

Model Development Phase Template

Date	17 June 2025
Team ID	SWTID1749653449
Project Title	Economic Growth: A Machine Learning Approach to GDP per Capita Prediction
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Country	Name or identifier of the country	No	Not relevant for prediction; acts as a label or index.
Region	Geographic region	Yes	May influence economic trends and development levels.
Population	Total population	Yes	Affects GDP scaling; relevant for understanding density and resources.

Area (sq. mi.)	Total land area	Yes	Useful for understanding population density and natural resources.
Pop. Density (per sq. mi.)	Population divided by area	Yes	Indicates economic strain and urbanization patterns.
Coastline (coast/area ratio)	Ratio of coastline length to area	Yes	May influence trade, tourism, and economic activity.
Net migration	Net migration rate	Yes	Impacts labor force and economic productivity.
Literacy (%)	Percentage of literate population	Yes	Strong indicator of human capital and economic potential.
Phones (per 1000)	Number of phones per 1000 people	Yes	Proxy for infrastructure and development.
Arable (%)	Percentage of land usable for farming	Yes	Relevant for agriculture-based economies.
Crops (%)	Percentage of land used for permanent crops	Yes	Complements arable land in economic modeling.
Climate	Climate classification	Yes	Affects agriculture, infrastructure, and productivity.
Birthrate	Annual births per 1000 people	Yes	Impacts future workforce and dependency ratio.

Deathrate	Annual deaths per 1000 people	Yes	Can reflect healthcare conditions and economic burden.
Agriculture	Contribution of agriculture sector to GDP (%)	Yes	Core feature to understand sectoral contribution.
Industry	Contribution of industry sector to GDP (%)	Yes	Directly correlates with economic development.
Service	Contribution of service sector to GDP (%)	Yes	Indicates post-industrial development; major GDP driver in many economies.