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Abstract

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The objective of this paper is to investigate and identify the structure of winemakers in Eastern Croatia and the problems and obstacles they face in their business. Survey was the method used to collect the data, and survey questionnaire was used as the instrument. The survey was performed on a sample of n=30 winemakers from five Eastern Croatian counties (Osijek-Baranja, Vukovar-Srijem, Virovitica-Podravina, Požega-Slavonija and Brod-Posavina Counties). Survey results pinpoint institutional factors, expensive production inputs, and insufficient oenological support and expertise as the obstacles winemakers face in further development of this industry. Survey results can be used as a framework for future research of this type and as the basis for the development of future measures and policies concerning wine production.

Keywords: viticulture and viniculture production; winemakers; winemaker problems
Abbreviations: PAAFRD (The Paying Agency for Agriculture, Fisheries and Rural Development); COM (Common organisation of the market); one-way ANOVA (one-way analysis of variance); N (total number of respondents); M (arithmetic mean); SD (standard deviation)

Introduction

The entire geographical territory of the Republic of Croatia falls within the viticulture zone of the Northern Hemisphere, and viticulture and viniculture are strategic industries of special importance for the Republic of Croatia (Jelić Milković, 2019, Grgić et al., 2011). The winemaking sector is an important sector of the Croatian economy with a long tradition and more than 2500 years of production (Croatian Chamber of Economy, 2015). Winegrowing and winemaking contribute to the tourism offer and ensure the economic and social sustainability of small and medium-sized winemakers (Jakšić et al., 2016; Grgić et al., 2011). Winemaking is present in both the Continental and in Adriatic Croatia, and each region has its distinctive geographic, geological, agricultural and economic characteristics (Čop et al., 2019). Wine production in the Republic of Croatia takes place both on small family farms and in large wineries (Čop et al., 2019; Jelić Milković, 2019). Croatian viticulture is characterised by relatively old vineyards, fragmentation of areas planted with vine and a large number of varieties, combined with the relatively small size of the Croatian market (Grgić et al., 2011). In 2017 vineyards in Croatia make 1.5% of total agricultural areas at its disposal in Croatia (Croatian Bureau of Statistics, 2018). In 10 year, period 2008-2018 the degree of self-sufficiency decreases and on average is 84.80%, average wine consumption in Croatia per capita in a ten-year period is 28.08 l. Average wine production in Croatia was 1140.56 thousand hl (2008-2018) and total domestic consumption in same period of time amounts to 1334.56 thousands hl (Croatian Bureau of Statistics, 2018).

According to Kalazić et al. (2010), the Croatian wine market is characterised by a large number of competitors and very strong competition between large and small winemakers. Croatian vintners are troubled by the unfavourable economic structure and growing import of wine (Čop et al., 2019). The unfavourable economic structure results in poor visibility of the Croatian wines and in low competitiveness in the international market (Čop et al., 2019, Alpeza et al., 2014). The Republic of Croatia needs to increase its wine production, because a competitive production is the only way to neutralise imports, which are objectively increasing (Jelić Milković, 2019). Winemakers face the following obstacles in wine exports: import barriers and market policy, logistical and financial obstacles, and marketing and promotion restrictions (Jakšić et al., 2016). In order to overcome these obstacles and deal with the situation in the wine market, Croatian vintners established the Wine Association in 2011, whose objectives are to promote Croatian wines and create a Croatian wine brand (Vina Croatia) in Europe and worldwide (Jakšić et al., 2016). The Ministry of Agriculture is implementing measures aimed at increasing productivity, quality, and competitiveness in the wine sector through its operative programme (Jakšić et al., 2016). The Paying Agency for Agriculture, Fisheries and Rural Development (PAAFRD) is also implementing common organisation of the market (COM) measures to support the wine sector, including vineyard restructuring and conversion, investments in wineries and wine marketing, and promotion of wines in the markets of third countries. The objective of this paper is to investigate and identify the structure of winemakers in Eastern Croatia and the problems and obstacles they face in their business. As an exploratory study research tend to provide an insight into most important factors (political, economic and technological) which are common to an investigated winemaker and their issues in particular business sector in order to plan new sectoral policies.

Material and Methods

Information for this study was collected by the survey method, using a questionnaire as the instrument. The questionnaire was completed by winemakers from five Eastern Croatian counties (Osijek-Baranja, Vukovar-Srijem, Virovitica-Podravina, Požega-Slavonija and Brod-Posavina Counties). The survey was carried out between May and September 2018, with small, medium-sized and large winemakers registered in the Vineyards Register and the Register of Excise Duty Payer as the target group. A total of 188 winegrowers and winemakers, categorized as subjects defined by the primary study, were registered in the Vineyards Register in the Republic of Croatia in 2018. The questionnaire was sent to the winemakers' addresses in order to examine the structure of the winemakers in Eastern Croatia and the problems they face in their business. 30 winemakers completed the questionnaire correctly, which puts the response rate at 15.96%. The whole questionnaire consisted of open- and closed-ended questions, divided into several groups. Since the questionnaire was very extensive, this paper only examines the sections of the survey dealing with the winemakers' characteristics and business structure (the form of business of the economic operators, membership in associations, whether or not they receive state aids, whether or not they have participated in EU-funded project applications, the size of economic operators and production capacities).

The data were analysed using the SPSS Statistic V23 statistical software package. Descriptive statistics were used in data analysis to describe the sample (percentages, frequencies, arithmetic mean, standard deviation). In terms of parametric tests, the authors of the survey used Student's t-test (independent t-test) and simple analysis of variance (oneway ANOVA) to determine the differences in individual characteristics relevant for identifying the difficulties and problems in the development of the viticulture and viniculture industry. As for non-parametric tests, the authors used the Kruskal-Wallis test by ranks to analyse the questions about the political environment and the changes in production technology against the questions related to the form of business and the county the economic operator is based in. The levels of significance were indicated with $p < 0.05$ (*), $p < 0.01$ (**).

Results and Discussion

Thirty winegrowers and winemakers from five Eastern Croatian counties participated in the survey. The majority of the respondents are based in the Osijek-Baranja County (43.3%), followed by Vukovar-Srijem County (23.3%), Požega-Slavonija County (20.0%), Brod-Posavina County (10.0%) and Virovitica-Podravina County (3.3%). These three counties Osijek-Baranja (2226.15 ha), Vukovar-Srijem (1631.95 ha) and Požega-Slavonija (1490.72 ha) are traditionally the largest wine producers in Eastern Croatian, and among the largest on a national scale (PAAFRD, 2019). All winemakers who participated in the survey (n=30) are registered in the in the Vineyards Register and the Register of Excise Duty Payers, which grants the wine trading license. All winemakers who have a minimum surface area planted with vines of 0.1 ha or are required to submit production, stock and harvest declarations are required to register in the Vineyards Register. All winemakers whose annual wine production output is higher 1000 hl are required to register in the Register of Excise Duty Payers (PAAFRD, 2019, Ministry of Finance – Customs Administration, 2019). The great majority of the winemakers (90.0%) stated that their annual revenue was lower than € 1.34 million. Only 10.0% winemakers have annual revenue of € 6.72-13.44 million. Most (60.0%) vintners who took part in the survey believe that the capacity utilisation rate of their agricultural operators is 51–79%. 16.7% respondents believe it is 80-99%, 13.3% respondents believe that their capacity utilisation rate is under 50%, and 10.0% believe that the capacity utilisation rate in their economic operator is 100%. The respondents were also asked to answer an open-ended question and specify the type of ownership of the vineyard they are cultivating. Most (n=26) replied that the vineyards were privately owned. Family farm is the predominant form of business of the respondents encompassed by the survey (46.7%). 26.7% respondents are joint stock companies, 13.3% are sole proprietorships registered for exercising an agricultural activity, and 3.3% are cooperatives for exercising an agricultural activity. According to Jakšić et al. (2015) business results of the wine sector in Croatia are hard to analyse because we can distinguish between three major groups of producers' cooperatives, large wine companies and family-owned wine businesses and according to authors especially hard to assess economic indicators and financial achievements are of the producer in third group. With respect to the number of employees who are employed full-time at the economic operator (8 hours a day), six farms have no employees, and the remaining 24 economic operators (63.3%) have up to 20 employees. 10.0% have 20-50 employees, and only 3.3% have more than 100 full-time employees. According to research of Drvenkar & Banožić (2010) in Croatia average number of employees in viticulture and winemaking amounted to 8 employees, Alonso & Bressan (2013) state that this structure, with 20 employees, is typical of small family-owned wineries in new winemaking countries (Argentina and Uruguay). In contrast, family-owned wineries in Italy and Spain have fewer than 50 employees.

The respondents were offered an open-ended question regarding their position in the economic operator. The frequency of their responses leads us to the conclusion that most of the respondents (n=20) are the owners of the economic operators in question, while n=7 are managers, n=6 are oenologists, and n=5 are technologists. In most small economic operators that are predominant in the Republic of Croatia, the same person is the owner, manager, technologist, and oenologist. Čengić (2013) arrived at the same conclusion in his study of the job roles of the vintners in the Požega-Slavonija County.

The management professionalisation process in the economic operators in this county has only just begun, and the multiple job and management roles will not change in the near future. This is an aggravating factor for strategic business planning and the development of marketing. Most of the winemakers who participated in the survey, 52.2%, have between 1 and 10 ha planted with vine. 26.1% have between 10 and 50 ha, and 17.4% have more than 100 ha planted with vine. Grgić et al. (2011) state that grape production is significant for small and medium-sized family farms characterised by relatively old vineyards and fragmentation of areas planted with vine. Most winemakers in the Republic of Croatia have between 0.1 and 0.5 ha of vineyards (Jelić Milković, 2019). For comparison, average EU producer have vineyard surface of 2 ha leading European old wine producer countries such as France has 8 ha, Spain 3.34 ha and Italy 1.5 ha (Jakšić et al., 2015).

As many as 76.7% winemakers are members of some form of agricultural association (cooperative, association, and cluster). This is a positive indicator, because according Jakšić et al. (2018) although to cooperatives have over 150 years' old tradition in Croatia there is still a negative attitude present today, maybe because of the legacy of socialist era towards what cooperative can offer. Reviews have shown that small farms face certain economic restrictions in production, in the penetration of their wines to the market, and in marketing in relation to large winemakers (Tomás-Miquel et al., 2018, Kvariani & Ghvanidze, 2015). In the Georgian wine industry, farmers who are in possession of different assets (vineyards, machinery, management skills etc) join cooperatives and thus cut down on their operating costs by sharing their assets (Kvariani & Ghvanidze, 2015). The author's further state that the government has taken significant steps to support the cooperatives in Georgia (tax reliefs, possibility of participation in grants programme, more affordable loans, and courses for winemakers and similar steps). Most of the winemakers participating in the survey, 86.7%, stated that they were receiving state aids. With respect to the questions about project financing by the European Union and the situation after the Republic of Croatia's EU accession, 56.7% respondents believe that the situation has improved since the Republic of Croatia joined the European Union. 83.3% winemakers participated in project application for EU funds and stated that as many as 70.0% projects they applied with had received funding. Most of the winemakers (86.7%) have expanded their production capacities in the past five years, and 36.7% plan to increase their areas planted with vine in the following five years. The winemakers are also planning reconstructions of their economic operators and vineyards in the years to come. As many as 53.3% plans to do this through EU-funded projects. 26.7% plan to pay for the reconstruction with their own funds, and 10.0% will take out bank loans. According to Katunar (2019) in order to be competitive and achieve the desired prices in the domestic and foreign market Croatian winemakers must increase production by planting new vineyards because only with increasing new vineyards they can meet their own needs and expect development of wine export.

Table 1 presents the respondents' opinions regarding the biggest problems and difficulties impeding the development of the viniculture and viticulture industry in the Republic of Croatia, labelled as Statement 1 – Statement 7 to facilitate the presentation of the data in the remainder of the paper. The respondents' opinions were measured on a 4-point scale (major problem – not a problem). The arithmetic mean (M) and the standard deviation (SD) were calculated based on the respondents' answers, as shown in the table below. As the biggest problems, winemakers identify insufficient oenological support and expertise and insufficient support for viticulture in general, the lack of a centralised entity that would coordinate the development of the viticulture and viniculture industry, and the inability to sell the wine they produce (Table 1).

In their study of the problems faced by the winemakers in Poland, Pink & Ligenzowska (2016) have also arrived at the conclusion that institutional problems (insufficient government supports, insufficient local supports, limited possibilities of getting supports related to wine-growing and processing of grapes, slow administration, overly bureaucratized government bodies) were the greatest problem for the winemakers, along with human and social resources (lack of adequate educational programmes, winemakers not prepared to join any form of association, winemakers not prepared to register their products, which ultimately impacts the quality of their wines). According to Katunar (2019) research of Croatian winemakers the largest weaknesses of the wine industry are slow adjustment Croatian winemakers and the bureaucratic apparatus, rapid changes in the environment, demographic trends and emigration which cause labour shortage.

The respondents were asked in the questionnaire to voice their opinions on the statements shown in Table 2. The results of the independent samples t-test show that there are statistically significant differences in case of the statements "Inability to sell produced wine" ($t = 3.859$, $df = 28$, $p = 0.001$), "Expensive inputs" ($t = 2.355$, $df = 28$, $p = 0.030$) and "Low wine prices" ($t = 2.126$, $df = 28$, $p = 0.048$) with respect to membership in some form of an agricultural association, whether it is an association, cooperative, cluster or a similar form of association (Table 2).

Table 2. Testing of differences in arithmetic means for statements with respect to membership in some form of agricultural association

	Yes		No		t-test	p
	M	SD	M	SD		
Statement (1)	2.04	1.022	2.14	0.690	-0.240	0.812
Statement (2)	3.17	1.072	2.86	1.345	0.646	0.524
Statement (3)	3.13	1.058	2.86	1.135	0.563	0.578
Statement (4)	2.74	0.964	2.71	0.951	0.060	0.953
Statement (5)	2.43	1.121	1.29	0.488	3.859	0.001**
Statement (6)	1.61	0.656	1.14	0.378	2.355	0.030*
Statement (7)	1.57	0.665	1.14	0.378	2.126	0.048*

M = mean; SD = standard deviation; ** $p<0.01$; * $p<0.05$
Source: Authors

No statistical significance with respect to membership in agricultural associations has been noted for other statements. Table 2 shows that a significant number of the winemakers who stated that they belonged to some form of an agricultural association believe that "Lack of access to a oenologist employed full-time" ($M = 3.17$, $SD = 1.072$) and "Insufficient oenological support and expertise" ($M = 3.13$, $SD = 1.058$) pose a problem for further development of the wine industry, in contrast with the winemakers who stated that they do not belong to agricultural associations ($M = 2.86$,

Table 1. Respondents' opinions about the biggest problems/difficulties in the development of viticulture and viniculture industry

Statement	N	M	SD
Lack of a centralised entity that would coordinate the development of the viticulture and viniculture industry (Statement 1)	30	2.07	0.944
Lack of access to an oenologist employed full-time (Statement 2)	30	3.10	1.125
Insufficient oenological support and expertise (Statement 3)	30	3.07	1.112
Insufficient viticulture support and expertise (Statement 4)	30	2.73	0.944
Inability to sell produced wine (Statement 5)	30	2.17	1.117
Expensive inputs (Statement 6)	30	1.50	0.630
Low wine prices (Statement 7)	30	1.47	0.629

N = total number of respondents; M = arithmetic mean; SD = standard deviation
Source: Authors

SD = 1.345 and M =2.86, SD = 1.135). Wine producers need to unite in some form of association in order to be able to overcome these problems, which is confirmed by research of the Waipara cluster in New Zealand, Dana et al. (2013) came to the conclusion that the cluster members, albeit competitors, support each other to attain economic and social benefits. Winemakers also learn from each other and support each other in order to increase wine production and sales in the local as well as the international market.

Data shown in Table 3 reveals that there are statistically significant differences in the respondents' opinions with respect agricultural operator annual revenue. Agreement with the statements "Lack of a centralised entity that would coordinate the development of the viticulture and viniculture industry" (t = -2.702, df = 28, p = 0.012) and "Expensive inputs" (t = -2.656, df = 28, p = 0.013) is higher among respondents who have higher annual revenues (Table 3).

Table 3. Testing of differences in arithmetic means for statements with respect to annual revenue

	<1.34 million (€)		6.72-13.44 million (€)		t-test	p
	M	SD	M	SD		
Statement (1)	1.93	0.829	3.33	1.155	-2.702	0.012*
Statement (2)	3.04	1.160	3.67	0.577	-0.917	0.367
Statement (3)	3.04	1.160	3.33	0.577	-0.432	0.669
Statement (4)	2.74	0.984	2.67	0.577	0.127	0.900
Statement (5)	2.07	1.035	3.00	1.732	-1.384	0.177
Statement (6)	1.41	0.572	2.33	0.577	-2.656	0.013*
Statement (7)	1.41	0.572	2.00	1.000	-1.589	0.123

M = mean; SD = standard deviation; ** p<0.01; * p<0.05
Source: Authors

Winemakers who have an annual revenue of € 6.72-13.44 million believe that "Lack of a centralised entity that would coordinate the development of the viticulture and viniculture industry" (M = 3.33, SD = 1.155), "Lack of access to an oenologist employed full-time" (M = 3.67, SD = 0.577), "Insufficient oenological support and expertise" (M = 3.33, SD = 0.577) and "Inability to sell produced wine" (M = 3.00, SD = 1.732) pose a problem for the further development of the wine industry in relation to the winemakers who have lower annual revenues (under € 1.34 million).

The data in Table 4 reveal that there are statistically significant differences in the respondents' opinions with respect to their opinion on the state of the Croatian wine industry. Winemakers who said that the state of the Croatian wine industry was good believe that "Lack of access to a oenologist employed full-time" (F = 5.602, df = 28, p = 0.009) and "Insufficient oenological support and expertise" (F = 4.902, df = 28, p = 0.015) pose a problem for the further development of the wine industry. By using the Tukey (HSD) post hoc test, the authors found a statistically significant difference within the group that believes the state of the Croatian wine industry is good and the group that believes the state of the Croatian wine industry is bad p = 0.007 (p < 0.01) with respect to the statement "Lack of access to a oenologist employed full-time".

We also found a statistically significant difference within the group that believes the state of the Croatian wine industry is good and the group that believes the state of the Croatian wine industry is bad p = 0.14 (p < 0.05) and within the group that believes the state of the Croatian wine industry is mediocre and within the group that believes the state of the Croatian wine industry is bad p = 0.47 (p < 0.05) with respect to the statement "Insufficient oenological support and expertise". With mentioned agrees Drvenkar & Banožić (2010), authors in their research noticed that in eastern Croatia missing educational infrastructure for occupations related to viticulture and winemaking. Winemakers from Azerbaijan and Bosnia and Herzegovina said that the biggest problems impending further development of the wine industry were the lack of educated and trained producers and processors, the challenging winegrowing process that requires substantial

Table 4. Testing of differences in arithmetic means with respect to the state of the Croatian wine industry

	Good		Mediocre		Bad		F	p
	M	SD	M	SD	M	SD		
Statement (1)	2.00	1,069	2.06	0.998	2.17	0.753	0.50	0.951
Statement (2)	3.75	0.463	3.19	1.047	2.00	1.265	5.602	0.009**
Statement (3)	3.63	0.518	3.19	1.047	2.00	1.265	4.902	0.015*
Statement (4)	2.88	0.835	2.81	0.981	2.33	1.033	0.669	0.521
Statement (5)	2.13	0.835	2.19	1.167	2.17	1.472	0.008	0.992
Statement (6)	1.38	0.518	1.63	0.719	1.33	0.516	0.667	0.521
Statement (7)	1.38	0.518	1.56	0.727	1.33	0.516	0.389	0.682

M = mean; SD = standard deviation; ** p<0.01; * p<0.05
Source: Authors

investments in technology and labour, high wine imports, and insufficient government supports (Goncharuk, 2017).

From above mentioned it is evident that Triple Helix model developed and described by Etzkowitz & Leydesdorff (2000) which represent university – industry – government relationship is needed. The Triple Helix model has been advocated as a useful method for fostering entrepreneurship and growth (Brundin et al., 2008), this kind of model would connect winemakers, entrepreneurs, local population, and educational institution (Drvenkar & Banožić, 2010). Connecting and cooperation of both the public and private sectors with the education sector is necessary in all aspects of development process in order to improve competencies (personnel, technological development and innovation), the goal is to ensure high level of economic development of viniculture and viticulture with emphasis on information and knowledge which will lead to creation entrepreneurial culture and strengthening innovation capacity of wine sector (Hicl, 2012; and Drvenkar & Banožić, 2010).

The statements offered to the respondents were measured using a 5-point Likert scale. The average rating of the responses to the statement "The present political environment creates favourable conditions for entrepreneurial activity" is 3 (neither agree nor disagree) and the winemakers rated the statement "Fast-paced technological changes are evident in the viticulture and viniculture sector" with the highest rating of 4 (agree). Table 5 presents the data related to the statement "The present political environment creates favourable conditions for entrepreneurial activity" and "Fast-paced technological changes are evident in the viticulture and viniculture sector" with respect to the county that the winemakers are based in and their form of business. Winemakers registered for exercising their activity as sole proprietorships and family farms rated the statement "The present political environment creates favourable conditions for entrepreneurial activity" with the highest average rating ($p<0.05$). Winemakers based in the Osijek-Baranja County and the Brod-Posavina County rated the statement "Fast-paced technological changes are evident in the viticulture and viniculture sector" with the highest average rating ($p<0.05$).

According to the study by Čengić (2013), the great majority of the winemakers still see the government as a credible partner in solving the winemakers and wine-growers problems, but some of the vintners at the same time doubt the government's ability to resolve the existing and the long-term problems politically and institutionally. The study by Pink & Ligenzowska (2016) identifies the institutional environment and the low level of support that the national and local authorities provide to the winemakers as the main obstacle impeding further development of the wine industry in Poland. Whether the winemakers come from developing or developed countries, they face specific local challenges in their business in each country, but global challenges lead to equal exposure to risk for all of them (Goncharuk, 2017). The author furthermore states that the winemakers from Ukraine and Germany face the same problems in terms of growing competition in the international market, decline in wine consumption, climate change and similar factors. According to Rendleman et al. (2016) government policies are attractive target for improvement predictable and transparent laws, policies and support structure would improve the business climate. Also, Jakšić et al. (2018) research revealed that winemakers in Croatia have a similar point of view towards administrative barriers and lack of state efficiency and there

Table 5. Selected survey results and the Kruskal-Wallis test for the categories of counties and economic operators' form of business

	The present political environment creates favourable conditions for entrepreneurial activity.				Fast-paced technological changes are evident in this sector.			
	M	Mean Rank	H	p	M	Mean Rank	H	p
Osijek-Baranja County	2.92	17.69	2.041	0.728	4.00	20.38	11.753	0.019*
Vukovar-Srijem County	2.57	15.29			3.00	11.14		
Virovitica-Podravina County	2.00	10.00			3.00	9.00		
Požega-Slavonija County	2.50	13.58			3.00	9.00		
Brod-Posavina County	2.33	12.17			4.00	16.97		
Family farm	2.93	17.39	12.443	0.014*	3.64	16.79	3.098	0.542
Sole proprietorship	4.00	25.00			3.50	15.00		
Cooperative	3.00	18.50			4.00	21.00		
Limited liability company	1.63	7.81			3.63	15.50		
Joint stock company	2.33	13.50			2.67	8.33		

Mean Rank – rank average; ** $p<0.01$; * $p<0.05$,
Source: Authors

is need for more effective governing models and business culture on both vertical and horizontal execution levels. It is necessary to provide such case studies to recognise problems in production and evaluate producers and their competitors in order to create clear strategies for sector and achieve development goals. Also, policymakers in Croatia should include winemakers into development of support programs, efficient assessment of local actions, decision-making, training towards raised awareness of linkages of macroeconomic, regional and sectoral policies and agriculture (Franić et al., 2003). It is necessary to think strategically and with plan in order to accept opportunities from environment that can be translate into forces and business moves (Drvenkar & Banožić, 2010).

Conclusion

The Croatian wine industry has not yet used its full potential. It is characterised by small and medium-sized family farms where one person is the owner, manager, technologist and oenologist, as well as by a relatively high vineyard age and the fragmentation of areas planted with vine. All of the above impedes further development of the wine industry in the Republic of Croatia and the vintners' access to agricultural resources, finances, new markets and marketing development. The preparedness of the vintners in Eastern Croatia to join forces and act in concert in the market, along with their belief that the situation has improved since the Republic of Croatia joined the European Union, are positive indicators. However, the winemakers in Eastern Croatia stated that the lack of oenologists they could employ full-time at their farms and the lack of oenologist expertise, as well as the lack of a centralised entity that would coordinate the wine industry and the inability to sell the wines they produce, posed problems for them. The winemakers also feel that the government is not doing everything to create a favourable entrepreneurial climate, that the existing legislation is not adequate, and that the government bodies are overly bureaucratized. The winemakers are also of the opinion that the government should provide support and make it easier for the winemakers to do their business and provide help with export and promotional activities in the local and in the foreign market which all lead to necessity of implementation of Triple Helix model in Croatian wine sector.

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