FINANCIAL AID RECOMMENDATION

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BUSINESS OBJECTIVES

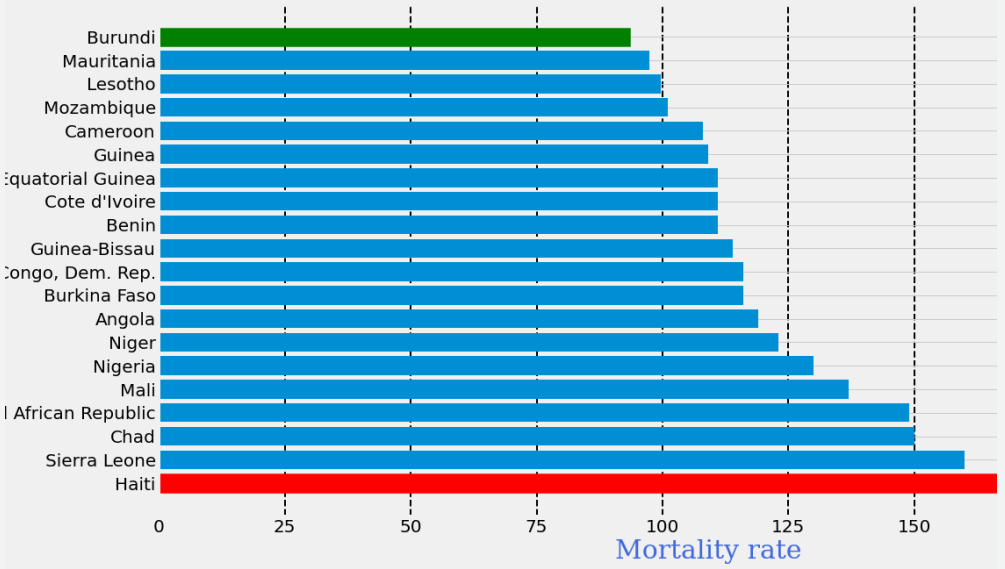
Major Objective of this Analysis is to find the countries which are in need of financial aid and can be supported through the recent raise funding in the NGO. Key Metrics such as GDPP , Child Mortality rate , income , heath spending has been used to determine the cluster of the countries which are in need of direct financial aid.

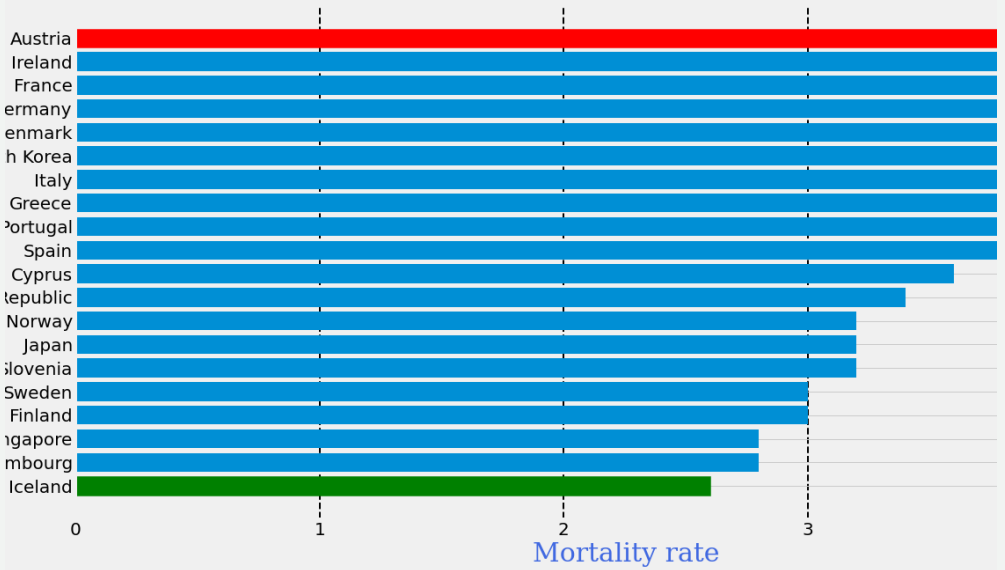
KEY METRICS USED

1. GDP
2. Income
3. Health Spending
4. Child Mortality
5. Life Expectancy

COMPARISION OF MORTALITY RATE WITH TOP 20 AND BOTTOM 20 COUNTRIES

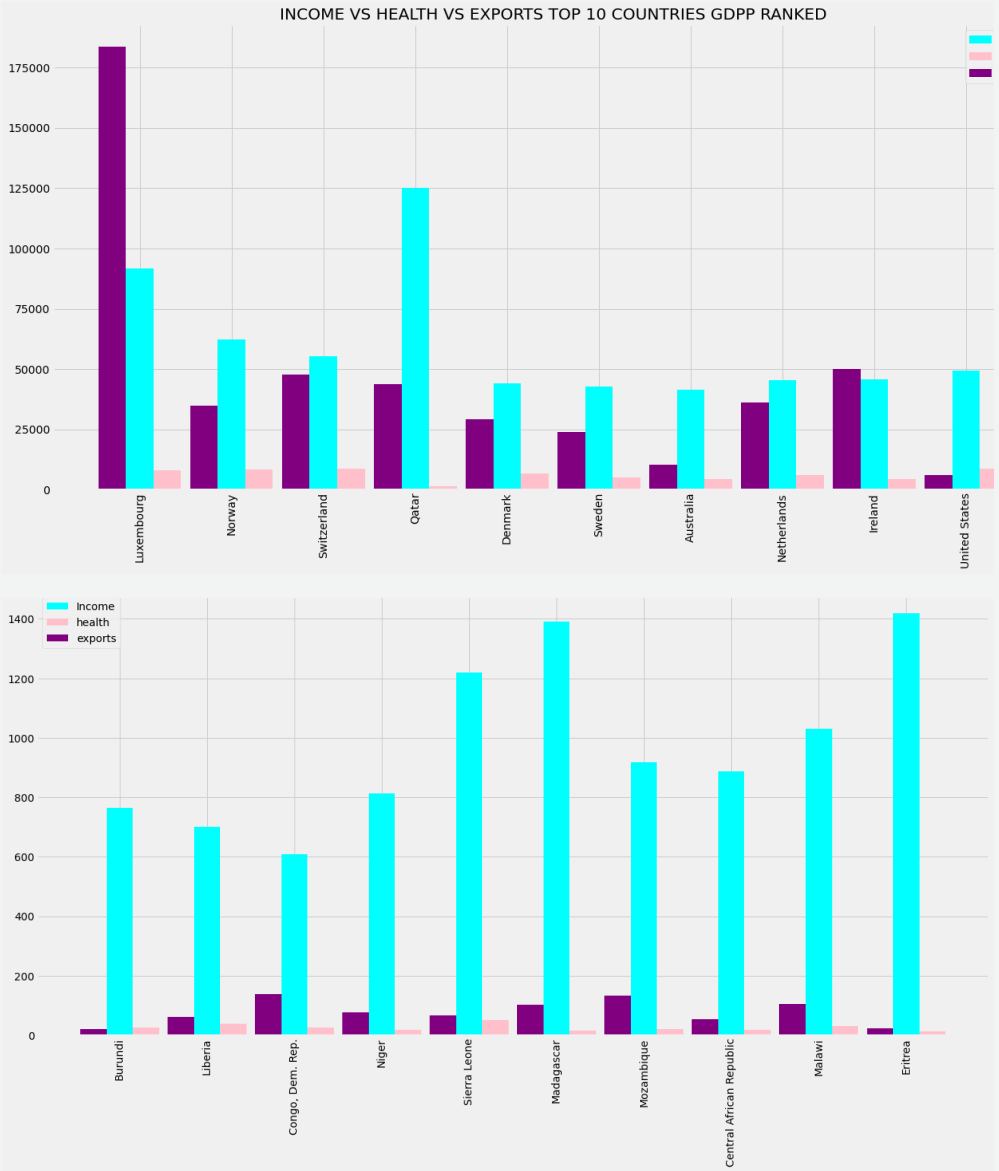
- From the initial Look of the graph it is pretty evident that the bottom 20 countries have a huge scale difference in terms of child mortality. The average child mortality for these bottom 20 countries is lying somewhere close to 100 where highest is shown by Haiti.
- Whereas for the countries in the top 20 segment are showing a mere scale of 4 in child mortality where average is lying somewhere close to 3. The lowest shown by Iceland as 3.





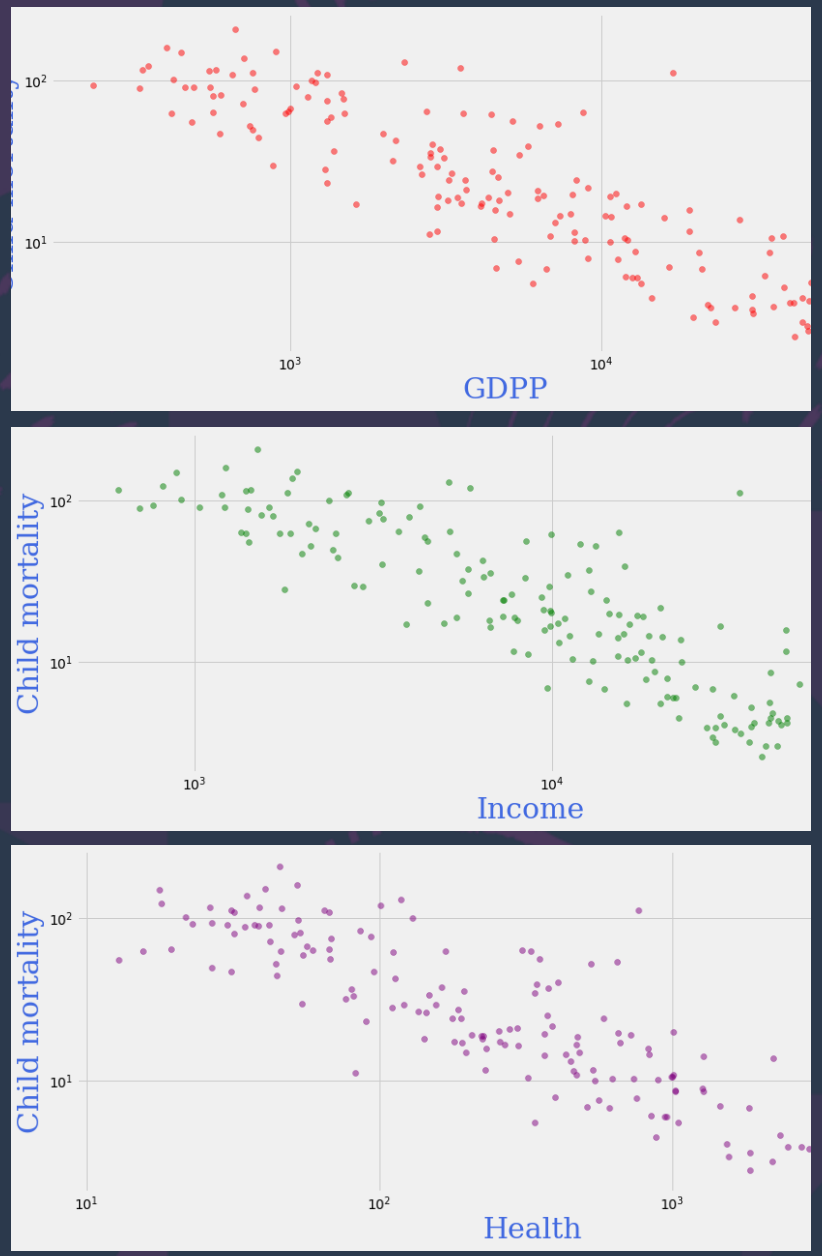
COMPARISION IN TERMS OF GDP , INCOME AND HEALTH SPENDING

- Again a great disparity can be seen between the scale of income , health and exports. Major of the top 10 countries as per GDP , are showing considerably large , export, health and income whereas the countries in the bottom 10 region are showing a negligible amount of export , and health spending also the income is in a much smaller case compared to the top 10 countries



RELATIONSHIP BETWEEN CHILD MORTALITY AND OTHER SOCIO ECONOMIC FACTORS

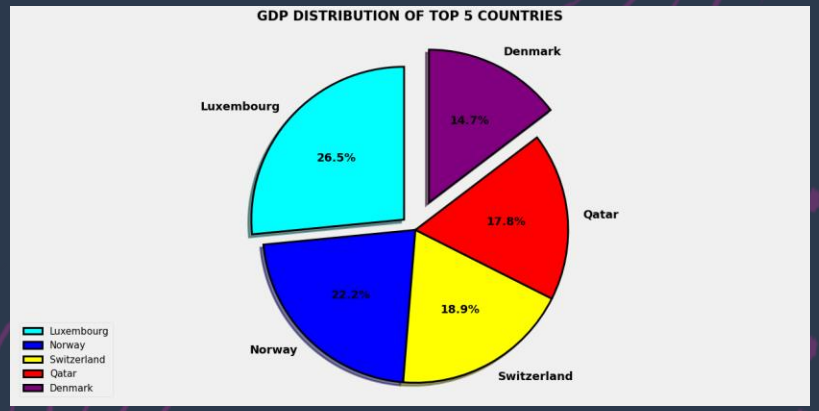
- One of the Major concern for Poor countries is the child mortality , the parallel visuals are created to show how the child mortality rate varies with respect to various economic factors.
- As can be seen from the three visuals that child mortality is showing an exponential decrease when there is an increase in GDP , health spending's and income

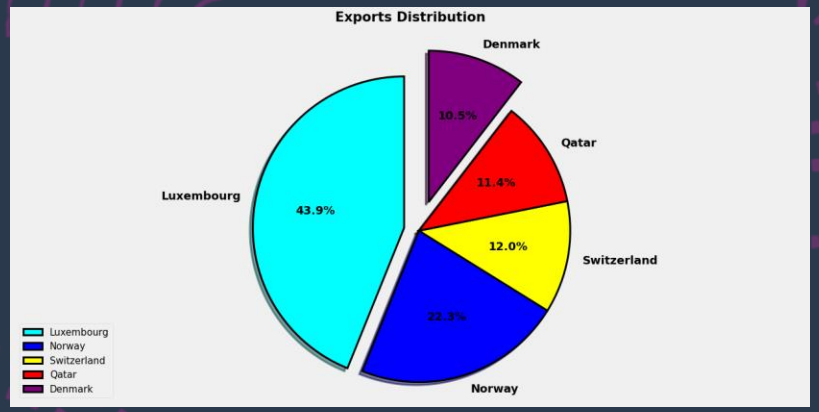


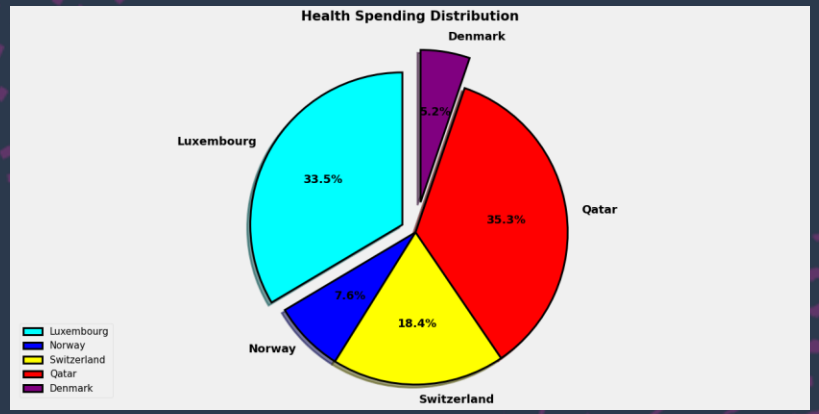
GDP DISTRIBUTION OF TOP 5 COUNTRIES

Below are the inferences drawn from the survey of the top 5 countries filtered based on the GDP.

Among the top 5 countries Luxemburg shows the dominance in terms of GDP , Exports Distribution , where it is closely followed by Norway. The Largest health spending among all the top 5 countries is shown by Qatar.







CLUSTER ANALYSIS

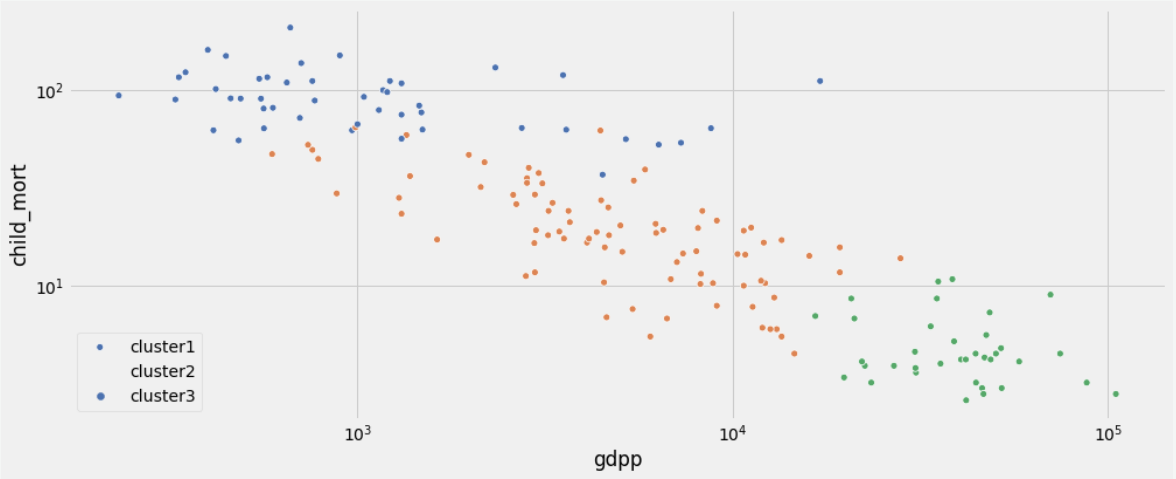
Cluster Analysis has been performed using two standard techniques Kmeans Clustering and Hierarchical Clustering. The main Agenda of the clustering of the countries is to come at the decision to pick out the countries based on the various socio-economic factors which are in dire-need of the financial aid. Background is a small representation of the top 10 countries showing highest child mortality and lowest life expectancy rates.

FORMATION OF CLUSTERS

- Clustering was performed and Hierarchical Clustering was found to be most suitable one with Better Results. The type of linkage used was complete linkage and no of clusters taken were 3 based on our Business Requirement of Segment of countries(I.e. countries having average GDP as per economic average , countries above average GDP and at last the countries which are showing lowest GDP among all the countries and corresponding low health and living conditions).As we saw from our Initial EDA all the socio – economic factors are almost correlated with respect to GDP.

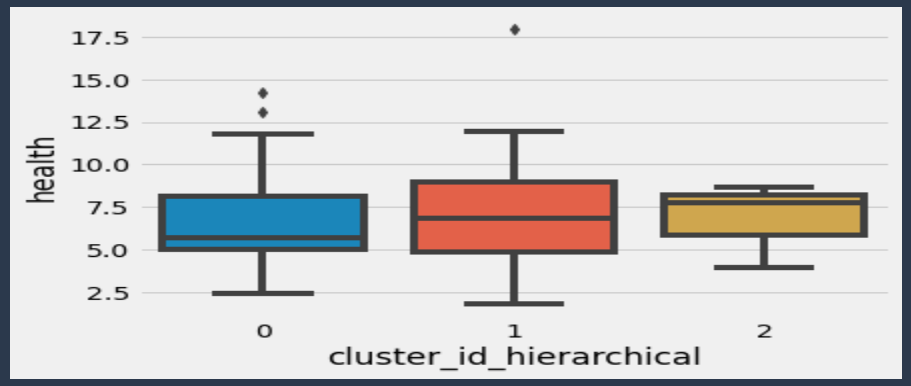
CLUSTER FORMTATION USING SCATTERPLOT

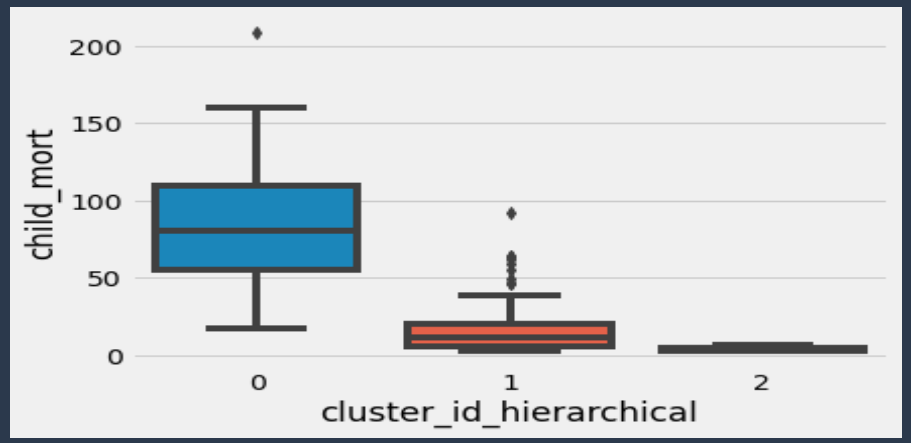
- As seen from the graph there are three clusters formed blue green and orange.
- Blue Clusters represents the countries which are in need of financial aid
- Orange Represents the Country having an average GDP and lower child mortality rate.
- Green represent the top ranked countries as per GDP



BOX PLOT REPRESENTATION OF CLUSTERS

BOX PLOTS





As seen from the plots segmentation has been divided into three clusters. Where each cluster is representing the countries falling under a very specific bracket , cluster 0 basically represents the countries performing poorly on the economics and socio-economics indexes.

Further top 5 countries are chosen from Cluster 0 primarily based on the factor of child mortality and health funding and thus requires immediate financial aid.

SELECTED COUNTRIES

- Below is the list of selected list of countries
- 1. Haiti
- 2. Sierra Leonne
- 3. Chad
- 4. Central African Republic
- 5. Mali

The Parallel Graph Represents a brief Comparisions between the selected countries socio – economic indexes like child mortality and life expectancy.

Based on the figures in the Graph we can decide how to divide the raise funding's and distributed among the countries selected.