RECOGNISING WINE QUALITY – EXAMINING DEMOGRAPHIC INFLUENCES AND CONSUMER PREFERENCES

Jana Katunar

PhD, Assistant Professor, University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000 Rijeka, Croatia; email: jana.katunar@efri.uniri.hr

Nenad Vretenar

PhD, Full Professor, University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000 Rijeka, Croatia; email: nenad.vretenar@efri.uniri.hr

Ana Marija Filipas

Master of Mathematics, Teaching Assistant, University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000 Rijeka, Croatia; email: ana.marija.filipas@efri.uniri.hr

Jelena Jardas Antonić

PhD, Associate Professor, University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000 Rijeka, Croatia; email: jelena.jardas.antonic@efri.uniri.hr

Ivan Prudky

Master of Economics, Teaching Assistant, University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000 Rijeka, Croatia; email: ivan.prudky@efri.uniri.hr

ABSTRACT

The globalisation of the market, the entry of new wine countries on the wine world map and changes in consumer lifestyles have led to a change in the perception of wine consumers. These circumstances lead to the need to identify and analyse the factors influencing consumer preferences and wine recognition. This study aims to identify the factors influencing wine quality recognition. The empirical research is based on a survey conducted during the WineRi wine fair in Rijeka in June 2021. A total of 169 people gave valid answers, which form the sample for this study. Based on the collected data, the authors developed a binary logistic regression model in which the participants' perception of whether they recognised differences in the quality of wines was used as a dependent variable, while socio-demographic, wine consumption variables and variables connected to the wine selection and purchase process were used as independent variables. The results show that age, education, relationship status, household income and frequency of consumption influence the perception of the recognition of the quality of wine, as well as factors such as the perceived relationship between wine price and quality.

The conclusions resulting from the analysis carried out might be helpful not only for scholars but also for wine producers when developing a wine product list and marketing strategy.

Key words: *wine quality recognition, consumer behaviour, preferences, socio-demographic characteristics, wine*

1.   INTRODUCTION

Wine is a globally valued product that brings together not only wine consumers at family gatherings and other social occasions but also the academic community concerned with legality and consumer behaviour. On the one hand, the wine sector is studied by the academic community from the perspective of producers and other participants in the supply chain to examine their position in the national and global market in relation to the policies and strategies of the state and the European Union (Pomarici, Sardone, 2020), as well as their size and power asymmetry in relation to partners, customers and suppliers (Katunar et al., 2020a; Chan et al., 2018; Velázquez and Buffaria, 2017). On the other hand, wine producers need to understand why customers prefer certain types of wine and how well they differentiate wines by category and quality. Researchers are studying consumer preferences in the wine sector to understand consumers better so that marketing strategies can be developed according to the target consumers (Ellis et al., 2018; Migliore et al., 2020). This paper is focused on consumers and their preferences and decision-making.

Preferences are often defined as subjective comparative evaluations between two alternatives (Hallden, 1957, von Wright, 1963). Therefore, the decision maker is not expected to directly rank preferences for all possible choices but only for any pair of choice alternatives. A person can only be considered rational if they are able to express preferences for any two choice alternatives. If one can express preferences for any pair of alternatives, the utility function can be derived indirectly. Of course, this assumes that the decision maker's preferences fulfil transitivity requirements, which is a problem when faced with very similar but somewhat different alternatives (Luce, 1956). Therefore, seeking product/brand differentiation may be a more difficult task for the producer of a laundry detergent than for a producer of a lifestyle good such as quality wine. Both compete with numerous similar products, but consumers of quality wine are much more interested in the slight differences between the products, try to understand them and form preference relationships.

On the one hand, the globalisation of the market, the emergence of new competitors on the world wine map, and changing consumer preferences, on the other, show the need for constant research into consumer preferences and habits so that producers can adapt quickly to current market needs. The authors believe that the inability of decision makers to distinguish (and therefore compare) very similar alternatives, together with the desire for clear preferences in a lifestyle product area, provides producers and distributors with the opportunity to differentiate their product/brand from the competition.

Croatia is a country with a centuries-old tradition of viticulture and winemaking. The quality of wine has improved considerably, and the share of quality and premium wines in total

production has increased from 68% to 81% in the last 15 years (Katunar, 2019). Considering the problem of the Croatian wine industry and the EU wine industry that the New World countries have an advantage of scale and less labour force than the traditional wine producers from the EU countries (Katunar et al. 2020b), this paper focuses on the consumer behaviour of Croatian wine consumers. Insight into consumer behaviour enables Croatian wine producers to gain a competitive advantage through the quality of the wine and the adaptation of the offer to consumer needs. At the WineRi 2021 wine fair in Rijeka, held in June 2021, a survey was conducted, and the research is based on a sample of 169 responses. The purpose of the paper is to investigate what affects the quality of wine recognition based on the responses of the surveyed participants.

The main research question of the paper is what influences the recognition of differences in wine quality. Wine is an experience good (Katunar, Vretenar, 2023), and the evaluation of product quality and quality assessment are subject to subjective perception (quality is in the eyes of the consumer). The aim of this paper is to investigate the factors that influence the perceived ability to evaluate quality. Participants' perception of whether they recognised quality differences between wines of the same variety was used as the dependent variable, while socio-demographic and wine consumption variables were used as independent variables. In this research, the focus is on consumers' perceptions of their own ability to recognize the quality of wine, rather than their ability to recognize the actual differences between wines. A binary logistic regression model was created to test defined hypothesis. Thus, the main research hypothesis is that the perception of recognising differences in wine quality is influenced by socio-demographic and wine consumption variables and variables connected to the wine selection process.

According to research (Wright et al. 2023; Hennigs et al. 2015; Wiedmann, 2009), consumers are willing to pay more if they perceive a product as a luxury good. Therefore, price is linked to factors such as label design, perceived quality, etc. Castelini and Samoggia (2018) argue that branding and brand loyalty are of limited importance among younger generations, but they are open to new things, especially if accompanied by an appealing image and informative labels.

This research is an extension of previous research on consumer preferences in the wine industry by the author of this paper. The paper is organised as follows. After a brief literature review (second section), the data, sample and methodology are described (third section). Empirical results and analyses are presented in the fourth section. The discussion and conclusion are shown in the fifth section.

2. LITERATURE REVIEW

Wine is not considered an alcoholic beverage like any other. It has a certain special status compared to other alcoholic beverages. Wine connects people and provides wine lovers with endless topics of conversation at family and other formal and informal gatherings. Given increasing competition in the wine market and changing consumer perceptions, where

consumers, through the consumption of wine, expect others from a pleasure (Alpeza et al., 2023), also an experience (Kaštelan Mrak and Kaštelan, 2023), consumers are currently the focus of producers when designing wine offers and marketing strategies.

Numerous scientific studies deal with the preferences of wine consumers. According to a study by Lockshin and Corsi (2012), around 400 articles dealt with the behaviour of wine consumers, which were narrowed down to about 100 journal articles between 2004 and 2012 by focusing only on peer-reviewed journal articles.

Knowing the indicators influencing wine consumers' preferences is vital for wine producers to adapt to increasing competition and to adapt their products to the market's needs. Various preference models are used in the literature on the EU wine sector to identify those factors. There are many scientific papers dealing with the influence of socio-demographic variables on the frequency of wine consumption. Stockley et al. (2017) analysed the influence of age on wine consumption in Australia. They found that older consumers drank more frequently, while those between 25 and 34 drank larger quantities. In the work by Gustavsen and Rickertsen (2018), among other variables, found the significance of consumers' age. They found that in their sample, the frequency of wine consumption increases by 0.4 percentage points when the age of the respondents increases by one year. Rebelo et al. (2021) conducted a study on the frequency of wine consumption in Spain and Portugal and found that older people in Portugal tended to drink wine more often, while they found no such effect in Spain. In the work of Dubois et al. (2021), age is a significant variable, but the results are different in the countries observed. Alpeza et al. (2023) examined the habits of Croatian wine consumers based on 428 respondents and concluded that the frequency of consumption generally increases with age.

In addition to age, the influence of income on consumer preferences has also been studied frequently. The authors have come to contradictory conclusions. While some authors concluded that an increase in income level leads to an increase in wine consumption (Gustavsen and Rickertsen, 2018; Garcia-Cortijo et al., 2019), others found that income level was not significant or that the lowest income was associated with an increase in wine consumption (Dubois et al., 2021). The results should be considered in the context of the market in which the study was conducted. In countries traditionally involved in wine production, the increase in income is expected to have an impact on the quality of wine consumed, while in other countries income is expected to have an impact on quantity.

In addition to the influence of age and income in the research made by Gustavsen and Rickertsen (2018), they also found marginal differences in education and marital status on preferences. They came to the conclusion that a higher level of education increases the likelihood of wine consumption, while people who are married drink wine more often.

Botonaki and Tsakiridou (2004) used factor analysis to investigate consumers' attitudes toward wine quality in Greece and consumers' willingness to pay according to PDO label and region. Guris et al. (2006) investigated the brand preferences of wine consumers in Turkey using a multinomial logit model. Their results showed that occupation, marital status, place of birth, income, and gender influence wine brand choice.

Apart from analysing the influence of socio-demographic variables on the perception of wine quality recognition, this paper also uses wine consumption variables and variables related to the wine selection and purchase process as independent variables.

In a recently published study conducted with a different data set of this questionnaire (Vretenar et al. 2023), significant behavioural differences in consumption frequency were found in relation to consumers' gender, age, marital status and education. The frequency of wine consumption was also analysed by Gustavsen and Rickertsen (2018), Rebelo et al. (2021) and Dubois et al. (2021).

In their study of a large sample of wine consumers in Australia, Stockley et al. (2017) concluded that drinking with family and friends is an important reason to drink more frequently. In their American study, Dinescu et al. (2016) found that married people consumed alcohol less frequently than others (their study did not focus on wine), while Birditt et al. (2018) concluded that couples drinking together had a positive effect on their marriage.

Todd et al. (2021), in their research guided by consumer preferences for front label attributes, concluded that wine varietal selection depends on label information to drive flavor selection and facilitate site selection. In terms of label design, Sherman and Tuten (2011) found that traditional labels are more appealing to wine consumers than other types of wine labels in terms of brand name and label design.

Liu and Murphy (2007) concluded in their research that Chinese people tend to buy inexpensive wines for private consumption and public occasions to get more mianzi in front of others. On some important occasions, consumers buy a foreign (French) red wine to impress their guests and gain more social status and prestige.

3. DATA, SAMPLE AND METHODOLOGY

The analysis is based on a sample of 169 respondents, and because the sample is relatively small, the authors decided to convert participants' responses from a Likert into two distinct dichotomous scales. The conversion of Likert scale measurements into a binary or dichotomous scale was suggested and done in the research of Jumbe Marsden et al. (2016), Akugizibwe and Ahn (2020), van Eck van der Sluijs et al. (2021), Jeong and Lee (2016) and Khalafallah et al. (2020), with the first three doing so with converting 5-point Liker scale measurements into dichotomous denoting the Likert scale values 1, 2 and 3 into no or false and the Likert scale values 4 and 5 into yes or true.

Binary logistic regression models are often used in consumer preference research (Lanfranchi et al., 2020; Sreejesh et al., 2013; Harrell, 2015; Wilson and Lorenz, 2015; Tabachnick and Fidell, 2019). Specifically, Lanfranchi et al. (2020) used the method to analyse wine consumer behaviour. Therefore, the authors deemed it appropriate for this research.

During the *WineRi 2021* wine fair in Rijeka, held in June 2021, a survey was conducted to gain better insight into the tastes, trends and wine consumption of the fair visitors. Survey was a

combination of explored demographic and preference factors used in previous research by Stanco, Lerro and Marrota (2020), De Vitaa et al. (2019), Gurys, Metin and Caglayan (2007), Botonaki and Tsakiridou (2004). A total of 169 individuals gave valid answers, making up the sample for this study (Table 1). The ratio of men and women who partook in the survey was almost even, and most participants stated they were single, divorced, or widowed. Over 75% of the participants have a bachelor's or higher education degree, and more than 75% live with a household income ranging from 666 EUR to 2660 EUR. Somewhat expectedly, since the individuals decided to visit the wine fair, 78.11% of the survey participants consume wine daily or weekly, and most of them are doing so while socialising with friends, rarely alone.

Table 1. Sample characteristics overview

Sample characteristics	N	% of total
Gender		
Male	82	48.52
Female	87	51.48
Education		
High school education	38	22.49
Bachelor's degree or higher	131	77.51
Relationship status		
Single/divorced/widowed	114	67.46
Married/stable relationship	55	32.54
Household income		
<666 EUR	9	5.33
666-1330 EUR	42	24.85
1331-1995 EUR	50	29.59
1996-2660 EUR	39	23.08
2661-3325 EUR	10	5.92
3326-3990 EUR	2	1.18
>3990 EUR	17	10.06
Consumption frequency		
Daily/weekly	132	78.11
Monthly/annually	37	21.89
Consumption company		
Alone	4	2.37
With friends	124	73.37
With family	41	24.26
N = 169		

Source: Authors

Aside from sociodemographic and wine consumption characteristics, participants in conducted survey also evaluated their wine selection and purchase decision-making process using a 5-point Likert scale. The given statements and participants' responses are shown in Figure 1.

Figure 1. Wine selection decision process
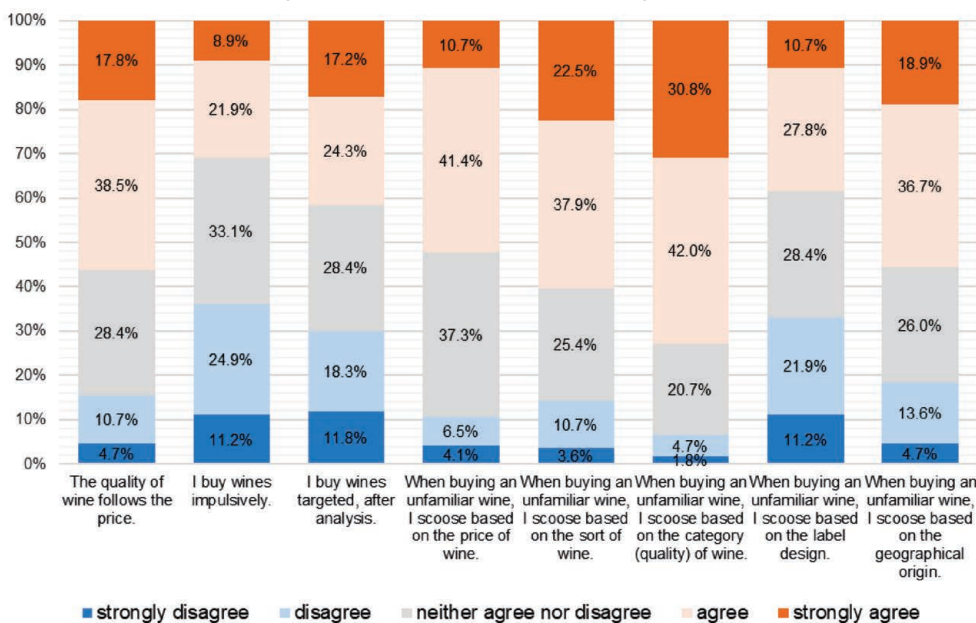
Source: Authors

However, because the sample is relatively small, for this analysis the authors decided to convert participants' responses from a Likert scale into two distinct dichotomous (Jeong and Lee, 2016; Jumbe Marsden et al., 2016; Akugizibwe and Ahn, 2020; van Eck van der Sluijs et al., 2021). Since a 5-point Likert scale was used, the exact cutoff point between lower and higher ratings on the scale is unclear. Because of that, two separate scales are made, *dichotomous negative* and *dichotomous positive*, and both will be used to construct binary regression models subsequently compared. In the dichotomous negative scale (*Model 1*), the authors denote a 0 if participants answered 1, 2 or 3 and a 1 if participants answered 4 or 5. This approach allows us to distinguish between lower (1 to 3) and higher (4 and 5) ratings on the scale. Precisely, denotation 0 means that a participant is unlikely or has a neutral viewpoint on his/her ability to recognize the quality of wine (dependent variable) or disagrees or is neutral about a particular statement (independent variables). Denotation 1 means that a participant is assured in his/her ability to recognise the quality of the wine (dependent variable) or agree with a particular statement regarding wine selection and purchase decision-making (independent variables). In the dichotomous positive scale (*Model 2*), the authors denote a 0 if participants answered 1 or 2 and a 1 if participants answered 3, 4 or 5. In this case, denotation 0 means that a participant has a negative viewpoint on wine quality recognition ability (dependent variable) or disagrees with a particular statement (independent variables). Denotation 1 implies that a participant is likely or has a neutral viewpoint on wine quality recognition ability (dependent variable), agrees, or is neutral about a particular statement regarding wine selection and purchase decision-making (independent variables). The participant's perception of whether they recognise differences in the quality of wines of the same sort (*QWR*) was used as a

dependent variable, while previously described socio-demographic and wine consumption variables, as well as variables connected to the wine selection decision process, were used as independent variables in proposed model. Detailed information about each variable can be found in Table 2.

Table 2. Model variables operationalisation

Variable	Operationalisation	
	Model 1 - dichotomous negative	**Model 2 - dichotomous positive**
Quality of wine recognition (QWR)	0 = unlikely or neutral, 1 = likely	0 = unlikely, 1 = neutral or likely
Age (AG)	age in years	
Gender (GEN)	0 = male, 1 = female	
Education (EDU)	0 = high school education, 1 = bachelor's degree or higher	
Relationship status (REL)	0 = single/divorced/widowed, 1 = married/stable relationship	
Household income (HIN)	0 = <665 EUR, 1 = 666-1330 EUR, 2 = 1331-1995 EUR, 3 = 1996-2660 EUR, 4 = 2661-3325 EUR, 5 = 3326-3990 EUR, 6 = >3990 EUR	
Consumption frequency (CON_F)	0 = daily/weekly, 1 = monthly/annually	
Consumption company (CON_C)	0 = alone, 1 = with friends, 2 = with family	
Monthly spending (SPENT)	monthly expenditure on wine in EUR	
Quality follows price (QP)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Impulsive purchase (IMP)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Targeted purchase (TAR)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Unknown - price driven (U_PRC)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Unknown - sort driven (U_SRT)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Unknown - category driven (U_CAT)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Unknown - label design (U_LAB)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree
Unknown - geographical origin (U_GEO)	0 = disagree or neutral, 1 = agree	0 = disagree, 1 = neutral or agree

Source: Authors

A binary logistic regression model (Sreejesh et al., 2013; Harrell, 2015; Wilson and Lorenz, 2015; Tabachnick and Fidell, 2019; Lanfranchi et al., 2020) with the dependent variable QWR was constructed:

$$QWR = log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 AG + \beta_2 GEN + \beta_3 EDU + \beta_4 REL + \beta_5 HIN + \beta_6 CON\_F + \beta_7 CON\_C + \beta_8 SPENT + \beta_9 QP + \beta_{10} IMP + \beta_{11} TAR + \beta_{12} U\_PRC + \beta_{13} U\_SRT + \beta_{14} U\_CAT + \beta_{15} U\_LAB + \beta_{16} U\_GEO + e,$$

where p is the probability that

$$y = \beta_0 + \beta_1 AG + \beta_2 GEN + \beta_3 EDU + \beta_4 REL + \beta_5 HIN + \beta_6 CON\_F + \beta_7 CON\_C + \beta_8 SPENT + \beta_9 QP + \beta_{10} IMP + \beta_{11} TAR + \beta_{12} U\_PRC + \beta_{13} U\_SRT + \beta_{14} U\_CAT + \beta_{15} U\_LAB + \beta_{16} U\_GEO + e$$

will take the value 1.

The logistic regression beta coefficients represent the change in the log odds of the outcome variable for a one-unit increase in the predictor variable. Exponentiated coefficients will show the odds ratios of change of the dependent variable *QWR*:

$$OddsQWR = \frac{p}{1-p} = e^{\beta_0 + \beta_1 AG + \beta_2 GEN + \beta_3 EDU + \beta_4 REL + \beta_5 HIN + \beta_6 CON_F + \beta_7 CON_C + \beta_8 SPENT + \beta_9 QP + \beta_{10} IMP + \beta_{11} TAR + \beta_{12} U\_PRC + \beta_{13} U\_SRT + \beta_{14} U\_CAT + \beta_{15} U\_LAB + \beta_{16} U\_GEO + e},$$

using the previously defined labels. Furthermore, to contribute to the understanding of factors influencing the individuals' stated ability to recognise the quality of a wine, the authors conducted nonparametric Mann-Whitney U and Kruskal Wallis H tests accordingly, followed by Dunn's post hoc pairwise comparison tests, adjusted using Bonferroni's error correction (Conroy, 2012; Harris and Hardin, 2013; Dinno, 2015). By proving significant differences between sociodemographic and wine consumption habit groups, the authors aim to corroborate the findings of the logistic regression result. The empirical analysis and data manipulation were done using STATA 17.0 MP-Parallel Edition.

4. EMPIRICAL RESULTS AND ANALYSIS

To evaluate the two proposed dichotomous scales, the authors used the fit indices for binary logistic regression models using the two dichotomous scales (Adelson and McCoach, 2010; Akugizibwe and Ahn, 2020). The results are presented in Table 3. Model 1 with a dichotomous negative scale, i.e., where denotation 0 includes the Likert scale response values 1, 2 and 3, and denotation 1 includes response Likert scale values 4 and 5, portrayed better-fit indices and therefore will be used for the binary logistic regression analysis (Hosmer et al., 2013; Long, Freese, 2014; Greene, 2018).

Table 3. Fit indices for logistic regression models using dichotomous scales

	Model 1 - dichotomous negative	Model 2 - dichotomous positive
LR χ2(22) / LR χ2(20)	85.48	49.44
Prob > χ2	0.0000	0.0000
Deviance	129.199	145.479
McFadden R2	0.398	0.254
Cragg-Uhler (Nagelkerke) R2	0.552	0.380
AIC	175.199	187.479
BIC	247.186	251.660
Correctly classified	79.29%	73.25%

Source: Authors

The likelihood ratio chi-square of 85.48 with a p-value of 0.0000 tells that proposed sixteen-predictor model fits significantly better than a model with only a constant included, with no predictors (Tabachnick and Fidell, 2019). A non-significant post-estimation Pearson test value ($\chi2(146) = 132.39$, p > $\chi2$ = 0.7834), as well as Hosmer-Lemeshow test value, indicates that the logistic regression model fits well to data ($\chi2(8) = 1.49$, p > $\chi2$ = 0.9928) (Hosmer and Lemeshow, 2000; Hosmer et al., 2013). Furthermore, the value of McFadden's pseudo R2 (R2 = 0.3982) indicates an excellent model fit (Hensher and Stopher, 1979), as well as Cragg and Uhler's (R2 = 0.552) (Cragg and Uhler, 1970). The logistic regression model results are shown in Table 4, providing insight into the coefficients, standard errors, associated p-values and the 95% confidence intervals of the coefficients.

Table 4. Logistic regression results

	ß	exp(ß)	se (exp(ß))	sig.	95% C.I. for exp(ß)	
					lower	upper
Age	0.0429	1.0439	0.0242	0.064*	0.9975	1.0925
Gender	−0.7261	0.4838	0.2268	0.121	0.1930	1.2127
Education	−1.1539	0.3154	0.1932	0.060*	0.0949	1.0479
Relationship status	−1.2585	0.2841	0.1688	0.034**	0.0887	0.9103
Household income						
666-1330 EUR	3.6997	40.4334	66.7339	0.025**	1.5917	1027.1130
1331-1995 EUR	2.6443	14.4073	22.3117	0.095*	0.6293	314.6967
1996-2660 EUR	2.3302	10.2799	16.8935	0.156	0.4104	257.5210
2661-3325 EUR	2.5789	13.1823	26.8511	0.205	0.2433	714.1831
3326-3990 EUR	5.0508	156.1424	360.4836	0.029**	1.6919	14410.4300
>3990 EUR	−0.2559	0.7742	1.3752	0.885	0.0238	25.1692
Consumption frequency	−2.3239	0.0979	0.0803	0.005***	0.0196	0.4891

Consumption company						
With friends	−0.6556	0.5191	0.8539	0.690	0.0207	13.0437
With family	0.3775	1.4586	0.8112	0.497	0.4904	4.3387
Monthly spendings	0.0017	1.0017	0.0010	0.078*	0.9998	1.0036
Quality follows price	−1.0610	0.3461	0.1769	0.038**	0.1271	0.9426
Impulsive purchase	−0.4274	0.6522	0.3390	0.411	0.2355	1.8062
Targeted purchase	0.9846	2.6767	1.3286	0.047**	1.0118	7.0813
Unknown – price-driven	−1.2977	0.2731	0.1306	0.007***	0.1070	0.6971
Unknown – sort driven	1.3817	3.9818	2.2896	0.016**	1.2901	12.2897
Unknown – category driven	1.4928	4.4496	3.0277	0.028**	1.1726	16.8854
Unknown – label design	−0.6957	0.4987	0.2643	0.189	0.1765	1.4093
Unknown – geographical origin	0.1374	1.1473	0.5960	0.791	0.4145	3.1759
Constant	−4.6377	0.0097	0.0206	0.029	0.0001	0.6255
LR χ2(22)	85.48					
Prob > χ2	0.0000					
Pseudo R2	0.3982					

* p<0.1. ** p<0.05. *** p<0.01

Source: Authors

If the age of an individual increases by 1, that will lead to an increase in the chances of 4.39% that the individual will answer 4 or 5 when asked about the quality of wine recognition. If an individual has a bachelor's or higher degree education, that will lead to a decrease in the chances of 68.46% that the individual will answer 4 or 5 when asked about the quality of wine recognition. Based on the 95% C.I. values, age and education of individuals does not provide enough evidence for the expected effects of a singular variable. If an individual is married or is in a stable relationship, that will lead to a decrease in the chances of 71.59% that the individual will answer 4 or 5 when asked about the quality of wine recognition. The C.I. values support such findings. If an individual lives in a household with an income ranging from 666 EUR to 1330 EUR, that will lead to an increase in the chances of 3943.34% that the individual will answer 4 or 5 when asked about the quality of wine recognition. If an individual live in a household with an income ranging from 1331 EUR to 1995 EUR, that will lead to an increase in the chances of 1307.32% that the individual will answer 4 or 5 when asked about the quality of wine recognition. If an individual live in a household with income ranging from 3326 EUR to 3990 EUR, that will lead to an increase in the chances of 15514.24% that the individual will answer 4 or 5 when asked about the quality of wine recognition. Impact of monthly income levels affecting wine quality recognition are supported by the C.I. values. Suppose an individual consumes wine on a monthly or annual basis. In that case, that will lead to a decrease in the chances of 90.21% that the individual will answer 4 or 5 when asked about

the quality of wine recognition, which is supported by the C.I values as well. If the monthly spending of an individual increases by 1 EUR, that will lead to an increase in the chances of 0.17% that the individual will answer 4 or 5 when asked about the quality of wine recognition. The effect of monthly spending to the wine quality recognition ability is not fully supported by the C.I values. If an individual agrees with the statement that the quality of the wine follows the price, that decreases the chances by 65.39% that the individual will answer 4 or 5 when asked about the quality of wine recognition. Moreover, if an individual buys wines targeted and after analysis, that increases the chances by 167.67% that the individual will answer 4 or 5 when asked about the quality of wine recognition. If an individual agrees that when buying an unfamiliar wine, they choose based on the price, that decreases the chances by 72.69% that the individual will answer 4 or 5 when asked about the quality of wine recognition. If an individual agrees that when buying an unfamiliar wine, they choose based on the sort, that increases the chances by 298.18% that the individual will answer 4 or 5 when asked about the quality of wine recognition. Finally, if an individual agrees that when buying an unfamiliar wine, they choose based on the category, that increases the chances by 344.96% that the individual will answer 4 or 5 when asked about the quality of wine recognition. The C.I. values for all of the purchase preferences stated above prove to be significant.

The constructed logistic regression model gave an overall correct classification rate of 79.29%, with a sensitivity of 64.29% and a specificity of 86.73%. A detailed classification matrix is presented in Table 5. Out of the 51 individuals who were neutral or stated that they were unlikely to recognise the quality of wine, the model correctly classified 36 of them. Regarding 118 individuals who stated that they are likely to recognise the quality of wine, 98 were correctly classified by the model.

Table 5. Classification matrix

Classified	Unlikely or neutral	Likely	Total
Unlikely or neutral	36 (64%)	15 (13%)	51 (30%)
Likely	20 (36%)	98 (87%)	118 (70%)
Total	56	113	169

Source: Authors

To further contribute to the understanding of an individual's stated wine quality recognition ability, with the use of appropriate nonparametric tests, the authors sought the differences between sociodemographic and wine consumption habit groups of individuals and the wine selection and purchase decision-making subgroups. Significant differences were determined using Mann-Whitney U tests between gender (z = 8.284, p = 0.004), relationship status (z = 6.313, p = 0.012), and consumption frequency (z = 13.314, p = 0.000) subgroups. Interestingly, men (M = 0.439) state higher levels of ability to recognise the quality of wine than women (M = 0.230). Looking at relationship status differences, the single, divorced or widowed individuals (M = 0.439) were believed to have a better understanding of wine quality determination than the ones who are married or in a stable relationship (M = 0.200). Expectedly, individuals who

consume wine on a daily or weekly basis (M = 0.402) were more convinced to accurately recognise the quality of wine than individuals consuming wine on a monthly or annual basis (M = 0.081).

Regarding the wine selection and purchase decision-making process, significant differences were found between different individuals with different target purchase intentions (z = 10.519, p = 0.012) and individuals who, while buying unknown wine, are price-driven (z = 5.453, p = 0.020), sort driven (z = 5.754, p = 0.017) or wine quality category driven (z = 9.105, p = 0.003). Individuals who first analyse the wine offer and make a targeted purchase (M = 0.471) believe to be more able to determine a quality wine than individuals who do not have the same purchase tactics (M = 0.232). When buying unknown wine, individuals who are price-oriented (M = 0.420) in the intended purchase state have a lower ability to recognise the quality of wine than the ones who do not make price-driven purchase decisions (M = 0.250). If the individual's wine choice decision is sort-driven, they state to have a higher ability of wine quality recognition (M = 0.402) than the ones who do not consider wine sort when buying unknown wine (M = 0.224). The last observed significant differences were between individuals who, when purchasing unknown wine, are quality category driven, with the ones looking at the stated quality believed to have a better ability to distinguish between different quality wine (M = 0.398), different to the individuals not considering the stated wine quality category (M = 0.152).

5. DISCUSSION

The analysis revealed interesting insights into how wine consumers assessed their ability to recognise wine quality. As it habitually goes with experiential goods, expectedly, first finding was that older respondents were more confident that they could recognise wine quality than younger respondents (it must be noted that considering C.I values, the significance of this finding is modest). The idea that confidence comes with experience is supported by previous research showing that the frequency of wine consumption increases with age (Stockley et al. (2017), Gustavsen and Rickertsen (2018), Alpeza et al. (2023)). The discovery that respondents who spend more money on wine are more confident in their ability to recognise wine quality was also expected. Although one could argue that it is not necessarily true that those who buy more expensive cars are better drivers, this finding supports authors assumption that such individuals are also more experienced tasters.

Moreover, there are few intuitive explanations for the finding that respondents with higher levels of education were less confident in their ability to recognise the quality of the wine they consumed than respondents with lower levels of education (this finding is also of modest statistical significance). The first explanation would be based on the famous Goethe quote, "Doubt grows with knowledge". In this sense, consumers with higher education might be more aware that there is a lot of marketing involved in creating user experiences and that in the process of experiencing them, one might be unintentionally drawn to better presented products, i.e. that one's senses are not only influenced by the organoleptic properties of the tasted wine. The other possible explanation (which does not necessarily contradict the first

one) would be that respondents with higher education consume wine less often (which is supported by the results of the analysis of the frequency of wine consumption conducted with other data from this survey (Vretenar et al., 2023)).

A somewhat curious result of this analysis was the statistically significant differences in the perceived ability to recognise wine quality between groups with different family incomes. In this regard, the questionnaire included six income groups, of which respondents in the two lowest income groups and respondents in the second highest income group were significantly more confident than other participants that they could recognise wine quality. Other income groups showed less confidence but their results are statistically insignificant. Given the considerable price differences between wines, it cannot be assumed that all wine lovers have similar opportunities to taste products of all price ranges (especially more expensive wines). It should also be noted that income as a variable also showed confusing results in other research (Dubois et al. (2021) vs. Garcia-Cortijo et al. (2019)).

Perhaps the most exciting finding of this analysis relates to the perceived relationship between wine price and quality. Participants who agreed with the assertion that the quality of the wine follows the price and participants who indicated that when they had to choose between unfamiliar wines, they did so base on price were less confident that they could recognise the quality of the wine. Again, this result might be due to participants being aware of the difficulties in judging quality. However, it might also mean consumers who cannot recognise quality rely more on price as a measure of quality. In addition, none of the groups studied in this research possessed exceptional confidence in their ability to recognise the quality of the wine (the statement that the quality of the wine was recognisable had less positive than neutral and negative answers). This is even more intriguing in light of the fact that all survey participants were consumers of the wine fair, and it might lead to the conclusion that wine lovers are aware of the difficulty of accessing wine quality. As previous research clearly shows that consumers are willing to pay more if they perceive a certain product as a luxury (Wright et al. 2023, Hennigs et al. 2015), the main implication of this work for business management could be to shift the focus to product attributes that help create a luxury image (branding and loyalty for older generations and appearance and informative labels for younger generations (Castelini and Samoggia, 2018)) rather than focusing mainly on wine quality, which is difficult to evaluate even for wine lovers. Thus, this finding points out the importance of price positioning to overall product development and marketing efforts. In this sense, the authors could draw the conclusion that wine as an experiential good is perhaps more similar to fine art than one might intuitively think.

Although the authors found evidence that individual who consume wine more frequently, as well as individuals who research products before purchase are more confident in their ability to recognise the quality of a wine, some social characteristics proved to be of significant and intriguing influence. Male participants from conducted research were more confident in their wine quality assessment ability than their female counterparts were. Additionally, the single, divorced and widowed individuals among participants were more confident in their wine

quality recognising ability, although they consume wine less frequently than those married do or in a committed relationship, arguing against the stated experience-based explanations.

6. CONCLUSIONS

This paper provides some evidence on the factors that influence wine consumers' perceptions of their ability to assess the quality of wine. Following factors that have been shown to be influential in other research on wine consumers, a bundle of demographic factors and consumer preferences were included in the study. Strong statistical significance with the perceived ability to recognise wine quality are associated with the variables of frequency of consumption and relationship status. In addition, strong significance is found among consumers who are conscientious in their wine selection, those who believe that quality follows price, and those who place more importance on wine sort and labelled category. Some of the expected factors such as age and social context of wine consumption were found to be statistically insignificant in this research as they were related to frequency of consumption rather than recognition of wine quality. Others such as age, education and monthly expenditure showed statistical significance, but not strong.

The main theoretical finding of this research, therefore, is the relative unimportance of demographic factors (besides marital status) in trying to understand wine consumers' perceptions of their own ability to recognise quality. The other side of the "coin" shows the relative importance of behavioural factors in the same matter. From a business or managerial perspective, this research could be useful in pointing wine producers towards experiential bases for better market segmentation when trying to achieve a quality or luxury image for their products. In other words, if consumers are not very confident in recognising wine quality, it is up to wine producers to find the right approach to meet wine lovers' expectations, i.e., it could be beneficial to understand consumers' behavioural patterns.

The biggest shortcoming of this research is the small sample size, which only allows limited conclusions on wine consumers' behaviour and preferences to be made. Another limitation of the sample is the deliberate decision to conduct survey at the wine fair. The latter limitation is due to authors' view that they believe it is better to analyse the perceptions and preferences of those who know and love wine, as wine is an experiential good. Since the authors consider this research a preliminary communication, they intend to address the former shortcomings in the future by repeating this survey on a larger scale.

REFERENCES

Adelson, J.L., McCoach, D.B. (2010) "Measuring the Mathematical Attitudes of Elementary Students: The Effects of a 4-Point or 5-Point Likert-Type Scale", *Educational and Psychological Measurement*, 70(5), pp. 796-807. https://doi.org/10.1177/0013164410366694

Akugizibwe, E., Ahn, J.Y. (2020) "Perspectives for effective integration of e-learning tools in university mathematics instruction for developing countries", *Education and Information Technologies*, 25, pp. 889-903. https://doi.org/10.1007/s10639-019-09995-z

Alpeza, I., Nižić, I., Lukač, Z. (2023) "What Influences Croatian Consumers' Wine Choice?", *Market-Tržište*, 35(1), pp. 41-56. https://doi.org/10.22598/mt/2023.35.1.41

Birditt, K. S., Cranford, J. A., Manalel. J. A., Antonucci, T. C. (2018) "Drinking Patterns Among Older Couples: Longitudinal Associations With Negative Marital Quality". *J Gerontol B Psychol Sci Soc Sci*, 73(4), pp. 655–665. https://doi.org/10.1093/geronb/gbw073

Botonaki, A., Tsakiridou, E. (2004) "Consumer response evaluation of a Greek quality wine", *Food Economics - Acta Agriculturae*, 1(2), pp. 91-98. https://doi.org/10.1080/16507540410024515

Castellini, A., Samoggia, A. (2018) "Millennial consumers' wine consumption and purchasing habits and attitude towards wine innovation", *Wine Economics and Policy*, 7(2), pp. 128-139. https://doi.org/10.1016/j.wep.2018.11.001

Chan, B. T., Murphy, A., Wang, L. (2018) "Information Asymmetry, Manufacturer-Retailer Contracts, and Two-Sided Entry", *International Economic Review*, 59(4), pp. 2163-2191.

Conroy, R.M. (2012) "What hypotheses do "nonparametric" two-group Tests actually test?", *The Stata Journal: Promoting Communications on Statistics and Stata*, 12(2), pp. 182-190. https://doi.org/10.1177/1536867x1201200202

Cragg, S. G., Uhler, R. (1970) "The demand for automobiles", *Canadian Journal of Economics*, 3 (3), pp. 386-406. https://doi.org/10.2307/133656

Di Vita, G., Caracciolo, F., Bruna, F., D'Amico, M. (2019) "Picking out a wine: Consumer motivation behind different quality wines choice", *Wine Economics and Policy*, 8(1), pp. 16-27. https://doi.org/10.1016/j.wep.2019.02.002

Dinescu, D., Turkheimer, E., Beam, C. R., Horn, E. E., Duncan, G., Emery, R. E. (2016) "Is marriage a buzzkill? A twin study of marital status and alcohol consumption". *Journal of Family Psychology*, 30(6), pp. 698–707. https://doi.org/10.1037/fam0000221

Dinno, A. (2015) "Nonparametric pairwise multiple comparisons in independent groups using Dunn's test". *The Stata Journal: Promoting Communications on Statistics and Stata*, 15(1), pp. 292-300. https://doi.org/10.1177/1536867x1501500117

Dubois, M., Agnoli, L., Cardebat, J., Compes, R., Faye, B., Frick, B., Gaeta, D., Giraud-Heraud, E., Le Fur, E., Livat, F. (2021) "Did Wine Consumption Change During the COVID-19 Lockdown in France, Italy, Spain, and Portugal?", *Journal of Wine Economics*, 16(2), pp. 131-168. https://doi.org/10.1017/jwe.2021.19

Ellis, D., Caruana, A. (2018) "Consumer wine knowledge: components and segments", *International Journal of Wine Business Research*, 30(3), pp. 277-291.

Garcia-Cortijo, M. C., Villanueva, E. C., Castillo-Valero, J. S., Li, Y. (2019) "Wine consumption in China: Profiling the 21st century Chinese wine consumers", *Ciencia e Tecnica Vitivinicola*, 34(2), pp. 71-83. https://doi.org/10.1051/ctv/20193402071

Greene, W.H. (2018) Econometric Analysis, Eight Edition, Pearson Education Inc., New York

Guris, S., Metin, N., Caglayan, E. (2006) "The Brand Choice Model of Wine Consumers: A Multinomial Logit Model", *Quality & Quantity*, 41, pp. 447-460.

Gustavsen, G., Rickertsen, K. (2018) "Wine Consumption in Norway: An Age-Period-Cohort Analysis", *Journal of Wine Economics*, 13(1), pp. 41-56. https://doi.org/10.1017/jwe.2017.49

Halldén, S, (1957). "On the Logic of Better", Lund: Library of Theoria.

Harris, T., Hardin, J.W. (2013). "Exact Wilcoxon signed-rank and Wilcoxon Mann–Whitney ranksum tests", *The Stata Journal: Promoting Communications on Statistics and Stata*, 13(2), pp. 337-343. https://doi.org/10.1177/1536867x1301300208

Harrell, F.E. (2015) "Binary Logistic Regression", *Regression Modeling Strategies*, pp. 219-274, Springer Series in Statistics, Springer Cham. https://doi.org/10.1007/978-3-319-19425-7_1

Hennigs, N., Wiedmann, K.-P., Klarmann, C. and Behrens, S. (2015) "The complexity of value in the luxury industry: from consumers' individual value perception to luxury consumption", *International Journal of Retail and Distribution Management*, 43(10/11), pp. 922-939.

Hensher, D.A., Stopher, P.R. (1979) "Behavioural Travel Modelling", 1st ed., New York: Routledge. https://doi.org/10.4324/9781003156055

Hosmer, D.W., Lemeshow, S. (2000) "Applied Logistic Regression", 2nd ed., John Wiley & Sons, New York. https://doi.org/10.1002/0471722146

Hosmer, D.W., Lemeshow, S., Sturdivant, R.X. (2013) "Assessing the Fit of the Model", *Applied Logistic Regression*, pp. 153-225, Wiley Series in Probability and Statistics. https://doi.org/10.1002/9781118548387.ch5

Jeong, H.J., Lee, W.C. (2016) "The level of collapse we are allowed: comparison of different response scales in safety attitudes questionnaire", *Biometrics & Biostatistics International Journal*, 4(4,), pp. 128-134. https://doi.org/10.15406/bbij.2016.04.00100

Marsden, E., Wa Somwe, S., Chabala, C., Soriano, J., Valles, C., Anchochea, J. (2016) "Knowledge and perceptions of asthma in Zambia: a cross-sectional survey", *BMC Pulm Med*, 16(33). https://doi.org/10.1186/s12890-016-0195-3

Katunar, J. (2019) "The Role of Regional Differences on Croatian Winemakers Business", *Agroeconomia Croatica*, 9, pp. 14-24.

Katunar J., Kaštelan Mrak, M., Sokolić, D. (2020a) "The impact of distribution channels on the bargaining position of Croatian wine producers", *Ekonomski vjesnik/Econviews - Review of Contemporary Business, Entrepreneurship and Economic Issues*, 33(2), pp. 561-574.

Katunar, J., Vretenar, N., Kaštelan Mrak, M. (2020b). "Competitiveness of the wine sector in EU countries", IMR 2020, Interdisciplinary Research XVI, Opatija, pp. 1601-1616.

Katunar, J., Vretenar, N. (Eds.). (2023) "Izazovi vinskog sektora u Republici Hrvatskoj", Ekonomski fakultet Sveučilišta u Rijeci.

Kaštelan Mrak, M., Kaštelan, K. (2023) "Iskustvena dobra – implikacije sagledavanja vina kao iskustvenog dobra", Izazovi vinskog sektora u Republici Hrvatskoj, Katunar, J. & Vretenar, N. (Eds), Sveučilište u Rijeci, 101-113.

Khalafallah, A.M., Lam, S., Gami, A., Dornbos 3rs, D., Sivakumar, W., Johnson, J., Mukherjee, D. (2020) "Burnout and career satisfaction among attending neurosurgeons during the COVID-19 pandemic", *Clinical Neurology and Neurosurgery*, 198. https://doi.org/10.1016/j.clineuro.2020.106193

Lanfranchi, M., Alibrandi, A., Zirilli, A., Sakka, G., Giannetto, C. (2020) "Analysis of the wine consumer's behaviour: an inferential statistics approach", *British Food Journal*, 122(3), pp. 884-895. https://doi.org/10.1108/bfj-08-2019-0581

Liu F., Murphy, J. (2007) "A qualitative study of Chinese wine consumption and purchasing: Implications for Australian wines", *International Journal of Wine Business Research*, 19(2), pp. 98-113. https://doi.org/10.1108/17511060710758669

Lockshin, L., Corsi, A. M. (2012) "Consumer behaviour for wine 2.0: A review since 2003 and future directions", *Wine Economics and Policy*, 1(1), pp. 2-23. https://doi.org/10.1016/j.wep.2012.11.003

Long, J.S., Freese, J. (2014) "Regression Models for Categorical Dependent Variables Using Stata", Stata Press Publ.

Luce, R. D. (1956) "Semiorders and a Theory of Utility Discrimination", *Econometrica*, 24 (2), pp.178–191. https://doi.org/1905751

Migliore, G. et al. (2020) "Factors affecting consumer preferences for "natural wine": An exploratory study in the Italian market", *British Food Journal*, 122(8), pp. 2463-2479. https://doi.org/10.1108/BFJ-07-2019-0474

Pomarici, E., Sardone, R. (2020) "EU wine policy in the framework of the CAP: post-2020 challenges", *Agricultural and Food Economics*, 8 (11), pp. 1-40.

Rebelo, J. et al. (2021) "Covid-19 lockdown and wine consumption frequency in Portugal and Spain", *Spanish Journal of Agricultural Research,* 19(2). https://doi.org/10.5424/sjar/2021192-17697

Sherman, S., Tuten, T. (2011) "Message on a Bottle: The Wine Label's Influence", *Int. J. Wine Bus. Res*, 23, pp. 221–234.

Sreejesh, S., Mohapatra, S., Anusree, M.R. (2013) "Binary Logistic Regression", *Business Research Methods*, pp. 245-258, Springer Cham. https://doi.org/10.1007/978-3-319-00539-3_11

Stanco, M., Lerro, M. Marotta, G. (2020) "Consumers' Preferences for Wine Attributes: A Best-Worst Scaling Analysis", *Sustainability,* 12(7), pp. 2819. https://doi.org/10.3390/su12072819

Stockley, C. S., Taylor, A.W., Montgomerie, A., Dal Grande, E. (2017) "Changes in wine consumption are influenced most by health: results from a population survey of South Australians in 2013", *International Journal of Wine Research*, 9, pp. 13-22. https://doi.org/10.2147/IJWR.S126417

Tabachnick. B.G., Fidell. L.S. (2019) "Using Multivariate Statistics", 7th ed., U.S.: Pearson Education

Todd, M.J., Kelley, K.M., Hopfer, H. (2021) "USA Mid-Atlantic Consumer Preferences for Front Label Attributes for Local Wine", *Beverages*, 7(2), pp. 22. https://doi.org/10.3390/ beverages7020022

Van Eck van der Sluijs, A. et al. (2021) "Assisted peritoneal dialysis across Europe: Practice variation and factors associated with availability", *Peritoneal Dialysis International*, 41(6), pp. 533-541. https://doi.org/10.1177/08968608211049882

Velázquez, B., Buffaria, B. (2017), "About Farmers' Bargaining Power within the New CAP", *Agricultural and Food Economics*, 5(1), pp. 1-13.

von Wright, G. H. (1963) "The Logic of Preference", Edinburgh: Edinburgh University Press.

Vretenar, N., Katunar, J., Zaninović, V. (2023) "Determinants of frequency of wine consumption in Croatia", *Ekonomski vjesnik/Econviews*, 36(2), pp. 399-408. https://doi.org/10.51680/ev.36.2.14

Wiedman, K., Hennigs, N., Siebels, A. (2009) "Value-based segmentation of luxury consumption behaviour", *Psychology and Marketing*, 27(7), pp. 625-651. https://doi.org/10.1002/mar.20292

Wilson, J.R., Lorenz, K.A. (2015) "Standard Binary Logistic Regression Model", *Modeling Binary Correlated Responses Using SAS, SPSS and R*, pp. 25-54, Springer Cham. https://doi.org/10.1007/978-3-319-23805-0_3

Wright, D.K., Yoon, H., Morrison, A.M. and Šegota, T. (2023) "Drinking in style? Literature review of luxury wine consumption", *British Food Journal*, 125(2), pp. 679-695. https://doi.org/10.1108/BFJ-06-2021-066

PREPOZNAVANJE KVALITETE VINA – ISPITIVANJE DEMOGRAFSKIH UTJECAJA I PREFERENCIJA POTROŠAČA

Jana Katunar
Dr. sc., docentica, Sveučilište u Rijeci, Ekonomski fakultet, Ivana Filipovića 4, 51 000 Rijeka, Hrvatska; *e-mail*: jana.katunar@efri.uniri.hr

Nenad Vretenar
Dr. sc., redoviti profesor, Sveučilište u Rijeci, Ekonomski fakultet, Ivana Filipovića 4, 51 000 Rijeka, Hrvatska; *e-mail*: nenad.vretenar@efri.uniri.hr

Ana Marija Filipas
Mag. math., asistentica, Sveučilište u Rijeci, Ekonomski fakultet, Ivana Filipovića 4, 51 000 Rijeka, Hrvatska; *e-mail*: ana.marija.filipas@efri.uniri.hr

Jelena Jardas Antonić
Dr. sc., izvanredna profesorica, Sveučilište u Rijeci, Ekonomski fakultet, Ivana Filipovića 4, 51 000 Rijeka, Hrvatska; *e-mail*: jelena.jardas.antonic@efri.uniri.hr

Ivan Prudky
Mag. oec., asistent, Sveučilište u Rijeci, Ekonomski fakultet, Ivana Filipovića 4, 51 000 Rijeka, Hrvatska; *e-mail*: ivan.prudky@efri.uniri.hr

SAŽETAK

Globalizacija tržišta, ulazak novih vinskih zemalja na kartu vinskog svijeta i promjene u načinu života potrošača doveli su do promjena u percepcijama potrošača vina. Uslijed tih okolnosti javlja se potreba za prepoznavanjem i analizom čimbenika koji utječu na preferencije potrošača. Cilj ovog rada je identificirati čimbenike koji utječu na prepoznavanje kvalitete vina. Empirijsko istraživanje temelji se na istraživanju provedenom na sajmu vina WineRi u Rijeci u lipnju 2021. godine. Uzorak čine valjani odgovori od ukupno 169 sudionika sajma. Na temelju prikupljenih podataka razvili smo model binarne logističke regresije u kojem je percepcija sudionika u prepoznavanju razlike u kvaliteti vina korištena kao zavisna varijabla, dok su socio-demografski čimbenici, bihevioralni čimbenici konzumacije vina i prikupljeni podaci vezani uz postupak odabira i kupnje vina korišteni su kao nezavisne varijable. Rezultati pokazuju da dob, obrazovanje, bračni status, prihod kućanstva i učestalost potrošnje utječu na percepciju prepoznavanja kvalitete vina, kao i percipirani odnos između cijene vina i kvalitete.

Zaključci koji su posljedica provedene analize mogu biti korisni ne samo za znanstvenike, već i za proizvođače vina prilikom razvoja liste vinskih proizvoda i marketinške strategije.

Ključne riječi: prepoznavanje kvalitete vina, ponašanje potrošača, preferencije, socio-demografske karakteristike, vino