WORLD ECONOMIC DATASET

HOW A COUNTRY CAN ATTAIN SUSTAINABLE GROWTH ?

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BUSINESS PROBLEM:

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

SOLUTION

Solution 1

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.

Solution 2

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.

Solution 3

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.

DATAUSED

Mission

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

- GDP/Capita, Energy Usage/Capita, Infant Mortality Rate, Population Urban, Business Tax, Rate Hours to do tax.

- Health Exp %, GDP, CO2 Emissions/Capita, Life Expectancy, Total/Capita, Tourism Inbound/Capita, Days to start business Internet Usage.

- Lending Interest, Birth Rate, Population 15-64, Tourism Outbound/Capita, Ease of Business, Mobile Phone Usage.

Vision

WHAT ARE THE FACTORS ON WHICH COUNTRY SHOULD FOCUS ON TO SUSTAIN GDP OF THE NATION

•Last 12 years ofcountries 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.

EXECUTIVE SUMMARY

- 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 Productionà More Energy Usage à More Infrastructure Development à 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.

EXECUTIVE SUMMARY

- 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.

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

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

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

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

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

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

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

Higher the work force 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.

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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.

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

Lesser the Higher the mobile phone usage among population, higher the GDP/capita of the nation. Lending Interest value, lesser the GDP/capita of the nation.

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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

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

FACTORS ON WHICH COUNTRY'S GDP/ CAPITA DEPENDS

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.

UNIVARIATE ANALYSIS PERFORMED ON THE DATASETS TO FIND OUT OUTLIERS & NATURE OF THE DATASET:

1.)

Histogram of Infant Mortality Rate
400
300
200
100
0
0.00
0.01
0.01
0.02
0.02
0.03
0.04
0.04
0.05
0.05
0.06
0.07
0.07
0.08
0.08
0.09
0.09
0.10
0.11
0.11
0.12
0.12
0.13
0.14
0.14
Infant Mortality Rate

Histogram of Life Expectancy Total
200
150
100
50
0
75.00
79.00
83.00
87.00
91.00
95.00
99.00
103.00
107.00
111.00
115.00
119.00
123.00
127.00
131.00
135.00
139.00
143.00
147.00
151.00
155.00
159.00
163.00
167.00
171.00
175.00

2.)

Histogram of Energy Usage/Capita
1000
750
500
250
0
0.00
0.00
0.01
0.01
0.01
0.01
0.02
0.02
0.02
0.02
0.03
0.03
0.03
0.03
0.04
0.04
0.04
0.04
0.05
0.05
0.05
0.05

Histogram of CO2 Emissions/Capita
1250
1000
750
500
250
0
0.00
0.01
0.01
0.02
0.02
0.03
0.03
0.04
0.04
0.05
0.05
0.06
0.06
0.07
0.07
0.08
0.08
0.09
0.09
0.10
0.10
0.11
0.11
0.12

3.)

Histogram of Health Exp % GDP
250
200
150
100
50
0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
0.11
0.13
0.14
0.15
0.16
0.17
0.18
0.19
0.20
0.21
0.22
0.23
0.24
0.25
Health Exp % GDP

Histogram of Tourism Inbound/Capita
2500
2000
1500
1000
500
0
0.00
3333.33
6666.67
10000.00
13333.33
16666.67
20000.00
23333.33
26666.67
30000.00
33333.33
36666.67
40000.00
43333.33
46666.67
50000.00
53333.33
56666.67
60000.00
63333.33
66666.67
70000.00
73333.33
76666.67
80000.00
Tourism Inbound/Capita

4.)

Histogram of Internet Usage
600
400
200
0
0.00
0.04
0.08
0.12
0.16
0.20
0.24
0.28
0.32
0.36
0.40
0.44
0.48
0.52
0.56
0.60
0.64
0.68
0.72
0.76
0.80
0.84
0.88
0.92
0.96
1.00

Histogram of Mobile Phone Usage
500
400
300
200
100
0
0.00
0.12
0.24
0.36
0.48
0.60
0.72
0.84
0.96
1.08
1.20
1.32
1.44
1.56
1.68
1.80
1.92
2.04
2.16
2.28
2.40
2.52
2.64
2.76
2.88
3.00
Mobile Phone Usage

5.)

Histogram of Population Urban
125
100
75
50
25
0
0.05
0.09
0.13
0.17
0.21
0.25
0.29
0.33
0.37
0.41
0.45
0.49
0.53
0.57
0.61
0.65
0.69
0.73
0.77
0.81
0.85
0.89
0.93
0.97
1.01
1.05
Population Urban

Histogram of Population 15-64
200
150
100
50
0
0.45
0.47
0.49
0.51
0.52
0.54
0.56
0.58
0.60
0.62
0.63
0.65
0.67
0.69
0.71
0.73
0.74
0.76
0.78
0.80
0.82
0.84
0.85
0.87
0.89

6.)

Histogram of Hours to do Tax
400
300
200
100
0
0.00
81.08
162.16
243.24
324.32
405.41
486.49
567.57
648.65
729.73
810.81
891.89
972.97
1054.05
1135.14
1216.22
1297.30
1378.38
1459.46
1540.54
1621.62
1702.70
1783.78
1864.86
1945.95
2027.03
2108.11
2189.19
2270.27
2351.35
2432.43
2513.51
2594.59
2675.68
2756.76
2837.84
2918.92
3000.00

Histogram of Lending Interest
1000
750
500
250
0
0.00
0.23
0.47
0.70
0.93
1.16
1.40
1.63
1.86
2.09
2.33
2.56
2.79
3.02
3.26
3.49
3.72
3.95
4.19
4.42
4.65
4.88

7.)

Histogram of Days to Start Business
600
400
200
0
0.00
34.15
68.29
102.44
136.59
170.73
204.88
239.02
273.17
307.32
341.46
375.61
409.76
443.90
478.05
512.20
546.34
580.49
614.63
648.78
682.93
Days to Start Business

Histogram of Business Tax Rate
400
300
200
100
0
0.00
0.09
0.19
0.28
0.38
0.47
0.57
0.66
0.76
0.85
0.95
1.04
1.14
1.23
1.32
1.42
1.51
1.61
1.70
1.80
1.89
1.99
2.08
2.18
2.27
2.36
2.46
2.55
2.65
2.74
2.84
2.93
3.03
3.12
3.22
3.31
3.41
3.50

8.)

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
0.03
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

9.)

Histogram of Ease of Business
Ease of Business
15
10
5
0
0.00
14.62
29.23
43.85
58.46
73.08
87.69
102.31
116.92
131.54
146.15
160.77
175.38
190.00

THANK YOU