A wine market and marketing analysis of Wine Specialities from the Tokaj-Hegyalja Wine District

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Abstract

Tokaj Wine Specialities have few competitors and enjoy a rare niche among natural dessert wines since traditions surrounding their preparation, their specific microclimate, and unique taste enable one to utilise marketing tools for branding and market placement. To elaborate the marketing strategy, one needs market information that adequately shows the current situation and trends. During my research, I carried out segmentation for Tokaj Wine Specialities consumers and illustrated the correlations with statistical methods. My research covered the North-Alföld Region and Budapest. I performed a reliability test on the research databases and demonstrated that the areal data set can be integrated. My hypotheses findings also constitute new research.

Keywords

wine marketing, dessert wine market, market segmentation, consumer behaviour

Introduction, objective

Some of the world's wine-growing regions have a special microclimate and other individual traits which create wines of special quality and offer dessert wines of a unique taste and flavour. The **origin-protected name of "Tokaj"** means production of a superb and unparalleled product called **Hungarica**. The product holds a special place in Hungarian national wine mythology and Hungarian wine-growing. The national anthem also refers to this national treasure which can be produced only in the historic wine district of Tokaj-hegyalja thanks to that location's microclimate and special technology. Tokaj Wine Specialities are: Tokaj Aszú, Tokaj Szamorodni, "Máslás"[2], "Fordítás"[3], Late Harvest Tokaj Wine Speciality. Tokaj wine's value stems from the harmony of its rare quality, the limited quantity and its historic roots. Carrying the nation's reputation on its shoulders, these products should be marketed not only in Hungary but also abroad. It is no longer feasible to think that over the long run that a single product can carry the load so the purpose is to develop and sell several products or services with maximal customer satisfaction. Hungarian producers and investors have also found their feet and are now able to compete.

The **purpose of this study** is to provide an overall picture of **the Hungarian wine specialities' market position**. The direct purpose is to outline the market of Tokaj Wine Specialities, and study (verify or refute) the statements of the hypotheses. The indirect purpose is that the efficiency of the scientific methods is proved again in the theoretical and practical application.

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[2]   This Tokaj Wine Speciality is produced from must poured onto the lees of szamorodni or aszú, or from wine of the same year through alcoholic fermentation, and has a characteristic aging scent and taste, and is aged for a minimum two years prior to the distribution, one year of which in wooden barrels.

[3]   This Tokaj Wine Speciality is made from must poured onto mashed aszú grapes and originating from a certain habitat, or from wine of the same year through alcoholic fermentation, and is aged for a minimum two years prior to the distribution, one year of which in wooden barrels, and has a characteristic aging scent and taste.

Hypotheses:

H1 **Method relevance**. The practical applicability of the cluster analysis may be verified by subsequent focus group tests. Providing a certain framework, the qualitative procedures preceding the research and the latter-mentioned procedure underlie the concrete results.

H2 **Integrating regional research.** The wine consumption and wine purchasing habits of Budapest and North-Alföld Region are different concerning Tokaj Wine Specialities, so the samples taken in two locations cannot be integrated.

H3 **Studies of interrelations.** The purchasing and consumption of Tokaj Wine Specialities is related to the age, sex, income, educational background, and the consumer's expertise when it comes to wine.

H4 **Inclination to determine the price.** During purchasing, the price is the most important aspect, where there is no difference between the admitted and the actual reference price.

H5 **Market segmentation**. The sample (n = 1,179) is suitable for segmenting. Therefore, there are criteria that enable the creation of a target group.

With proper marketing techniques, naturally made dessert wine specialities can be sold anywhere in the world, and fetch even a higher price. And Tokaj Wine Specialities are no exception to this. In the technical literature, there is hardly any market research on Tokaj Wine Specialities. Five years have passed since I published my own research dealing with Tokaji Aszú, in which the wine speciality's market properties were studied. This research shows that those who love Tokaji Aszú as well as other wines, are split in half. In the latter case, Egri Bikavér is among the leaders. It can be established that the majority (85%) only occasionally purchases aszú. Regular customers are in minority, their proportion approaching 15% (Szakál, 2002).

61% of the sample buy aszú primarily as a gift, while 39% for their personal consumption. Tokaji Aszú is particularly popular during the Christmas holidays, but it is also a popular during family celebrations (23%). These family celebrations include birthdays, namedays, and other gatherings. Only 12% of the consumers purchase wine at Easter and on New Year's Eve. Only 4% of the sample drink Tokaji Aszú on Whitsun (Szakál, 2003).

The majority (47%) shop at shopping centres, and supermarkets; 22% at wine shops and 16% in discount stores. Fewer customers go to mini supermarkets, convenience stores and wineries. The former rates 10%, the latter about 5%.

Most people spend an average amount of HUF 1,500-4,000 annually on Tokaji Aszú (44%). 17% of the sample spend less then HUF 1,500 for this purpose. Customers spending between HUF 4,000 and 8,000, and more than HUF 8,000 represent nearly the same proportion, some 20-20%. Clearly, the wine speciality in question is primarily sold at shopping centres. Most people spend less than HUF 4,000 annually on Tokaji Aszú wines (Szakál, 2002, 2003).

According to Piskóti (2002), in Hungary it is possible to summarise the consumption of sweet wines, especially Tokaj wines, in the following points.

- Consumers purchase these wines for special occasions, and consume it with dessert.
- The Tokaji Aszús, created by new, leading Tokaj wineries and producers, is capable of winning over wine devotees.
- Tokaji Aszú entails a rich cultural and historical tradition for most Hungarian consumers.
- The great majority of Tokaji Aszú has always been consumed abroad.

Around the world Tokaj Wine specialities have several competitors, but only some of them constitute a genuine competitive threat. In the Hungarian domestic market, Tokaj Wine Specialities have no real competitors owing to the price-sensitive wine consumer and the developing wine culture. Nevertheless, it is only a question of time and marketing work before replacement products will enter the internal market. It is the geographical location, the marketing work, and historic roots that will determine whether aszú wine will be a market leader. The closest relatives to Tokaj Wine Specialities are the so-called "Predikät" and "Ausbruch" wines produced by the **Austrians**. Other similar well-known dessert wines are made in **Germany** (Mosel-Saar-Ruwer region), **France** (in Sauternes), **Slovakia** (from the vineyards of three villages), **South Africa**, **the USA** (Napa Valley, California), **Canada** (primarily the ice wine category), **Australia** (Hunter Valley, Barossa Valley). Moreover, aszú wines and ice wines can be produced in a number of countries, but they rarely are, and they basically have the world market cornered. The challenge Tokaj Wine Specialities face is holding their ground in this field and achieving the best market share and recognition possible using an appropriate market policy (Knoll, 2000).

Hajdu (2004) establishes that wine marketing is a combination of marketing and wine science, where the marketing methods, attitudes, and concepts are vital, and basic oenology also essential. According to Lehota – Fehér (2007), this means enterprises dealing with oenology and distribution to the market environment must learn to adapt. The technical literature divides this material into two parts: marketing as a descriptive discipline and marketing management focusing on planning and execution.

The field of wine marketing covers the following main issues:
*   needs and demand,
*   products, goods, services and ideas,
*   the exchange, transactions, market actors, and the relations between them (power, confidence, conflict, common value, commitment, etc.),
*   performance indexes (cost, profit, value, satisfaction, etc.),
*   marketing means, the elements of the marketing-mix
    (Lehota and Fehér, 2007; Gosch, 2003).

According to Szakály (2007), the domestic food economy faces no problems that cannot be solved by creative marketing. This can apply to an entire sector, including the wine sector. Research carried out by Fowler (2000), Lockshin (2003) shows that income drives the wine purchaser's behaviour. Reisezenstein et al. (1980) point out that the consumer's decision is primarily related to price and oral advertising. Cox – Rich (1967), Dodds – Monroe (1985), Monroe – Krishnan (1985) used price when analysing Australian wine consumers as a segmentation criterion. According to Rekettye (1999), it is the proportion of the perceived value,which is especially important concerning Tokaj Wine Specialities, the perceived utility of the product, and the perceived consumer expenditures. The accurate specification of perception and sensation would largely promote the consumer's value perception. Consumers generally assess the actual price by comparing it to other prices directly available and their recollection of prices related to the given product.

Lakner-Sass (1997) contend that in export markets it is not enough to merely advertise certain products, but one should also ensure that Hungary and Hungarian agriculture conjure up positive sensations, and only then can one start promoting the product's image. The key to a sector's competitiveness is quick and efficient communication.

Szabó (2007) supposes that during wine marketing research it is essential to conduct a detailed study of the marketing-mix elements. The distribution channel is a decisive criterion when selecting the correct marketing activities. According to Heijbroek's (2001) data, in most EU Members States chains entail 40-70% of the wine trade, and this figure is expected to increase. Löffer-Scherfke (2000) and Holland (2004) state that the significance of direct marketing will grow.

A bibliographical survey shows that the technical literature on wine marketing concordantly discusses, proves and supports certain marketing – mix elements, but in practical terms companies cannot take full advantage of these possibilities. Such a study would fill a void, as no such comprehensive research material specifically focusing on Tokaj Wine Specialities has been written and the consumer segments have not so far been defined.

The research methodology

During our research, we applied random sampling techniques, and anyone could enter the sample. In the questionnaire, taking all question combinations into consideration, the types of survey levels were the following: 62 nominal, 23 ordinal, and 20 scale samples. We used open and yes-no questions, combination tables, and multiple choice questions. In several cases, an order of ranking aided the research work. Several of the questions are linked to each other, and I checked these to ascertain the reliability of the given questionnaire.

The consumer research primarily aims to outline the consumption habits concerning the Tokaj Wine Specialities in the region under survey. This research was conducted in the North-Alföld Region and Budapest. The surveys were compiled in early 2006, based on the following venues: hypermarkets in Debrecen, Nyíregyháza and Szolnok (Tesco, Interspar, Cora), busy public areas in the county seat and other areas of the region, educational institutions, at the West End City, Pólus Center, and busy public areas, plus educational institutions in Budapest.

Representativeness in the statistical sense means that by random sampling the rate of the basic criteria of the population must be equal to the rates of the sample. The high number of elements (n = 1,179) guarantees that each customer group purchasing Tokaj Wine Specialities took part in the survey with an assessable rate of participation.

As for the sexes, the sample corresponded to the portion of the statistical population, so it has met with the expectations. There was no quota sampling; it is a simple coincidence that the sample corresponded to the desired rates concerning the area.

Considering the age of respondents, young people (18-25) were overrepresented, while the 36-45 group was well represented. On the other hand, people over 46 were under represented. The 26-35 group was also slightly overrepresented.

Weighting was performed on the basis of educational background and income, but the chance of being part of the sample is quite high owing to the high number of elements in this case. This is shown by the fact that an assessable number of elements made it into the sample for each category. During the sampling, I carried out a questionnaire survey at various times and in basically six different places over 6 months. It had to be established whether the **samples** coming from various areas **could be integrated.** First I studied whether it was possible to integrate the sample areas. One of my hypotheses was that the responses collected in Budapest would largely differ from the country data. To prove this, I applied the **paired t-test** method.

We highlighted three fundamental properties typical of the purchasing power: net income per capita, expenditure on wines and Tokaj Wine Specialities in HUF. Only the results obtained in Budapest and Szolnok region suggested that location results cannot be integrated; however, the difference could be observed only for one aspect (expenditure on wines) and, to a small extent, dealing separately with the samples would be unreasonable. **During the survey, it was established that the samples obtained in various places can be integrated**. The paired two-sample t-tests showed no difference in the purchasing power at a 5% significance level in the given regions. Therefore, the samples can originate from a population of common average.

I tested the reliability of the data set with the "reliability" analysis. The analysis forms a Chronbach alpha index[4], which is determinant regarding reliability. The value of this index is higher than the necessary minimum value of 0.6. Consequently, I considered the data suitable for further tests.

During my own research, the methods applied to study the consumer's side were as follows: Partition ratios, Mean calculations, averages, standard deviation, Analysis of reliability, Paired t-test analysis, Pearson-type Chi-square test, Mann-Whitney-Wilcoxon test, principal component analysis, factor analysis, Cluster analysis, Focus group tests.

During the research, I conducted statistical analyses with three key programs and software. The applied programs: MS Excel, SPSS, Surveyz.

Generally, the focus group tests precede the questionnaire survey. During my research I did the opposite so I could verify whether the invited focus group members meeting certain fundamental criteria really belonged to one segment. Another aim was that if the former were attained, then we could discover things about the segments that would be more difficult to learn with other methods. The main purpose of the focus group test is that the researcher gains insight into an issue of interest to him or her by conversing with members of the appropriate target market.

According to Veres and co. (2006), audio and video recording must also be performed during the focus group tests. During my own research, the members of the focus group did not approve the making of such a recording, but did not offer any reasons for this. Nevertheless, they permitted the presence of a psychologist. However, this reluctance was not palpable during the discussions in which the psychologist took part.

During my research two focus group interviews were carried out. The main features are summarised by Table 1 as follows.

According to the psychologist, the participants were generally open and honest. The specialist analysed the participants' behaviour during and after the study. It was established that both focus groups supplied information whose veracity cannot be questioned on the basis of psychological analyses. The second phase consisted of 7+1 tasks for the group members.

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[4]   The Chronbach alpha index equals the arithmetic average of the coefficients obtained from all possible split-halves. It shows the appropriate inner consistency of the questions.

Table 1

General characteristics of the focus group test

	Group analysis of cluster 3	Group analysis of cluster 5
Time	19 July 2007	20 July 2007
	10.00-12.00 am	10.00-12.00 am
Venue	A winery in Tokaj	
Number of participants	7 persons	
Moderator	1 person	
Clinical Psychologist	1 person	
Total participants	9 persons	
Main purpose	Verification of the cluster results of the quantitative test for two target groups.	

Source: Author's own research, 2007

Study findings

The findings of the questionnaire study conducted in the North-Alföld Region and Budapest on the consumption habits of Tokaj Wine Specialities reveal a special tendency regarding wine consumption.

54% of the respondents specified Tokaji Aszú as their favourite wine, 13% Egri Bikavér, and 31% mentioned other sorts of wine (e.g. Balatoni, Merlot, Soproni Kékfrankos). Rather heterogeneous, this latter group could not be categorised. Only 2% of the interviewees could not name or had no favourite wine. The interviewees who regularly purchase wines were entered in the sample. 2% claimed to purchase wine but not for personal consumption but as gifts. Most (37%) know Tokaji Aszú, 33% Tokaji Szamorodni; these two Tokaji Wine Specialities are the most widely known.

Tokaji Aszú is purchased one or two times per year among 50% of the sample; 24% of the respondents buy their favourite type of wine on a quarterly basis. No daily purchasing has been observed for any Tokaji Wine Speciality.

For the purpose of personal consumption, the respondents buy on average 4-5 bottles of szamorodni per year and 4 bottles of Tokaji Aszú. If the Tokaji Wine Specialities are bought as a gift, we obtain nearly the same results, but the averages are slightly lower as compared with personal consumption. As for szamorodni, the average amounts to 3 bottles/year, and with 'máslás' (this wine is made by pouring must on the lees of aszú) 2 bottles/year, and for essences 2 bottles/year.

Those who do not buy Tokaji Wine Specialities have financial reasons for not doing so. A quarter of the non-purchasers do not know or have not tasted Tokaji Wine Specialities and another quarter simply do not like them. 2-2% have specified the following as the reason for not purchasing: "because they are detrimental to health" or any other reason, but their distribution and occurrence is insignificant. The customers buying szamorodni once or twice a year make up 42%, while those purchasing szamorodni quarterly total 22%.

31% of the respondents purchase Tokaji Wine Specialities for birthdays, 24% for namedays, and 18% for Christmas. 45% drink Tokaji Wine Specialities the most frequently. 37% of the interviewees primarily consume these special drinks at parties, while 18% in catering units.

46% of the Tokaji Wine Specialities are sold in shopping centres and hypermarkets. 13% of the respondents purchase the surveyed wine specialities in discount stores (e.g. Profi, Penny), 13% in supermarkets (e.g. Heliker, CBA) and 15% in wine stores. Only 6% of the quantity is sold by Tokaj producers. During the wine purchasing process, influence plays an important role.

A consumer's previous experience has a big impact on his/her decisions. Regarding the total sample, the respondent's partner (girlfriend, common-law wife, wife), friends and parents also comprise a significant factor. Diagram 16 illustrates how much the interviewees spend on wines on average per year.

28% spend 10-20,000 forints, 27% 5-10,000 forints and 23% spend 20-50,000 forints on wines. Only 8% spend over 50,000 forints on wines. Furthermore, 14% spend below 5,000 forints annually. In the sample the average annual amount spent on wine totalled 18,676 forints. Tokaji Wine Specialities comprise 61.74% of wine expenditures, and the distribution for the percentages was 25.7. On average, 10,161 forints are spent on Tokaji Wine Specialities annually (calculated with class averages); the distribution having a value of 8,658.

73% of the sample attended no lectures on grapes, wine, or oenology. 27% had already encountered in some form such information and learning materials. 34% admitted not knowing the aszú making process, 29% were entirely aware of it, while 37% responded that were uncertain about specific aspects of it.

To sum up, the factors affecting purchase for personal consumption is as follows: previous experience (24%), price (24%) and quality (14%). For gift giving, the order is: price (23%), design (17%), quality (14%) and previous experience (14%).

The answers to the question on inner reference price reveal that the respondents have rated essences quite highly, going as high as 7,300 forints. The interesting thing is that they would also pay a relatively high price for a szamorodni (2,374 forints). As for fordítás, máslás, the respondents would spend a maximum of 3,383 forints, and 3,859 forints on Tokaji Aszú. The data illustrate clearly that the money theoretically spent on Tokaji Wine Specialities is far higher than the actual spending. The value of the mode (the most frequently occurring element) and the median (the middle element) is 2,000-2,000 forints for both szamorodni and fordítás, máslás. Regarding essences, the mode amounts to 2,000 forints and the median is 4,000 forints.

It can be stated that the majority, 71%, has not responded correctly to the question "With what meals would you consume Tokaji Wine Specialities?" 35% of the respondents obtain wine-related information mainly from friends. 26% from family, relatives, 14% via Internet and 10% via the media. Only 8% inquire in wine stores, 2% in Tourinform offices and 5% in other places.

39% would be ready to purchase wine specialities over the Internet, while 61% wouldn't 56% of the interviewees buy only Hungarian wines, while 44% occasionally purchases foreign wines. No-one in the survey claimed to purchase only foreign wines.

12% of the sample has a large wine stock, and the majority (64%) usually keep 2-3 bottles of wine at home. 24% keep no wine at home.

It can be observed that presently numerous oenological communication sources are available and the sample population often monitors these media

Relying on the basic statistics, the database will be analysed in more detail. Regarding the sex, age, educational background and income, I will apply cross-table analyses. For most of the questions, it is possible to use correlations with the Chi-square test. For the following section, cross-table analyses conducted on the basis of these key criteria [a) sex, b) income] will be presented.

a) Gender-based cross-table analyses using the Pearson-type Chi-square test with respect to Tokaji Wine Specialities

Gender-based cross-table analyses highlight whether there is a difference between the two genders regarding the answers to each question. I performed the analyses with the Pearson Chi-square (bilateral significance) test and also created cross-tables for them for each question. I separated the values below $p = 0.005$ (the so-called 5% significance level), since here there is a difference between the sexes.

The following list indicates the statements where there is a difference between the sexes.

For women:

- Women purchase Tokaji Wine Specialities for Christmas, birthdays, namedays relatively more often.
- At filling stations, women refuse to purchase Tokaji Wine Specialities somewhat more often.
- Women are influenced more by their friends, partner and the salesperson when purchasing wine.
- Women tended to more often indicate their family as their source of information on wine.

For men (where there is a difference between the sexes):

Men tended to more often know fordítás, máslás, essence and aszú essence. The difference could be observed with a significance of $p = 0.0000$ for each Tokaji Wine Speciality. Therefore, men were more familiar with Tokaji Wine Specialities.

- Men prefer drinking Tokaji Wine Specialities at home.
- Men are more inclined to listen to strangers, journalists and Internet sources when purchasing wine.
- Men tend to know the aszú-making process better.
- Men gather more information from Tourinform offices and the Internet than women.
- Men are more inclined to store wines at home (especially larger stocks) than women.

b) Income-based Cross-table analyses using the Pearson-type Chi-square test regarding Tokaji Wine Specialities

Income-based cross-table analyses highlight whether there is a difference between the answers to each question in terms of the interviewees' income status.

The following indicate the differences between the income categories (families' monthly net income).

- Respondents with an income of less than 100,000 forints do not tend to keep wines at home.
- Respondents with an income of over 300,000 forints are relatively more familiar with szamorodni, tokaji essence.

- Those earning 200-300,000 forints. are usually more familiar with Máslás and fordítás
- Tokaji Wine Specialities are purchased for Christmas by those earning 300-500,000 forints.
- For interviewees earning 300-500,000 forints, a wine stock of 2-3 bottles is the most typical.
- People with a salary of 300-500,000 forints tend to have several favourite wine homepages.
- Only the wealthier respondents tend to have a larger wine stock at home, the largest wine stocks usually held by those earning more than 500,000 thousand forints.
- The higher their income, the more familiar they are with television programmes about wines.

My hypothesis that women tend to prefer sweeter wines has been proven since 60% of them specified Tokaji sweet wine, Tokaji Aszú as their favourite wine. It is also the favourite among men, but at a lower percentage. Among them, Egri Bikavér is relatively more popular. The Pearson-type Chi-square totals 0.000, so a difference can be observed between the sexes and their favourite wines. Studying the wine consumption habits of the two sexes, I have found that there is a difference between the sexes on certain issues.

In the questionnaire only in 3 cases did the respondents have to rank something. In the first two, they had to assign an order of importance regarding aspects behind their purchase decision, first for their personal consumption and then for gift giving. In the third case, it was in order to establish the aim for determining the inner reference price of Tokaji Wine Speciality. Although the respondents were not required to make a ranking, the supplied data could be placed in order.

When it came to the two sexes, a significant difference is observable for the primary and secondary aspects behind the purchase decision regarding Tokaji Wine Specialities when bought for personal consumption. In the former case, high values mean that there is an absolute difference between men and women related to aspects when purchasing Tokaji Wine Specialities for personal consumption. Basically, there is a striking difference for the first two aspects.

Among respondent groups between 18-25 and over 60, a significant difference only exists in the secondary purchasing aspect of Tokaji Wine Specialities for personal consumption. People over 46 assigned a similar ranking, and the reference price was the same, too – noteworthy in all cases, $p < 0.05$. As for personal consumption, the survey comparing age groups 36-45 and 46-60 revealed a value of $p = 0.22$ for the primary purchasing aspect. Another significant difference is apparent regarding the maximum amounts of money offered for szamorodni. The 18-25 and 26-35 age groups would pay different amounts for fordítás and máslás.

Regarding respondents with a university degree or secondary-school degree, there is a significant difference considering how much they would pay for a bottle of Tokaji Aszú, máslás, fordítás and tokaji essence. Based upon their technical qualifications, a significant difference is apparent in nearly each surveyed factor.

For households with a total monthly income below net 60,000 forints/family and 60-100,000 forints, a significant difference is only discernible for the primary aspect of personal consumption. As for low-income and high-income categories, there is obviously a significant difference regarding the maximum amount allocated for Tokaji Wine Specialities ($p > 0.05$). for the white and blue-collar workers in all three aspects.

In all three aspects, there is a significant difference between white and blue-collar workers. Students and blue-collar workers' decisions derive from different aspects ($p > 0.05$). The Mann-Whitney U test indicates that there is a significant difference between the studied factors and whether the respondent has encountered information and undergone training pertaining to wines.

The factoring method is used for measuring the effect of several independent variables. The questionnaire covers numerous questions that may include criteria belonging to one factor, meaning we can simplify the characterisation of each target group. The Kaiser-Mayer-Olkin (KMO) criterion amounted to 0.696 for their own sample, which can be deemed as appropriate. The KMO value is one of the major index-numbers for judging how adequate variables are for the factor analysis.

I applied several methods to determine how many factors can be established The Scree-test (elbow-rule; takes into consideration the full variance), the maximum likelihood method (it examines the adjustment of the model with the observed data, and calculates an adjustment index for the factor number determined by us) and the variance proportion method (it specifies the factor number based upon the aggregate percentage of variance) also verified that the 8-factor application was the most reliable choice.

Based on the measuring level, 45 of the 70 variances were suitable for the factor analysis, of which the 25 variances were involved in the factor analysis as the others abated the factor analysis. I could establish assessable factors for these based on the communalities, which exceeded the value of 0.7 for most of the variables. The primary purpose was to maximise the variance of the principle components, which resulted in the rotated factor matrix. The factor weights demonstrate the correlation between the original variable and the given factor – whose value varies from -1 to 1. Table 2 shows the explained variance, which I calculated with the principal component analysis, applying the SPSS programme.

Table 2

Explained variance – with principal component analysis

Factor	Calculated extraction			Rotated calculated value		
	Total	**Variance %**	**Cumulated %**	**Total**	**Variance %**	**Cumulated %**
1	6.4	23.8	23.8	5.2	19.1	19.1
2	3.0	11.1	34.9	2.4	8.9	28.0
3	2.5	9.4	44.3	2.3	8.5	36.5
4	1.7	6.3	50.6	2.1	7.8	44.3
5	1.5	5.5	56.1	2.0	7.4	51.7
6	1.3	4.6	60.1	1.7	6.4	58.1
7	1.2	4.3	65.0	1.5	5.7	63.8
8	1.1	4.0	69.0	1.4	5.1	68.9

Source: Own resource, 2007

The accepted 8 factors explain 68.9% of the variance. I didn't involve a 9th factor, as in this case the eigenvalue fell below 1, which was not acceptable.

Factor 1 (f1) is related to the frequency of purchasing exclusive wine specialities (essence, fordítás, máslás) while factor 2 (f2) is related to the two most widely known Tokaj Wine Specialities (aszú and szamorodni). Factor 3 (f3) shows the number of bottles of purchased exclusive wine specialities – whether for personal consumption or as a gift. Factor 4 (f4) is similar to the previous, but here the focus is on more widely known Tokaj Wine Specialities. Factor 5 (f5) covers the external influencing factors, while factor 6 (f6) includes the elements influencing the consumer's direct

environment. The former refers to the journalists, the strangers, the Internet, the salespersons, while the friends, parents, partner and previous experience belong to the latter category. As for (f6), previous experience as a factor is indicated with an opposite sign. Factor 7 (f7) is the internal reference price, and factor 8 (f8) refers to money spent on wine specialities. The interesting point of (f8) is that the more one spends on wine, the less one spends on Tokaj Wine Specialities, so the proportion is inversed.

The **cluster analysis** fundamentally aims to illustrate, regarding the surveyed regions, what consumer groups can be identified among the purchasers of Tokaji Wine Specialities. Here the basic task is to pinpoint the variables behind the differences among the groups. During the analysis I applied the Ward-process, which is based upon the variance. The centroid method led to a similar result. I performed a run-off with the K-means process, too, which created only two clusters, one of which had a low number of elements. Table 3 demonstrates the factors' impacts in each cluster.

Table 3

The impacts of factors in each cluster

Factor Clusters and rank numbers	f1	f2	f3	f4	f5	f6	f7	f8
Cluster 1	0.140	-0.054	-0.068	-0.192	0.070	0.378	-0.063	-0.207
rank number	*4*	*8*	*6*	*3*	*5*	*1*	*7*	*2*
Cluster 2	0.100	0.118	-0.095	-0.027	-0.028	-0.190	-0.143	-0.159
rank number	*5*	*4*	*6*	*8*	*7*	*1*	*3*	*2*
Cluster 3	-0.181	0.052	-0.094	0.028	0.083	-0.025	-0.095	0.313
rank number	*2*	*6*	*4*	*7*	*5*	*8*	*3*	*1*
Cluster 4	0.147	-0.079	0.035	-0.094	0.011	0.554	0.097	-0.197
rank number	*3*	*6*	*7*	*5*	*8*	*1*	*4*	*2*
Cluster 5	0.053	-0.199	0.041	0.197	-0.073	0.040	0.097	0.133
rank number	*6*	*1*	*7*	*2*	*5*	*8*	*4*	*3*

Source: Author's own research, 2007

The groups' description were derived from Table 3 data and the cross table analyses – which had been previously asked.

The data in the table demonstrate that the principal components show a heterogeneous picture. (f1) is represented with nearly the same weight in each cluster. In group 3 it shows a negative relation, and in group 5 it plays a role below the average (f2). The standard Tokaj Wine Speciality frequency factor has assmumed the largest positive value in cluster 2 and the largest negative value in cluster 5. Considering (f3) the correlation is negative in the first three groups, and positive in clusters 4 and 5. The largest positive value of (f4) can be observed in segment 5, while the largest negative-signed value is typical to cluster 1. Principal component (f5) has very low values in all of the clusters. The highest positive value of direct influence factor (f6) is located in segments 1 and 4, while the lowest negative value is typical of group 2. Factor (f7) is negative in the first three clusters, and positive in groups 4 and 5, and entail very low values. The highest activity is within the last (f8) principal component. It assumes its largest value (0.313) in cluster 3. The largest negative correlation appears in cluster 1.

In marketing terms, clusters can be considered consumer segments, so henceforth they will be called segments.

Clusters for the North-Alföld Region and Budapest, and their main characteristics for purchasers of Tokaji Wine Specialities in 2007 (n = 1,179) (Source: Author's own resource, 2007)

Segments:

1. "Low-income Survivors"
   Price interval: < 800 forints
   - price-sensitive
   - place of purchasing: discount stores, hypermarkets
   - usually semi-sweet wines are preferred
   - do not take risks
   - conservative
   - over 18
   - wine culture is not typical
   - undemanding towards themselves, demanding regarding packaging
   - estimated share: 75%

2. "Normal-income middlebrow"
   Price interval: 600-1,500 forints
   - the family's monthly net income totals 150-300,000 forints
   - born between 1940 and 1970, over 35
   - hypermarkets
   - brand loyalty
   - price-sensitive, but think in a closed price interval
   - estimated share: 12%

3. "New normal-income generation"
   Price interval: 800-3,000 forints
   - the family's monthly net income totals 150-300,000 forints
   - fans of wine culture
   - born after 1970, age between 18 and 30
   - purchase wines everywhere
   - often go on trips in wine districts
   - brand loyalty
   - their closed price interval is broader
   - estimated share: 6%

4. "The high-income *wine-smart* rich"
   Price interval: 1,100 forints <
   - the family's monthly net income is over 300,000 forints
   - fans of wine culture
   - age over 30
   - decision tends to be more logical
   - open to everything, innovative group
   - often go on trips in wine districts, on wine festivals
   - mildly snobbish consumer behaviour

- brand loyalty
- their closed price interval is broader
- estimated share: 3%

5. "The high-income rich elite"
Price interval: 1,500 forints <
- the family's monthly net income is over 300,000 forints
- blatantly snobbish consumer behaviour
- brand-orientation
- high price and packaging are decisive
- the wine must comply with social expectations
- sometimes go on trips in wine districts, but visit the top wineries
- brand loyalty
- their closed price interval is broader
- estimated share: 4%

During the survey, 5 clusters could be clearly identified. When characterising each group, I used not only the principal components but also other invariables to obtain a more comprehensive picture.

The analysis and main statements of the study hypotheses

When preparing the study, I examined the wine market position of Tokaj Wine Specialities and its features applying several scientific methods. The research fulfilled its purpose by outlining a general wine market picture with respect to Tokaj Wine Specialities.

H1 Method relevance

The practical applicability of the cluster analysis may be verified by subsequent focus group tests. Providing a certain framework, the qualitative procedures preceding the research and the latter-mentioned procedure underlie the realistic results.

The first methodological hypothesis refers to the applicability of an extra research step in the research process. The technical literature suggests that the focus group tests occur prior to the actual research; nevertheless, it is conceivable that it is ill-advised to apply it following the research. The practical relevance of the cluster analysis result can in this way be controlled. When compiling the focus group, I *filtered* the participants several times to determine whether they were actually members of the theoretical clusters produced from a scientific method. The *filter* question process was undertaken before the participants were approached and this, combined with the topics and tasks which were tackled during the focus group test, served to verify the cluster analysis results. Therefore, **Hypothesis H1 can be defended**.

H2 Potential integration of the regional research

The wine consumption and wine purchasing habits of Budapest and North-Alföld Region are different when it comes to Tokaj Wine Specialities.

During the market research, two methods were used to study H2: the paired t-test and cluster analysis. In principle, both methods should have verified the assumption; however, the very opposite occurred and, in fact, both procedures refuted the statement. During the t-tests there was only one

index indicative of difference, but its proportion and extent did not justify the separate examination of the data queues surveyed in Budapest and the North-Alföld Region. Therefore, **hypothesis H2 can be refuted in relation to the research.**

H3 Studies of interrelations

The purchasing and consumption of Tokaj Wine Specialities is related to age, sex, income, educational background, and to possessing special, wine-related knowledge.

Discussion of hypothesis H4 involves various aspects. During the purchasing process numerous factors determine which product the consumer eventually buys. This is especially true for wines, since the vintage and thus the wine supply varies from year to year. When purchasing Tokaj Wine Specialities, the fact that the product is costlier than average wines entails further risk factors for the customer. The main criteria determined in the hypothesis indicate that there is sometimes a difference in customer habits. However, their life circumstances vary so sometimes there is a difference among consumers belonging to various age groups, sexes, education and income brackets. Moreover, it has also been declared that, using the Khi-square test method and the cross-table analyses, in certain cases there is no difference. To summarize, it can be established that **Hypothesis H3 is defendable,** though only with certain qualifications**.** Cluster analysis is appropriate for highlighting the major differences. As for age groups, further clarification is necessary as this is a segment criterion that is life cycle related and reflects generational differences. The cluster analysis result indicates that there really is such a "new generation" segment with totally different purchasing habits concerning Tokaj Wine Specialities. They represent the consumer group of the future.

H4 Inclination to determine the price

During purchasing, price predominates when there is no difference between the admitted and the actual reference price.

When it comes to market research and marketing, it is noteworthy that when not hindered by constraints, people would pay more for a Tokaj Wine Speciality than they actually do. When purchasing Tokaj Wine Specialities, the major consideration is not price but rather previous experience and quality. These are followed by price, particularly the price interval, which depends on the monthly net income of the given consumer's family. The statement is true when purchasing for both personal consumption and for gift giving. **Therefore, Hypothesis H4 can be refuted.** If the consumer is knowledgeable about wine, he or she can choose more wisely and will notice the price-value ratio, which sometimes signifies cheaper wines. In the various clusters different price interval categories emerged, an income-related phenomenon. If the customer is not knowledgeable, he or she will be drawn by the design and appearance, and other people's recommendations assume greater importance in the purchasing decision process.

H5 Market segmentation

The Hungarian consumer sample is suitable for segmenting. Therefore, there are criteria that enable the creation of a target group.

During the cluster analysis, groups could be clearly distinguished. We were able to demonstrate characteristics enabling us to create and define separate segments and target groups. Clusters can be clearly defined and have individual features and style. Thus, marketing means can be efficiently applied, and a marketing mix can be compiled and effectively applied for each segment separately. **Therefore, hypothesis H5 is defendable.**

Conclusions regarding the consumer groups

In Hungary the level of wine culture is still low, but a a positive change is underway, and a new generation of moderate wine drinkers has emerged that appreciates oenology, and viniculture. If the consumer has already attained a certain level of wine sophistication, one observes rational consumer behaviours in terms of price-value-quality ratio.

Also available are Tokaj Wine Specialities referred to as "late vintage." This name can be confusing for the consumer as some do not understand how they differ from other Tokaj Wine Specialities, given that all Tokaj Wine Specialities are late vintage wines, meaning grapes which are harvested later than usual, sometimes in October or November.

The research findings can also be put into practice. Based on the results and conclusions, I have several practical suggestions.

My methodological suggestion is that the cluster analysis result, which was calculated using numerous representative samples, **should be back-checked using focus group tests;** moreover**,** upon justification and verification, a detailed analysis of the given segments could also be more effectively performed using this method. It would also be worthwhile to study the exact reasons for the popularity of wines with the name "**late vintage**". This type of Tokaj Wine Specialities should be more vigorously marketed. I contend that a type of wine which is appreciated by consumers should be officially recognised as **Tokaj Wine Specialities**.

The **wine district Community marketing** strategy should adapt itself to the national wine marketing strategy. Moreover, high level wine officials should listen to their wine district colleagues' ideas. This will entail discussions and, based on consensus, the **wine district ideas should be harmonised** and **validated**.

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