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Literature Review

Trying to predict anything in terms of the quality can be a very difficult task. This is especially true when you consider that quality too many is subjective. However the introduction of statistical methods such as linear regression has helped in quantifying just exactly what determines quality. The purpose of this review will be to gain insight of what variable's can help in this process.

(Charters) explains that higher-involvement drinkers seemed more inclined to conceptualize wine quality as objective whereas lower-involvement consumers tended to see it as subjective. Lower-involvement informants often focused more on sensory dimensions of wine quality (like flavor or smoothness), while high-involvement drinkers used more cognitive dimensions such as interest or complexity. For this reason we will look at fixed acidity and its relation to wine quality

Fixed acidity

There are many acids found In wine with most of them coming from the grapes themselves. However some of the acids found are a product of the fermentation process. The desirable acid content depends on style and how much residual sugar is left in the wine (another variable of interest that will be explain later). Of the many acids found in wine, tactic acid is the strongest of the acids, hence impacts the flavor profile the most. Organic acids produce the tart taste in table wines which is why winemakers prefer to maintain fixed acid levels, (Eisenman)Ideally, the acid content of grapes should fall in the range from 0.65 to 0.85 grams per 100 milliliters

Residual Sugars

Residual sugars in wine can be defined as the natural grape sugars left over in a wine after the alcoholic fermentation is complete. (Gerling) Along with acid and alcohol, sweetness plays an important role in the balance of a wine. Higher sugar in the presence of higher acid may not necessarily be perceived as sweet. In this instance both Gerling and Eisenman agree.

(Jordan,Vilela,Cosme) Grape sugar concentration is a parameter to predict grape and wine quality. Examples of this can be illustrated by the great vintages of Château d'Yquem which contains between 100 and 150 g/L of residual sugar. The sweetest form of the Tokaji, the Eszencia – contains over 450 g/L, with exceptional vintages registering 900 g/L. However, in recent years, the sugar concentration has increased in grapes, attributed to climate change; therefore, the alcohol content of wines tended to increase. This lead us to our next variable.

Alcohol

Alcohol levels in wine vary but typical range from 5 percent to 20 percent though there are some exceptions. It is no secret that sugar levels and alcohol levels are correlated since sugar converts to alcohol.(Chapman) During the harvesting and fermentation stages of winemaking, alcohol is created differentiating wine from the simple grape juice. As part of a process called veraison the ripened grapes will produce sugar, and during fermentation the yeast will transform the sugars present in the juice to ethanol (alcohol), carbon dioxide and heat. So, the higher the sugar levels in the grape, the higher the alcohol levels in the wine. However, climate can also become a factor for alcohol content. Climate change also plays an important role in determining how much alcohol is in the bottle of wine you just bought. More specifically, hotter climates means that the vines receive more sunshine, thus creating more sugar. Hot climate makes for a more enjoyable, easy to drink wine, with a higher alcohol level.

How does alcohol impact the flavor of wine? Well, a higher ABV (alcohol by volume) wine produces wine with bold flavors , while low ABV usually means for a lighter crisper taste.Wine can be classified by their ABV level. A low ABV are wines that maintain ABV percentage lower that 12.5. High alcohol wines are wines with ABV levels higher that 14.5 percent.
(Chapman) maintains that the quality of wines is subjective, different to (Charters) opinion. Wines with a higher alcohol content are fuller in body and produce more intense, bold flavors whilst lower alcohol wines tend to offer greater balance and pair better with foods. It is not uncommon to find gastro-centric restaurants impose a strict 14% ABV limit on their wine lists so customers are able to enjoy slightly more wine without feeling too intoxicated. Ultimately, what makes a wine 'good' is very subjective.

Conclusion

In conclusion, by examining the components that make wine what it is, we are able to gain valuable information in our goal to determine can the quality of wine be quantified. While many say that the quality of wine is subjective (Chapman) others argue (Nebot,Mugica,Escobet) that through statistical methods, quality should have a standard that can be determined.

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