

# TRADE AND BUSINESS



## DATA VISUALIZATION LAB

Course: CS595

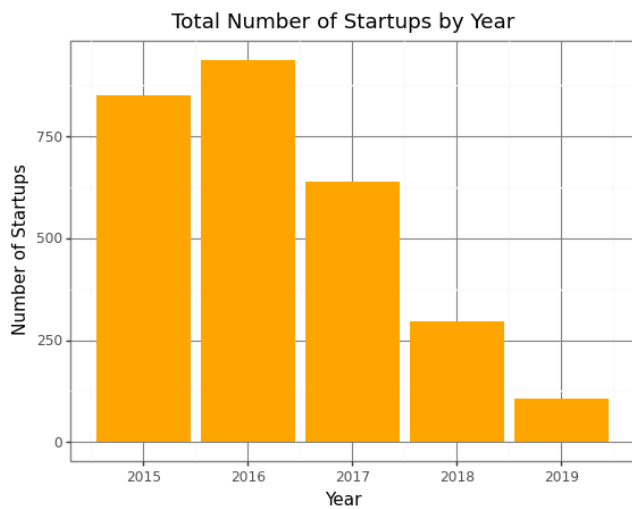
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Neelmani

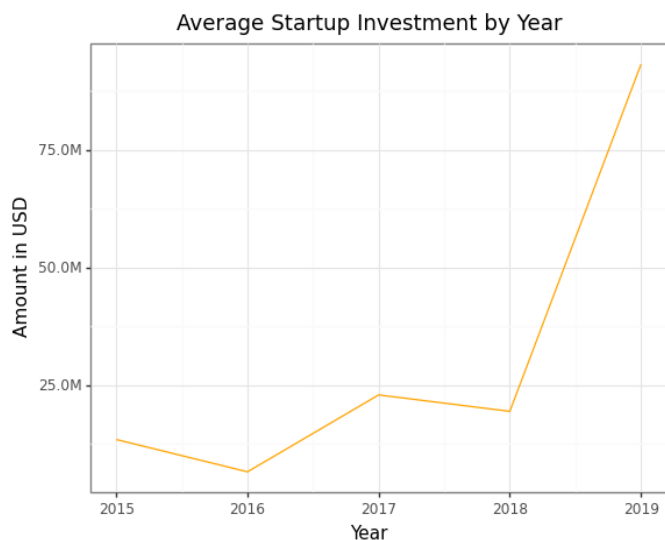
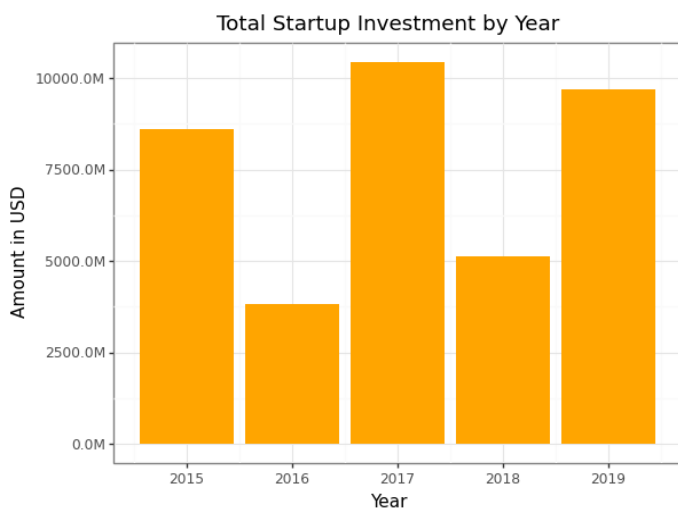
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# PLOTS: Startups at a Glance

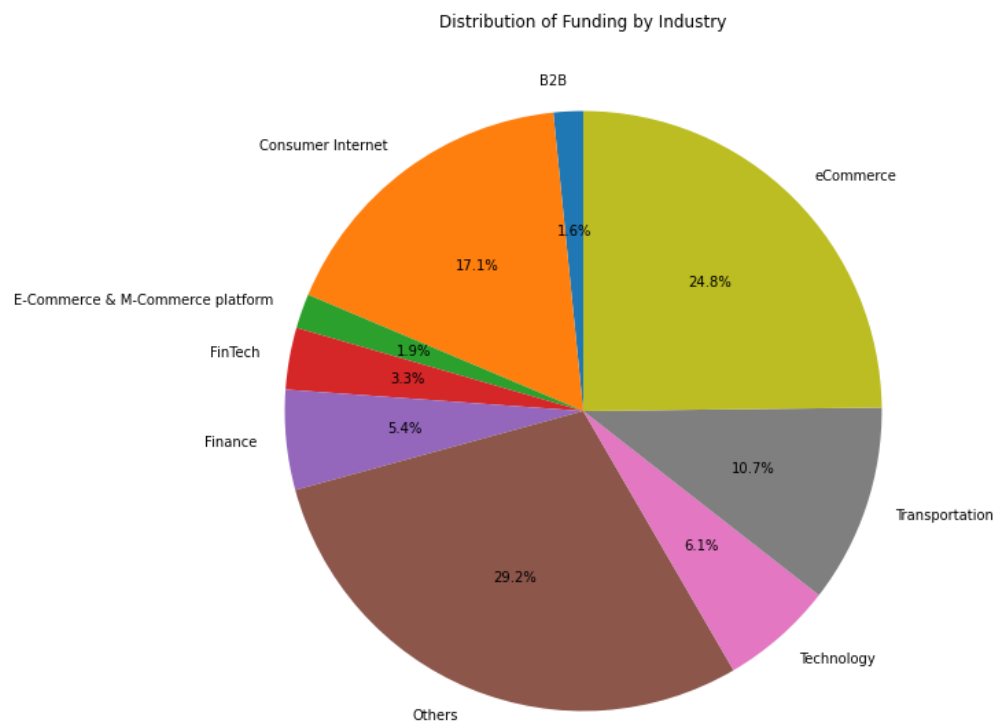


## Observation:

Based on the plot diagram, it appears that the average investment in startups has been steadily increasing over the years from 2015 to 2019. There is a slight dip in 2016 (due to recession) and 2018, but overall, the trend is upwards. It's also worth noting that the amount of investment seems to be increasing at a faster rate in later years, with a sharper incline towards the end of the time period in 2018 and 2019. The average investment in 2019 is approximately 7 times higher than in 2015.



# PLOTS: Distribution of Funding by Industry And Investment Type



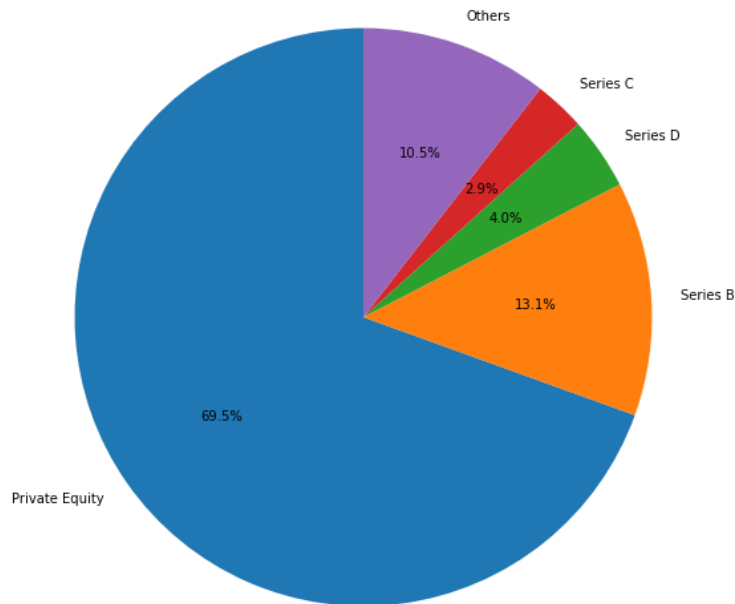
## Observation:

Based on the pie chart, it appears that eCommerce is the dominant industry for startup funding, accounting for almost 25% of the total funding. Consumer Internet and Transportation follow closely behind, each accounting for around 17% and 10.6% of the total funding respectively.

The other top industries by funding, in descending order, are Technology, Finance and FinTech. These industries each account for less than 10% of the total funding.

The "Others" category, which includes all other industries not among the top 8, accounts for just over 10% of the total funding. This suggests that a small number of industries dominate the funding landscape for startups, with most of the money going to eCommerce, Consumer Internet, Transport and Technology.

Distribution of Funding by Investment Type



Based on the pie chart, it appears that the majority of funding for startups comes from two types of investments: Private Equity and Series B. These two types of funding combined account for over 80% of the total funding. The next two types of funding, Series c and Series D, each account for around 3-4% of the total funding.

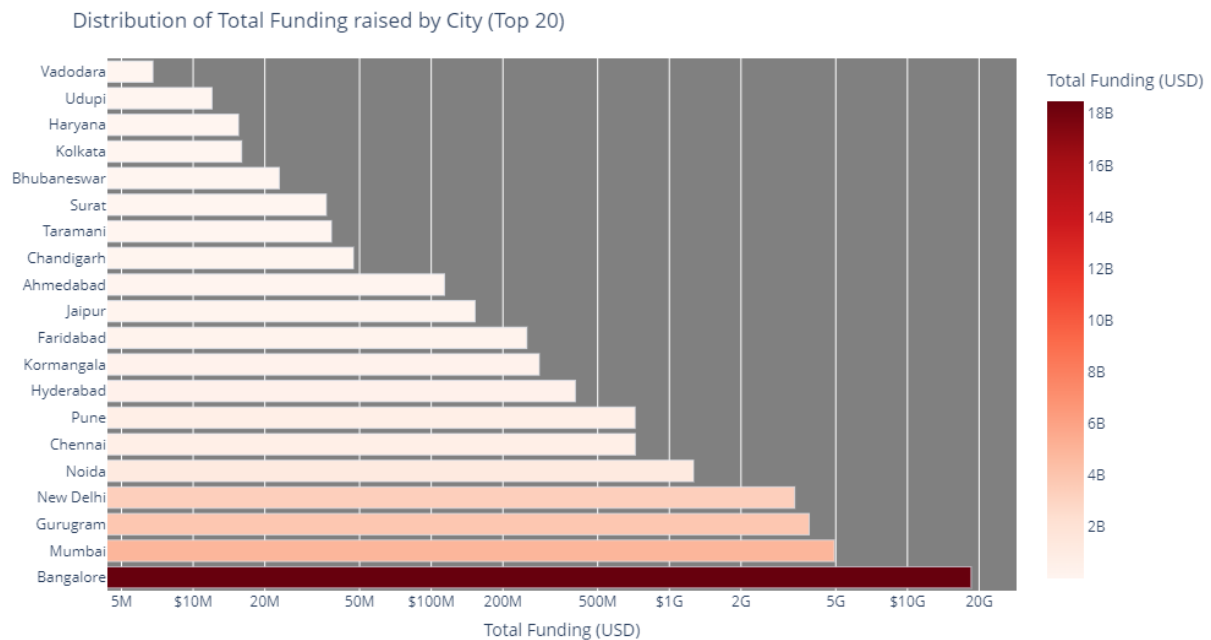
The "Others" category, which includes all other types of investments not among the top 4, accounts for less than 12% of the total funding. This suggests that a small number of investment types dominate the funding landscape for startups, with most of the money coming from Private Equity.

## PLOT: Total Funding raised by City

The chart also shows the distribution of total funding for the top 20 cities in India. The x-axis is in a logarithmic scale to accommodate the wide range of funding amounts. The color of each bar represents the total funding amount for each city, with darker shades indicating higher funding amounts.

Based on the horizontal bar chart, we can observe that Bangalore is the city with the highest total funding raised by startups, with over 18 billion USD in total funding. Mumbai follows behind with just under 5 billion USD in total funding.

Overall, the chart suggests that there are significant regional disparities in the funding received by startups in India, with a few cities dominating the market.

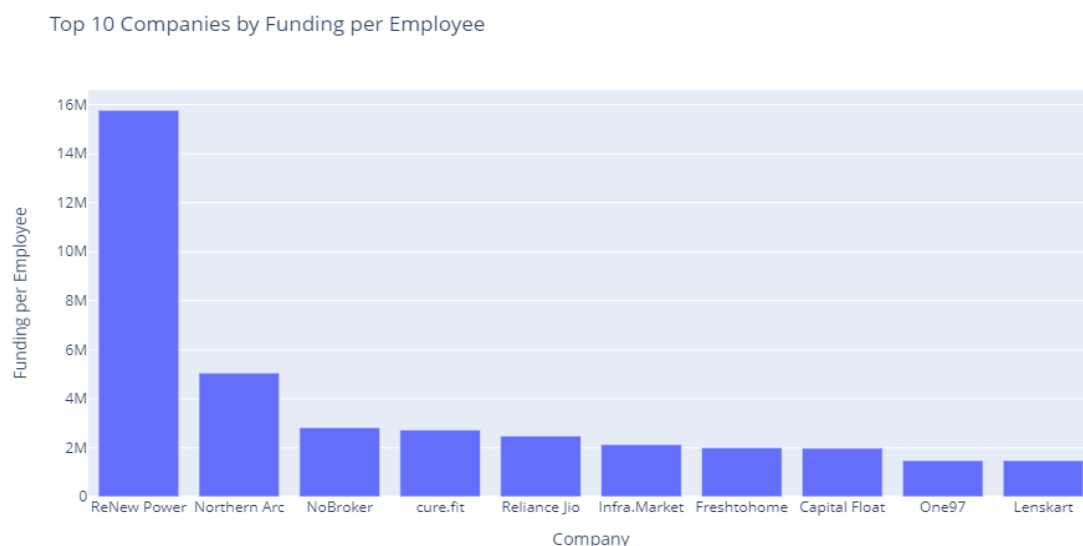


## PLOT: Startup Potential

**Funding per employee:** This metric can be calculated by dividing the total funding raised by a company by the number of employees. This can help identify which companies are more efficient in utilizing their funding and have higher productivity levels.

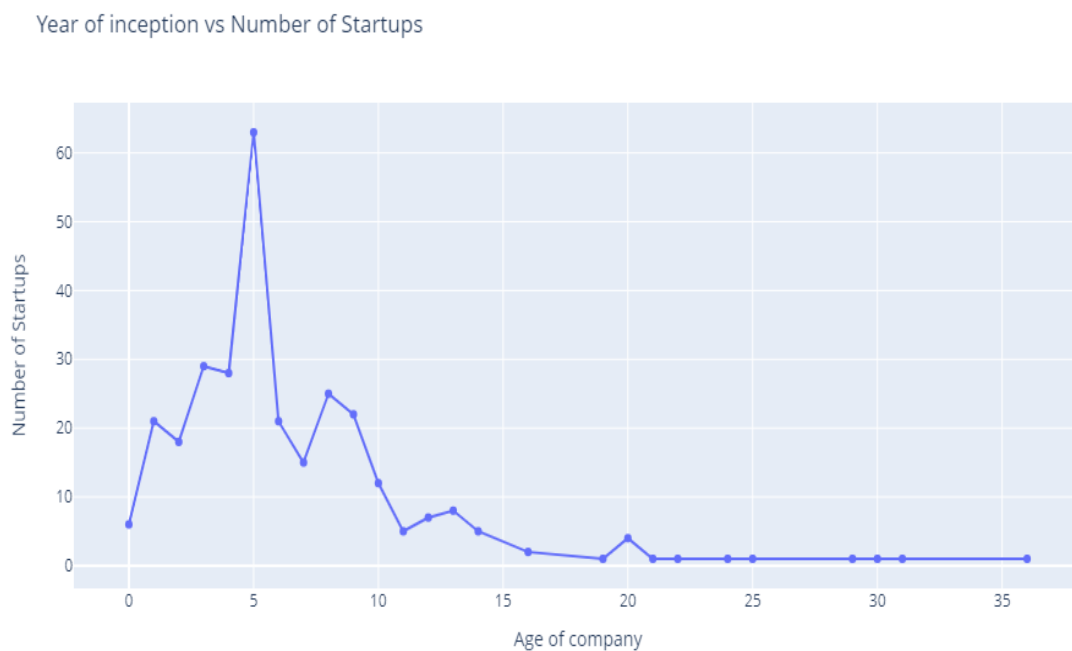
The plot shows the top 10 companies with the highest funding per employee. It appears that the top company has a funding per employee of around \$15.5 million, which is significantly higher than the other companies in the top 10.

Overall, the plot suggests that there are some companies that are able to secure a high amount of funding per employee, which could be an indicator of their ability to generate revenue or potential for growth.



## PLOT: Funding by Company Age

The plot shows a line chart of the number of startups getting investments based on their age of inception. It also indicates the preference choice of investors over a company age due of various factors i.e. risk in investment, stability and performance of the company. From the plot we can see that the investor relies more in the company of age between 2-10 years for investment



## CREDIT CARD SPENDING

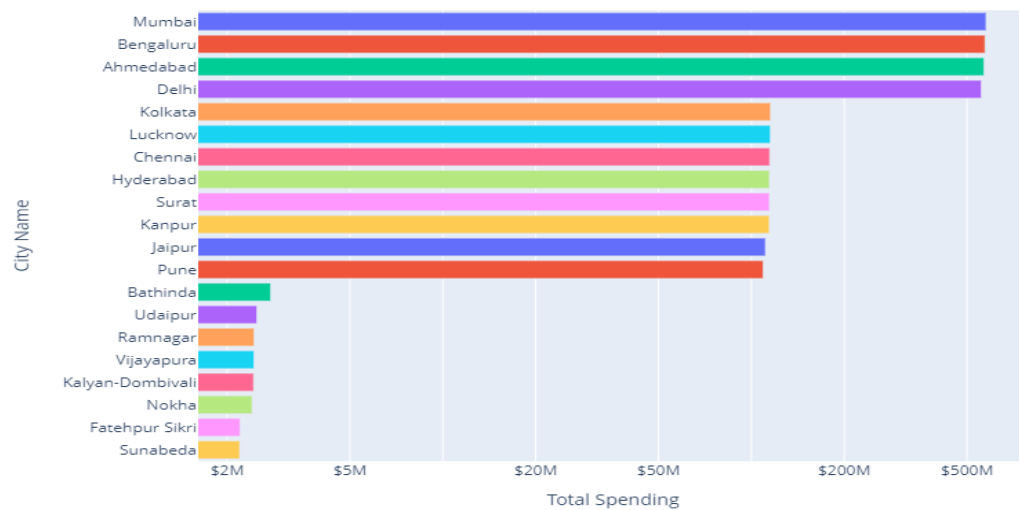
### PLOTS: Spending Across Different cities

The plot shows the top 20 cities with the highest total spending. The y-axis represents the city names while the x-axis represents the total amount spent in USD. Each bar is coloured differently based on the city it represents.

From the plot, it can be observed that Mumbai has the highest total spending followed by Bengaluru, Ahmedabad and Delhi. It's also interesting to note that the spending drops off significantly after the top 4 cities.

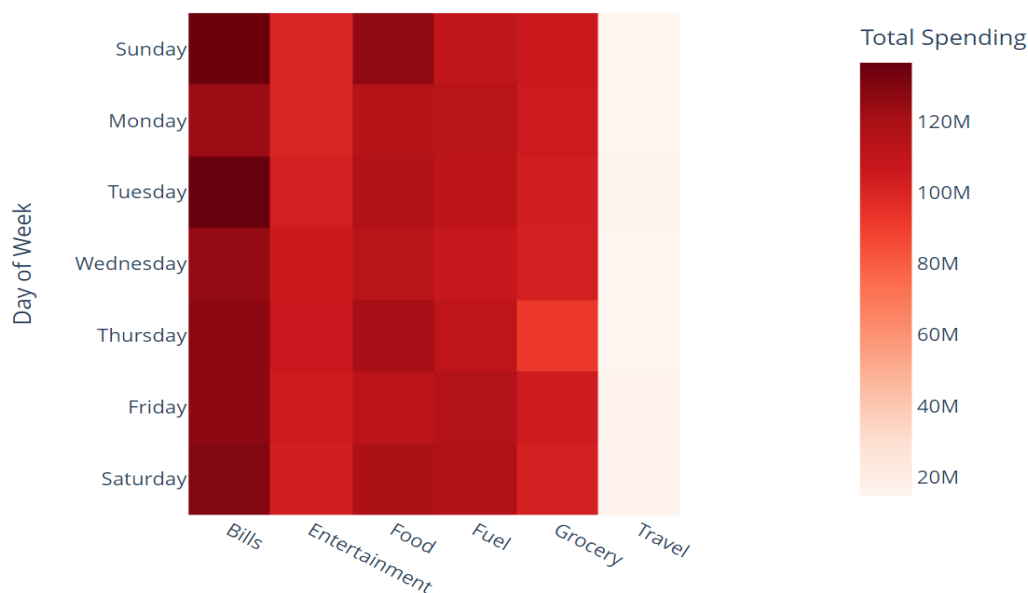
Overall, the plot provides a clear and positive correlation of the total spending and total investment in startups by city.

Total Spending by City (Top 20)



## PLOT: Spending by Expense Type on Weekly Basis

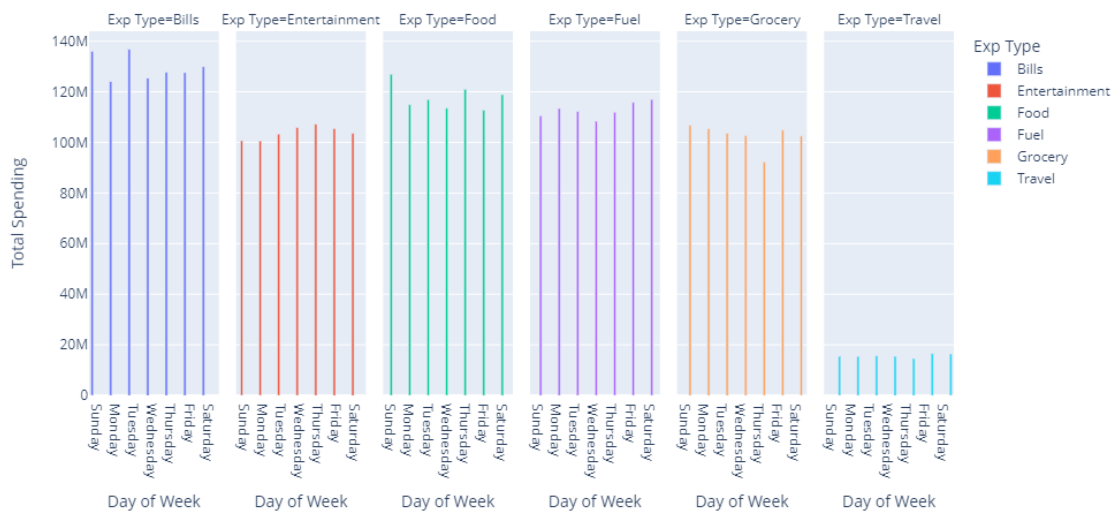
Total Spending by Expense Type (Daily)



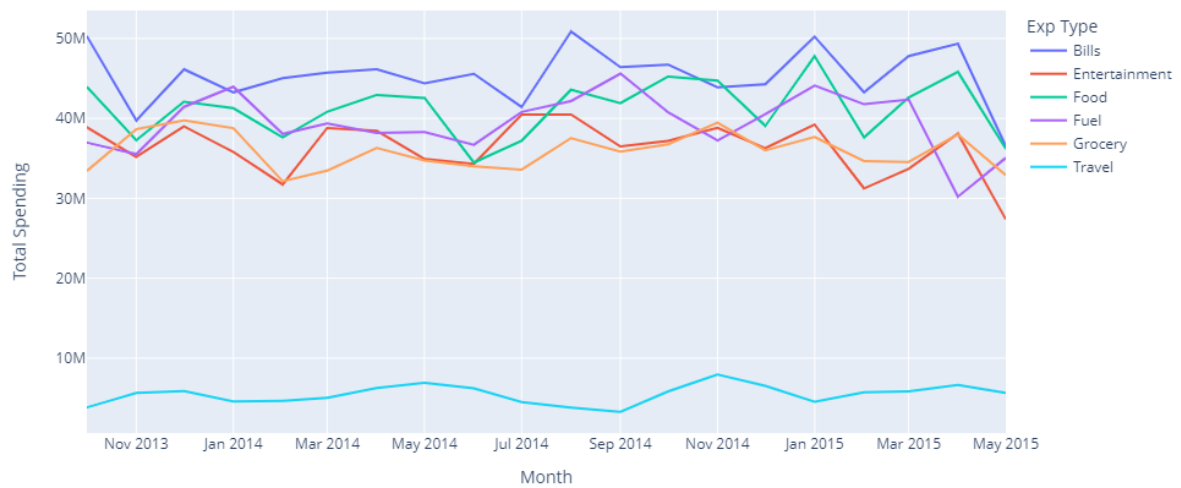
The heatmap shows the total spending by expense type for each day of the week. The expense types are listed on the x-axis and the days of the week are listed on the y-axis. The darker red colours indicate higher spending while the lighter colours indicate lower spending.

- 1.The highest spending is on Sunday and Tuesday, with the highest expenses being in Bills.
- 2.The lowest spending is in Travel and Entertainment categories.
- 3.Travel and Entertainment categories have relatively consistent spending across all days of the week.

Total Spending by Expense Type (Daily)

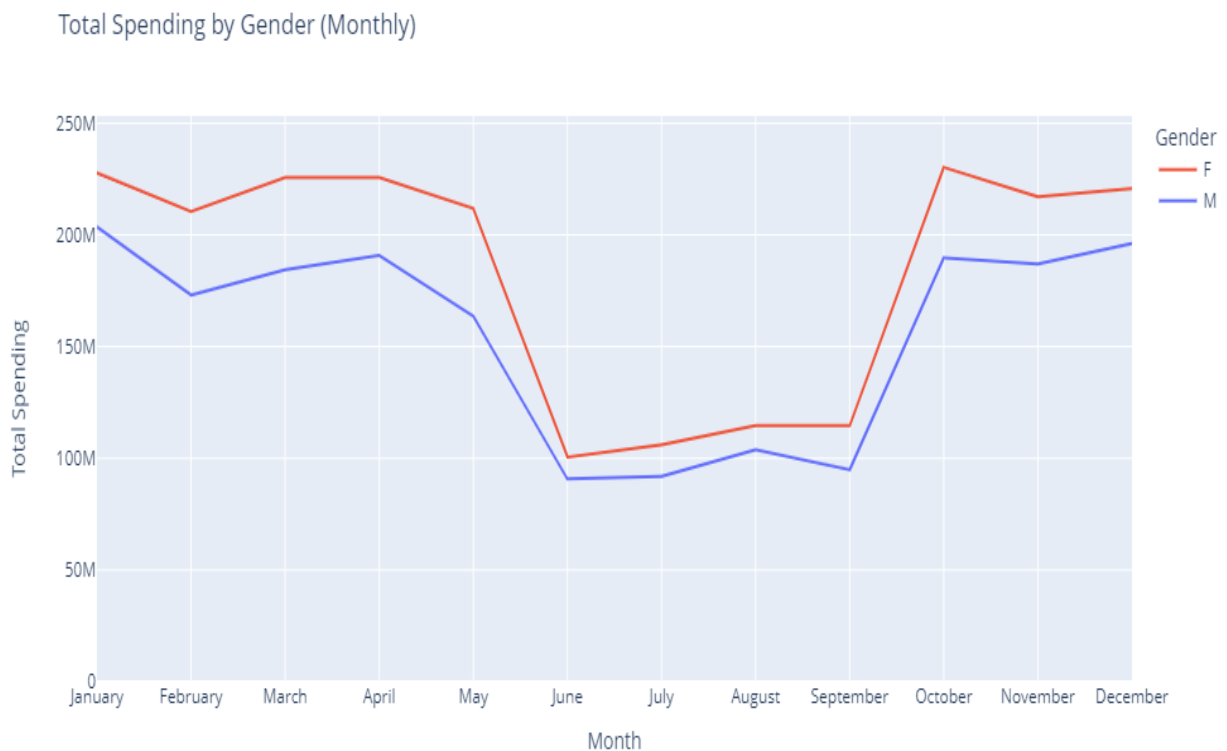


Total Spending by Expense Type (Monthly)

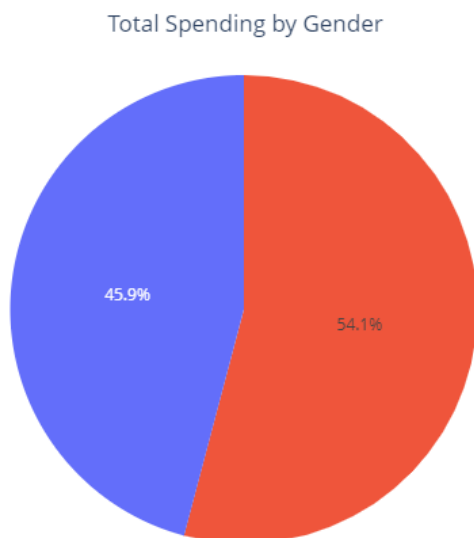




## PLOT: Monthly Trends of Spending by Gender

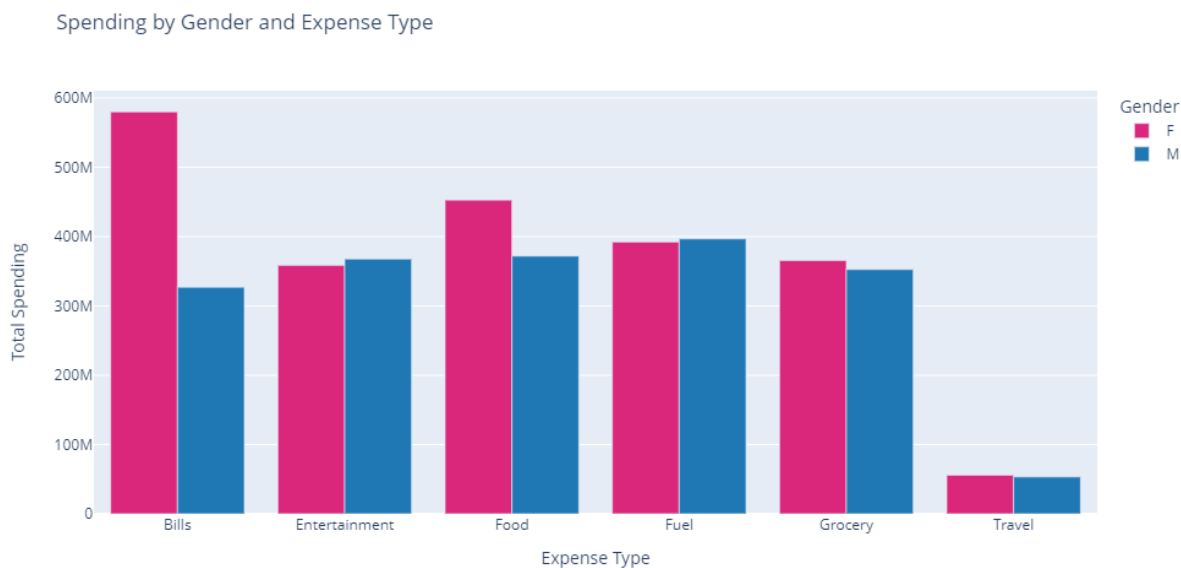


The line chart shows the total spending by gender on a monthly basis. The spending for both male and female is at its highest in festive seasons. The spending for males is slightly lower than females for all of the months



The pie chart shows the distribution of total spending by gender in the dataset. The chart shows that males (M) have a lower total spending on credit card compared to females (F), with M accounting for approximately 45.9% of the total spending, while F accounting for approximately 54.1%. The colour coding used in the chart helps to distinguish between the two genders easily.

## PLOT: Expenditure Type by Gender



Based on the given bar chart, it can be observed that females spent more than males in all expense types except for "Fuel" and "Entertainment". The highest difference in spending between males and females can be observed in the "Bills" and "Food" expense types. In terms of overall spending, the lowest spending for both males and females was in the "Travel"

## REAL ESTATE: Delhi

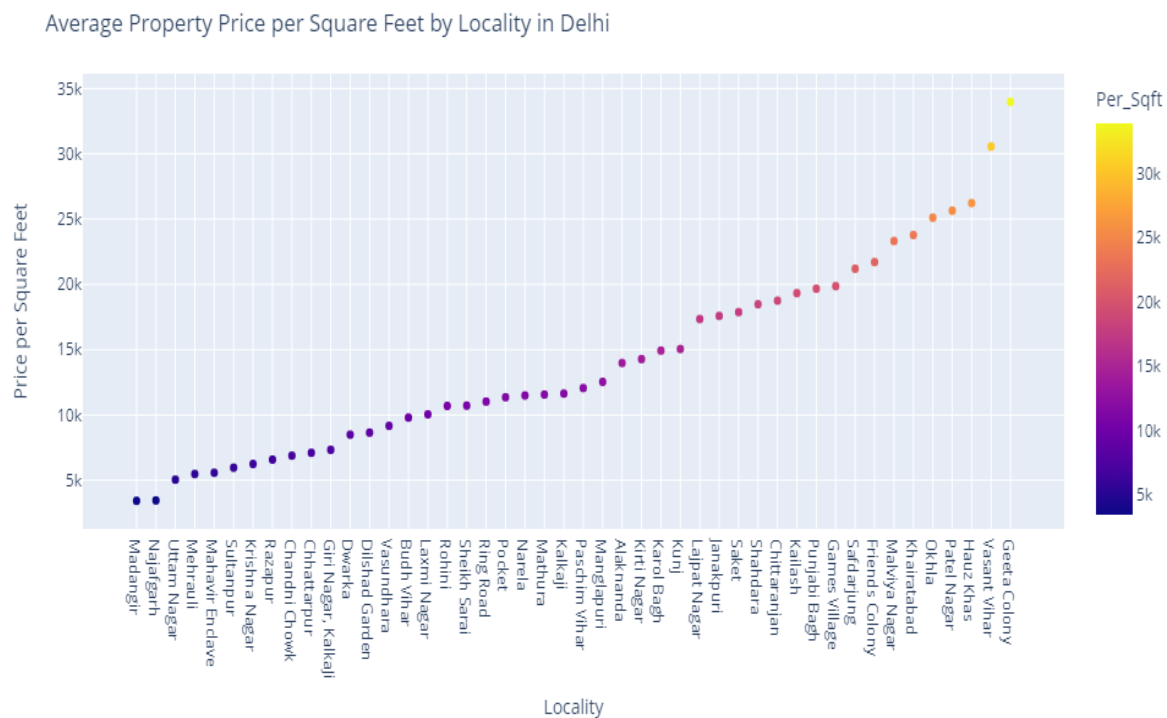
### PLOT: Relationship between Property Size and Price



The plot shows the relationship between property size (in square feet) and price in Delhi. A linear regression line is added to the plot, and the color="BHK" argument colors the data points by the number of bedrooms (BHK) in the property.

The plot can help to visualize the overall trend between size and price, as well as any variation in this trend based on the number of bedrooms in the property.

## PLOT: Property prices by location



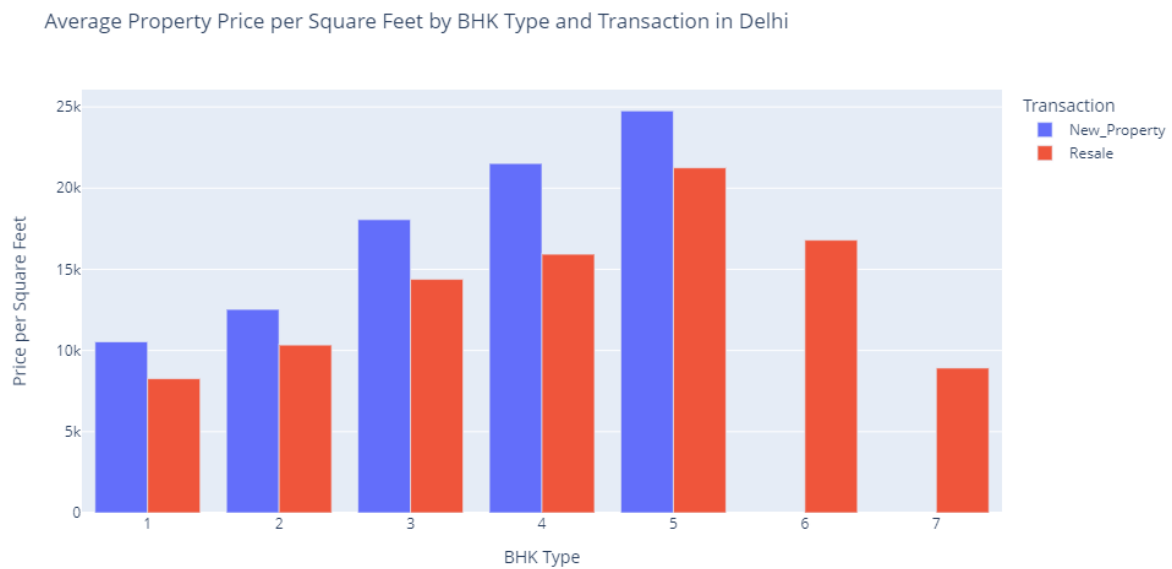
From the plot, we can observe that the average property price per square feet varies widely across different localities in Delhi. Some localities have an average price per square feet that is much higher than others. We can also see that there are a few localities with a very high average price per square feet that stand out from the rest. Overall, the plot provides a good overview of the distribution of property prices across different localities in Delhi.

## PLOT: Average Property Price by BHK and Transaction

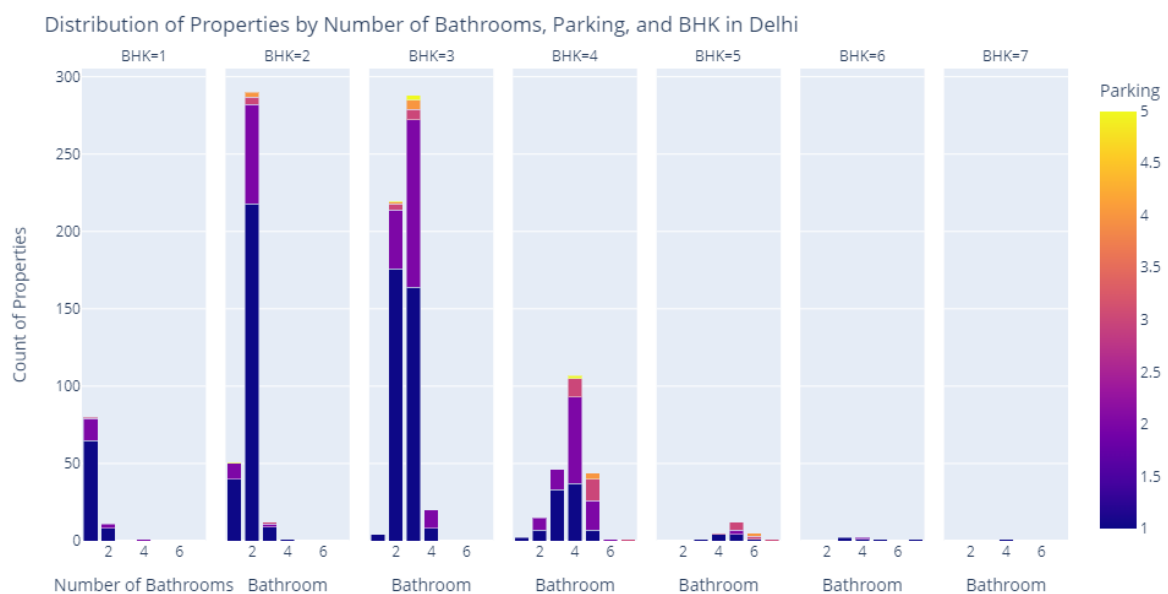
This plot shows the average property price per square foot by BHK type and transaction type in Delhi. The plot uses a grouped bar chart to display the data, with the x-axis showing the BHK type, the y-axis showing the average price per square foot, and the colour of the bars indicating the transaction type (resale or new construction).

From the plot, we can observe that in general, as the number of BHKs increases, the average price per square foot also increases. Additionally, we can see that the average price per square foot for new construction properties is generally higher than for resale properties, across all BHK types.

We can observe from the plot that after 5BHK New Property is not available in Delhi indicating the preference choice of society as they tend towards more nuclear families



## PLOT: Number of properties by BHK



The plot shows the distribution of properties in Delhi based on the number of bathrooms, parking spaces, and BHK. The plot is divided into multiple facets based on the BHK types. Each facet has stacked bars, where the height of each bar indicates the count of properties with a specific number of bathrooms and parking spaces.

From the plot, we can observe that most of the properties have 2-3 bathrooms, and the number of parking spaces varies from 1 to 3. For 1 BHK properties, most of them have one

parking space. For 2 BHK properties, the majority have either one or two parking spaces, while for 4 BHK properties, the majority have two or three parking spaces. There are also a few properties with four or more parking spaces, but they are relatively rare.

Overall, the plot provides an informative view of the distribution of properties in Delhi based on their size, amenities, and parking spaces.

## CONCLUSION:

The Datasets along with the plots provide valuable insights into different industries and markets. By combining the information from all three files, one can gain a comprehensive understanding of the startup ecosystem, consumer spending behaviour, and real estate market in a city, which can help make informed business decisions