WHAT PORTUGUESE CONSUMERS CARE ABOUT WHEN BUYING WINE. HOW IMPORTANT IS THE DESIGN OF THE BOTTLE?

O QUE É QUE OS CONSUMIDORES PORTUGUESES VALORIZAM QUANDO COMPRAM VINHO. QUAL A IMPORTÂNCIA DO DESIGN DA GARRAFA?

Hermelinda da Conceição Trindade-Carlos[1], Antonio Chamorro-Mera[2], José Manuel García-Gallego[3]*

[1]Instituto Politécnico de Portalegre (Portugal), Praça do Município 11, 7300-110 Portalegre, Portugal.

[2]University of Extremadura (Spain). Av. de Elvas, s/n, 06006 Badajoz, Spain.

[3]University of Extremadura (Spain). Av. de Elvas, s/n, 06006 Badajoz, Spain.

* Corresponding author: Tel: +34 924 289 300, Fax: +34 924 272 983, e-mail: garciagallego@unex.es

SUMMARY

In recent years, the Portuguese market has seen the launch of many new wine brands with novel designs that differ from the traditional products. However, there is not enough information about how the design of the wine bottle influences the brand selection process, nor about which segment of consumers most values this design as a purchasing criterion. In order to enhance the knowledge on this subject, a survey has been conducted on a sample of 437 wine buyers. The results show that taste, aroma and price are the most important criteria, while aspects related to design are less valued. Even so, three different segments of consumers can be identified, with the segment seeking value for money placing the most importance on the design of the wine bottle.

RESUMO

Nos últimos anos, o mercado português assistiu ao lançamento de muitas marcas novas de vinho com desenhos inovadores, que diferem dos produtos tradicionais. No entanto, não há informações suficientes sobre como o design da garrafa de vinho influencia o processo de seleção da marca, nem sobre qual o segmento de consumidores que mais valoriza esse design como critério de compra. Com o objetivo de enriquecer o conhecimento sobre este tema, foi desenvolvido um estudo com base numa amostra de 437 compradores de vinho. Os resultados mostram que o sabor, o aroma e o preço são os critérios mais importantes, enquanto aspetos relacionados com o design são menos valorizados. Mesmo assim, foi possível identificar três segmentos diferentes de consumidores, sendo que, o segmento que mais valoriza a relação qualidade/preço, é também o segmento que confere maior valor ao design da garrafa de vinho.

INTRODUCTION

The extensive and heterogeneous competition existing in the wine market makes for a very complex consumer purchasing process. As a result, there are diverse ways of differentiating wine brands. Wine has many different attributes, both extrinsic and intrinsic, which can be considered by the consumer as criteria for choosing a brand. Some examples of intrinsic attributes are the grape variety, the age of the wine, the production process (organic or conventional) and the alcohol content. In terms of extrinsic attributes, the country or region of origin, brand, quality certifications and awards, price, and attributes related to the design of the bottle, such as the type of bottle, type of seal, design of the front and back labels and the information contained on them can be highlight.

In recent years, there has been a boom in new designs for wine bottles in traditional markets such as Portugal: different images on the labels, new colours, types of brand name, among others. This raises the question of the importance of design elements on wine packaging when purchasing wine. Wine

packaging can be considered to consist of the following elements: a) the type of bottle; b) the seal and its system; c) the brand name appearing on the label; d) additional information on the label; e) the information appearing on the back label in text and graphic form.

As indicated by Ruivo (1996), the design of the packaging is the consumer's first point of contact when standing in front of shelves where hundreds of bottles with identical characteristics are on display. In this regard, the packaging and the label have, in terms of wine marketing, an undeniable influence and are a fundamental part of any wine consumption promotion or process (Thomas, 2000; Rocchi and Stefani, 2006).

Understanding wine purchasing criteria is essential if producers and distributors are to develop effective marketing strategies. For that reason, research on these purchasing criteria has gained prominence in recent years. In Portugal, despite being the 11th ranked country in global wine production (OIV, 2017), studies about purchasing behaviour and the evaluation of wine purchasing criteria are relatively scarce (Panzone and Simões, 2009; Duarte et al., 2010; Freitas Santos and Cadima Ribeiro, 2012; Caldas and Rebelo, 2013; Madureira and Nunes, 2013; Silva et al., 2014; Drennan et al., 2015; Nunes et al., 2016). Moreover, if attention is focused on the importance of the product's visual design, there are still gaps in the knowledge due to the limited number of papers that analyse this and the lack of consistency in the results obtained. This paper aims to provide additional knowledge about the importance to purchasers of the design of wine packaging.

MATERIAL AND METHODS

Background

Research on wine purchasing criteria has been extensive since the 1990s. Most studies allow to understand the importance for consumers of certain extrinsic attributes, such as price or origin, compared to some intrinsic attributes such as the grape variety or the age of the wine. However, as has been indicated, there are not many papers in this line of research that have included one or more attributes related to the design of the wine packaging in their analysis. Below, some of these studies are briefly discussed.

Perrouty et al. (2006) conducted a study in France, Austria, Germany and the United Kingdom, with a sample of 1,162 consumers. The results showed that expert consumers valued, in order, the region of origin, bottle design and, finally, the price. For non-

expert consumers the order of importance was different, with the region of origin again being the first attribute, followed by price and the bottle design. These results are an example of how the importance of each purchasing criterion varies depending on the level of knowledge of the consumer.

Lockshin et al. (2009) conducted a study in Australia on 1,233 wine consumers with the aim of assessing the impact of a set of attributes on their purchasing decision. Among the attributes analysed, various were related to the design of the wine bottle (style of the label, colour of the label, material, sealing system of the bottle and reference to awards and medals on the label), as well as the brand, country and region of origin, price, price discounts and alcohol content. Their results showed that attributes related to the design of the bottle had little weight in the purchasing decision of consumers, with brand and price being the most important attributes.

Along a similar line, Mueller and Szolnoky (2010a) concluded, in a study conducted in the U.S., that the origin of the wine is more important in consumer purchasing decisions than attributes related to the design of the bottle, such as its style, information on or colour of the label, type of bottle or type of seal.

In contrast to previous studies, Jarvis et al. (2010) conducted a study in Australia on a sample of 200 university students that led them to conclude that the symbols or images included on the label were the attributes that most influenced the purchasing decision and the attribute of the least importance was the origin of the wine. These results, which contradict those found in previous studies, could be due to the different purchasing and consumption behaviour of young consumers.

Krystallis and Chrysochou (2010) carried out a study in Greece with 567 individuals. Their results allowed them to rank certain attributes in order of importance, with the first of these being price, followed by quality, packaging, previous experience, grape variety, region of origin and, finally, brand. Similar results were found in the study by Chrysochou et al. (2012).

In another study conducted on 521 consumers in Germany, Mueller and Szolnoky (2010b) concluded that the most important criterion was prior information about the wine, followed by price, packaging and region of origin, among other less important attributes. The study also demonstrated the existence of segments of consumers who place a different level of importance on the attributes depending on their frequency of consumption, level

of knowledge about the product and place they purchased the wine.

Mueller *et al.* (2010a) analysed the importance of certain wine purchasing criteria in the Australian market using two statistical techniques: the best-worst scaling (BWS) method and a discreet choice experiment. In the first, the respondents directly valued the attributes without visual support, and they found that brand was the most valued attribute, followed by price and region. The visual elements and design of the bottle and label were clearly the least valued. In contrast, in the second study, consumers placed greater importance on the style of the label, followed by the brand, in their purchasing decision. The colour of the label had a greater influence than the region and type of bottle. The contrast between the two studies reveals the effect that images have on the opinions expressed by the respondents. These authors also found that there were no significant differences according to the frequency of consumption or the interest in and level of knowledge about wine. In contrast, they did find differences in the valuation of purchasing criteria according to age and gender.

Mueller *et al.* (2010b) analysed 331 regular wine consumers in Australia in order to identify the importance to them of 10 different types of information that may appear on the label of a bottle, as well as the price. The results revealed that these elements on the label have very little influence on the buyer's decision when compared to price. The study identified various segments of consumers, but the socio-demographic variables of gender, age and income level were not statistically significant.

Bernabéu *et al.* (2012) conducted a study in Spain with the participation of 421 wine consumers. Their results showed that the order of importance of the different attributes is as follows: previous experience, region of origin, price and recommendations from family and friends. The study demonstrated that the other seven attributes analysed (grape variety, age, brand, alcohol content, design of the bottle and label, gastronomic combination and organic production) were less important to consumers. The analysis found significant differences between segments based on certain variables such as gender, age, income level and education level.

Elliot and Barth (2012) conducted a study on 404 young Canadians and, in contrast, concluded that the most highly valued attributes when selecting a wine were those related to the design of the bottle. Other attributes such as the type of wine, alcohol content, country of origin, producer or year of harvest were classified as less important. It was again found that

the age of the consumer may significantly influence the purchasing criteria used.

In the Portuguese market, Madureira and Nunes (2013) interviewed 171 consumers to understand the importance they placed on the one hand on a set of intrinsic attributes, and on the other, on a set of extrinsic attributes. Among these, the most important by far was the region of origin. In terms of the elements of the packaging design, the most important was the design of the label, this being more important than the information about the producer shown on the label or the awards received. However, the results of this study also showed that the importance of the purchasing criteria varies according to the consumer's frequency of consumption and level of knowledge.

In Australia, MacDonald *et al.* (2013) interviewed 1,229 consumers in order to analyse ten purchasing criteria that included extrinsic and intrinsic attributes. Their results showed that the most important attribute was taste, followed by price, brand and aroma. The information on the back label and the appearance of the bottle were in seventh and eighth position in the rankings, respectively.

Lastly, Nunes *et al.* (2016) analysed the wine purchasing preferences of 250 Portuguese consumers, using the BWS method. The results showed that having tried the wine previously was the criterion that most influenced the purchasing decision. Region of origin and recommendations from friends were also relevant. Alcohol content and the characteristics of the bottle were the attributes with the least importance. The study identified significant differences depending on the age and gender of the respondents.

The conclusion obtained from this literature review is evident: the results demonstrated by the different studies are heterogeneous, varying according to the country where the study was conducted and the type of wine consumer (frequency of consumption, level of knowledge, socio-demographic characteristics, among others). Within this heterogeneity, it can be argued that in many cases origin has been identified as the main purchasing criterion, even ahead of price. Intrinsic attributes such as the grape variety, age of the wine, alcohol content and production system (organic or not) are less important. The attributes related to the design of the bottle show contradictory results. Some authors such as Elliot and Barth (2012) and Jarvis *et al.* (2010) defend the relative importance of design compared to other attributes. However, in general terms it can be argued that most of the studies have concluded that attributes related to the design of the wine bottle are less important in the purchasing decision than other extrinsic attributes (Lockshin *et*

al., 2009; Mueller and Szolnoky 2010b; Mueller *et al.*, 2010b; Chrysochou *et al*., 2012; Madureira and Nunes, 2013; Nunes *et al*., 2016).

Objectives and research design

The main objective of the research conducted is to determine the most important wine purchasing criteria for Portuguese consumers, with a special focus on the design of the bottle. Specifically, the objective is to answer the following three research questions:

Q1. How important are the different intrinsic and extrinsic attributes of the wine as purchasing criteria for consumers?

Q2. What is the importance of packaging in the purchasing choice compared to other wine purchasing criteria?

Q3. Are there different segments of consumers according to the importance placed on the different purchasing criteria and the packaging of the wine?

To achieve the proposed objective, a survey was conducted on regular and occasional wine consumers over the age of 18 and resident in Portugal (Table I).

This survey is part of a broader research carried out as a doctoral thesis (Trindade-Carlos, 2018). A total of 466 consumers participated, 231 completing the questionnaire on-line and 235 doing so physically in the vicinity of shopping establishments. However, only 437 questionnaires were validated, which make up the final sample size. The distribution of the sample according to socio-demographic variables is shown in Tables II and III.

TABLE II

Description of the sample by gender and age

Descrição da amostra de acordo com o género e com a idade

	Population of Continental Portugal	%	Number of respondents	%
Men	5 046 600	47.78%	262	60%
Women	5 515 578	52.22%	175	40%
Total	**10 562 178**	**100%**	**437**	**100%**
18-25 years of age	814 706	10.59%	49	11.2%
26-35 years of age	1 429 643	18.58%	102	23.3%
36-45 years of age	1 597 781	20.76%	107	24.5%
46-55 years of age	1 492 654	19.40%	109	24.9%
56-65 years of age	1 312 392	17.05%	51	11.7%
Over 65 years of age	1 048 139	13.62%	19	4.3%
Total	**7 695 315***	**100%**	**437**	**100%**

Source: Own sources based on the CENSOS 2011. Individuals under the age of 18 are excluded.

TABLE III

Description of the sample by household income

Descrição da amostra de acordo com o nível de rendimentos

Income	Number of respondents	%
Under €1,000	61	14%
Between €1000 and €1,500	92	21.1%
Between €1,501 and €2,000	71	16.2%
Between €2,001 and €3,000	97	22.2%
Between €3,001 and €4,000	43	9.8%
Over €4,000	73	16.7%
Total	**437**	**100%**

The questionnaire included a block of questions about the respondent's purchasing and consumption of wine. Specifically, they were asked about the usual place of consumption (at home, outside the home or both), the frequency of consumption, the frequency of purchase, the usual establishment of purchase (specialised store, supermarket, among others) and the level of knowledge about wine. This last question was designed in a self-assessment format, so individuals had to decide whether they considered themselves to have wine knowledge that is superior to, similar to or inferior to that of the average consumer.

Moreover, the respondents had to decide the importance they place on 21 attributes in their decision to purchase a bottle of wine. The valuation was carried out using a scale from 1 (not at all important) to 7 (extremely important).

The questionnaire was subject to a pre-test among 15 academics and professionals linked to the wine sector, in order to identify any possible research errors in its design and implementation.

RESULTS AND DISCUSSION

Table IV contains the average scores awarded by the respondents to the 21 wine purchasing criteria. This allows to respond to the first two research questions raised in the objectives. As can be seen, there are very big differences in the importance placed on the different criteria, with taste being the most important for the sample as a whole, with an average score of 6 on a scale from 1 to 7. The least valued attribute is the colour of the bottle, with an average of 3.4. Although two intrinsic attributes are the two most important (taste and aroma), it can be seen that the intrinsic and extrinsic attributes alternate in the order of importance for wine purchasing criteria. The attributes related to price and the origin of the wine are among the most important, but other intrinsic attributes are considered little in the purchasing decision, such as the grape variety, colour or alcohol content. In any case, the attributes related to the design of the wine bottle are of little importance in the purchasing decision. Only the type of cap or seal of the bottle and the information contained on the label are of medium importance among the set of criteria used in the study.

TABLE IV

Importance of the attributes in the wine purchasing decision

Importância dos atributos na decisão de compra de vinho

Attributes	Average	Standard deviation
The taste **(after having tried the wine before)**	6.04	1.32
The aroma **of the wine (after having tried the wine before)**	5.53	1.35
The price	5.49	1.31
Recommendations **from friends and acquaintances**	5.41	1.29
The region of production	5.18	1.43
Promotions **or offers**	5.10	1.60
The country **of production**	5.10	1.64
The brand **or winery**	5.01	1.38
The type of seal**: cork or synthetic**	4.83	1.77
The age **or aging of the wine (young, crianza, reserva)**	4.83	1.46
The reference to the designation of origin	4.70	1.54
The information **on the label about the characteristics of the wine (taste, aroma, harmony/structure...)**	4.63	1.54
The grape variety **with which the wine is produced**	4.43	1.60
The winning of an award **at a national or international fair**	4.38	1.62
Recommendations from sellers	4.32	1.46
The colour **of the wine**	4.32	1.53
The alcohol **volume/content**	4.27	1.59
The attractiveness **of the bottle label**	4.10	1.50
Organic production	3.80	1.55
The shape **of the bottle**	3.44	1.57
The colour **of the bottle**	3.36	1.57

Note: scale from 1 (not at all important) to 7 (extremely important).

In order to respond to the third research question (*Are there different segments of consumers according to the importance placed on the different purchasing criteria and the packaging of the wine?*), a principal components factorial analysis with Varimax rotation was carried out. The 21 criteria were grouped into 6

factors (Table V) which explain 66.76% of the variance. The KMO value is 0.846, which is higher than the 0.7 reference value that guarantees the validity of the analysis. Moreover, the reliability of the scale is also guaranteed due to obtaining a Cronbach's Alpha value of 0.873.

Table V

Matrix of principal components

Matriz dos componentes principais

	Factors					
	Organoleptic characteristics	Origin	Design of the bottle	Taste and Aroma	Recommendation	Price
Taste	-0.015	0.112	-0.032	**0.835**	0.180	-0.021
Colour of the wine	**0.481**	0.035	0.229	0.451	-0.167	0.024
Aroma of the wine	0.132	0.110	-0.067	**0.783**	0.113	0.060
Country of production	0.069	0.819	0.038	0.059	0.029	0.147
Region of production	0.115	**0.882**	0.046	0.111	-0.028	0.098
Designation of origin	0.295	**0.707**	0.193	0.140	0.078	0.030
Age of the wine	**0.560**	0.463	-0.044	0.157	0.197	-0.125
Grape variety	**0.673**	0.296	0.058	0.223	0.101	-0.161
Organic production	**0.753**	0.080	0.059	-0.246	0.153	0.110
Alcohol content	**0.663**	0.072	0.191	0.134	-0.050	0.236
Price	0.012	0.088	0.114	0.030	0.011	**0.866**
Promotions or offers	0.089	0.133	0.012	-0.013	0.188	**0.782**
Brand or winery	0.172	**0.565**	0.136	0.032	0.422	0.082
Winning of an award	0.342	0.305	0.275	0.085	**0.488**	0.028
Shape of the bottle	0.164	0.102	**0.883**	-0.016	0.173	0.071
Colour of the bottle	0.216	0.079	**0.879**	0.023	0.061	-0.018
Attractiveness of the bottle label	0.061	0.090	**0.829**	0.016	0.260	0.134
Label information	**0.573**	0.195	0.348	0.163	0.232	0.047
Type of seal	0.437	0.136	0.218	**0.469**	0.070	-0.057
Recommendations from friends and acquaintances	-0.087	0.154	0.189	0.341	**0.647**	0.269
Recommendations from sellers	0.158	-0.030	0.205	0.072	**0.808**	0.047
EXPLAINED VARIANCE (%)	13.869	13.485	13.026	9.905	8.757	7.714

The first factor contains most of the intrinsic attributes: colour of the wine, age or aging of the wine, grape variety, organic production, alcohol volume/content and information on the label about the characteristics of the wine. For this reason, it is called *Organoleptic characteristics*. Factor 2 is formed by the following attributes: country of production, region of production, reference to the designation of origin and brand or winery. This factor brings together extrinsic attributes and is called *Origin*.

Factor 3 contains the attributes related to design: shape of the bottle, colour of the bottle and attractiveness of the bottle's label, so this is called *Design*. Factor 4 includes the taste and aroma of the wine, although there is also an element of the bottle's design: the type of seal. We have chosen to call this factor *Taste and Aroma*.

Factor 5 covers the following attributes: winning of an award at a national or international fair, recommendations from friends and acquaintances and recommendations from sellers. This factor brings together extrinsic factors and is called *Recommendation*. Finally, Factor 6 is formed by only two attributes: price and promotions and offers, so it has been called *Price*.

After the completion of the factorial analysis, we carried out segmentation through a Cluster K-Media analysis, in which the researcher determines, *a priori*, how many segments they want to have, or in other words, the K value to be defined. This study analysed the dendrogram to detect the most suitable K value. After a test with K=4, various segments were obtained that were too small and had few differences in terms of their purchasing behaviour. For this reason, we finally opted for a value of K=3. The results are shown in Table VI.

These three segments of purchasers have different purchasing behaviours for all the factors analysed, except for Factor 1. According to the ANOVA analysis (Table VII), the difference in means between the three segments is statistically significant at the 1% level, except for organoleptic characteristics.

Segment 1, which represents 37.5% of the sample, stands out for not placing much weight on price as a factor and for attributing greater importance to the taste and aroma factor. Origin is fairly important in their purchasing decision. This segment can be classified as price insensitive purchasers.

TABLE VI

Segmentation according to the purchasing criteria

Segmentação com base nos critérios de compra

	Factors	Segment 1		Segment 2		Segment 3	
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1	**Organoleptic characteristics**	-0.0997	0.9765	-0.04525	0.9369	0.0914	1.0321
2	**Origin**	**0.1989**	0.9482	**-0.3687**	1.0257	-0.0447	0.9994
3	**Design**	-0.1457	0.9969	**-0.3199**	0.9584	**0.2097**	0.9731
4	**Taste and aroma**	**0.3638**	0.6349	**-0.1773**	0.9249	0.2477	0.6365
5	**Recommendations**	-0.1245	0.9875	**-0.4154**	1.0858	**0.2219**	0.9285
6	**Price**	**-0.9124**	0.6619	0.1019	1.0006	**0.6820**	0.5690

TABLE VII

ANOVA results

Resultados da ANOVA

	F Test	Significance
Organoleptic characteristics	1.763	0.173
Origin	7.987	0.000
Design	9.976	0.000
Taste and aroma	248.090	0.000
Recommendations	12.505	0.000
Price	253.388	0.000

Segment 2 does not place importance on the recommendations factor, nor on origin or design. It most values the price factor. They represent 14.4% of the sample and can be classified as price sensitive purchasers, as they seem to base their purchasing decision mainly on this variable.

Finally, segment 3 is the largest (48.1% of the sample) and is characterised by placing less importance on origin as a factor, but a lot of weight on the price factor. It is formed by individuals who are price sensitive but positively value design, taste and aroma, and recommendations. This segment can be classified as value for money purchasers. This is the segment in which design elements have the greatest importance in the purchasing decision.

Once these segments had been identified, the socio-demographic profile and the purchasing and consumption behaviour of the individuals forming part of each segment are described. The variables for which significant differences were found were the level of knowledge about wine, the frequency of consumption, the place of consumption and the level of monthly household income. No significant differences were found between the segments for the usual shopping establishment, gender and age variables.

With regard to the level of knowledge, Pearson's Chi-Squared established statistically significant differences at 1% (Table VIII). The price insensitive segment is mainly formed by individuals with

31

extensive knowledge about wine (50.6%). The price sensitive purchasers segment mainly consists of consumers with little knowledge about wine (44.4%), whereas the value for money purchasers segment is a heterogeneous segment in terms of the level of knowledge.

In terms of the frequency of consumption, Pearson's Chi-Squared establishes statistically significant differences at 1% (Table IX). The price insensitive purchasers segment is especially formed by individuals with a high frequency of wine consumption (40.9%). The price sensitive purchasers segment is formed by individuals with a low frequency of consumption (57.1%). And, again, the value for money purchasers segment contains individuals with heterogeneous characteristics.

TABLE VIII

Characterisation of the segments according to the level of knowledge about wine

Caracterização dos segmentos de acordo com o nível de conhecimento sobre o vinho

		SEGMENTS			TOTAL
		1	2	3	
Little knowledge	% of level of knowledge	20.5%	25.0%	54.5%	100.0%
	% of the initial number of cases	**14.0%**	**44.4%**	**29.0%**	25.6%
	% of the total	5.3%	6.4%	14.0%	25.6%
Average knowledge	% of level of knowledge	39.2%	15.5%	45.3%	100.0%
	% of the initial number of cases	**35.4%**	**36.6%**	**31.9%**	33.9%
	% of the total	13.3%	5.3%	15.3%	33.9%
Extensive knowledge	% of level of knowledge	46.9%	6.8%	46.3%	100.0%
	% of the initial number of cases	**50.6%**	**19.0%**	**39.0%**	40.5%
	% of the total	19.0%	2.7%	18.8%	40.5%

Pearson's Chi-Squared = 30.160; Asymptotic Sig. (bilateral) = 0.000.

TABLE IX

Characterisation of the segments according to the frequency of wine consumption

Caracterização dos segmentos de acordo com a frequência de consumo de vinho

		SEGMENTS			TOTAL
		1	2	3	
High Consumption	% of the level of consumption frequency	42.4%	8.2%	49.4%	100.0%
	% of the initial number of cases	**40.9%**	**20.6%**	**37.1%**	36.2%
	% of the total	15.3%	3.0%	17.8%	36.2%
Average Consumption	% of the level of consumption frequency	41.2%	11.8%	47.1%	100.0%
	% of the initial number of cases	**29.9%**	**22.2%**	**26.7%**	27.2%
	% of the total	11.2%	3.2%	12.8%	27.2%
Low Consumption	% of the level of consumption frequency	30.0%	22.5%	47.5%	100.0%
	% of the initial number of cases	**29.3%**	**57.1%**	**36.2%**	36.6%
	% of the total	11.0%	8.2%	17.4%	36.6%

Pearson's Chi-Squared = 15.961; Asymptotic Sig. (bilateral) = 0.003.

In terms of the place of consumption (Table X), the price insensitive purchasers' segment and the value for money purchasers segment are characterised by consuming wine equally at home and outside of the home (50.6% and 45.7% respectively). In contrast, the price sensitive purchasers segment has the habit of mostly consuming wine outside of the home.

Pearson's Chi-Squared establishes significant differences between the segments at 5%.

Finally, with regard to the level of household income, Pearson's Chi-Squared showed significant differences between the three segments at 1% (Table XI). The price insensitive purchasers segment is mainly formed (64%) by consumers with high incomes.

The price sensitive purchasers segment is mainly formed (58.7%) by consumers with low incomes.

Finally, the value for money purchasers segment once again manifests itself as the most heterogeneous.

TABLE X

Characterisation of the segments according to the place of wine consumption

Caracterização dos segmentos de acordo com o local de consumo de vinho

| | | SEGMENTS | | | TOTAL |
		1	2	3	
Consumption **Outside of the Home**	% of the level of place of consumption	35.7%	22.6%	41.7%	100.0%
	% of the initial number of cases	**25.0%**	**41.3%**	**22.9%**	26.3%
	% of the total	9.4%	5.9%	11.0%	26.3%
Equally	% of the level of place of consumption	41.3%	10.9%	47.8%	100.0%
	% of the initial number of cases	**50.6%**	**34.9%**	**45.7%**	46.0%
	% of the total	19.0%	5.0%	22.0%	46.0%
Consumption **at Home**	% of the level of place of consumption	33.1%	12.4%	54.5%	100.0%
	% of the initial number of cases	**24.4%**	**23.8%**	**31.4%**	27.7%
	% of the total	9.2%	3.4%	15.1%	27.7%

Pearson's Chi-Squared = 10.906; Asymptotic Sig. (bilateral) = 0.028.

TABLE XI

Characterisation of the segments according to the level of monthly income

Caracterização dos segmentos de acordo com o nível de rendimento mensal

| | | SEGMENTS | | | TOTAL |
		1	2	3	
Lower than €1,500	% of the level of income	24.2%	24.2%	51.6%	100.0%
	% of the initial number of cases	**22.6%**	**58.7%**	**37.6%**	35.0%
	% of the total	8.5%	8.5%	18.1%	35.0%
€1,501 to €2000	% of the level of income	31.0%	16.9%	52.1%	100.0%
	% of the initial number of cases	**13.4%**	**19.0%**	**17.6%**	16.2%
	% of the total	5.0%	2.7%	8.5%	16.2%
€2,001 to €3,000	% of the level of income	56.7%	5.2%	38.1%	100.0%
	% of the initial number of cases	**33.5%**	**7.9%**	**17.6%**	22.2%
	% of the total	12.6%	1.1%	8.5%	22.2%
Over €3,000	% of the level of income	43.1%	7.8%	49.1%	100.0%
	% of the initial number of cases	**30.5%**	**14.3%**	**27.1%**	26.5%
	% of the total	11.4%	2.1%	13.0%	100.0%

Pearson's Chi-Squared = 40.960; Asymptotic Sig. (bilateral) = 0.000.

CONCLUSIONS

The purpose of this research was to understand the importance of bottle design as a wine purchasing criterion in Portugal, given that in recent years many wineries have chosen to launch novel designs that differ from the traditional product and previous studies about the behaviour of wine consumers have not obtained homogeneous results that can be extrapolated to all geographic markets. The results obtained show that the most important criteria for Portuguese consumers are taste and aroma (in line with the results of other studies such as those of MacDonald *et al*. 2013; Madureira and Nunes, 2013; Nunes *et al*., 2016). However, these intrinsic attributes can only be perceived after having tried the wine. This implies, on the one hand, that prior knowledge of a wine brand is important to its commercial success. However, on the other, it implies that wine-producers should highlight other attributes in their marketing communications and on their labelling that allow the wine to be evaluated before it

is purchased. In this regard, it was found that the attributes related to the design of the packaging are in the group of less important criteria, with the shape and colour of the bottle being of very little importance. These results are in line with those obtained by some previous studies, such as those of Mueller *et al.* (2010b), Bernabéu *et al.* (2012), Madureira and Nunes (2013), MacDonald *et al.* (2013) and Nunes *et al.* (2016).

It was also identified three different segments based on their purchasing behaviour: a price insensitive segment, another made up of price sensitive purchasers and a final segment that contains purchasers who seek value for money. This final segment places more importance on the attributes related to the design of the packaging. The profile of these three segments is very different, showing significant differences related to the level of knowledge about wine, the frequency of consumption, the place of consumption and income level. These results are similar to those obtained by Madureira and Nunes (2013) in terms of the influence of the frequency of consumption, but are contrary to those obtained by Nunes *et al.* (2016), who indicated that this variable is insignificant. With regard to the study by Nunes *et al.* (2016), the results presented here are also contrary to those found for the influence of the gender, age and education level variables, which have been found to be insignificant in this study.

Taking into account that Portugal produces almost 7 million hectolitres per year (OIV, 2017) and is the 5th ranked country in terms of wine consumption, consuming around 4.8 million hectolitres in 2016 (IVV, 2018), we believe that the information deriving from the results of this research can guide the design of the marketing strategies of the Portuguese wine industry and of the managers of the 24 Protected Designations of Origin existing in the country. According to the research results, the target group when launching wine brands with new and modern designs seems to be the middle segment of consumers. These are the consumers who are looking for value for money, who have an average level of knowledge about wine, an average frequency of consumption (neither regular nor occasional) and who usually purchase it for consumption at home (either because they prefer to consume wine at home or because they do so equally at home and outside of it).

The literature review revealed that wine purchasing behaviour is not universal and differs significantly according to the country, especially when it comes to old wine world (for example, Portugal or Spain) and new wine world (for example, Australia or the United States). For this reason, these results cannot be extrapolated and we believe that new research analysing the importance of the design of wine bottles must be conducted in other geographic markets. Moreover, as a complementary line of research, studies should be carried out to identify which types of wine bottle design (type of bottle, colours, images) are most attractive to different types of consumers.

REFERENCES

Bernabéu R., Díaz M., Olivas, R., Olmeda M., 2012. Consumer preferences for wine applying best-worst scaling: a Spanish case study. *Br. Food J.*, **114,** 1228-1250.

Caldas J., Rebelo J., 2013. Portuguese wine ratings: An old product a new assessment. *Wine Econ. Pol.*, **2**, 102-110.

CENSOS, 2011 – Instituto Nacional de Estatística. Available at:

https://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=censos 2011_apresentacao (accessed on the 3.6.2018).

Chrysochou P., Corsi A., Krystallis A., 2012. What drives Greek consumer preferences for cask wine? *Br. Food J.*, **114**, 1072-1084.

Drennan J.; Bianchi C.; Cacho-Elizondo S.; Louriero S., Proud W., 2015. Examining the role of wine brand love on brand loyalty: A multi-country comparison. *Int. J. Hosp. Manag.*, **49**, 47-55.

Duarte F.; Madeira J., Barreira M., 2010 Wine purchase and consumption in Portugal – an exploratory analysis of young adults′ motives/attitudes and purchase attributes. *Ciência Tec. Vitiv.*, **25**, 63-73.

Elliot E., Barth J., 2012. Wine label design and personality preferences of millennials. *J. Prod. Brand Manag.*, **21**, 183-191.

Freitas Santos J., Cadima Ribeiro J., 2012. The Portuguese online wine buying consumer: Characteristics, motivations and behaviour. *EuroMed. J. Bus.*, **7**, 294-311.

IVV, 2018. A Vinha e o Vinho em Portugal. Available at: http://www.ivv.min-agricultura.pt/np4/91.html (accessed on the 12.2.2018).

Jarvis W.; Mueller S., Chiong K., 2010. A latent analysis of images and words in wine choice. *Australasian Mark. J.*, **18**, 138-144.

Krystallis A., Chrysochou P., 2010. An exploration of loyalty determinants in Greek wine varieties. *Euromed. J. Bus.*, **5**, 124-137.

Lockshin L.; Mueller S.; Louviere J.; Francis L., Osidacz P., 2009. Development of a new method to measure how consumers choose wine. *Aust. and N. Zealand Wine Ind. J.*, **24**, 35-40.

MacDonald J.; Saliba A., Bruwer J., 2013. Wine choice and drivers of consumption explored in relation to generational cohorts and methodology. *J. Retail Consum. Serv.*, **20**, 349-357.

Madureira T., Nunes F., 2013. Relevant attributes of Portuguese wines: matching regions and consumer′s involvement level. *International J. Wine Bus. Res.*, **25**, 75-86.

Mueller S., Szolnoky G., 2010a. Wine packaging and labelling – do they impact market price? A hedonic price analysis of US scanner data. *Paper presented in: 5th International Academy of Wine Business Research Conference.* 8-10. Auckland.

Mueller S. Szolnoky G., 2010b. The relative influence of packaging, labelling, branding and sensory attributes on liking and purchase intent: Consumers differ in their responsiveness. *Food Qual. Prefer.*, **21**, 774-783.

Mueller S., Lockshin L. Louviere J., 2010a. What you see may not be what you get: Asking consumers what matters may not reflect what they choose. *Mark. Letters*, **21**, 335–350.

Mueller S., Lockshin L., Saltman Y., Blanford J., 2010b. Message on bottle: The relative influence of wine back label information on wine choice. *Food Qual. Prefer.*, **21**, 22-32.

Nunes F., Madureira T., Oliveira J. Madureira H., 2016. The consumer trail: Applying best-worst scaling to classical wine attributes. *Wine Econ. Pol.*, **5**, 78-86.

OIV, 2017. Available at: http://www.oiv.int/oiv/info/esplubicationoiv (accessed on the 11.3.2018).

Panzone L.A., Simões O.M., 2009. The Importance of Regional and Local Origin in the Choice of Wine: Hedonic Models of Portuguese Wines in Portugal. *J. Wine Res.*, **20**, 27-44.

Perrouty J., D'Hauteville F., Lockshin L,. 2006. The influence of wine attributes on region of origin equity: An analysis of the moderating effect of consumer's perceived expertise. *Agribusiness*, **22**, 323-341.

Rocchi B., Stefani G., 2006. Consumers' perception of wine packaging: a case study. *Int. J. Wine Mark.*, **18**, 33-44.

Ruivo P., 1996. *Marketing de vinhos: Contributo para o posicionamento dos vinhos de qualidade produzidos na região determinada de Almeirim e Coruche.* PhD Thesis. 256 p. Instituto Superior de Ciências do Trabalho e da Empresa.

Silva A.P., Figueiredo I., Hogg T, Sottomayor M., 2014. Young adults and wine consumption a qualitative application of the theory of planned behaviour. *Br. Food. J.*, **116**, 832-848.

Thomas A., 2000. Elements influencing wine purchasing: A New Zealand view. *Int. J. Wine Mark.*, **12**, 47-62.

Trindade-Carlos H., 2018. *Las preferencias de compra de los consumidores de vino: un análisis de la importancia del diseño del envase.* PhD Thesis. 243p. University of Extremadura.