CxC 2025 SAP Challenge

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Data Cleaning - Impute Null Values

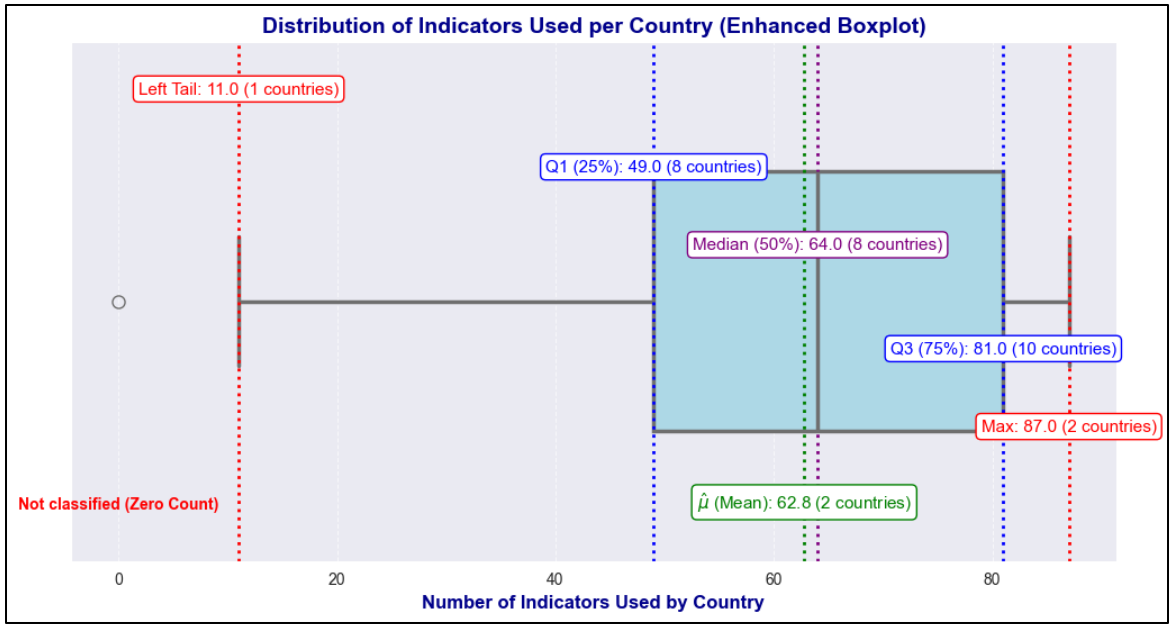
Use forward and backward filling to fill in values for missing years

Filter Data - 2022 and 2023 Data

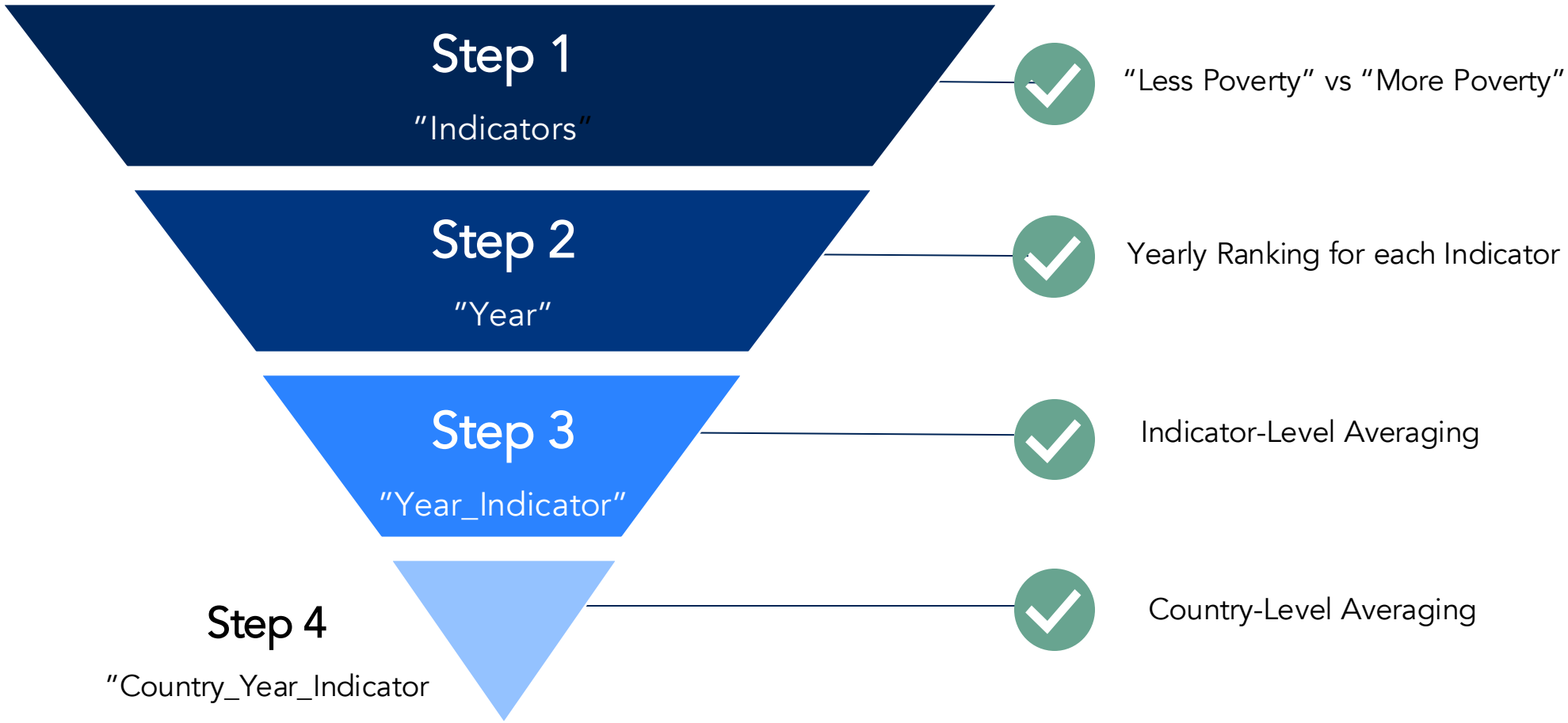
Assess the immediate aftermath and recovery efforts of COVID-19

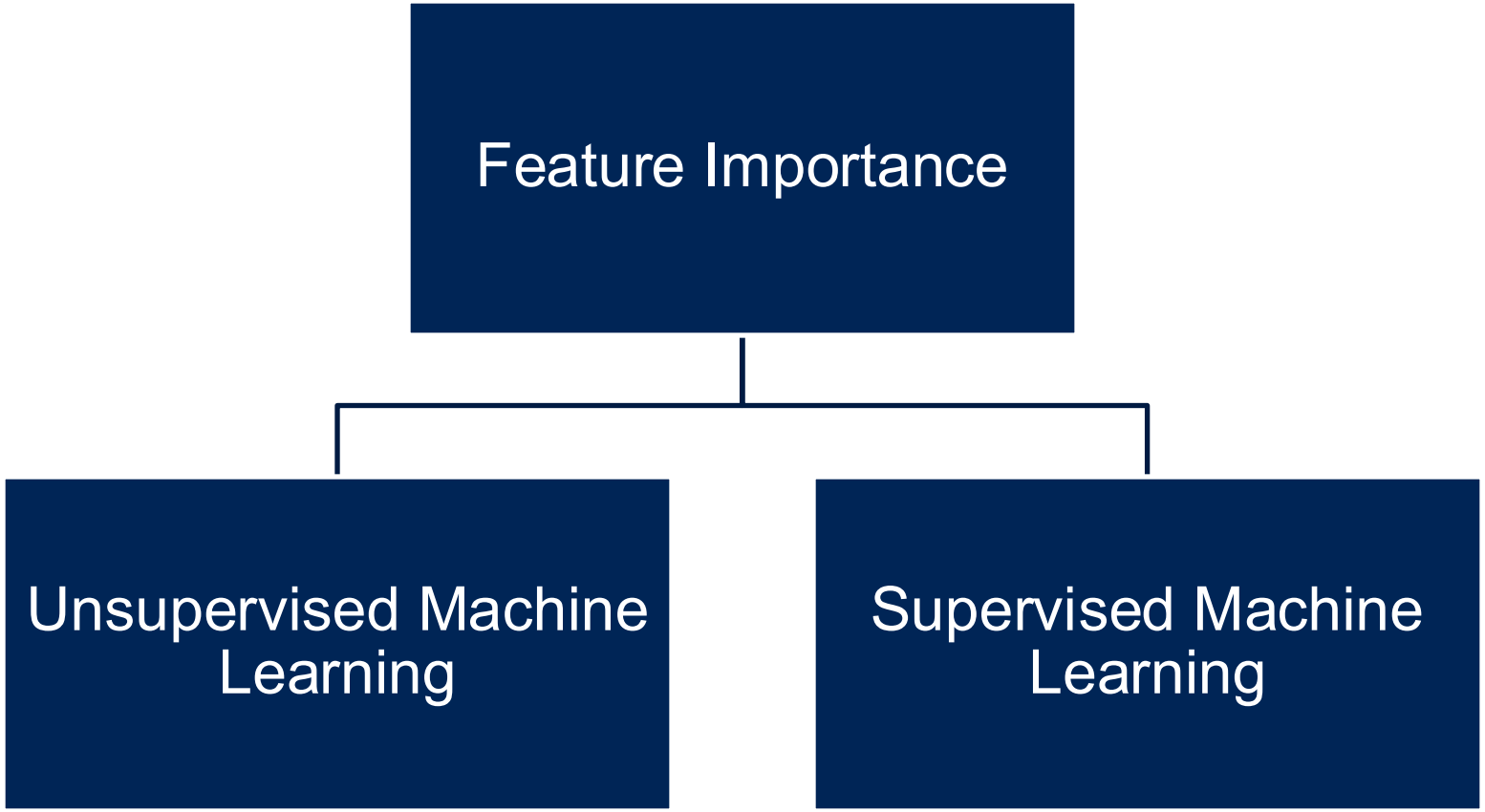
Exploration – Indicator Availability

Explore the distribution of indicators used by each country



Multidimensional Index




Feature Importance
Unsupervised Machine Learning
Supervised Machine Learning

Unsupervised Learning Method

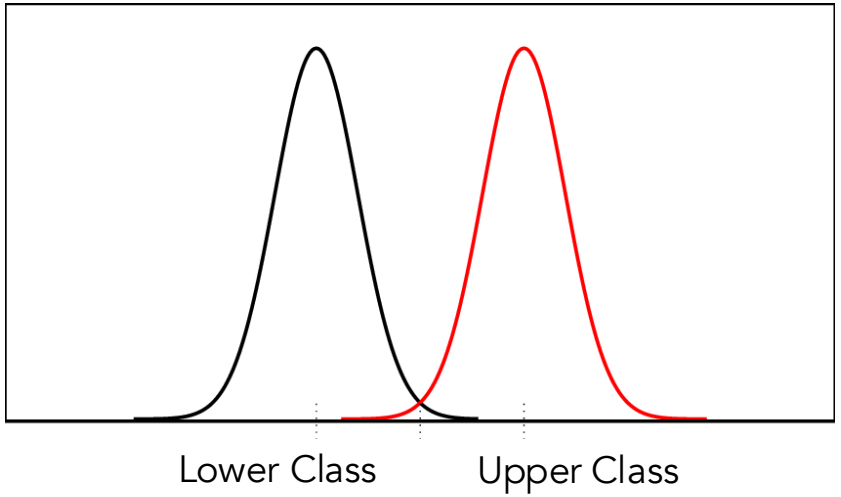
Upper Class Cluster

152
Countries

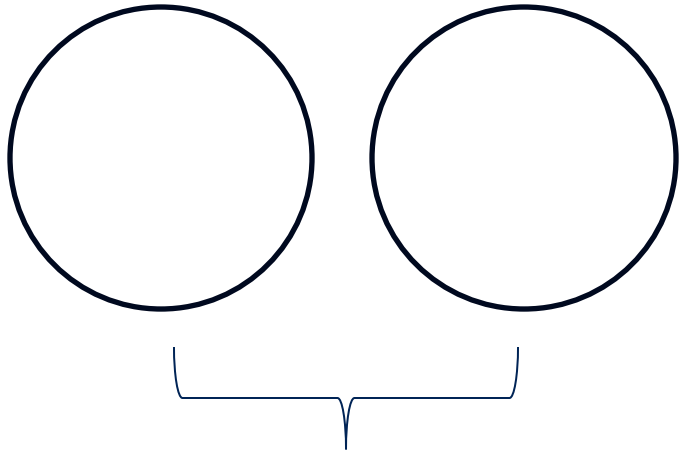
Lower Class Cluster

113
Countries

Is there a statistical difference between the means of the clusters for each indicator?

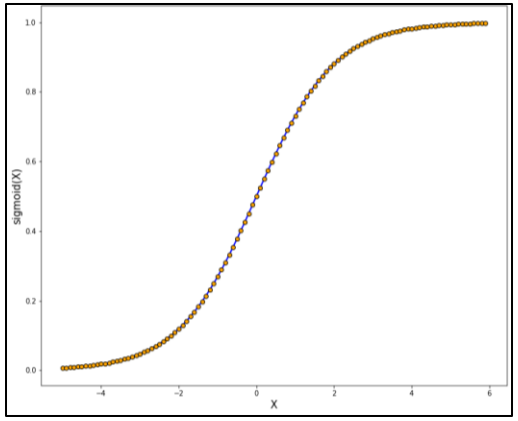


Supervised Learning Method

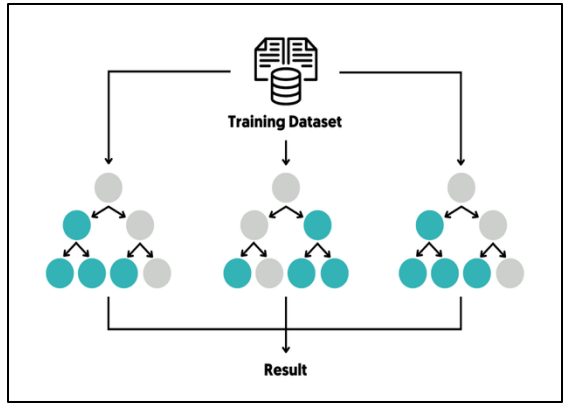


Create a Binary Classification Problem

Logistic Regression

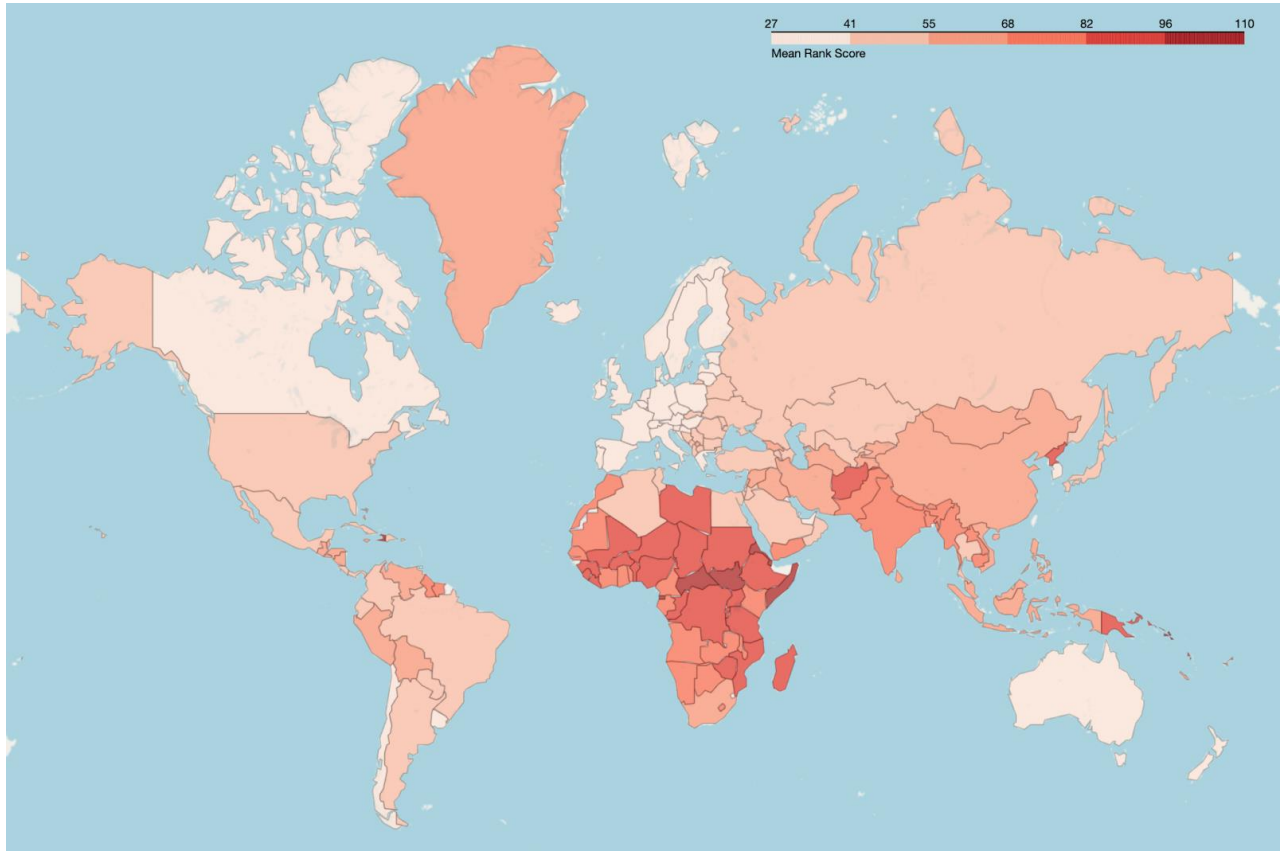


Random Forest



1. Determine which model performs better.
2. Extract feature importance from the best performing model.

Heatmap of Countries Coloured by MPI



Top 5 Most Affected Countries

1. Eritrea

2. Somalia

3. Solomon Islands

4. South Sudan

5. Equatorial Guinea

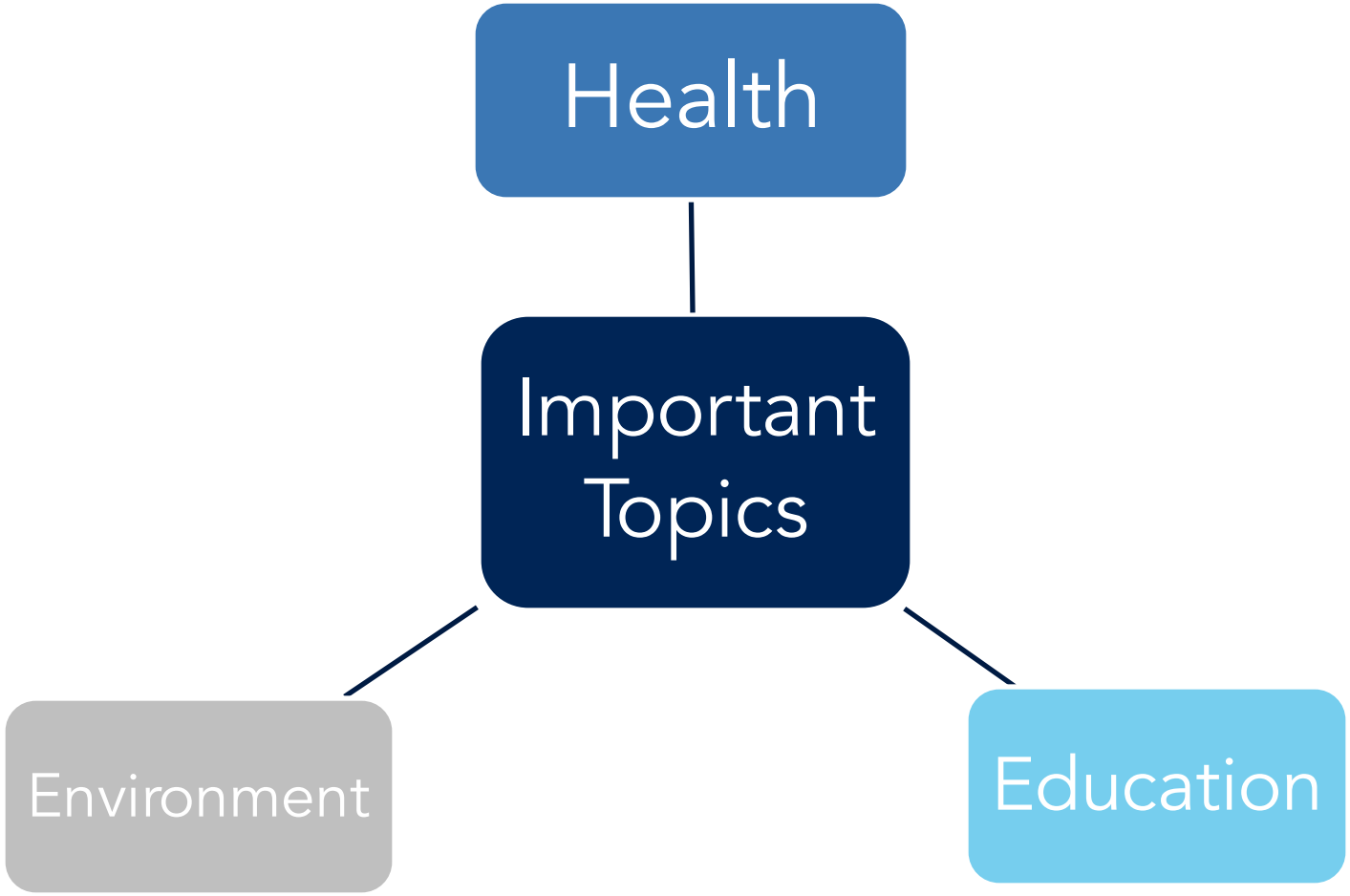
Unsupervised Learning Method
- Clustering
- T-tests

Supervised Learning Method
- Random Forest
- **96.2%** classification accuracy

Combined List of Important Indicators

Main Topic	Indicators
Environment	• Access to Electricity • Access to Clean Fuels and Technology
Health	• People Using At Least Basic Drinking Water Services • Current Health Expenditure per Capita • Adolescent Fertility Rate • Births Attended by Skilled Health Staff • Age Dependency Ratio
Education	• Literacy Rate
Economic Policy and Dept	• Adjusted net national income per capita

Key Takeaways



SAP

1. Software Integration
2. Real-Time Data Processing
3. Scalability and Flexibility
4. Industry-Specific Solutions
5. Global Partner Ecosystem

Monitoring Renewable Energy Schemes

- SAP's analytics and IoT platforms monitor the efficiency and output of renewable energy installation and smart grids to ensure efficiency and sustainability

Healthcare Analytics

- Integrate data from telemedicine and mobile health clinics to enable health professionals' access to patient records and resources in real-time

Digital Learning Environments

- SAP SucessFactors can effectively handle teacher recruitment and training procedures

Thank you!