



CLUSTERING AND PCA

Submitted By : *NAVEED JEDDY*

Date of Submission : *24th February 2019*

Batch : *September - 2018*



Problem Statement

- HELP International is an international humanitarian NGO that is committed to fighting poverty and providing the people of backward countries with basic amenities and relief during the time of disasters and natural calamities. It runs a lot of operational projects from time to time along with advocacy drives to raise awareness as well as for funding purposes.
- After the recent project that included a lot of awareness drives and funding programmes, they have been able to raise around 10 million Dollars
- CEO of the NGO needs to decide how to use this money strategically and effectively. The significant issues that come while making this decision are mostly related to choosing the countries that are in the direst need of aid.

Methodology Applied

Data Understanding

- Understand the Data
- Apply any cleaning, transformation required
- Data Visualization

PCA & K-Means

- scree plot
- Hopkins
- Silhoutte Analysis

Clustering

- Cluster Analysis
- Repeating Clustering for different K
- Countries Analysis

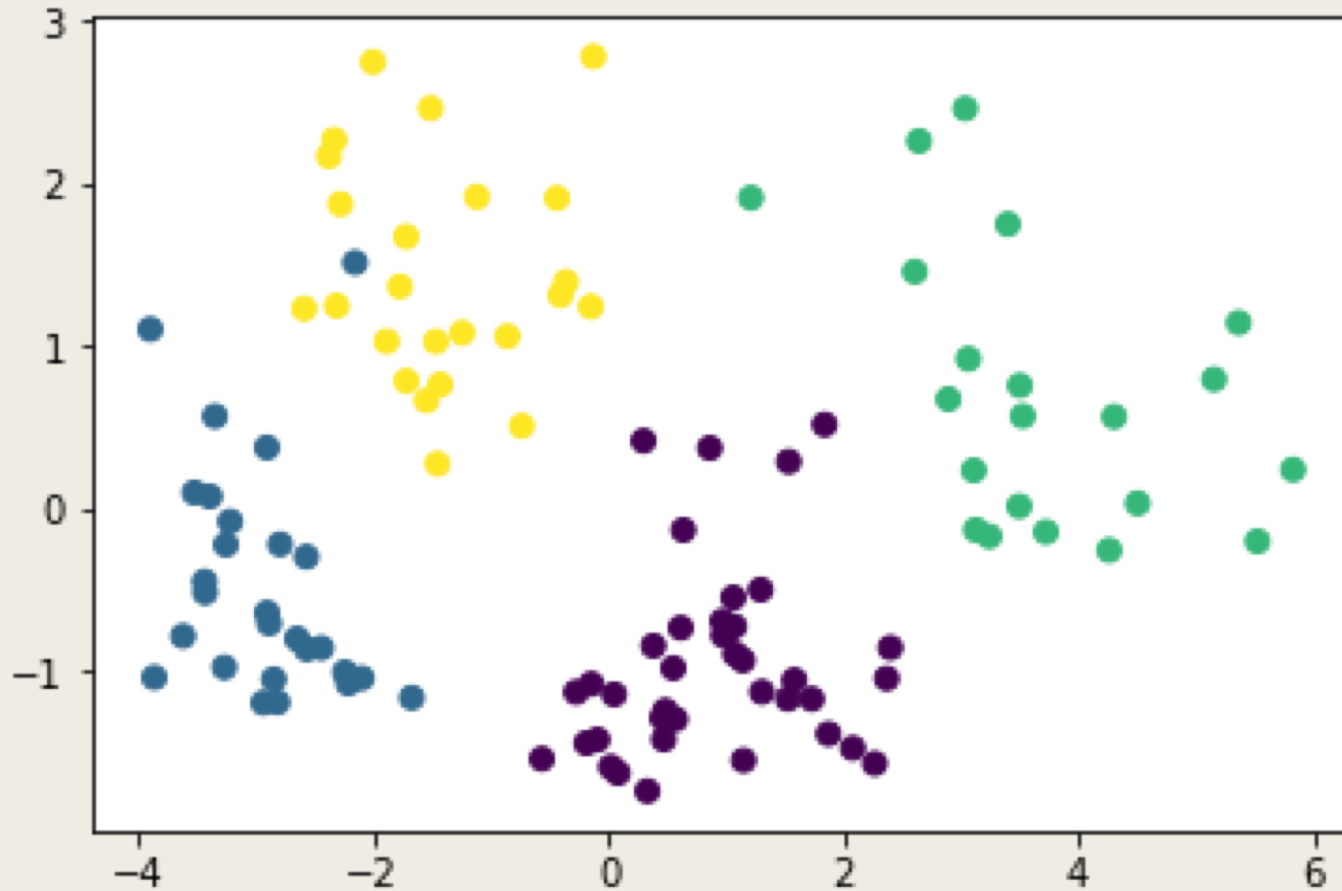
Top 5 Features – After PCA

- Child Mortality
- Income
- Imports
- Health
- Exports

Criteria for Funding

- High Child Mortality
- Low Income
- Low Health

Clustering Model



4 Clusters

Cluster 1 highlighted on Violet
Color falls under the Funding
Criteria

Conclusion

- High Child deaths, Low income, Low Health has been considered as Criteria for funding
- Observing the different Models Afghanistan and Sudan have fallen consistently across all the models that fit the funding criteria
- We advise that NFG should fund this 2 countries who are Immediate need of funds