

Project Overview

The **Coffee Market Insights Dashboard** is an interactive Power BI project developed to visualize and analyze a real-world global coffee dataset. The dashboard provides region-wise insights into key attributes such as **coffee variety**, **moisture content**, **flavor scores**, **aroma**, and **defect levels**.

A core feature is its **dynamic filtering** by continent. The dashboard includes only **four continents**: **Africa**, **Asia**, **North America**, and **South America**. When a user changes the selection (e.g., from **Africa to Asia** or **Asia to South America**), all **visualizations and key metrics** automatically update—offering region-specific data comparison.

Visuals Include:

- **Donut Chart:** Variety distribution by moisture level
- **Bar Chart:** Moisture averages by continent
- **Line Graph:** Moisture vs. flavor relationship
- **KPI Cards:** Total aroma and color by variety
- **Map:** Country-level origin mapped by continent

This dashboard supports coffee professionals (roasters, buyers, marketers) in identifying **regional quality patterns** and making **data-driven sourcing decisions**.

Dataset Overview

The dataset contains **1,339 rows (records)** and **22 columns (features)**, where:

- **Each row** represents one unique coffee sample.
- **Each column** represents a specific attribute of that sample.

Key Column Names:

- **Identification & Origin:** REC_ID, Species, Continent.of.Origin, Country.of.Origin, Harvest.Year, Expiration
- **Physical & Processing:** Variety, Color, Processing.Method, Moisture, Quakers, Category.One.Defects, Category.Two.Defects
- **Sensory Ratings (0–10):** Aroma, Flavor, Aftertaste, Acidity, Body, Balance, Sweetness, Uniformity, Clean.Cup

This structure allows for multi-dimensional analysis of coffee quality across geography and processing methods.

Challenges Faced

- **Missing Values:** Some rows lacked data for Variety, Processing.Method, or Harvest.Year.
- **Inconsistent Formatting:** Certain columns required cleaning (e.g., converting text-based moisture values to numeric).
- **Filtering Logic:** Managing responsive visual updates when switching between continents.
- **Data Imbalance:** Uneven sample distribution across continents.

Despite these challenges, the dashboard successfully presents meaningful insights in an interactive and accessible format.