Exploring Coffee Quality Data with Power BI

The Coffee Quality Institute (CQI) is a non-profit organization that works to improve the quality and value of coffee worldwide. It was founded in 1996 and has its headquarters in California, USA.

CQI's mission is to promote coffee quality through a range of activities that include research, training, and certification programs. The organization works with coffee growers, processors, roasters, and other stakeholders to improve coffee quality standards, promote sustainability, and support the development of the specialty coffee industry.

Data:

The data includes a range of information on coffee production, processing, and sensory evaluation. It also contains data on coffee genetics, soil types, and other factors that can affect coffee quality.

Sensory evaluations (coffee quality scores)

- Aroma, Flavour, Aftertaste, Acidity, Body, Balance, Uniformity, Clean Cup, Sweetness etc.

Objective:

The primary goal of this project is to leverage the rich dataset provided by CQI to understand the factors that contribute to coffee quality. Specifically, we aim to explore the CQI data to solve business problem and create a report which is easy to understand.

1. What are the key determinants of coffee quality as evaluated through sensory attributes such as aroma, flavour, acidity, etc.?

   Ans. – Flavour is the most important in determining the quality of the coffee. Aroma, acidity, aftertaste also influences the quality of coffee.

2. Is there a correlation between processing methods, origin regions, and coffee quality scores?

   Ans. – Quality of coffee is directly dependent on country of origin and processing methods, Mexico, nicargua and united states(Hawaii) are the countries with most category 1 defects, laos, EL Salvador and Ethopia are the countries with most category two defects. Coffee Processed with Washed/wet and natural/ dry are methods with most category one defects, and double carbonic maceration/natural, double anaerobic are the methods which has higher categoty two defects on average.

3. Can we identify any trends or patterns in defect occurrences and their impact on overall coffee quality?

Ans.- Yes, it is found the as the categories one and two defects decreases, the overall quality increases.

4. How do different variables interact to influence the Total Cup Points, which represent an overall measure of coffee quality?

Ans.- Variables like flavour, aroma, aftertaste, acidity interact to influence the Total Cup Points which influences overall quality. For e.g. as observed from key influencer chart when flavour goes up by 0.28, total cup point increases by 0.35.