Lausanne 2024 Abstract Submission

Title
A segmentation of French sustainable wine consumers

I want to submit an abstract for:
Conference Presentation

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Keywords
French consumers, sustainable wine, cluster analysis, machine learning

Research Question
How can French consumers of sustainable wines be clustered into consumer segments?

Methods
Online survey with regular wine consumers in France (239).
Data analysis with machine learning and cluster analysis.

Results
Consumer segments for different sustainable labels can be identified. Marketing of sustainable labels has to be aware of these consumer segments and address them respectively.

Abstract
Context and Research Question
As a result of consumer’s increasing concerns regarding health, and ethical and environmental production, sustainable consumption is gaining importance also in the wine industry in France. This puts the wine industry
under considerable pressure to adopt a label/certificate on the bottle to attest the compliance of the wine with a certain norm or a standard and we observe the development of different labels, such as organic, biodynamic, fairtrade, natural, and sustainable (Moscovici and Reed, 2018; Moscovici et al., 2020). In France, especially the production and trade of organic wines have experienced a real boom and in 2021 France had the world’s largest organic wine-growing area, which makes up 20% of the total viticulture, compared to about 10% for other agricultural products (OIV, 2022).

Despite of the described increasing interest of consumers, research on characteristics of these consumers is rare and it is underexplored if this interest translates into manifest sustainable consumers (Pomarici et al., 2016). It is by focusing on their willingness-to-buy and their willingness-to-pay taking into account their heterogeneity (especially) on the price segments that wine producers can identify their target. To adjust their marketing strategies, producers have therefore to know more about these consumer characteristics and we propose to cluster them into respective consumer segments.

The aim of this paper is to define different consumer segments for sustainable wines in France.

Methodology:
This project makes use of data for France that was obtained from a Qualtrics Survey platform to access wine consumers through an embedded link (Moscovici et al., 2018; Valenzuela et al., 2019) and which was distributed via wine newsletters and social networks, especially LinkedIn and WhatsApp (convenience sampling). Eligibility criteria for the selection of respondents were that they were adults who were habitual consumers of wine. Exclusion criteria included those who worked in the wine or hospitality industries. The data sample consists of 239 complete questionnaires. The survey was divided into three sections.

The first questions asked consumers about their backgrounds and habits with respect to wine knowledge and consumption. Questions include motivations for drinking, favorite varietals, purchasing behaviors, and self-evaluated wine knowledge.

The second set of questions collected perspectives and opinions on the various environmental wine certifications. Questions included the certifications they have heard of, if they have purchased any type of certified wine, future willingness to purchase certified wine, the premium they are willing to pay for said wine, ranking of certifications, interest in further information about certifications, and labelling.

Finally, the third set of questions collected demographic information such as gender, age, income, education and marital status.

Data analysis: Descriptive Statistics and Machine learning
To analyze the data, we first use descriptive statistics for those consumers who show a high willingness to pay for the five different labels. We also apply a classic unsupervised k-means clustering (MacQueen, 1967) using a Silhouette score to identify three clusters per sustainable wine labels for higher price premiums. Then we build a classification model using decision-tree learning algorithms to match the k-means clusters. In the final step, we build a rule set which characterize the consumers who are willing to pay a high premium for the different sustainable wine labels. The analyses and model building are done using Stata 18 and the free and open source ORANGE3 data mining toolkit (Demsar et al., 2013).

Results
The results of the descriptive analysis show that consumer profiles differ for each label. Organic wines are favored by consumers with high wine knowledge who buy expensive wines despite of having lower income – they can be considered as wine experts. Biodynamic wines are favored by consumers with high education and income who often visit wineries but have less wine knowledge. They seem to use wine as a status symbol. Natural wine is preferred by younger consumers with average income and knowledge – maybe students. Fairtrade wines are favored by older consumers with high wine knowledge and average income who only seldomly buy certified food. Finally, sustainable wines are preferred by older consumers who buy a lot of wine bottles and have high expenditure on wine and who also buy certified food.

The deeper look into each group using decision trees even shows more diversified consumer groups pattern, which will be described in detail in the conference presentation.

The preliminary results already suggest that the marketing of sustainable labels have to focus on different consumer segments.
References


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