov.in/indian-unicorn-landscape>

**Questions for research:**

1. Visualize and determine the growth of startups in India over years.
2. What are the startups which with high initial set up cost?
3. What changes have occurred in India's Startup Funding Ecosystem over time?
4. Discover the top ten investors based on their average investment.
5. Which cities are attracting the most startups?
6. What categories of startups are the investors interested in?
7. Which cities are having the highest investment?
8. What are the top 15 startups based on the sector of industry and the location of startup?

***Methodology:***

For this project, I have used 3 datasets, which I downloaded from multiple websites:

1. Startup funding: It contains the information of various startup companies in India from 2015-2020. I found this information on Kaggle website

<https://www.kaggle.com/code/manisood001/indian-startup-funding-in-depth-analysis/data>

1. Indian startup financing: This data set contains the financing for the Indian startups for the year 2021, downloaded this from Kaggle website

<https://www.kaggle.com/datasets/bhararthshiviah/indian-startups-2021>

Columns in both datasets downloaded from Kaggle website include the date the startup was founded, startup location, startup name, type of industry, investor details, the amount invested (in USD), and the year the startup was funded.

1. Unicorn dataset: It contains the data related to unicorns their valuation in billions, entry valuation, entry date, sectors, investors, location.

<https://www.ventureintelligence.com/Indian-Unicorn-Tracker.php>

***Analysis:***

1. Visualize and determine the growth of startups in India

Chart, bar chart

Description automatically generated

To know about the growth of startups, I considered the parameters year in which the startup was started and counted the number of startups started in each year.

1. What are the startups which with high initial set up cost?

Chart, treemap chart

Description automatically generated

To find out the top 10 startups with high initial setup cost, I considered the Initial setup Amount parameter and the Company name.

1. What changes have occurred in India's Startup Funding Ecosystem over time?

Chart, line chart, histogram

Description automatically generated

I used moving average to see trends in investments every year to understand about the trends.

The amount invested in the year 2020 seems to be the highest.

1. Discover the top ten investors based on their average investment.

Chart, bubble chart

Description automatically generated

To find out the startups with highest average investment I considered the Investors and found out the average of the amount they invested.

1. Which cities are attracting the most startups?

Chart, bar chart

Description automatically generated

I considered the cities and then counted the number of startups they are having to display the top 5 cities based on the number of startups.

1. What categories of startups are the investors interested in?

Chart, pie chart

Description automatically generated

I have considered the categories and their percentage of investment.

1. Which cities are having the highest investment?

Map

Description automatically generated

1. What are the top 15 unicorns based on the sector of industry and the location of startup?

Chart, bar chart

Description automatically generated

***Conclusions:***

1. The number of startups in India has gradually increased from 461 in 2015 to 3017 in 2020, implying that there were be 6 times as many startups in 2020 as there were in 2015.
2. The Indian startup ecosystem seems to be very fluctuating, the average investment amount in January 2015 was roughly 17 million USD, and it jumped to nearly 80 million USD in August. It fell as low as 1.7 million in March 2016 and continued to fluctuate between 2 million and 20 million until February 2018. In August 2018, it will fly to around 60 million people. It suddenly peaked to more than 130 million USD in January 2020, then sank to less than a million by September 2020, maybe owing to covid limits.
3. The Ultraviolette startup has the highest initial setup cost of 300000000$, followed by Global Bees at 261000000$, Zepto at 160000000$, The Good Glamm Group at 150000000$, and Mensa at 135000000$.
4. Westbridge Capital made an average investment of 1976000000$ making it as the highest investor, followed by Microsoft, Ebay, tencent holdings at 1400000000$, Softbank is the third highest investor with 1320666667$.
5. The location of these startups is critical to their success. All of the top ten startup sites are cosmopolitan and metropolitan cities. National Capital Region (NCR (Delhi, Noida, Gurgaon)) outperformed with a total of 880 startups in these years, although Bangalore, known as India's Silicon Valley, provided stiff competition with 840 startups, only 40 less than that of NCR. Ahmedabad, one of India's growing economies, came in 10th place with 38 companies.
6. Private equity accounts for approximately 76.61% of total Indian startup funding, while Series B accounts for 13.47%, followed by Series D, Series C, and Funding round as the major contributors to the Indian startup economy.
7. Pune, Noida, Mumbai, Jaipur, Hyderabad are the cities with the highest number of startup funds.
8. The Edtech sector has received the most funding (28.60 billion dollars), with most of it concentrated in Bangalore, Noida, and Mumbai. FoodTech is second at 16.10 billion dollars, with a particular focus in Bangalore and Gurgaon. Third is the Fintech payments and wallet which is almost at same place as Food tech with just a difference of 0.10 billion $ less than Fintech.

***Additional Research:***

1. Type of funding the investors are interested in, and how much money do they typically fund?Chart, scatter chart

   Description automatically generated with medium confidence

Westbridge Capital is the highest investor with series B kind of investment with around about 2 Billion Dollars

1. How many years it took for a startup to convert into a unicorn. What factors helped it in this transformation. Can we reduce the time it takes for a startup to become a unicorn by improving on these characteristics.