

## Model Development Phase Template

Date	15 March 2024
Team ID	XXXXXX
Project Title	Forecasting Economic Prosperity: Leveraging Machine Learning For GDP Per Capita Prediction
Maximum Marks	5 Marks

## Feature Selection Report Template

This feature selection report helps in streamlining the decision-making process and enhances transparency by providing clear reasoning for the inclusion or exclusion of each feature in the model.

Feature	Description	Selected (Yes/No)	Reasoning
Country	Name of the country	No	Not useful for predictive modeling as it is a categorical identifier.
Region	Geographic region of the country	Yes	Important for capturing regional economic differences and trends
Population	Total population of the country	Yes	Key demographic factor influencing GDP per capita.
Area (sq. mi.)	Total land area of the country	Yes	Relevant for understanding population density and resource allocation.

Pop. Density (per sq. mi.)	Population density per square mile	Yes	Provides insights into urbanization and potential economic activity.
Coastline (coast/area ratio)	Ratio of coastline to land area	No	Not directly relevant to GDP per capita prediction.
Net migration	Net migration rate	Yes	Indicates economic attractiveness and workforce changes.
Infant mortality (per 1000 births)	Infant mortality rate	Yes	Reflects healthcare quality and economic development level.
GDP (\$ per capita)	GDP per capita in USD	Yes	Target variable for prediction.
Literacy (%)	Literacy rate percentage	Yes	Indicator of education level, which affects economic productivity.
Phones (per 1000)	Number of phones per 1000 people	Yes	Proxy for technological adoption and infrastructure.
Arable (%)	Percentage of arable land	Yes	Relevant for agricultural productivity and economic factors.
Crops (%)	Percentage of land used for crops	No	Less relevant compared to arable land percentage.

Other (%)	Percentage of land used for other purposes	No	Not directly impactful for GDP per capita.
Climate	Climate category (numeric/text)	No	Inconsistent data type and less direct impact on GDP per capita.
Birthrate	Birth rate per 1000 people	Yes	Demographic factor influencing workforce and economic activity.
Deathrate	Death rate per 1000 people	Yes	Indicator of overall health conditions affecting productivity.
Agriculture	Contribution of agriculture to GDP	Yes	Directly relevant to economic composition and productivity.
Industry	Contribution of industry to GDP	Yes	Directly relevant to economic composition and productivity.
Service	Contribution of service sector to GDP	Yes	Directly relevant to economic composition and productivity.