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## HOW STRONG IS FRENCH CONSUMERS KNOWLEDGE WITH RESPECT TO WINE?

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### 1. Rationale

When choosing wine, consumers are facing to several information regarding price, brand, vintage or grape, and so on. Once at home those who wish to be reinsured on the bottle they bought, can often find an overflow of information available on the Internet though plenty of websites coming not only from companies but also from consumer associations or simply end-users clubs. However, most information available needs some skills in order to be intelligible. The main question may be: Are consumers able to interpret this overflow of information? In other words: Are professional worlds still open for consumers? It was pointed out that the product class knowledge of respondents lowers the total search effort in view of a purchasing purpose (Beatty & Smith, 1987). We consider that consumer search for information is not always provoked by immediate purchasing purpose, and may participate to a broader objective of building up knowledge-based expertise (Bloch et al. 1986).

From a sensory perspective, it was proven that information provided on the label of a bottle allows consumers to discriminate Champagnes, while blind test does not (Lange et al., 2002). It was pointed out that, for white wine, the context has a huge influence on the perception of wine, even for oenologists (Brochet & Morrot, 1999). More generally, wine appreciation is mainly based on semantic information (Chrea et al., 2005; Fischer et al., 1999).

It was recently demonstrated that providing information is not leading to increased knowledge, as consumers are overwhelmed by warnings from consumer protection organizations, the media, government, and various scientific studies (Conley & Wade, 2007). They have often received conflicting information. The authors have shown that consumers are reasonably intelligent in their evaluation of information. They responded differently to information perceived as biased versus information perceived as objectively reported. The phenomenon of cognitive overload due to limited information processing capabilities is well documented in the psychological literature (Alba & Hutchinson, 1987) and might be illustrated in the case of consumer attitude with respect to food. It was shown that the overload and complexity of information on food products results in misunderstanding and misinterpretation. Even when information is made sufficiently available and accessible to consumers, only a limited amount of this information is attended to consumers' attention in an environment characterised by information overload and raising interest for being processing. Furthermore, there is a real potential danger of information overload. Interestingly, it was shown that consumers can decide to remain rationally ignorant due to the opportunity costs of information processing, related to time and allocation of cognitive capacity, exceed the expected marginal benefit of being fully informed (McCluskey & Swinnen, 2004).

### 2. Material and method

The paper presents the results of a consumer survey carried-out in France in 2007, focusing on knowledge on wine. French consumers are deemed to frequently experience such beverage. The studied item was white wine, whose consumption is less popular and more selective in France than red wine. We assume some information asymmetry exists among consumers, which means that close to the area of production, they may have developed some familiarity with a given wine, rather than those living far from this area. Hence, the survey was split into two different regions, namely Burgundy and Auvergne. The first is the genuine place of famous wines, while the second is not known for its wine production. So the sampling was divided between local region and far-off one regarding the area of wine production. The first step of the survey involved a household self-report of purchasing behaviour, of wine, indicating the concrete items bought during the three months preceding the survey. Then a questionnaire was applied to the respondents. The questionnaire included many questions on key dimensions of product-oriented knowledge: processing, semantic and geography, all related to the relevant category of food product, in order to assess respondents' awareness on the given wine, some questions were devoted to the usual socio-demographic descriptors of the respondents.

Questions focused on time or spatial dimensions of the checked knowledge on processing, harvesting, wine-making, labelling, ... For instance, one of the processing-oriented questions was "During wine making process, what is the first fermentation [alcoholic, malolactic, semi-carbonic, don't know]?". The semantic side of knowledge relating to general culture on wine, including wording and naming, was screened with questions such as "In which country is located the most important vineyard over the world [Fr, Sp, It, USA, don't know]?". About the geographical dimension of knowledge, one of the questions was "What is the peculiarity of wine *Château-Grillet* [most expensive French PDO wine, most northern French PDO wine, smallest French PDO vineyard, don't know]?". Thus, each respondent was valued on the basis of the level of knowledge shown through his/her responses among the three dimensions: processing, semantic and geography. For these dimensions an individual synthetic rating was given to each respondent considering the modalities high, medium and low level of knowledge.

### 3. Results and discussion

The distribution of ratings issued from the above-mentioned coding of knowledge level according to wine indicates that geography about wine is the dimension of knowledge most shared among the respondents, whereas the processing-related dimension for the studied products is more discriminating. General culture of products (semantic knowledge) is in medium position. As the panellists were recruited among the wine consumers, being aware that the survey will focus on white wine, those interested by white wine consumption, seem to be a bit more represented within the panel, compared to the usual or casual consumers. Hence the high proportion of respondents showing a high level of processing-related knowledge may be higher than expected. However, the targeted category Chardonnay, was never quoted during the recruitment process, nor during the questionnaire stage, in order not to introduce bias in responses. It is well known that panellists feel themselves in mission and modify their behaviour when they know precisely the item for which they are observed on. According to literature, we may call *experts* those of the respondents with a high level of knowledge, whatever the dimension of this knowledge is, and *novices* those showing a low level of knowledge. As the level of knowledge is spread between three dimensions, namely processing-related, semantic or geography, the breakdown of respondents into *experts* versus *novices* will not be fully reliable per se and needs to be refined by means of clustering analysis.

Then, a k-means clustering was used in order to better explain the diversity of knowledge displayed by the respondents according to the selected products. K-means method uses the non-hierarchical clustering procedure: objects are assigned into clusters once the number of clusters to be formed is specified. Four significant segments of respondents were found by means of this method of classification. Each cluster is described by its relative positioning according to the level of knowledge in each dimension. The classes are well identified, fairly described and very well separated.

Table 1. k-means clustering, final centres of classes according to wine knowledge, N= 222

Zscore	1 Expert	2	3	4 Novice
Processing-related	1.164	-0.431	0.219	-1.429
Semantic knowledge	1.006	0.311	-0.546	-0.982
Geographical knowledge	0.948	0.524	-0.538	-1.279
Number of respondents	36	70	54	62

As expected, the distance between *Experts* and *Novices* is maximum. The clusters of *Connoisseurs* and *Knowledgeable consumers* are also well established. Processing-related knowledge and Geographical knowledge are well discriminating classes, but Semantic knowledge is acting in a lower extent.

Table 2. ANOVA variable-class according to wine knowledge of respondents

Zscore	F	Significance
Processing-related knowledge	197.882	.000
Semantic knowledge	80.566	.000
Geographical knowledge	137.913	.000

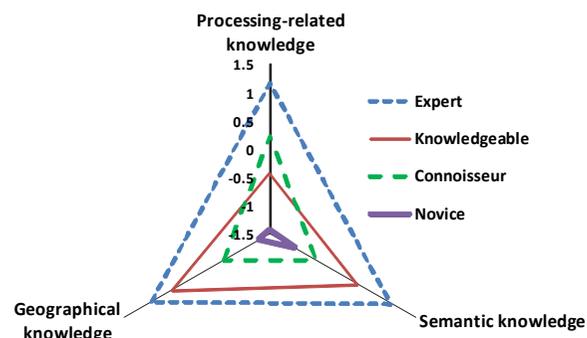


Figure 1 Consumers' profiles according to the class of wine knowledge, N= 222

When looking at explanatory data in order to better characterize the classes, some cross-tabulations were found as significant. For the class *Experts*, the main explaining factors are: self-statement of respondent as well aware about wine, using direct sale as a purchasing channel, region of residence, readings on oenology, level of stocks of wine from Burgundy, diversity of regions in the own wine cellar, number of bottles of white wine in the own wine cellar. The description of the class shows that the *Experts* are older, more male and have higher income rather than the average of respondents. The intermediate classes are well discriminated by means of the living region of the respondents: *Knowledgeable consumers* are mainly from Auvergne, while *Connoisseurs* are more frequent in Burgundy. The class *Novices* is at the opposite situation of the *Experts* class: younger, more female and low level of income.

#### 4. Conclusion

Efficient advertising and communication plans devoted to wine should take into account these refinements when targeting consumers. While knowledge-based economy states that information asymmetry between consumers and producers may be reduced by providing information available, it was shown in the present study that the different dimensions of knowledge do not fit similarly to consumers' expectations according to their level of awareness. Processing-related knowledge is not well addressing demand of information from usual or casual consumers, while it is worth to highlight for connoisseurs or experts. On another hand semantic or geographical information, such as wording, naming, labelling or branding, would be better affordable for less involved and less aware consumers and will better address their expectations, not so focused but still worth to consider. The worse would be to provide information without any clear target nor focus, apart from providing information *per se*! This practice will lead for sure at fuelling the cognitive overload of consumers by means of undifferentiated flow of information. This tendency would probably increase the information asymmetry within the consumers. Finally, the results of the present study indicate that, among the respondents, *Experts* and *Novices* are operating and fruitful categories when explaining consumers' knowledge related to wine. However these extreme categories do not fully document the wide spectrum of replies collected. *Knowledgeable consumers* and *Connoisseurs* have to be considered as promising medium categories in order to avoid binary analysis with loss of explained variance. In the case of France, where the culture of wine is still vivid, the multidimensional aspects of wine knowledge should not be forgotten. The present findings should be checked in other countries with other wine items in order to be enhanced.

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