

**PROJECT PROPOSAL: POLITICAL INDICATORS OF HUMAN DEVELOPMENT**  
**R. A. PRIYADHARSHINI**

**Problem Statement**

The Human Development Index is an aggregate measure of a country's overall development apart from economic growth. The index is a weighted aggregate of three dimensions of development namely, health, education and standard of living. This project aims to address the importance of certain political factors and governance indicators in determining the overall human development in a country. In particular, the project aims to draw certain important correlations between governance structures, rule of law and civil society on human development in a country.

In an aim to address these correlations, the results from this project could be used to inform policy implications of governance issues on human development across different contexts.

**Data Sources**

The data used for this project will be indicators of HDI and Governance as defined by the UN and World Bank respectively. In addition, certain social indicators like Peace Index and Religion Vectors will be used for the evaluations. The data will be collected for a period of 10 years from 2008 to 2018, for most countries across the world. The table below records the tentative variables that will be used in the project along with their sources.

<b>VARIABLE</b>	<b>SOURCE</b>
Human Development Index	UNDP
Democracy Index	The Economist- World Democracy Report
Freedom Index (Human and civil rights)	Freedom House
Religion Vector	PEW Research Center
Global Peace Index	Wikipedia
Control of corruption estimate	World Bank- World Governance Indicators
Government Effectiveness estimate	
Political Stability and Absence of Violence	
Regulatory Quality	
Rule of Law	
Voice and Accountability	
Women in Parliament (Government)	UNDP

## **Plan to Obtain Relevant Data**

- Data on all the governance indicators published by the World Bank will be retrieved from the inbuilt package in R.
- Data on HDI and Share of Women in Parliament will be retrieved as a separate dataset from the UNDP data archives.
- Global Peace Index for all countries and for multiple years will be scraped from Wikipedia.
- Freedom Index, an index on human right and civil rights in a country will be scraped from Freedom House.
- Religion Vector would be an aggregate vector of religious indicators, will be retrieved from the PEW Research Center.

## **Methods to Employ for Evaluation**

### *Data Wrangling*

Given that the data is retrieved from multiple sources, it would be necessary to employ several data wrangling techniques in order to perform intended evaluations. These would be:

- Creating a single data frame with all the different components from different websites.
- Cleaning the data to keep necessary information like restricted time period (2008-2018) etc.
- Make changes to variable names in order to match the three datasets and make it more understandable.
- Checking for missing variables and accounting for them.

### *Data Visualization*

Data visualization for the project would aid in understanding the different factors and their influence on HDI over time. Some of the visualizations would be:

- To compare the relationship between HDI and different independent variables (governance indicators).
- Country-wise visualization (heat maps) of the HDI in tandem with their rankings.
- Country-wise visualization (bar graphs) of most important governance indicators.
- Visualizations to show improvement in HDI and other governance indicators for top ranked countries over the decade.

### *Machine Learning*

Machine learning would be helpful in understand the relationship between the dependent variable (HDI) and independent variables (Governance Factors). We assume that there would be a linear relationship and thus a linear regression model would be helpful in testing the same. Machine learning would also help us identify the top political predictors of human development in a country which is vital to know for policy implications.

## **What Success Means for this Project**

This project is developed on the idea that social indicators are not the sole contributors to human development in a country. There are other political and governance related indicators that in theory play an important role. Therefore, this project would aid in testing this theory and allowing us to identify these political indicators. Successful identification of these indicators, their representation in the form of visualizations and their validity to further inform policies on human development would be a successful fruition to this project.