

PRINCIPAL COMPONENTS ANALYSIS TO IDENTIFY THE DIRECTION OF BEEKEEPERS' INTEREST

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Abstract

Using economic and socio-demographic factors of beekeeping from the market place sector, the present research emphasizes three aspects of beekeepers. Firstly: who are the beekeepers and how they practice this activity; secondly: differences between the demographic groups of beekeepers in the marketing of the honey products and thirdly: elements necessary to have on the product labels.

Key words: marketing, marketing research, qualitative research, semi-structured interview, beekeeping

INTRODUCTION

The purpose of the current paper is the study of economic and socio-demographic factors of the beekeeping from the market place sector. Beekeeping is defined as a science that deals with the growth and reasonable care of bees in order to use their products (Mărghițaș, 2008). Beekeeping is the oldest form of food production. Beekeepers are divided into the following categories: hobbyists-they have a different job, but practice beekeeping as a hobby; sideliners – that have other income, but practice beekeeping as an additional job for extra money and commercial beekeepers in which case beekeeping is their only source of income (Pocol, 2006).

The American Marketing Association defines marketing as follows: „the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational goals” (Loudon, 2005). Marketing is the term given to those activities which occur at the interface between the organisation and its customers. It comes from the original concept of a marketplace, where buyers and sellers would come together to conduct transactions (or exchanges) for their mutual benefit (Blythe, 2005). Qualitative marketing research involves the exploration and interpretation of the perceptions and behaviour of small samples of individuals, and the study of the motivators behind observed actions (Palmer, 2000).

Interviews comprise a broad continuum of focused inquiry. At one end, interviews may be informal, unstructured, nondirective, and

conversational. On the other end, they may be formal, highly structured, entirely directive, and administered identically across all informants. Interviews may be conducted with individuals or with groups (Iacobucci, 2001).

MATERIAL AND METHODS

Qualitative research methods are employed to uncover other ways of gaining access to such types of data; they seek to answer the 'why' and 'how' questions, rather than the 'what happened' or 'how many' types of enquiry (Baker, 2003). The three main techniques of qualitative research are: group discussions, individual depth interviews and projective techniques. Smith (1998) includes the following categories of depth interviews: mini-depth interview; semi-structured interview; paired interview and triangular interview (Baker, 2003). This method of marketing research is less structured than most quantitative approaches. The researcher must extract meaning from unstructured responses, such as an interview (Zikmund, 2007). One of the main objectives of qualitative research is to gain preliminary insights into decision problems and opportunities (Hair Jr., 2003). The objective of most marketing research projects is to obtain information about the characteristics or parameters of a population. A population is the aggregate of all the elements that share some common set of characteristics and that comprise the universe for the purpose of the marketing research problem (Malhotra, 2007).

The researcher can pick specific individuals with specific characteristics to be included in the sample. In this case the interviewer is free to include in their quota sample individuals who met this specification. If data collectors are given too much freedom to choose their sample, it can be best described as a convenience sample (Palmer, 2000).

A simple definition of semi structured interview is pre-set questions which the interviewer cannot change, but the respondents may reply using their own words. The advantages to this approach include the fact that it addresses more specific issues, responses are usually easier to interpret than other qualitative approaches and cost advantages are over focus groups (Zikmund, 2007)

RESULTS AND DISCUSSION

Interviews were conducted between 16 May and 05 June 2012 in county seat of Northwest region and in key markets. The market research on honey was made as follows: 16 of May 2012 in Satu Mare and Salaj counties, 17 of May 2012 in Bistrita Nasaud and Maramures counties, 18 of May 2012 in Bihor county and in Cluj county at the beginning of June 2012.

The honey market research in Satu Mare county was undertaken in the principal market from Satu Mare city. In Salaj county the research was carried out in the market of Zalau center from Zalau city. In Bistrita Nasaud county the market research of honey was conducted in Decebal market from Bistrita city. In Maramures county the research was conducted in Izvoarelor market from Baia Mare city. In Bihor county the market research was carried out in Decebal market and Cetatii market from Oradea city. The market research of honey in Cluj county was made in Marasti market and Mihai Viteazu market from Cluj-Napoca city.

In order to constitute sample, large cities were considered that are represented by a large number of beekeepers. Thus, Cluj city comprises a percentage of 27.8% of all respondents in the sample (figure1).

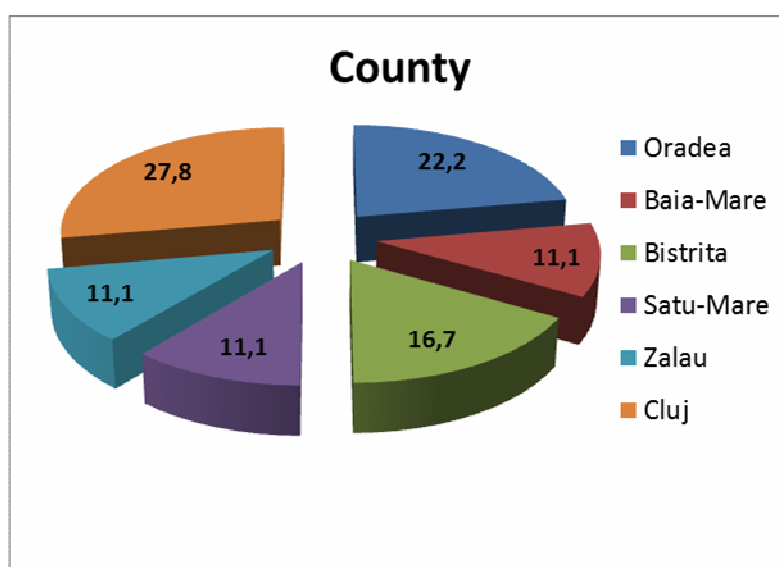


Fig. 1. County interview

Regarding gender, the majority of respondents are female (61%) but this is generally due to the fact that beekeeping is done in the family and the wife is in charge of selling.

Another interesting fact is that the majority of respondents are from urban areas (77%). The explanation to this was given by respondents who mentioned that they are permanent residents in urban areas and beekeeping is practiced at the "country house", with a few hives as a result of the heritage of this occupation and for an additional income. The fact that beekeeping is an inherited occupation is evident even from the low level of income which is less than 1500 RON (83%).

Age is as expected, usually 50 years, only 28% are below 49 years (see table 1).

Respondents' studies are at the high school or vocational school level. A percentage of 27% have high education level and analyzing them separately it can be noticed that they come from urban areas and the age is between 30-39 years old. For them, practising apiculture may be due either to the heritage of this occupation, or a passion or desire to develop a business in this field. This is one of the interesting aspects of the study and deserves further analysis because it reflects how beekeeping remains "in the family" being bequeathed rather than being practiced by novices.

Table 1

Sample structure by age and education

Age group/studies	Percentage of sample %
30-39 years	16.7
40-49 years	11.1
50-59 years	38.9
60 or more	33.3
Professional school	16.7
High school	50.0
Post high school	5.6
College level degree	27.8

Source: Own calculations in SPSS

Most beekeepers come from families with 2-3 members, however, we also find larger families or smaller, so we can say that the distribution of this variable is very close to the normal distribution (see Table 2).

Stationary beekeeping is practiced by all respondents and 61% practice also pastoral beekeeping. The main areas where stationary and pastoral beekeeping is practiced is presented in table 3.

Table 2

Sample distribution according to the number of family members

Number of family members	Percentage of sample
1	11.1
2	27.8
3	33.3
4	16.7
5	11.1

Source: Own calculations in SPSS

Table 3

Placement of hives areas depending on the type of beekeeping practiced

Stationary beekeeping	Pastoral beekeeping
10 km from Sarmaș, Maramureș county	Dobrogea
Blăjenii de sus	Danube, Motru, Vaida Camarasi
Burleni	In Zalău-Crasnei forest
Corod	By all county Bihor
Dobrogea	Sabisa
Gledin-Mohor common	Sarand and Bihor county
Homorod	All Transylvania and south of country
Between Morciș and Ciuperceni	Urziceni forest
Mureș county	Urziceni forest, near Carei 7 km
Racatau, Vaida Camarasi	Mihai valley
Salaj-Sabisa	Mihai valley, Valcea, south of country (Constanta)
Saniob, Valea lui Mihai, Pieleu	
Sarand	
All Transylvania	
Mihai valley	
Mihai valley and Valea Draganului forest	
Beiusului area-Pomezeeu common	
Finisel mountain area	

Source: Own calculations in SPSS

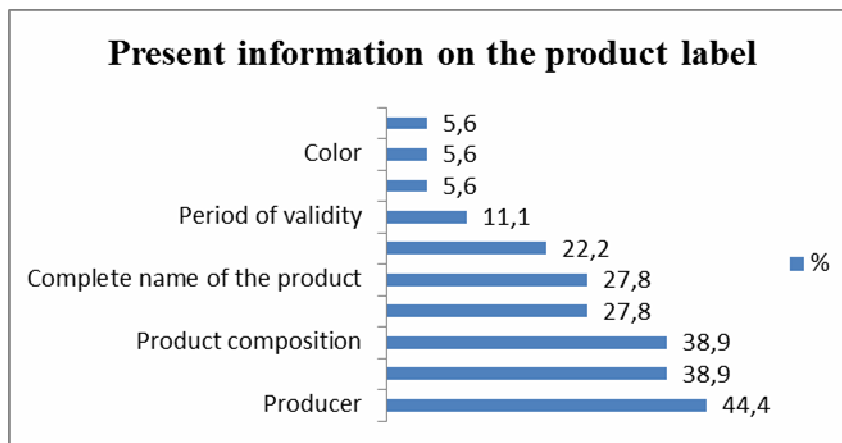


Fig.2 Information considered necessary to be present on the product label

Polyfloral honey is the best sold honey (approximately 50%), followed by acacia honey (43%) and in relatively low percentage by lime

honey (7%). Glass packaging is preferred because it retains the product properties much better, but there is a 10% of beekeepers which are using plastic packaging. In terms of the weight of the containers, beekeepers use mainly medium quantities of 400-500 grams or large quantities of 800-1000 grams. Small quantities are not used by these beekeepers. The glass jar of 500 g is also preferred by consumers and they do not prefer the plastic jar (Pocol, 2008).

An interesting question related to the marketing of honey was the presence of informative items on the label. Information about producer followed by the degree of purity and naturalness of honey product and its composition are elements provided by most beekeepers. There are many beekeepers who believe that price and the full name of the product should appear on the label. Surprisingly, not many people mention the therapeutic effects and recommendations for use (under 5%). This shows that most beekeepers who sell their product in local markets don't have knowledge of new sales techniques and new trends in the market. Therapeutic effects and recommendations for using the product are among the most rated items by marketing people as having strong impact on the purchase decision.

A relevant aspect to consider is whether the information necessary to be present on the product label correlates in any way with the demographic items describing the beekeepers. For this purpose the present research uses Kendall coefficient in association of ranks. Kendall coefficient can be used in the case of variables which show a coding sequence. In the present research: age, income or education containing this order and variables related to product (type of honey, packaging details) are dichotomous values with 0-absent and 1-present denoting a certain order.

Table 4

Correlations aspects of product with demographic variables

		Area	Income	Age	Studies
Linden honey	Kendall Coefficient	-0.19	-0.09	-0.05	0.45
	Significance	0.44	0.72	0.82	0.05
Acacia honey	Kendall Coefficient	-0.56	0.23	0.07	0.13
	Significance	0.02	0.35	0.76	0.56
Polyfloral honey	Kendall Coefficient	0.24	-0.78	-0.32	0.16
	Significance	0.32	0.00	0.15	0.48
Storage conditions	Kendall Coefficient	-0.13	0.63	-0.02	-0.36
	Significance	0.59	0.01	0.92	0.12
Price	Kendall Coefficient	-0.03	0.20	-0.49	0.26
	Significance	0.89	0.42	0.03	0.26

Source: Own calculations in SPSS

Table 4 shows the correlations described above and those for which significance limit is less than 0.05, are in fact significant.

Therefore, the current research presents the correlation with sale and production of acacia honey, polyfloral honey and linden honey.

Linden honey production is preferred by beekeepers with higher education (the connection was deduced from additional tables between variables or from SPSS noting how they are related. Acacia honey is not preferred by beekeepers which are living in rural areas.

Polyfloral honey is the first choice of beekeepers with lower income. This can be explained by the fact that polyfloral honey requires reduced physical or financial effort and is the easiest solution for those beekeepers who practice beekeeping as a hobby or as an additional job.

CONCLUSION

Firstly, the semi-structured interview results have revealed that beekeeping activity is rather done as part of a heritage occupation within the family and the income brought by it is used only to complete an already low income but not to generate a very stable or reliable source of income. It is not necessarily practiced by people leaving on the country side, but rather by people from urban areas who have beehives at the country house.

All beekeepers practice stationary hives and there is also a part of them that go for the pastoral option. As expected, most of the beekeepers (over 70%) are above 50 years old and have a middle level education (high school or professional school). Beekeepers that come out of the age or education range have also particular or special preferences for marketing the honey products.

The analysis of the questionnaire has also identified some preferences for different ways of marketing the honey. It can be noted that polyfloral honey is the best sold honey, followed by acacia honey and in relatively low percentage by linden honey. But the beekeepers who prefer polyfloral honey tend to have a lower income, while those who prefer acacia tend to have a higher education. All beekeepers prefer the medium size packs made of glass and plastic is not well accepted by most of the beekeepers.

The interest in different aspects that the product packing must contain is also differentiated from a beekeeper to another. The most important aspects mentioned by almost all beekeepers are the manufacturer, product purity and chemical composition. Nevertheless, the younger respondents consider price should also be mentioned while the higher income beekeepers mention aspects like storage conditions.

The present study does not provide information regarding the reasons why a certain type of honey is preferred. Thus further qualitative interviews can unveil such aspects while a quantitative survey might be able to identify a correlation between the quantity sold by each beekeeper and methods of marketing the product.

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