WORLD ECONOMIC INDICATOR

Neelakanth M CHAVAN

World Economic Indicator

how a country can attain a sustainable growth

Business problem:

Using the given World Economic Indicator Dataset, we have to perform data analysis to find meaningful insights on which of the factors country should focus on to sustain GDP/ Capita.

SOLUTION:

- We have performed data analysis on the several factors given in the dataset & their effect on the GDP/Capita of the nation. We have imputed missing values after concatenating the databases into single list using a unique identifier with the help of VLOOKUP

- The imputation methodology using aggregated methods/zero value is not used as the information given is particular to country & region for a year & cannot be taken altogether for all the countries.

- If the previous year value of the missing entry is also absent then that entry is kept blank for the analysis.

- The outliers are present in the dataset but not taken into consideration for our analysis.

Data used:

The columns from the dataset used for our consideration are as follows:

GDP/Capita	Health Exp % GDP	Lending Interest
Energy Usage/Capita	CO2 Emissions/Capita	Birth Rate
Infant Mortality Rate	Life Expectancy Total/Capita	Population 15-64
Population Urban	Tourism Inbound/Capita Tourism	Outbound/Capita
Business Tax Rate	Days to start business	Ease of Business
Hours to do tax	Internet Usage	Mobile Phone Usage

Key Factors for Sustaining a Nation's GDP Growth

- Last 12 years of countries data was taken into consideration for the analysis and their effect was studied on the GDP/capita of the nation.

- We see that there is a positive correlation between GDP & Health Expenditure. Countries which are having more health expenditure % of GDP have more GDP/capita.

- The same can be inferred from the Infant Mortality Rate & Life Expectancy Rate correlation with the GDP/capita. They are having strong negative & positive correlation respectively. A good expenditure on health leads to good life expectancy & low infant mortality rate, thus enhances GDP of the nation.

- Along with Health Expenditure, country should focus on Tourism sector of the nation as well as it
  is found that Tourism is a great source of enhancing GDP of the nation. Tourism Inbound/Capita has a strong positive correlation with the GDP of the nation.

- Energy Usage/Capita and CO2 Emissions/Capita shows strong positive correlation with the GDP of the nation. Although not good for the nature but can be considered as signs of growing economy (More Production->More Energy Usage ->More Infrastructure Development -> More CO2 Emissions).

- Urbanization can also be considered as a factor for enhancing GDP of the nation. Countries having more population in the urban areas and more population in the 15-64 age group have better GDP/capita compared to others.

- The taxation rules on the citizens also affects the GDP/capita of the nation. Lending Interest Rate, Hours to do Tax and Business Tax Rate shows negative correlation with the GDP of the nation. Lesser the value , better the GDP/capita of the nation.

- Country should focus on easing rules & regulations for the people newly starting the business, as it was found that countries having more ease of business & less starting days requirement have better GDP/capita compared to others.

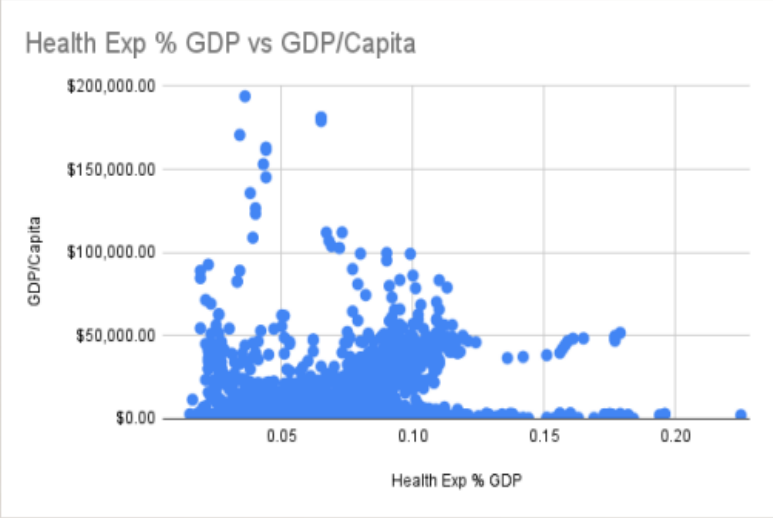
- Digitization of country resources/economy can be factor to improve the literacy among the citizens & enriching the GDP/capita of the nation as it was found that Internet Usage and Mobile Phone Usage have extremely positive correlation with the GDP of the nation.

- 2-child policy can also be an option for heavily populated countries as Birth Rate shows the strong negative correlation with the GDP/Capita of the nation. Countries having lower birth rate have low burden on the country's resources & economy thus leads to better GDP of the nation. However, make sure the country must be highly populated, else there can be adverse affect of "population ageing" which in turn reduces the GDP/capita of the nation

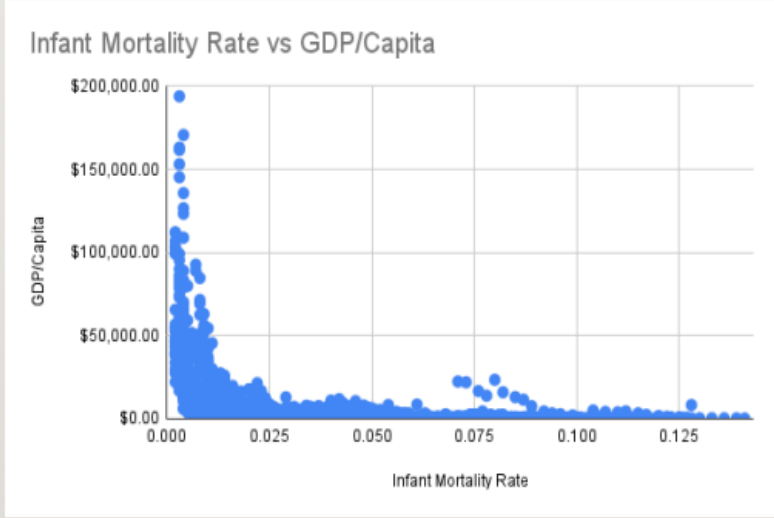
ANNEXURE

Factors on which Country's GDP/ Capita depends:

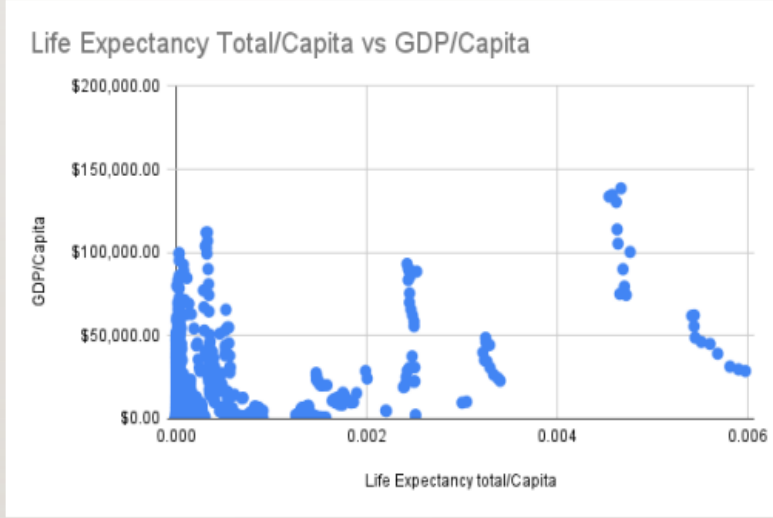
More the heath expenditure %, more the GDP/capita of the nation.



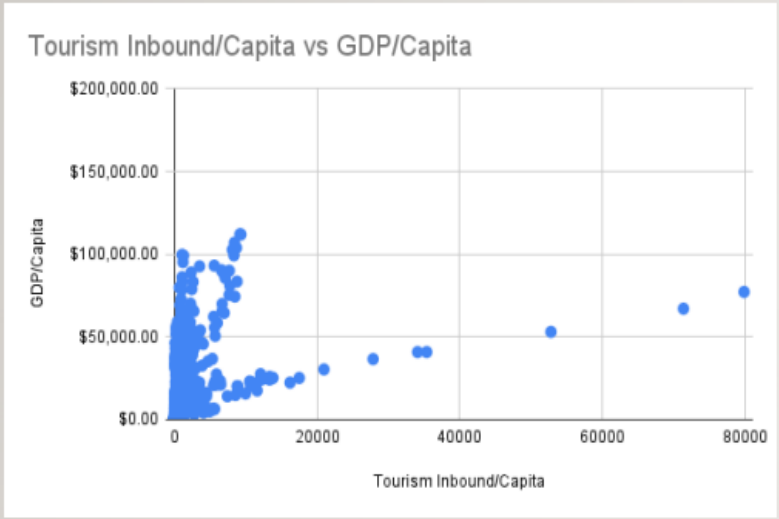
Lower the Infant mortality rate, higher the GDP/capita of the nation.



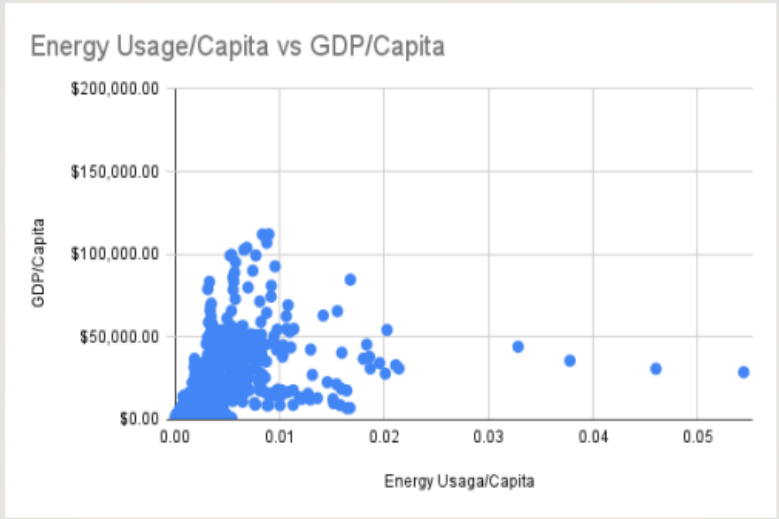
Higher the life expectancy, higher the GDP/capita of the nation.



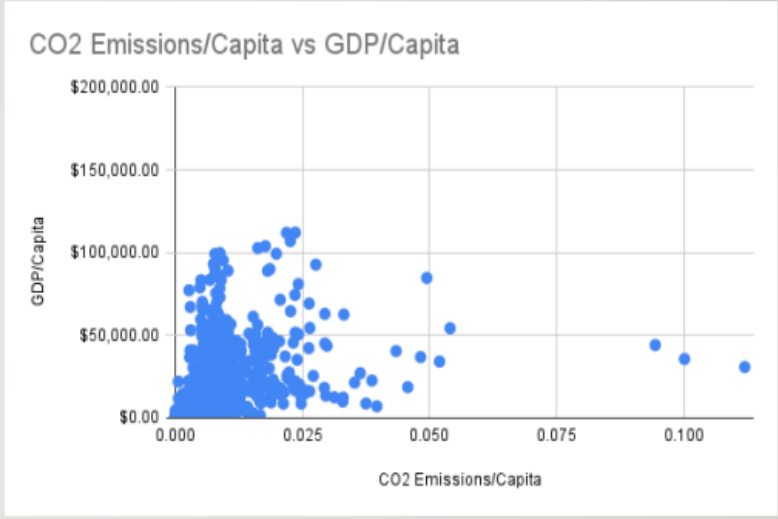
Higher the Tourism Inbound/capita, higher the GDP/capita of the nation.



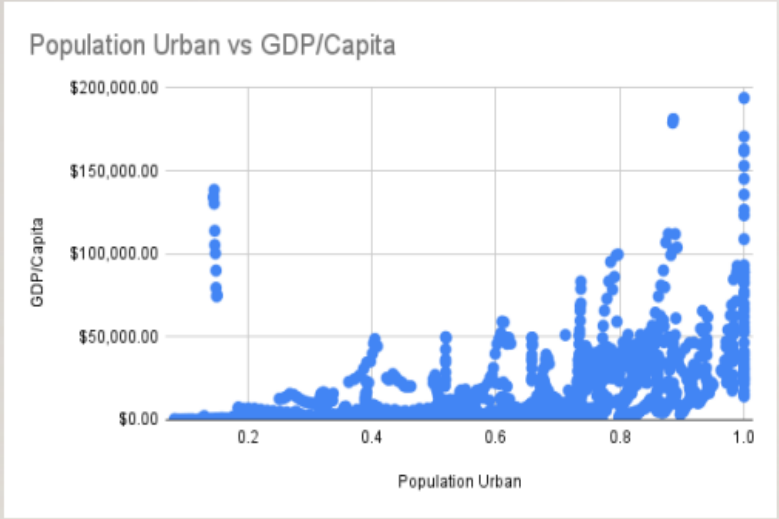
Higher the Energy Usage/capita, higher the GDP/capita of the nation.



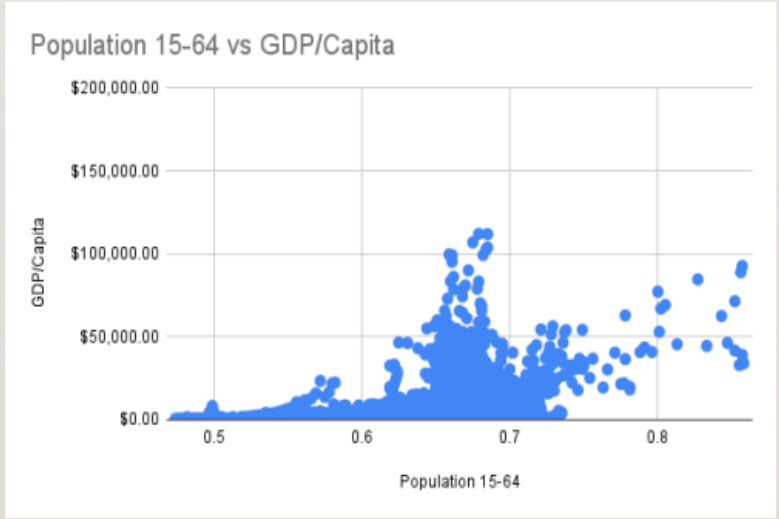
Higher the CO2 Emissions/Capita, higher the GDP/Capita of the nation.



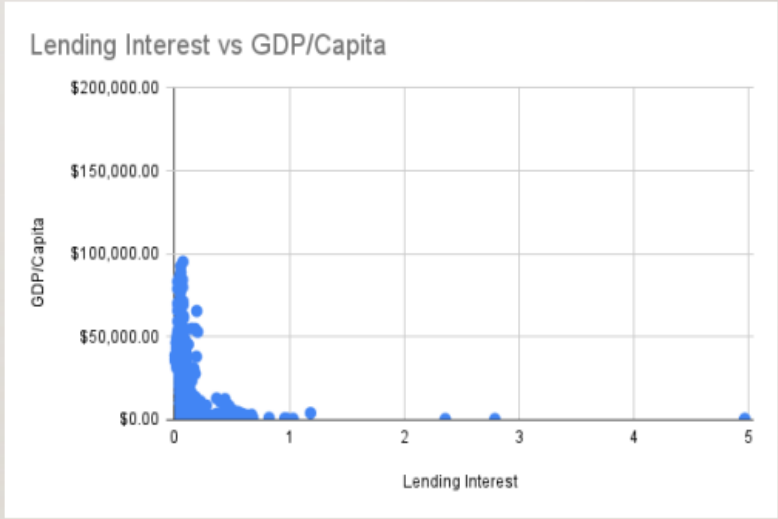
More urban population countries shows higher GDP/capita compared to others.



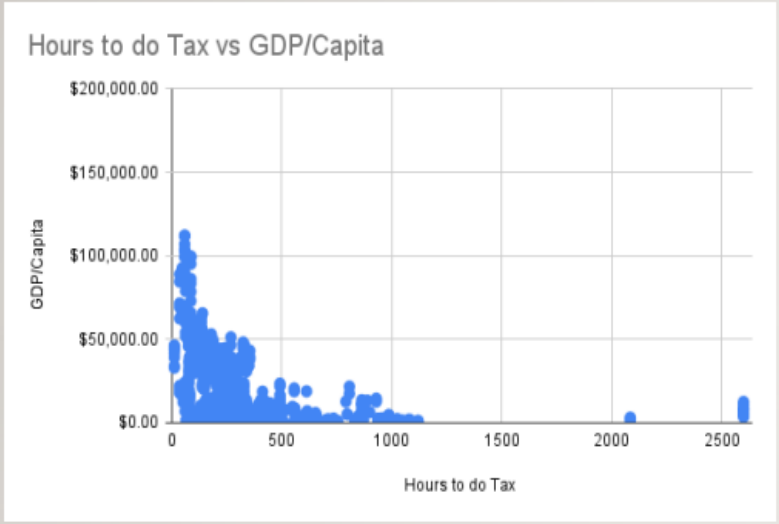
Higher the workforce in the 15-64 age group, higher the GDP/capita of the nation.



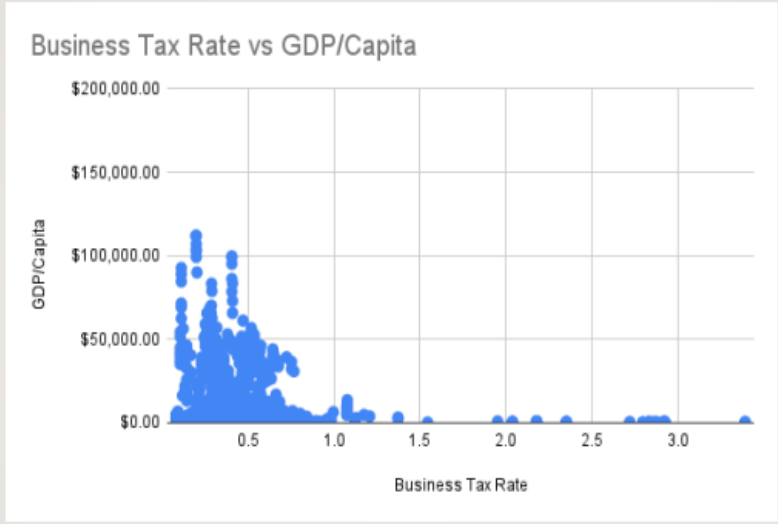
Lesser the Lending Interest value, lesser the GDP/capita of the nation.



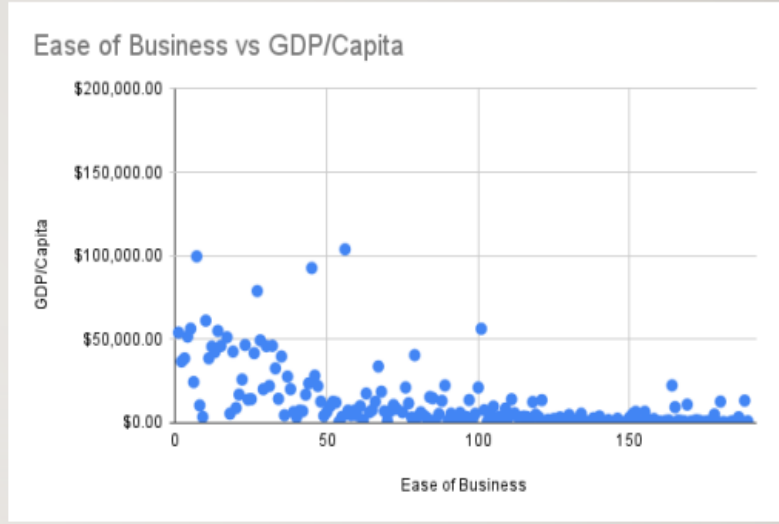
Lesser the time to prepare to prepare & pay taxes in hours per year, higher the GDP/capita of the nation.



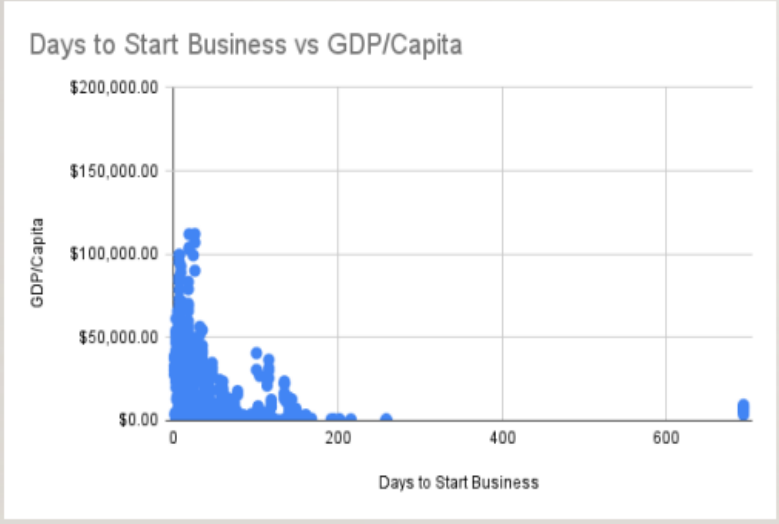
Lesser the Business Tax Rate, higher the GDP/capita of the nation.



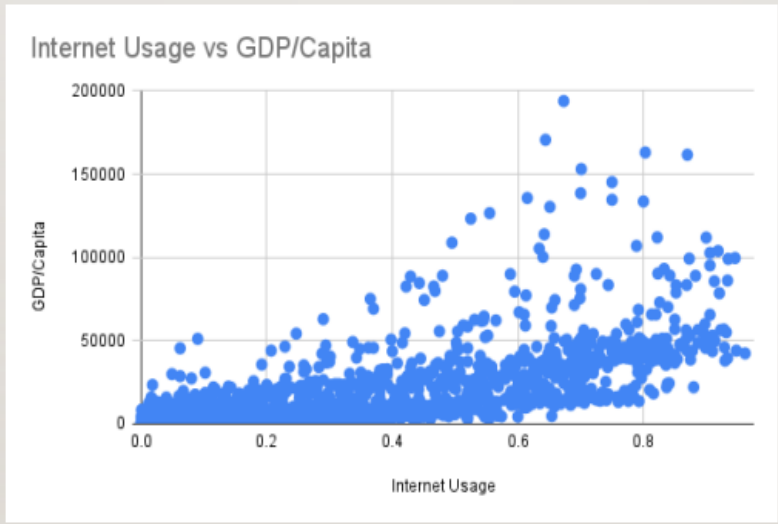
Lesser the Ease of Business (considered 1 = easiest), higher the GDP/capita of the nation.



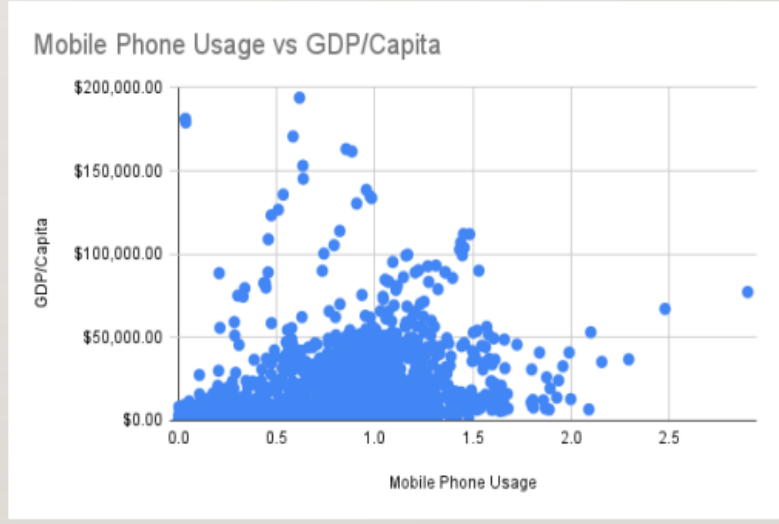
Lesser the no. of days to start business, higher the GDP/capita of the nation.



Higher the Internet usage among the nation's population, higher the GDP/capita of the nation.

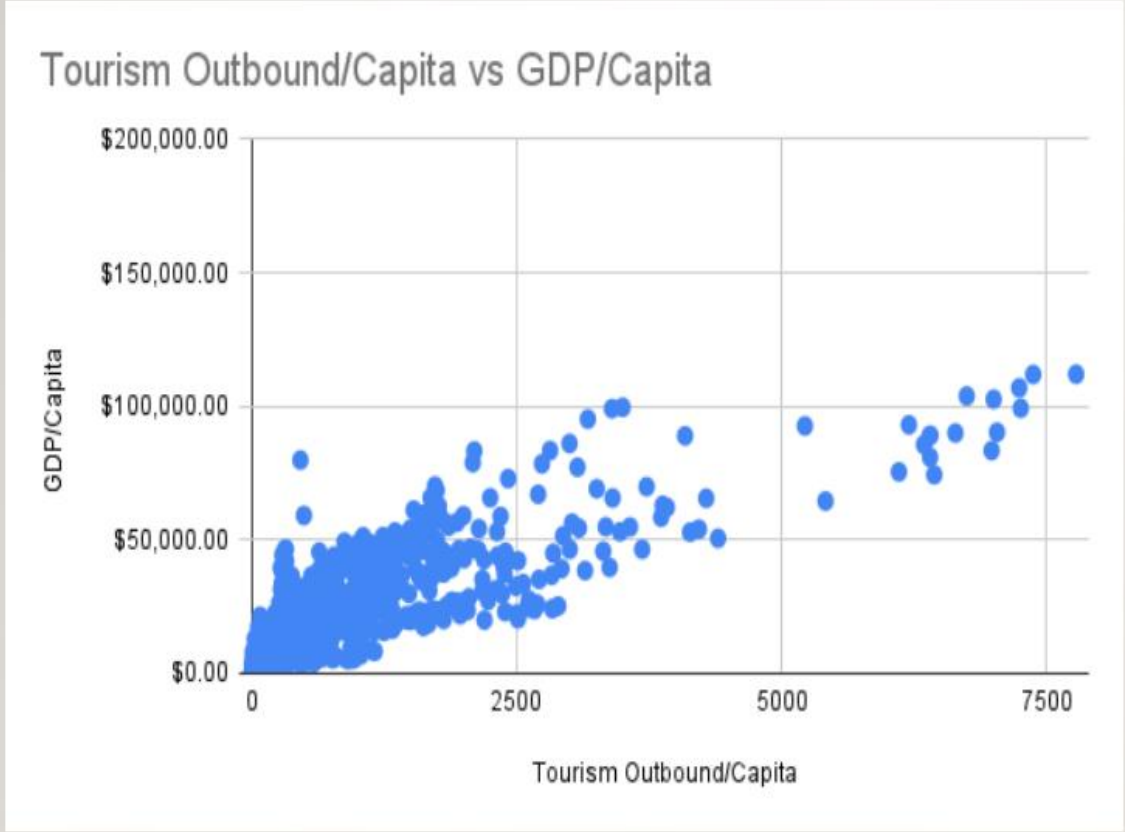


Higher the mobile phone usage among population, higher the GDP/capita of the nation.

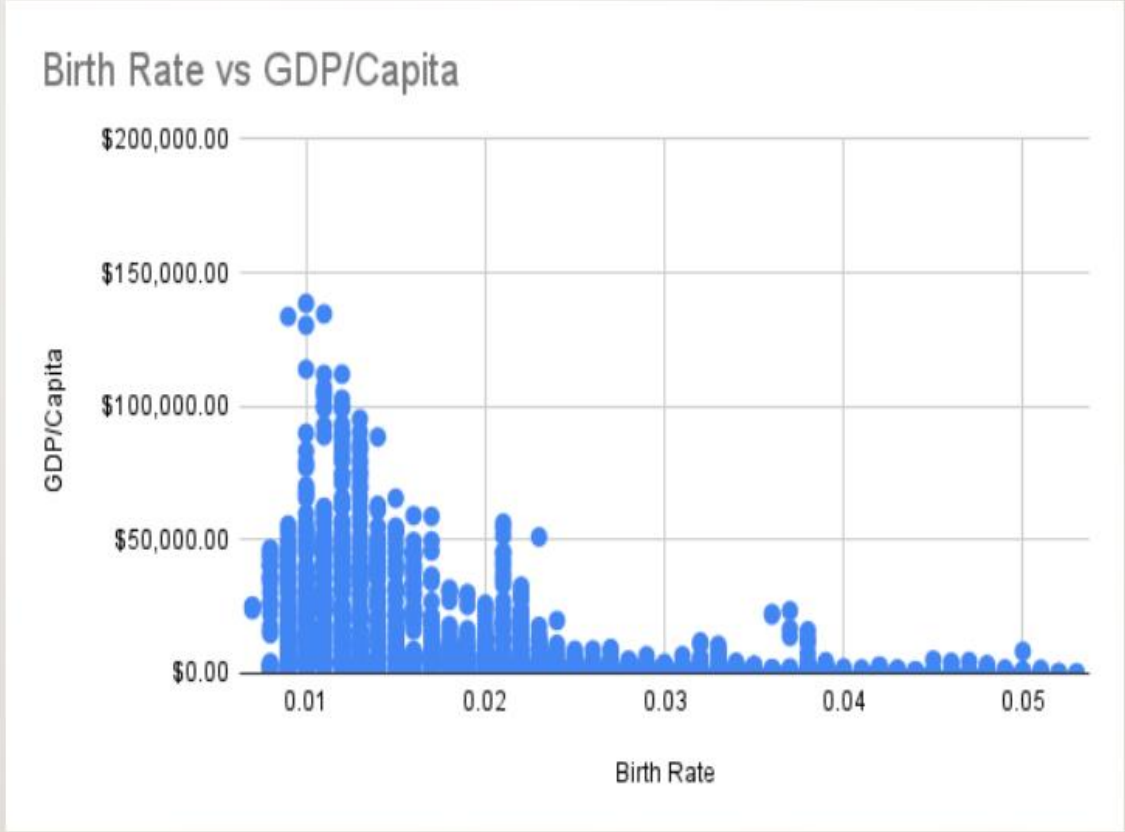


ANNEXURE

Higher the GDP/capita of the nation, higher the amount spent by citizens on tourism by visiting other countries.

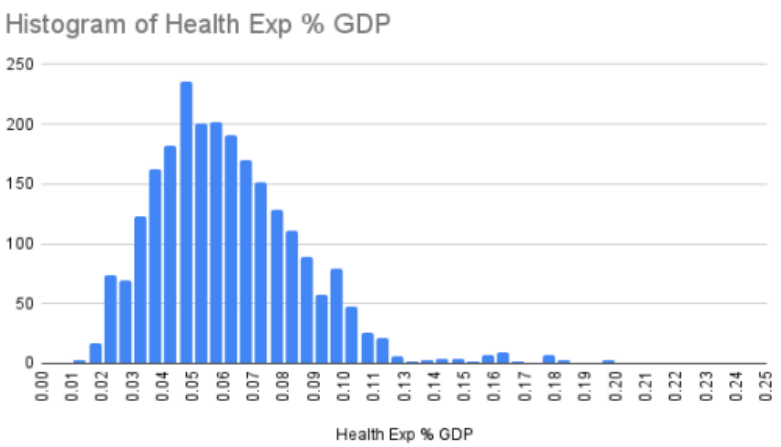


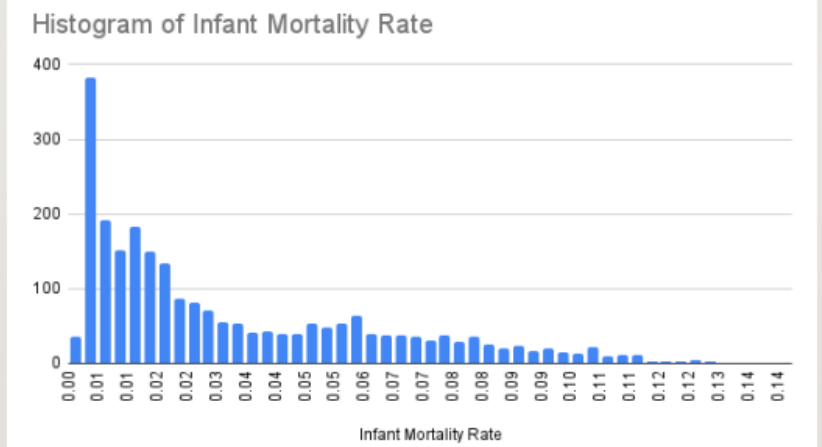
Lesser the Birth rate of the nation, higher the GDP/capita of the nation.

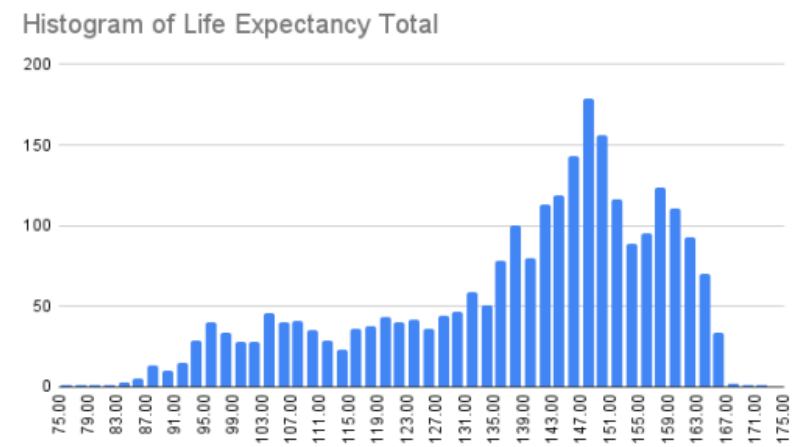


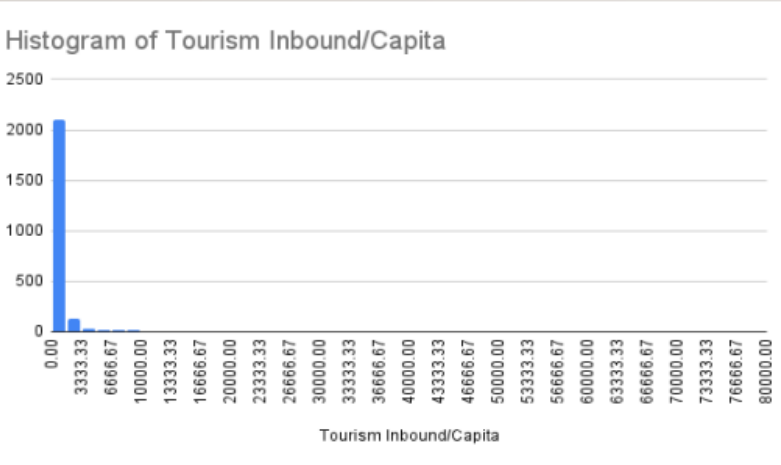
ANNEXURE

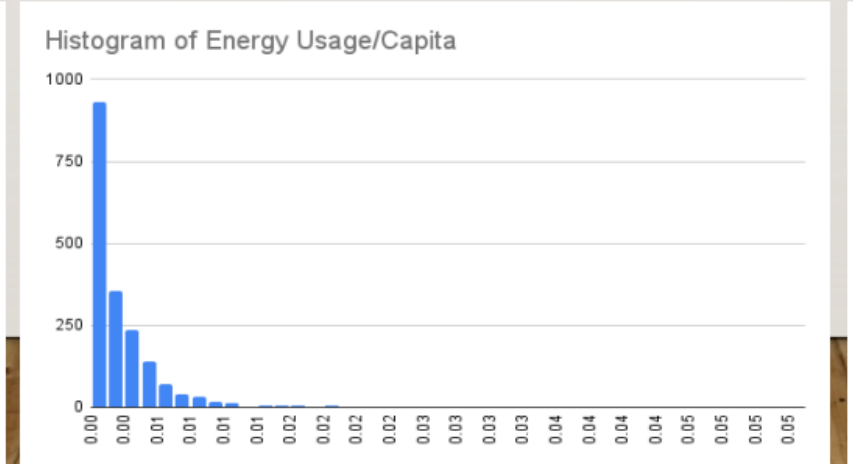
Univariate Analysis performed on the datasets to find out Outliers & nature of the dataset:

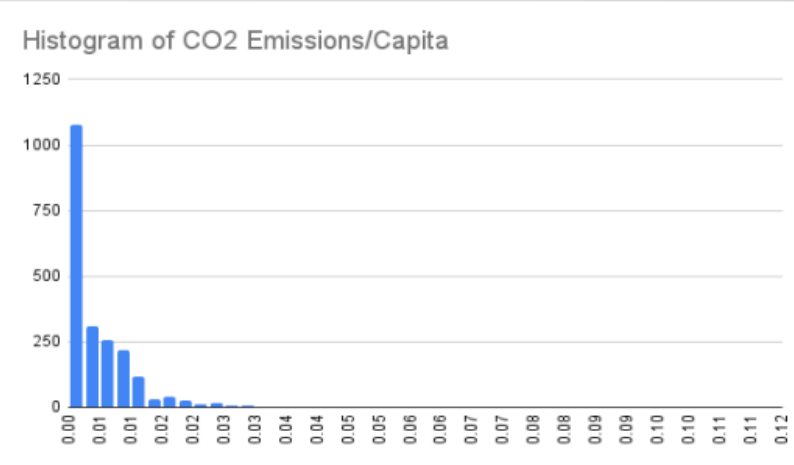


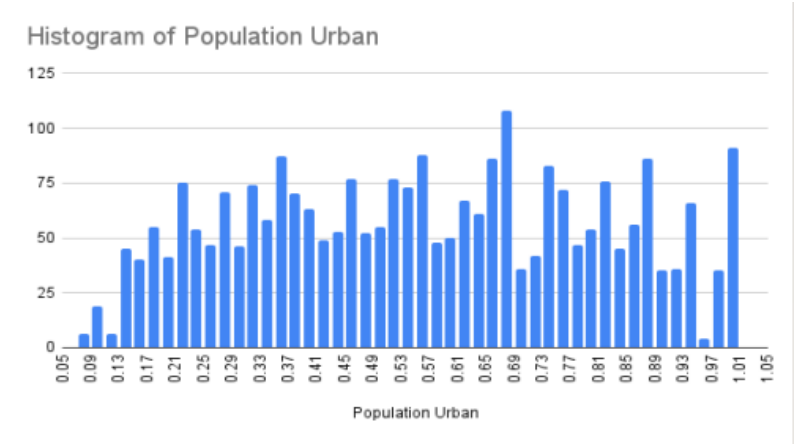


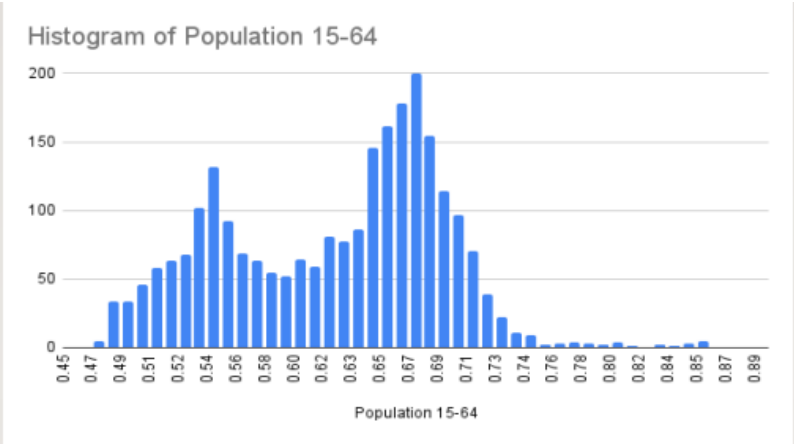


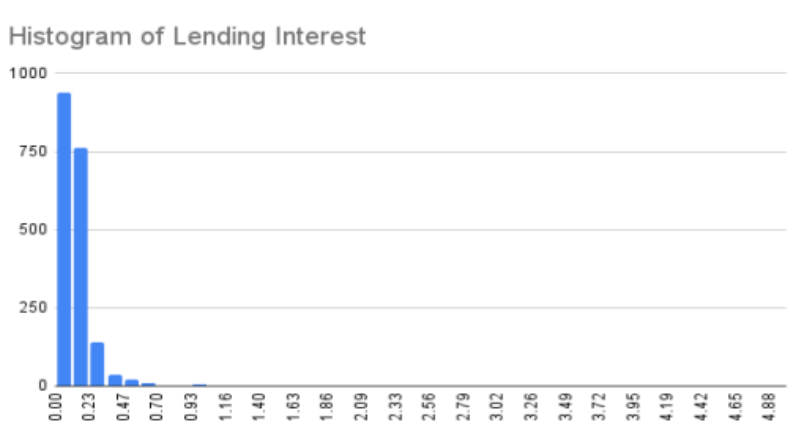


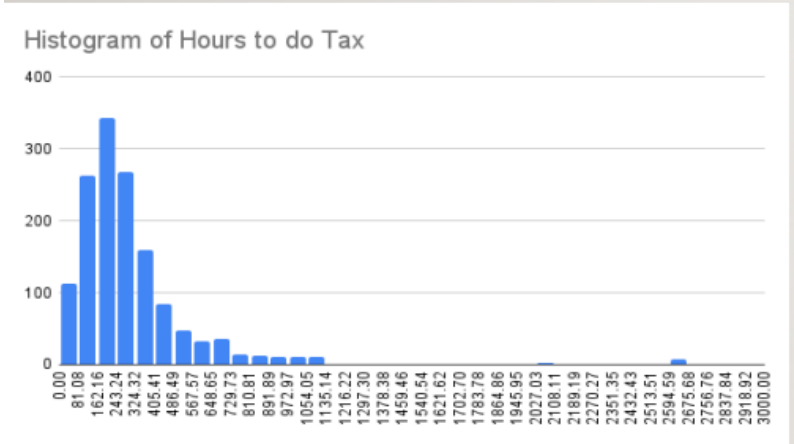


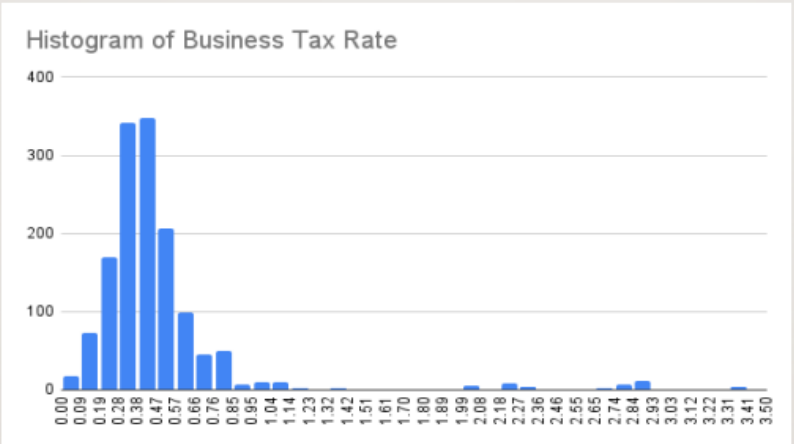


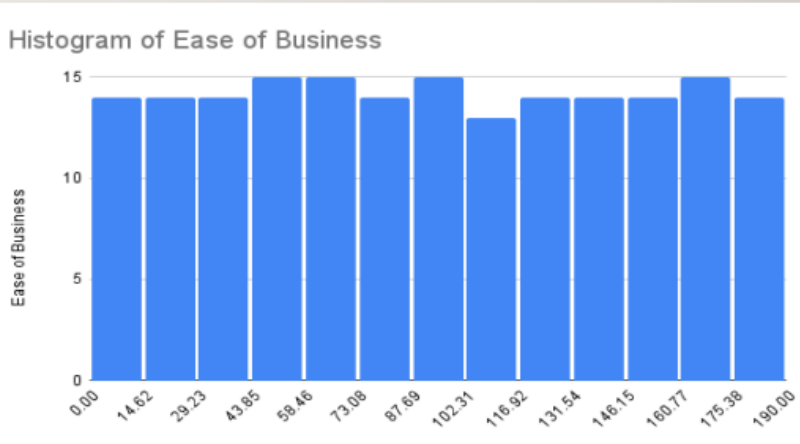

Histogram of Population Urban
Population Urban


Histogram of Population 15-64
Population 15-64

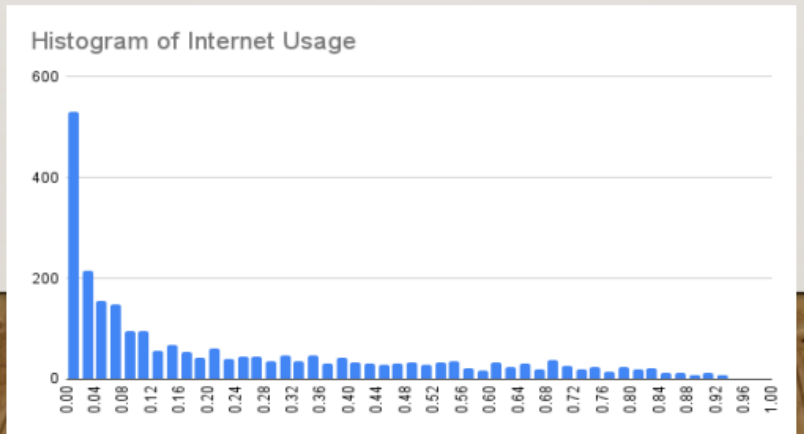

Histogram of Lending Interest

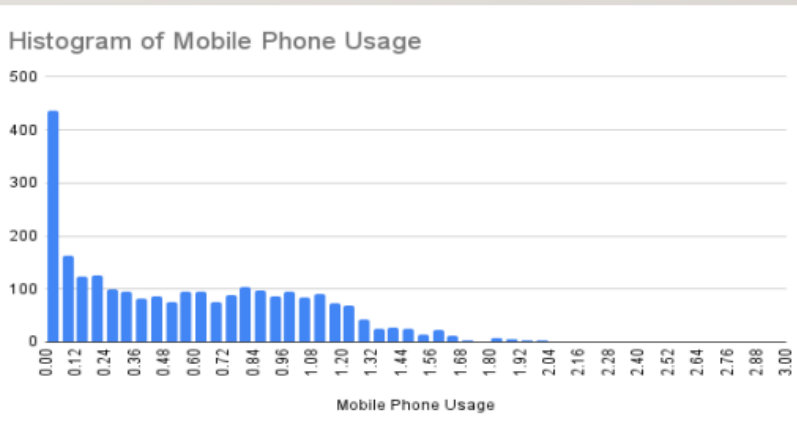

Histogram of Hours to do Tax


Histogram of Business Tax Rate

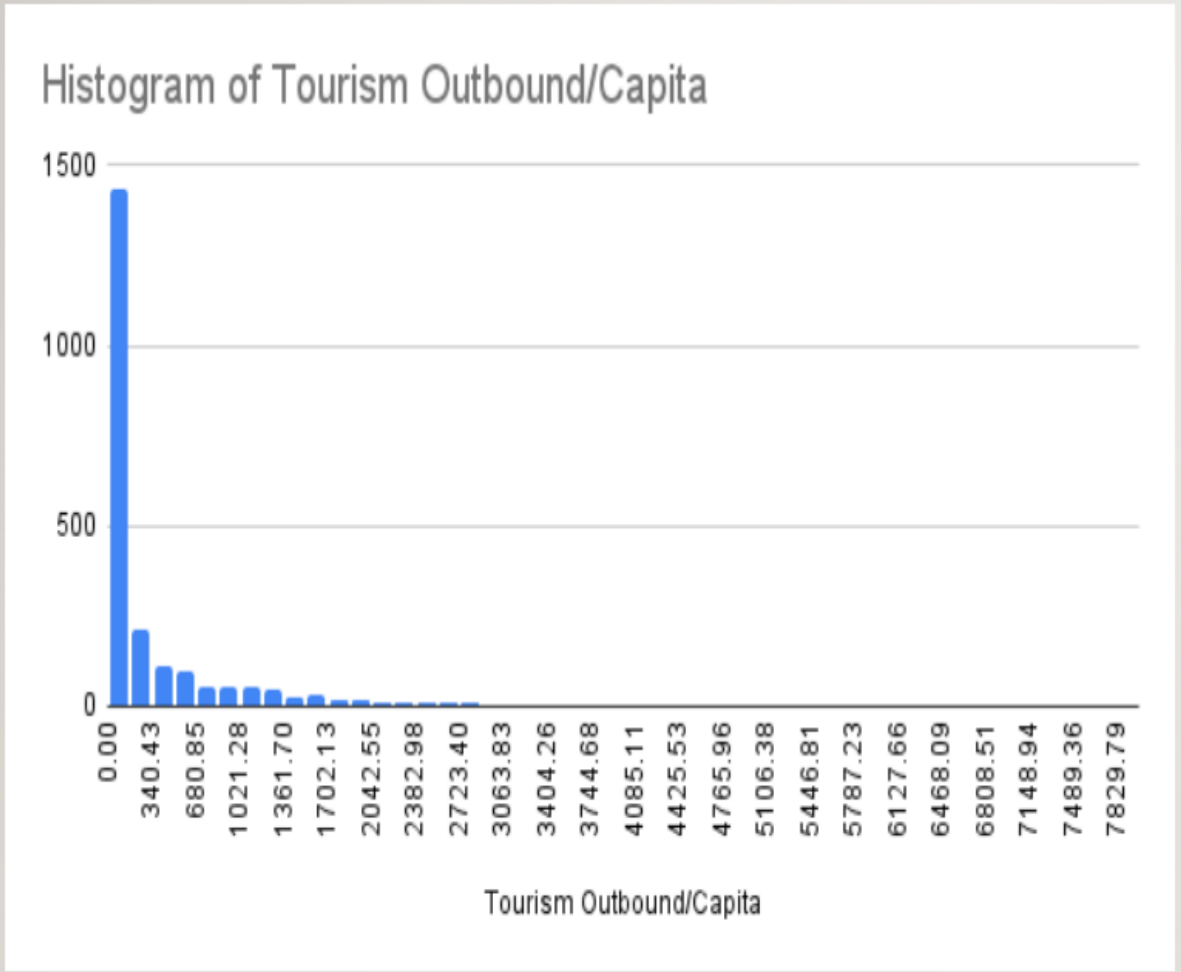

Histogram of Ease of Business
Ease of Business

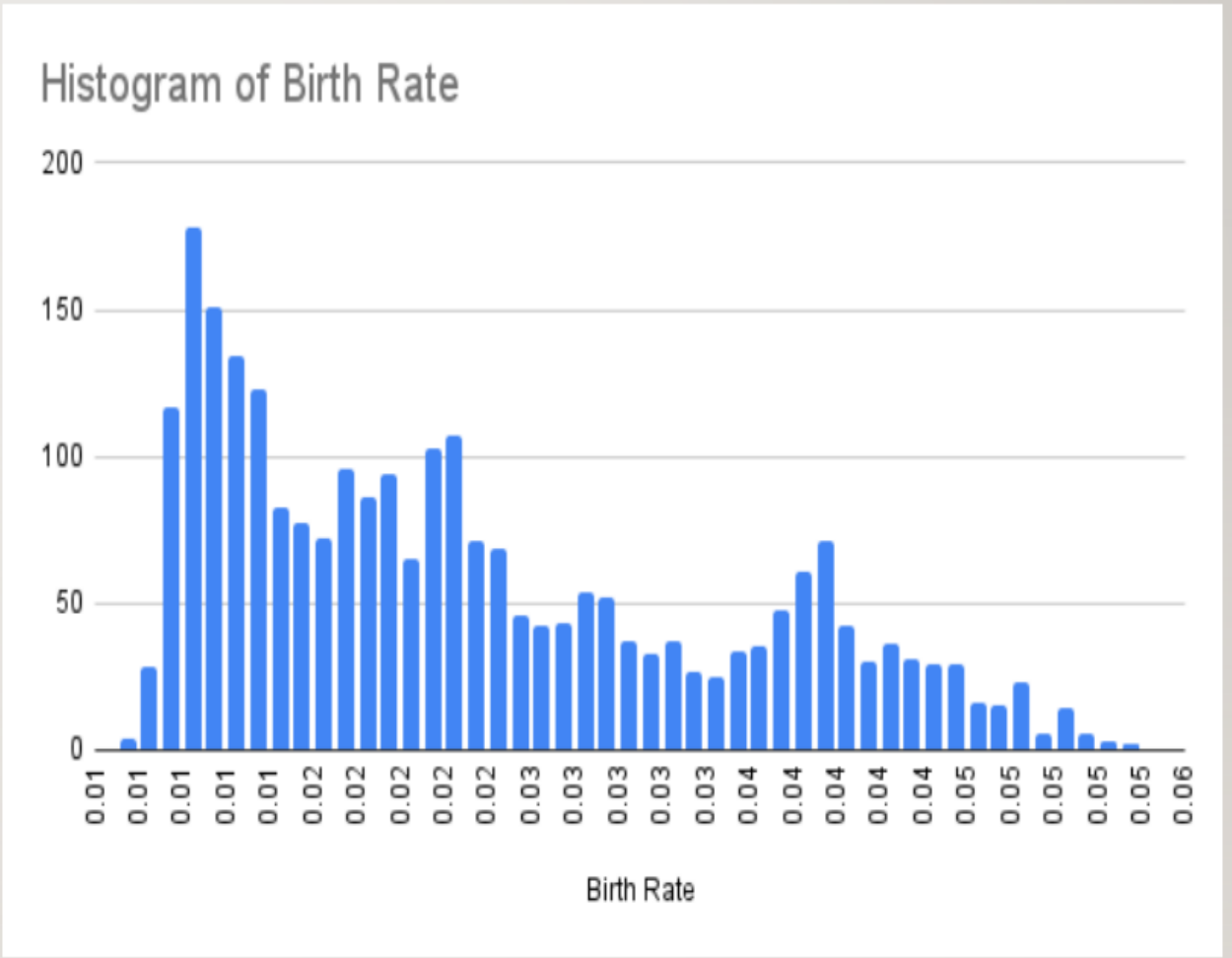
Histogram of Days to Start Business
Days to Start Business


Histogram of Internet Usage


Histogram of Mobile Phone Usage
Mobile Phone Usage

ANNEXURE


Histogram of Tourism Outbound/Capita
1500
1000
500
0
0.00
340.43
680.85
1021.28
1361.70
1702.13
2042.55
2382.98
2723.40
3063.83
3404.26
3744.68
4085.11
4425.53
4765.96
5106.38
5446.81
5787.23
6127.66
6468.09
6808.51
7148.94
7489.36
7829.79
Tourism Outbound/Capita


Histogram of Birth Rate
200
150
100
50
0
0.01
0.01
0.01
0.01
0.01
0.02
0.02
0.02
0.02
0.02
0.03
0.03
0.03
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0.03
0.04
0.04
0.04
0.04
0.04
0.05
0.05
0.05
0.05
0.05
0.06
Birth Rate