# Introduction

## 1:1 Problem statement and research motivation

The ever-growing wine industry has seen a decline in both consumption and production recently. The growth of the industry relies on the satisfaction of consumers. Thus, the relationship between alcohol content and wine quality is a critical topic in the wine industry, as prior research suggests that alcohol content can significantly impact the sensory characteristics of a wine (Sam, et al., 2021). Ensuring the wine industry relishes its glory days again with the help of our research gave us the motivation to figure out whether wine with higher alcohol content has a significantly higher quality rating than then the wines with lower alcohol content.

## 1:2 The data set

Our Dataset name is the wine dataset, and we took it from Kaggle. It contains 1599 samples and 12 features. Our research mainly focuses on alcohol content(percentage) and wine quality, rated on a scale of 1 to 10. Features include acidity, residual sugar, and pH levels, which give us extra information about wine characteristics. Our dataset is relevant for inquiring about the relationship between alcohol content and wine quality while considering other wine attributes.

## 1:3 Research question

## 1:4 Null hypothesis and alternative hypothesis (H0/H1)

# Bibliography

Sam, F. E. et al., 2021. Techniques for Dealcoholization of Wines: Their Impact on Wine Phenolic Composition, Volatile Composition, and Sensory Characteristics.