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Opportunities to profit under competitive market conditions: The case of the Macedonian wineries

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Abstract

Building a recognizable brand for the Macedonian wine and higher values in intellectual property assets is the core for strengthening the wineries' international market position. This paper attempts to identify Macedonian wineries' opportunities to profit under competitive market conditions. Therefore, we first interpret evidence on determinants of their profitability, then we present their commitment towards intellectual property rights, and finally we describe a successful case of a winery that has a recognized brand internationally. The results indicated that wineries are not attractive investments if intensive marketing strategies in creation of strong brand equity are not strongly supported. The use of innovations, creativity and protection of intellectual property rights, could be successful strategy in increasing the opportunities to profit. The defined winery as distinctive case may be used as a guideline to reinforce wineries' possibilities to follow future market signals, while struggling to adjust to the imposed market oriented production.

Keywords: profitability strategy, marketing strategy, intellectual property rights, brand equity, competitive position.

JEL codes: Q13



1. Introduction

The agri-food sector in the Western Balkan economies is faced with real challenges with the market globalization process. These challenges rise even more with the aspiration of these countries to join the European Union (EU). In this process, one of the harmonization activities (measure 4.7, Chapter 7), encompass the process of creating a legal framework and effective enforcement of Intellectual property rights (IPR). IPR protect innovations and creativity and prevent their misuse and imitation of products or services (Dabovic-Anastasovska, Zdraveva, 2009). These effects are particularly pronounced in less developed and regulated market systems where potential imitation of the products and services threatens the competitive position of the enterprises.

However, EU progress report for Republic of Macedonia (RM) has stressed the low level of awareness at the institutions and public for protection and benefit of IPR. Besides, it highlighted the greater use of these rights in other sectors, but in agri-food sector is evident low level of awareness of the economic benefits, especially among business enterprises (Dabovik – Anastasovska & Zdraveva, 2009).

The transition process in the RM has given rise to major structural and economic changes, limiting the competitive market position of the Macedonian agri-food companies. Today, decentralization has led to the agri-food sector being composed of small-scale units that adjust more difficultly to the new market conditions (Lerman *et al.*, 2002). The wine sub-sector is one of the most perspective agri-food industries for the RM that could be competitive on the international markets because it has a good reputation on the domestic and regional markets. The wine production is a crucial strategic sub-sector for the country, confirmed by the following facts: 1) 70% export-oriented, 2) growing trend of development, 3) high degree of specialization, and 4) positive investment trends in sophisticated equipment and marketing skills (CBI, USAID, 2012). In the next period, the development of this sub-sector will be intensified by positioning wines as the most important exported and competitive brands from the agri-food industry in RM (MAFWE, 2014).

Building a recognizable brand for the high-quality bottled wines from the RM is the core to a strengthened international market position. Moreover, it allows pricing flexibility which is important for overcoming the competitive pressures. Therefore, this paper attempts to present

wineries' possibilities to profit under competitive market conditions, with emphasises to the use of IPR. Therefore, we first interpret evidence on structural determinants of Macedonian wineries' profitability, grouped into three categories: earnings, capital and financial business structures. Then we evidence the level of commitment of the wineries towards IPR, and finally we present successful case study of a winery that have succeeded to create a recognized brand internationally through effective use of IPR.

The results from this analysis suggest definition of a successful winery that exhibits increasing opportunities to profit under competitive market conditions. The defined winery may be used as a guideline to reinforce possibilities for Macedonian wineries to be able to follow future market signals, considering that they still struggle to adjust to the imposed market oriented production. In this regard, the results and the analysis may have a wider applicability if the study is applied to other related national or international cases, especially considering the progressive need for IPR use and protection as innovative marketing strategy. The following section briefly describes the determinants of wineries profitability, followed by a description of the wineries' commitment toward IPR and the successful case for creation of brand equity in the wine sub-sector. At the end conclusions are drawn.

2. Literature review

Intellectual property is a part of the intangible assets of an enterprise, whose meaning is expressed through their economic and legal value (WIPO, 2010). The economic value derives from their ability to generate profits for the enterprise through the technology, products or services. However, it is essential for the enterprise, first, to perform a legal protection of intellectual property through IPR, so to be able in the future to benefit from the economic value of the assets. The economic value can be realized only if the intellectual assets are exposed on the market and utilized effectively (WIPO, 2013).

IPR have a highly marketing importance because are closely related to market-oriented enterprises and the creation of brand and product differentiation (WIPO, 2013). Thus, they may affect on the improvement of competitive position (WIPO, 2013), considering that the strengths of those who later appear on the market, do not result from the costs, but from the innovation in products and processes (Morrison & Rabellotti, 2014). Accordingly, Porter (2004), states that enterprises on the market should compete through their marketing and innovation strategy. In

this regard, IPR could protect business model by creating barriers to entry to competitors (Kuan, 2006), could increase the commercial value and the entry into new markets and could prevent imitation of products and innovation (WIPO, 2013).

At the enterprise level (horizontal), basic shortcomings of the role of IPR are the insufficient awareness or understanding, lack of expertise or restrictions due to the costs (WIPO, 2013). According to the same source, the role of intellectual property in the company's strategy can vary depending on the business model, the market, the type of IP tool used, the level of development and the awareness of the business managers of the role of IPR. Small companies often do not have or cannot afford to build specific business portfolios of intellectual property. In addition, they do not have the financial capacity to defend the infringed IPR. As the most important variable in explaining the level of use of IPR, Keupp *et al.* (2009) cite the size of the enterprise. Lopez (2009), argue that very little is known about the appropriability strategies displayed by different groups of firms, or the ways in which different kinds of innovations are protected in developing countries. He points out the reason that micro-level studies are relatively scarce, making it difficult to learn about the determinants of the use of IPR in different types of firms and sectors in developing countries. Furthermore, there is a lack of evidence regarding the perception of domestic firms in developing countries about the role that IPR play, or might play, in the context of their innovation strategies.

The theories of intellectual and intangible rights arise from the fact that intangible goods have own individual value, even when are separated from the creator, inventor or author and are not influence of the time or the space. Because of this, IPR are often a subject of infringement or unfair competition (Dabovic-Anastasovska and Pepeljugoski, 2009). This aspect is related to the export orientation. According to monopoly theory, Hanel, 2006, states that IP creates a monopoly position for a product or process, and exercise of the monopoly provides, ex ante, an incentive and ex post, a reward for the innovation or authorship. This theory could support more technological developed sectors. The traditional sectors are mostly directed to protection of other IPR mostly because of the lack of investment in own laboratory research, own design marketing departments and permanent collaboration with the Universities. The clientele theory, significant for modern industrial property concept starts from the economic function of rights, and not from the content of certain rights of industrial property (Dabovic – Anastasovska and Pepeljugoski, 2009). The authors pointed out that mostly all IPR are directed towards increased turnover and

profit. According to clientele theory, IPR are directed towards acquiring clientele, i.e. acquiring economic position in the business environment, by expanding turnover with own products that only the holder of those rights can place on the market. According Masset and Weisskopf, 2013, is impossible to copy a wine content, but still remains quite easy to replicate the bottle and its label. In this regard, the Macedonian wine market has faced with many infringements of the products, using the same bottle and label or coping of the label. As a result of the IPR protection, holder of the right reacts to withdraw the competitive products of the market and consequently earn a part of the competitor's income that result of the product sale.

3. Methodological considerations

To present opportunities profit under competitive market conditions of the Macedonian wineries, we use three different approaches presented in figure 1. First, we use the financial analysis tool so to provide evidence on the financial condition of the Macedonian wineries, as a starting point in determination of their future possibilities to profit. Second, we use field research methods so to capture the level of Macedonian wineries' commitment towards IPR, as an important marketing strategy in creation of competitive market advantages. And finally, we use the case study approach to present a successful case of a Macedonian winery in creation of a recognized brand internationally through an effective use of IPR.

[Figure 1]

3.1. Financial analysis approach

Financial analysis is a common tool that is used as a standard procedure in the assessment of economic entities' creditworthiness (Altman, 1968) and allows a determination of economic entities' financial position, which is a base for proposal of new investment activities (Smith and Reilly, 1975). The financial ratio analysis provides assessment of the three criteria that determine the economic utility of economic entities, which are, increasing profitability, reducing risk levels and providing liquidity (Barry *et al.*, 2000). By this way, it allows recognition of critical moments that may jeopardize the financial performance, and accordingly indicates if any corrective measures should be undertaken while managing the business so to create basis for better financial performance (profitability).

This tool includes analysis of financial indicators of profitability, liquidity, activity and leverage; however, we give emphasis on the structural determinants of profitability, such as the earnings, capital and financial-business structure, defined in table 1.

[Table 1]

The profitability determinants are obtained for 16 Macedonian wineries observed during the period from 2008 to 2013. These wineries cover 98.4% of the installed capacity for wine production in the RM. The official records on wineries, in the form of financial reporting statements (balance sheets and income statements) are provided by the Central Register of the Republic of Macedonia (CRM, 2012).

The wineries earnings structure is explained by the asset turnover and the net profit margin. It shows the winery's strategy in increasing profit opportunities. The asset turnover is the ratio of net sales over total average assets measured between two time periods. It is a measure of sales income per employed assets. In order to determine the financial strategy of wineries to increase their opportunities for profit, we consider two indicators on capital structure. The debt-to-equity ratio, which is a ratio of total debt over total equity, measures the farms' leverage as proposed in the literature (Abu-Rub, 2012). On the other hand, the debt ratio shows the proportion of total assets financed by external sources of capital. Financing through debt is considered to offer the lowest cost of capital. And finally, we consider three indicators of the financial-business structure of the wineries so to determine their profitability and liquidity position. Return on assets, also recognized as to return on investments, measures the rate of return on assets employed by the company and shows how profitably the winery is using its assets. Liquidity ratios show the ability of the winery to timely payback its liabilities. Liquidity is provided by owning liquid assets or possessing the capacity to borrow additional funds. If the winery is not liquid, it means that its survival is threatened. The difference between the current ratio and the quick liquidity ratio is that the later ratio excludes inventory from current assets, as being low liquid asset.

The procedure for calculation of these financial indicators is simple, but their interpretation is specific and depends on several factors, especially important is the type of the industry (Helfert, 1997), in this case the wine sub-sector. There are three main types of comparison for assessing the financial indicators: trend analysis, benchmark analysis and cross-industry comparison

(Horngren *et al.*, 2010); however, considering the data type we only use the first two approaches so to provide evidence on the structural determinants of profitability of the selected Macedonian wineries.

3.2. Wineries' commitment towards IPR

In order to observe the IPR commitment of the Macedonian wineries, structured questionnaire that follows five stages of the model of intellectual property portfolio (IP portfolio) was conducted to 30 export-oriented wineries, of which 14 responded to the questionnaire. The table 2 presents the sample distribution by total capacity.

[Table 2]

The model of IP portfolio is a two-dimensional diagram which connects technology of the company with strategic impact, on the one hand and the complexity or necessary resources of the company, on the other hand. Thus, it analyzes the strategic decision-making on the use and protection of IPR, their optimization and the benefits used. The portfolio consists of five phases that chronologically follow the product life cycle: explore, generate, protect, optimize and decline (Friesike *et al.* 2009). Additionally, we conduct interviews with relevant experts who work on the IPR issue in the winery that has the most developed strategy for efficient use of IPR.

[Picture 1]

Wineries that responded the questionnaire differ in size, product finalization, market orientation and innovative strategies. However, most of them occupy the largest share on the domestic market (90% market share and exports). Besides domestic, some wineries have built reputation in the regional markets. Questionnaire outlines the behavior of the wineries in terms of IPR, so to understand their perception of the role of intellectual property in relation to their business strategies.

In terms of many export-oriented wineries, the wineries were chosen according to the critical case sampling methodology (Riccheri *et al.* 2004), in order to achieve coverage of a different typology of wineries. Accordingly, the sample shows perspective for understanding the IPR issues. The method set limitation to the statistical representative sample (due to the small number of wineries that are market-oriented and produced wine in bottles), but maximizes the information about the specific subject. In this regard, the winery with the greatest commitment to

IPR is represented by the model of IP portfolio. The selection of the case was based on the level of importance of the wine sub-sector for the RM and on a distinctive IP experience that this winery has.

4. Results and discussion

4.1. Profitability determinants of the wineries in the RM

To provide evidence on the financial condition of the Macedonian wineries as a starting point in determination of their future possibilities to profit, we use the financial analysis tool. The results of the financial statement analysis for the 16 Macedonian wineries observed during the period from 2008 to 2013 are presented in table 3.

[Table 3]

The wineries earnings structure is explained by the asset turnover and the net profit margin. It shows the winery's strategy in increasing profit opportunities. The asset turnover is a measure of sales income per employed assets, varying between 0.34 and 0.5 for wineries. The net profit margin for wineries is 2%, indicating the amount of net income available to equity holders. The small value of the net profit margin indicates that the pricing flexibility of wineries is low. The high value for the assets turnover and the low value for the net profit margin show that Macedonian wineries prefer volume production for generating profit, rather than value-added production which allows for large profit margins. This may be an indicator that these wineries have not yet adopted a market-oriented strategy using the pricing flexibility to cope the competition and to increase profitability.

Two indicators on capital structure complement the determination of the financial strategy of wineries in increasing their opportunities for profit. The debt-to-equity ratio for Macedonian wineries is 1.23 which is uncommon situation in agriculture, since farms usually have a simple capital structure having a debt-to-equity ratio of between 0.5 and 1 (Barry *et al.*, 2000) due to simplicities in the hierarchy of decision processes. However, wineries are more complex production units, and depending on size, they may have more complex hierarchical composition than farms. Wineries that hold more assets than debt have a ratio of 0.5. In this regard, their financial behaviour and the level of their financial risk are similar to those of individual farms. In fact, Barry *et al.* (2000) set a floor limit of this ratio for farms to be lower than 0.5. On average, the debt ratio remains constant over the observed period.

Finally, the financial-business structure is presented through the return on assets and the level of liquidity of the Macedonian wineries. Our findings on return on assets for the Macedonian wineries are to be 3%, peaking at 5% in 2013, likely due to an improved investment environment for the wine industry supported by lowered credit interest rates and government support programmes. However, it is still lower than the benchmark of 5% set by Arsov (2008) for selected Macedonian companies, including food processors. The quick-liquidity ratio shows the wineries' ability to cover current liabilities capturing determinants in the business cycle, as an industrial development indicator. The wide variation of the quick-liquidity ratio among wineries indicates that there are high liquidity constraints among some of the wineries, while others are highly liquid. Actually, holding more debt than equity decreases the liquidity of wineries, and increases their exposure to the financial risk (Barry *et al.*, 2000). The highest quick-liquidity ratio is 1.04 in 2011, and the lowest of 0.67 is observed in 2008. Current liquidity ratio is higher than the quick liquidity ratio, showing that inventories are present among assets of the wineries. These may be due to the unfinished production, which is typical for wineries to hold wine for many years so to sell high quality wine.

Evidences on the wineries' profitability determinants may serve as a basis for determining their marketing strategies as opportunities to earn profit.

4.2. Evidence on the commitment towards IPR of the export-oriented Macedonian wineries

The evidence on the commitment towards IPR is observed through a survey among 14 export-oriented wineries by using a structured questionnaire. This approach give an insight in the winery IP related behavior in order to understand the perception of wineries in Republic of Macedonia about their commitment to IPR and role of their marketing strategies as part of the wineries' business strategies. This issue is becoming more and more attractive with the aspiration of the RM to join the EU creating a demand for strong system of IPR enforcement in practice.

Implementation of IP and level of protection fairly much differs between sizes of the wineries and product finalization. Innovative strategy is present in 71% of the wineries, which invest particularly in new product, new technology, replacement of old equipment and patents and licensing. From the wineries, 64% have already protected different IPR, mostly trademarks (70%) and industrial design (30%).

As main reasons for not protecting IP rights, wineries state finances as the largest barrier, than lack of knowledge about legal procedures for protection and lack of information about different types and possibilities for protection. This is mostly evident in the case of small wineries that should consider the possibility of strategic protection (especially in innovating strategy, vision for new markets and constant marketing investments) of those rights that would gain economic benefit to the winery. However, 70% of the wineries believe that protection justified the costs, taking in to account the potential benefits that could arise from it (Figure 2).

[Figure 2]

IPR-committed wineries with protected trademarks and industrial designs that constantly invest in marketing successfully create product differentiation and brands. The non-IPR committed wineries have faced with lack of information about the possibilities for protection and financial barriers for conducting the procedures, so IPR is perceived as investment that require additional costs.

Regarding export orientation, 71% believe that increased export of bottled wines increased the need for IPR protection, which is in line with Keupp M., *et al.*, 2009, who stressed that exporting companies are, to some extent, more likely to use IPR protections. It depends mostly of the winery strategy and the exporting market. In case of export orientation, crucial to be considered is the fact that larger, open and competitive markets bring higher risk of counterfeit of the package and label (the case with large Macedonian winery), creative label (micro winery) and creative idea (small winery). In case of counterfeit, IPR user that first protects the right of ownership could withdraw the competitive products.

[Figure 3]

Main motives for protection of IPR are wineries intention to build reputation and to prevent counterfeits and imitation. Additionally, wineries protect IPR in order to build strategy for differentiation and competitiveness of products in the market. These motives are related to the overall strategy of building corporative brands, because consumer perspectives are ranked with lower priorities. In fact, it present that wineries are directed mostly to international markets, and perceived the domestic market as monopoly in terms of competition. However, according to the forthcoming period and tendency in the agri-food trade and policy, as well as globalization of the markets, this trend could be considerably changed in the future.

[Figure 4]

Exceptional potentials for long term benefits and income from protection of IPR are considered by large and market-oriented wineries especially when they use marketing strategies for branding. Accordingly, micro and small wineries with bulk production has no potentials at all. However, almost all wineries have equally or higher expectations for gaining incomes of strategic use of protection of IP assets.

[Figure 5]

[Figure 6]

In 36% of the wineries, education in the field of IPR is provided as an integral part of training courses to employees or managers in the winery. This percent represent the large wineries that mostly exist on the domestic and regional markets and use a strategy of product differentiation and building brand identity. Other wineries that do not provide education are small, micro or those that do not use sufficient marketing investment for further development of individual or corporative brand.

The cooperation among wineries and scientific and research institutions is on low level. Wineries collaborate mostly with marketing agencies, especially in the process of creation a new design, label and complete look of the wine. In most cases, wineries usually do not sign a contract for the ownership of the rights, and in contrary they automatically own the rights. In some cases, this question has not been raised as issue. Many cases on domestic and regional market show disagreements with the copyrights of the labels or with contracts from marketing agencies that take over the rights and set limitations. Moreover, international market has faced some lawsuits for seemingly minor cases that could inflict losses for companies that invest in strengthening the marketing position though different strategies.

Therefore, in the case of cooperation, it extremely important at the beginning of the process, stakeholders to define who will own the rights in order to be avoid additional misunderstandings when the IPR are marketed and exploited effectively.

[Picture 2]

4.3. A case of a successful winery's brand equity creation

According to the model of IP portfolio, the results indicate a division of wineries that are IP users or wineries that are not IP users. Successful examples of the IP users are usually large wineries that continuously implement business strategies for protection and gains of IPR. In parallel, they consistently enforce education, so to increase the awareness of managers about the importance of IPR and cooperate with legal experts in this area. A disadvantage is that this condition was recorded in a very small percentage of the large wineries, and only one winery was identified as a successful example for IP user with strong IP portfolio.

In this regard, a single case study of a successful winery is presented to guide future competitive strategies in the wine sub-sector in the RM. The high-level IPR committed winery successfully transforms IP assets into high brand equity by continuously investing in marketing strategies. As a result, it holds the dominant domestic market position with a 65% market share of the total production of bottled wines (or 75% market share in terms of sales value). It is also successfully established on the regional markets, holding award of the most recognized regional brand. The persistent innovative strategies followed by a strategic use and protection of IP assets, the permanent marketing investments and the investments in education in the field of IPR as an integral part of training courses, distinguishes this winery as a representative case.

By this, it was ranked on the list of 100 most perspective global brands (M&M Global, 2012). In this regard, the following marketing strategies and activities were undertaken: *1) Constant innovation, 2) National and international trademarks protection, 3) Product differentiation through branding and designs, 4) New international markets' penetration and 5) Constant marketing campaign.*

In the past years, the winery invested more than 20 million Euros in modernization of technology, equipment and processes. Their main objective is to rapidly raise the product quality so to offer competitive brand on international markets. Therefore, they rely on both, product and process innovative strategies. The long-term strategy of the winery is to continuously invest in technology, new product development, human creativity and knowledge. The permanent IPR protection enables the winery to prevent counterfeit, thus strengthening its market position and increasing its commercial value.

The winery protects mostly trademarks; around 80 domestically and 50 in each regional country. This contributed to increased brand visibility, exclusivity and prevention from counterfeit. For instance, the winery was faced with many counterfeits of the packages and the labels; however, due to its commitment towards IPR, it effectively coped against the infringement of the protected rights.

The main motives for protection of IPR are winery intention to build reputation and to prevent counterfeits and imitation. Additionally, it protects IPR in order to build strategy for differentiation and competitiveness of products in the market. These motives are related to the overall strategy of building corporative brand, because consumer perspectives are ranked with lower priorities. The corporative brand is perceived as fastest growing brands in the RM. In 2008, it was ranked among the top 30 global innovative wine brands by the international food and beverages trade fairs SIAL at the Wine Innovation Forum in France. In the process of brand creation the winery constantly introduces new and improved products, adopts new production techniques and marketing of product and services and protects them with IPR. Its long-term marketing strategy resulted in quality products that created an emotional relation between its brands and consumers.

With regards to the new international markets' penetration, the winery considers that export orientation and penetration of new markets, such as countries from the European Union, USA, Canada, China and Australia, increase the need for IPR protection. It is widely known that the level of protection depends of the company strategy and the exporting market. Having in mind that, larger, competitive and globalized markets bring higher possibilities for counterfeit, they usually make the decisions strategically, based on the economic interest. The procedure is costly, so the protection in new international markets is mostly directed towards protection of trademarks and industrial designs that evolved into strong brands.

Even though by the Macedonian Law on Assessment only the trademark's financial value is determined, the winery regularly conducts research for valuation of the emotional brand perspective. These findings are helping the winery to define the current brands' positioning, as well as the key indicators of the brand strength, domestic and regional consumers' perception and the potential for launching new products. Based on these findings, the winery performs in-

depth analysis, necessary for marketing strategies development, as well as defines plans for development and improvement of products and for evolution of their brands.

Due to these strategies, including IPR protection supported with marketing investments, the winery has increased its market share and has gained higher business opportunities. Thus, within a period of ten years, its products' average sales price increased by 75%, mainly due to the brand image.

[Picture 3]

The successful IP portfolio and the realized benefits are associated with the key factors in achieving the competitive position of the company (Felzensztein, 2013) through the achievement of price competitiveness, export orientation, investments in marketing, product development, branding, product differentiation and training of employees in the field of intellectual property as part of the management of the winery.

5. Conclusions

The earnings structure suggests that Macedonian wineries are limited by pricing flexibility, preferring volume production rather than value-added production, indicating that these wineries have not yet adopted market-oriented strategies to increase profitability. Wineries in Macedonia rely more on debt than on equity to operate activities. However, statistical evidence does not support the hypothesis that high-leverage increases opportunities for wineries to profit. Probably due to asymmetries between the national capital and credit markets and farm companies, increasing risk exposure. However, in line with Arsov (2008) results suggest that wineries prefer more assets than debt, considering financial risk in the long run decisions. This strategy seems to be a good financial strategy to increase profitability of wineries. Wineries facing a negative equity signal financial distress, without the ability to generate sufficient liquidity.

The return on assets for the Macedonian wineries is lower than the Macedonian benchmark, and more importantly, it is lower than the interest rates offered by the banks. If the market value of wineries does not increase through increase of the value of their intangible assets, then the wine industry should not be considered as attractive investment, since bank deposits bring greater return than the investment itself. The fact that the wineries are liquid shows that they really hold a potential to be developed in a profitable business, especially if they establish and maintain a

competitive international position by imposing intensive marketing strategies in creation of strong brand equity, including the use and protection of IPR.

The use and protection of IPR in the Macedonia wineries depends on the size of the wineries, availability of finance for protection and investments in marketing as well as accessibility to information and knowledge about IPR protection and use. There is a high protection of trademarks and designs, but economic value of IP assets is not sufficiently used. It means that most of the cases do not transform trademarks into strong brands because lack of marketing investments. The field experience imply that only the biggest and successful wineries show high commitment to IPR so far, thus investing in marketing and building a corporative brand of the winery or individual brand of the products. Furthermore, general awareness for IPR exists, but there is low expertise within the wineries and cooperation with IPR experts that result in insufficient IPR enforcement. The effective use of IPR requires that they should be well incorporated into a firm's overall strategy. This is more often the case with large Macedonian wineries than the smaller ones, which do not use IPR in the same way as larger companies. Small wineries predominate with 90% of the total number, usually faced with financial constrains and low marketing budget, so, commitment to IPR is perceived as investment that require additional costs.

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Tables

Table 1. Structural determinants on profitability

Determinants	Code	Definition	Benchmark
<i>Earnings Structure</i>			
Asset turnover ratio	AT	$AT = \frac{SALES_{T1}}{TOTALASSETS_{T1+T0}}$	(C)*
Net profit margin	NPM	$NPM = \frac{NETINCOME_T}{SALES_T}$	(A)*
<i>Capital structure</i>			
Debt-to-equity ratio	DTER	$DTER = \frac{TOTALDEBT_T}{TOTALEQUITY_T}$	<1*
Debt ratio	DR	$DR = \frac{TOTALDEBT_T}{TOTALASSETS_T}$	<1*
<i>Financial-business structure</i>			
Return on assets	ROA	$ROA = \frac{NETINCOME_{T1}}{TOTALASSETS_{T1+T0}}$	(A)*
Current liquidity ratio	CLR	$CLR = \frac{CURRENTASSETS_T}{CURRENTLIABILITIES_T}$	>2*
Quick-liquidity ratio	QLR	$QLR = \frac{(CURRENTASSETS_T - INVENTORY_T)}{CURRENTLIABILITIES_T}$	>1*

Legend:

* Interpretation depends on the industry.

(A) The higher the ratio indicates higher profitability of the company.

(C) The higher the indicator is, the higher the efficiency is in terms of the use of funds.

Table 2. Distribution of the wineries according to production capacity

Size	Number of wineries	Total capacities (l)
Micro	3	<50.000
Small	1	50.000 – 100.000
Medium	2	100.000 – 1.000.000
Large	8	>1.000.000

Table 3. Summary statistics of the financial analysis for 16 wineries during 2008-2013

Variables	Mean	Std. dev	Yearly Min.	Yearly Max.
<i>Earnings Structure</i>				
Asset turnover ratio	0.41	0.22	0.00	0.93
Net profit margin	0.02	0.32	-2.42	1.10
<i>Capital Structure</i>				
Debt-to-equity ratio	1.23	1.19	0.05	6.91
Debt ratio	0.52	0.26	0.05	1.00
<i>Financial-business structure</i>				
Return on assets	0.03	0.07	-0.17	0.39
Current liquidity ratio	2.05	1.50	0.00	7.29
Quick-liquidity ratio	0.82	0.73	0.00	5.57

Figures

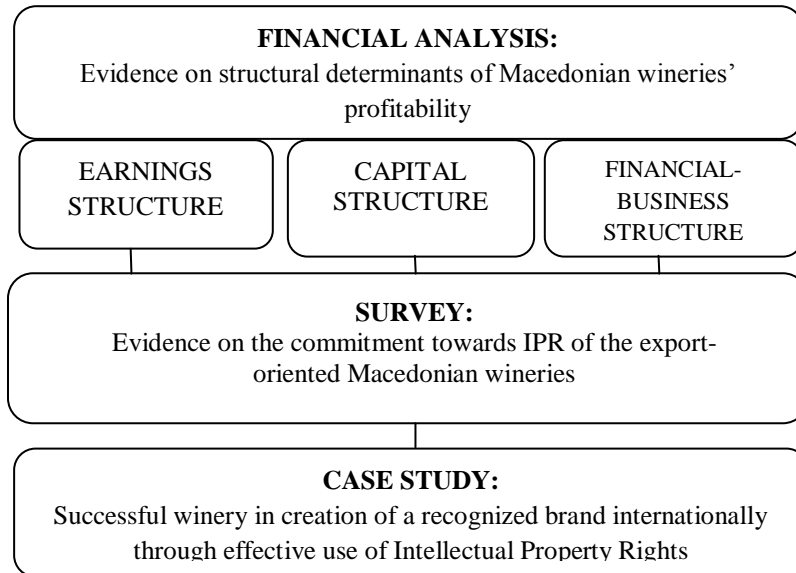


Figure 1. Methodological framework

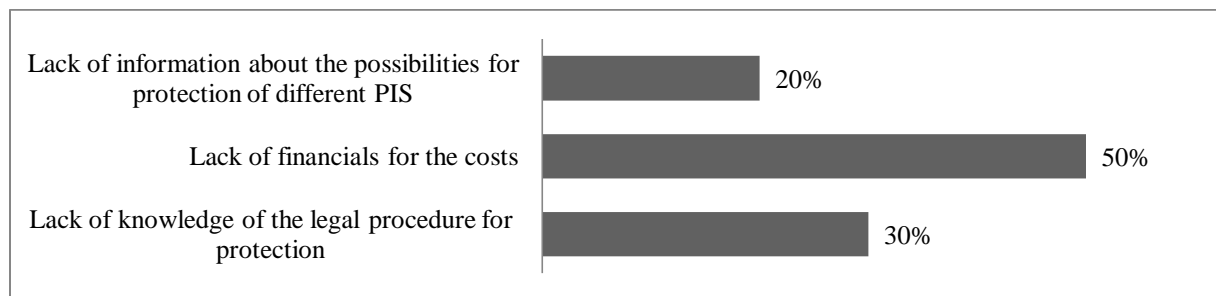


Figure 2. Main reasons for sufficient IPR protection

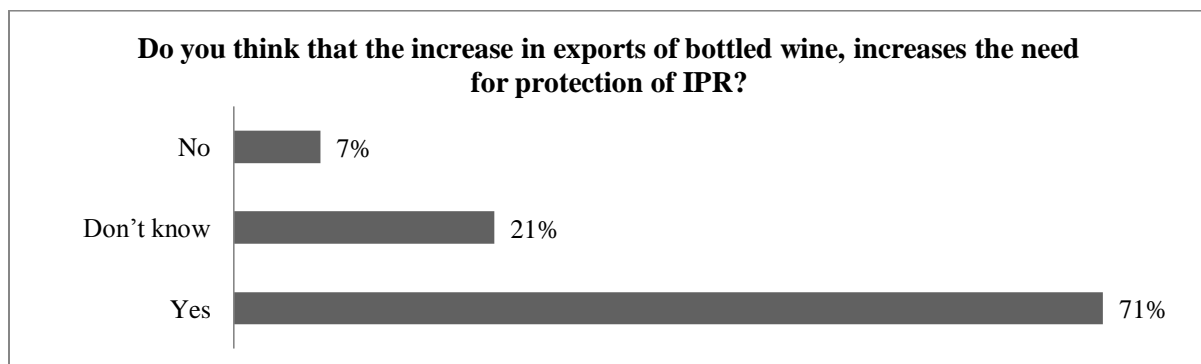


Figure 3. Importance of IPR protection in export orientation

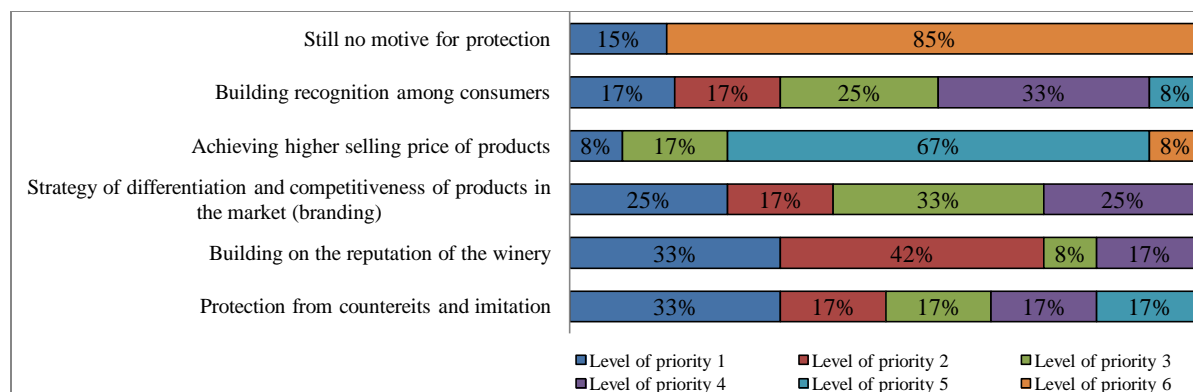


Figure 4. Motives for protection IPR

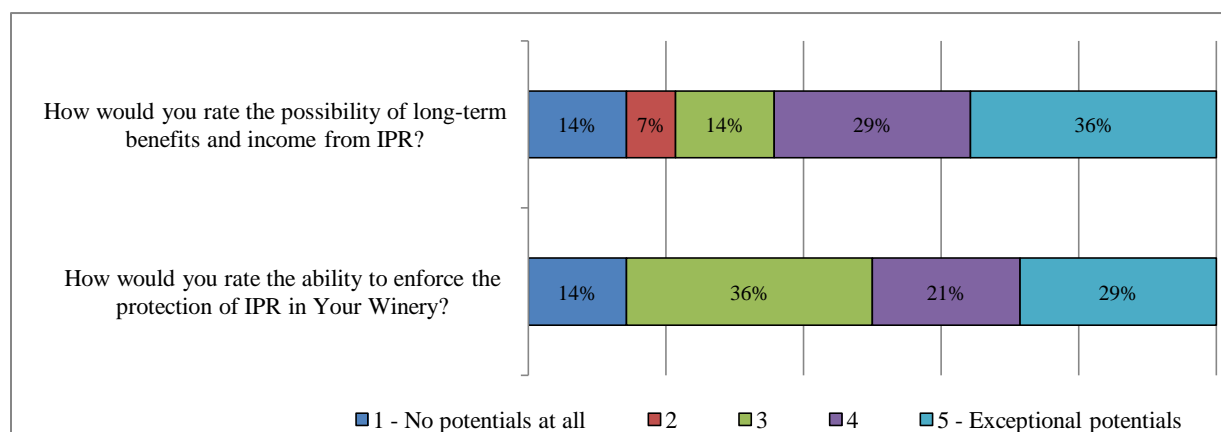


Figure 5. Possibilities for benefits and ability to enforce of IPR protection

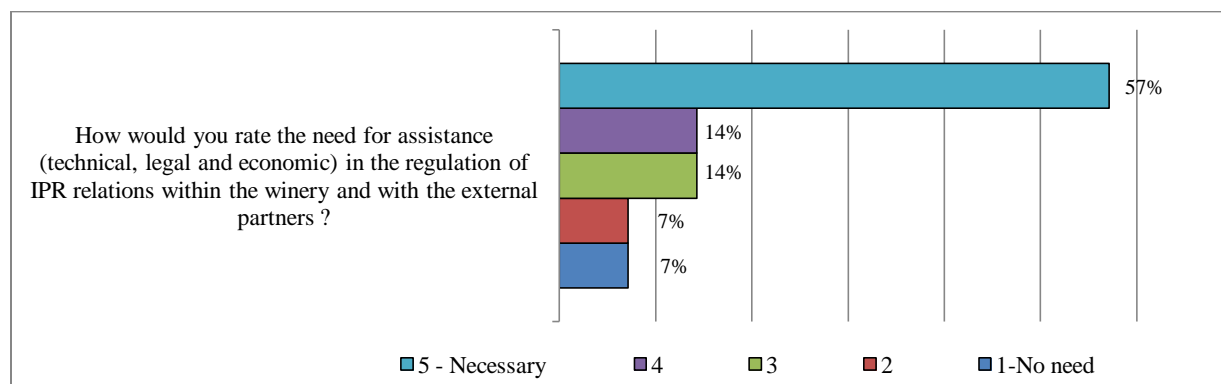
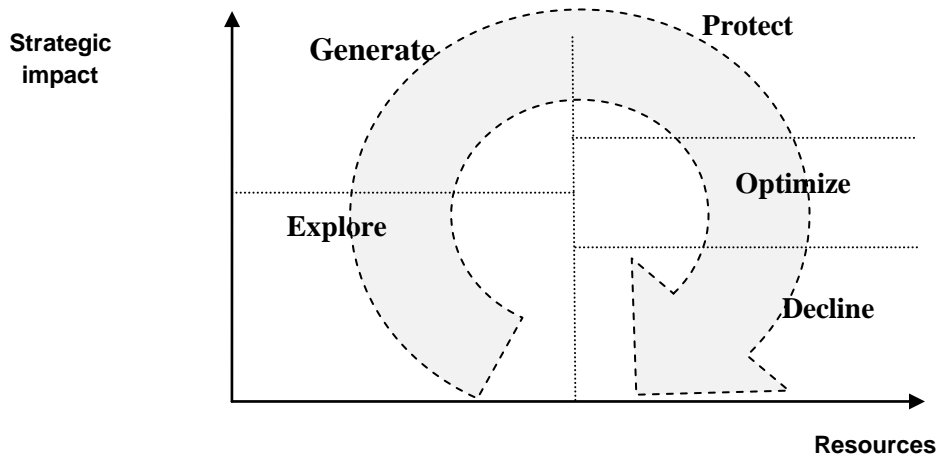


Figure 6. Need for technical, legal and economic assistance in IPR procedures

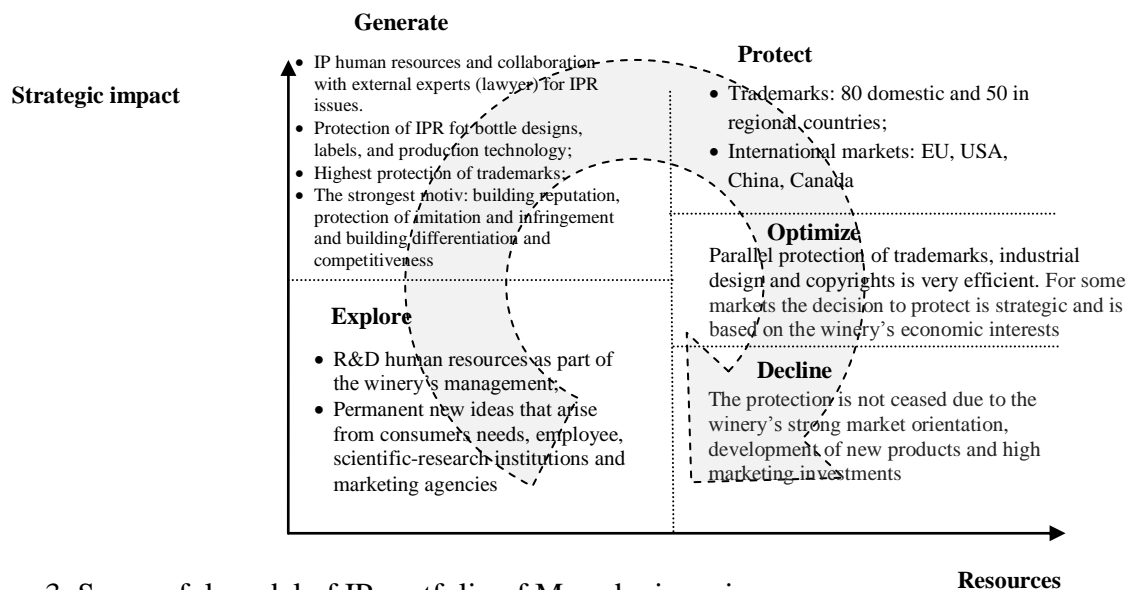
Pictures



Picture 1. Model of IP Portfolio

<p>38% YES, all the time</p> <ul style="list-style-type: none"> • Label • Design • Complete look of the wine 	<p>38 % YES, sometimes</p> <ul style="list-style-type: none"> • The technology of wine production • Label 	<p>23% NO, we have own R&D department</p>
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Picture 2. Cooperation with scientific and research institutions and marketing agencies for implementation new technologies, product, designs *etc.*



Picture 3. Successful model of IP portfolio of Macedonian winery