

Assessing Consumer Preferences and Attitudes Towards Sea Buckthorn Products: A Case Study in Romania

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Abstract. The aim of the paper is to reveal consumer preferences for sea buckthorn products in the North-Western region of Romania to serve as valuable information to provide assistance to new producers in the sea buckthorn field. The research was conducted in the North-Western region of Romania. Data were collected using an in-person survey, which was carefully designed to capture decision information for management marketing purpose. The most familiar sea buckthorn products are: syrup (75%), tea (65%) and oil (57.50%). The majority of respondents buy for medicinal use. Only 12.50% showed no interest at all in buying such products. Although the internet commerce is highly used in other types of markets, the 'bio customers' prefer to purchase mostly from specialty stores (77%), the most appreciated characteristic of the product being its quality (85%). Most of the people are familiar with at least 3 types of sea buckthorn products and are open to the idea of new products and producers.

Keywords: Sea buckthorn, marketing research, preferences

INTRODUCTION

Turtiainen and Nuutinen (2012) evaluate the public data about the markets of wild berries and mushrooms in the European countries. The authors emphasize that the data are incomplete and no comparison can be made between countries. There are only a few wild berries that receive more attention, such as bilberry, cowberry and cloudberry. Sea buckthorn is considered as part of the wild berry market, but data about the market is not well documented.

There is a limited number of researches carried out on aspects related to the markets for sea buckthorn products. Questions like what to sell, where to sell, how to make people aware about the products are basic questions that any new producer should be able to answer before starting the business. The study of consumer preferences and buying behaviour helps the marketing managers to answer to these questions (Dibb *et al.*, 2006). The marketing manager needs pertinent information in order to develop an efficient marketing plan (Ferrell and Hartline, 2008). The consumer preferences for berries in Romania were analyzed by Man *et al.* (2010), who emphasizes that less than 3% of respondents prefer to consume sea buckthorn. However, the study refers to more types of forest fruits and does not reveal information about the consumption of sea buckthorn products.

The aim of the paper is to reveal consumer preferences for sea buckthorn products in the North-Western region of Romania to serve as valuable information to provide assistance to new producers in the sea buckthorn field.

MATERIALS AND METHODS

The research was conducted in the North-Western region of Romania. Data were collected using an in-person survey, which was carefully designed to capture decision information for management marketing purpose (Dibb *et al.*, 2006). Questions are constructed

in such a manner in which they can be easily understood by anyone and they are able to arouse the respondents' interest throughout the entire discussion. The collected data helps understanding the general awareness people have of the existence and variety of sea buckthorn products, the buy and use frequency and the level of satisfaction with the products they have bought. There were ten sea buckthorn products expected to be evaluated by the respondents. Moreover, the survey also collects a number of general information about the respondents, necessary to determine the potential target market for such products.

The total number of surveys was 120, distributed in three main cities of interest among the North-Western region of Romania. The research was conducted as a preliminary study to assess consumer preferences and attitudes towards sea buckthorn products. Descriptive statistics was used to analyze survey responses. Student's t test was used to determine if there would be a significant difference between male and female responses. ANOVA test was used to determine if there would be a significant difference between the age groups. A p-value of equal or less than .05 was deemed statistically significant.

RESULTS AND DISCUSSIONS

In the first part of the questionnaire, data was gathered concerning the respondents' knowledge and preferences towards the sea buckthorn products. It resulted that 36.67% stated that they are very familiar or familia with the products, whereas only 3.33% stated not at all (Fig. 1).

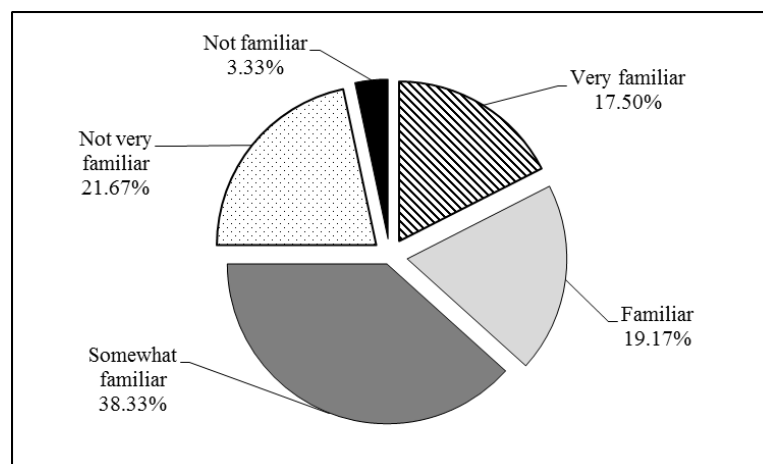


Fig. 1 Familiarity of the respondents with the sea buckthorn products

When asked how many products they have heard of, the majority of the answers were up to 5 products (a total of 82.50%), while only 17.50 % have heard of 5 or more products of this kind. As the respondents had to pick from a list of ten items, the most popular item resulted to be the sea buckthorn syrup (75%), followed by sea buckthorn tea (65%) and sea buckthorn oil (57.50%) (Tab. 1). The least popular item turned out to be the pelt (2.50%), followed by anti-inflammatory cream and jam.

The differences between the average points for understanding if respondents are familiar with the sea-buckthorn products are assessed according to gender. It has been found that there is no statistically significant difference between male and female respondents ($p > 0.05$). The same result was obtained when testing the differences among gender between the average points for understanding if they are interested in buying new sea-buckthorn products from other producers ($p > 0.05$). Only 12.50% showed no interest at all in buying

such products. The top three most popular products are also the most bought ones; however, in this case, the sea buckthorn syrup and the sea buckthorn tea switch positions (Tab. 2). When asked how many products they have purchased, the majority of the answers were up to 5 products (a total of 89.17%), while only 7.50 % have heard of 5 or more sea buckthorn products. There were only 3.33% of respondents who have never bought a sea buckthorn product.

Tab. 1

Familiarity of the respondents with the sea buckthorn products, by type of product

Type of product / Gender	Male (n = 38)		Female (n = 82)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%
Sea buckthorn oil	22	57.89	47	57.32	69	57.50
Anti inflammatory cream	9	23.68	21	25.61	30	25.00
Sea buckthorn pills	12	31.58	25	30.49	37	30.83
Tincture	13	34.21	30	36.59	43	35.83
Tea	25	65.79	53	64.63	78	65.00
Syrup	29	76.32	61	74.39	90	75.00
Juice	15	39.47	26	31.71	41	34.17
Jam	14	36.84	18	21.95	32	26.67
Pelt	1	2.63	2	2.44	3	2.50
Cosmetic lotions	12	31.58	31	37.80	43	35.83

Note: in all cases $p > 0.05$ – no statistical differences between male and female responses, according to t test

Tab. 2

Purchased sea buckthorn products

Type of product / Gender	Male (n = 38)		Female (n = 82)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%
Sea buckthorn oil	13	34.21	30	36.59	43	35.83
Anti inflammatory cream	5	13.16	14	17.07	19	15.83
Sea buckthorn pills	7	18.42	12	14.63	19	15.83
Tincture	8	21.05	18	21.95	26	21.67
Tea	21	55.26	42	51.22	63	52.50
Syrup	17	44.74	43	52.44	60	50.00
Juice	8	21.05	11	13.41	19	15.83
Jam	4	10.53	6	7.32	10	8.33
Pelt	1	2.63	0	0.00	1	0.83
Cosmetic lotions	4	10.53	15	18.29	19	15.83

Note: in all cases $p > 0.05$ – no statistical differences between male and female responses, according to t test

Most of the respondents have heard of the sea buckthorn products from more than one source, the main sources being friends and media (more than 85%). Family members play also an important role in learning about this type of products (50%). Examining the frequency of buying sea buckthorn products, the respondents (93.33%) seem to be generally purchasing this type of goods less than 2 times per month, while only 6.67% of the consumers purchase these more than 2 times per month. Making a comparison between these answers provided by the whole sample and the gender of the respondents, it shows that the slight difference between the male and female tendencies is that women also buy (to a small extent) these

goods more than five times a month (Tab. 3). The frequency of purchasing is not influenced by the consumer's gender ($p>0.05$).

Tab. 3

Frequency of purchasing sea buckthorn products, by gender

Frequency of purchasing / Gender	Male (n = 38)		Female (n = 82)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%
< 2 times/month	36	94.74	76	92.68	112	93.33
2-5 times/month	2	5.26	4	4.88	6	5.00
> 5 times/month	0	0.00	2	2.44	2	1.67

Note: in all cases $p>0.05$ – no statistical differences between male and female responses, according to t test

Regarding the place of purchase, although the internet commerce is highly used in other types of markets, the 'bio customers' prefer to purchase mostly from specialty stores (77,50%), the most appreciated characteristic of the product being its quality (85%). These two aspects may be related to each other, as a specialty store can offer more certainty than Internet shopping and can be seen as a more reliable place for medicinal, cosmetic or alimentary purchases. The customers would also rather buy from trade fairs than from supermarkets (Tab. 4); this can be explained by the poor attainability of bio products among supermarkets and the general tendency to buy natural products directly from the producers (as close as possible to the source and processed as little as possible).

Tab. 4

Preferences regarding the buying location for sea buckthorn products, by gender

Buying location	Male (n = 38)		Female (n = 82)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%
Supermarket	3	7.89	12	14.63	15	12.50
Specialty stores	26	68.42	67	81.71	93	77.50
Internet	2	5.26	1	1.22	3	2.50
Fairs	8	21.05	18	21.95	26	21.67

Note: in all cases $p>0.05$ – no statistical differences between male and female responses, according to t test

Some of the consumers use sea buckthorn products for more than one purpose; medicinal use in a ratio of 80%, followed by alimentary use (36.67%) and cosmetic use (30%). None of the uses does seem to be influenced by the age of the consumers ($p>0.05$) (Tab. 5).

Tab. 5

Percentages for types of use – by age categories

Type of use/ Age categories	< 31 years (n = 77)		31-40 years (n = 18)		41-50 years (n = 11)		> 50 years (n = 14)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%	No. of respondents	%	No. of respondents	%
Alimentary	33	42.86	6	33.33	1	9.09	4	28.57	44	36.67
Medicinal	59	76.62	15	83.33	9	81.82	13	92.86	96	80.00
Cosmetic	24	31.17	3	16.67	5	45.45	4	28.57	36	30.00

Note: in all cases $p>0.05$ – no statistical differences between age groups, according to ANOVA test

However, it should be noticed the large number of respondents aged ‘less than 31’ that stated the medicinal use as being preferred. Analysing by gender (Tab. 6), a higher percentage use may be noticed in female consumers in all cases. Statistical significant difference was found between male and female respondents for the cosmetic use ($p < 0.05$).

Tab. 6

Percentages for types of use – by gender

Type of use	Male (n = 38)		Female (n = 82)		Total (n = 120)	
	No. of respondents	%	No. of respondents	%	No. of respondents	%
Alimentary	17	44.74	27	32.93	44	36.67
Medicinal	29	76.32	67	81.71	96	80.00
Cosmetic *	6	15.79	30	36.59	36	30.00

Note: * $p < 0.05$, according to t test

The individuals who participated in this survey were also asked to state their level of satisfaction for the type of products they have already bought. A list with the same ten sea buckthorn products was given along with a scale from 1 = very satisfied to 5 = not at all satisfied. The average points for the satisfaction levels have been presented in Tab. 7. All products were evaluated with an average satisfaction level situated in the positive appreciation part of the scale. The consumers that have bought so far sea buckthorn products are generally satisfied by their qualities and benefits. According to the t test, there is statistically significant difference between male and female respondents ($p < 0.05$) only in the case of sea buckthorn oil and syrup.

Tab. 7

Products satisfaction level

Products	Male Mean \pm SD	Female Mean \pm SD	t test
Sea buckthorn oil	3.00 \pm 1.15	2.03 \pm 1.24	-2.387*
Anti inflammatory cream	2.64 \pm 1.67	2.28 \pm 1.54	-0.383
Sea buckthorn pills	2.86 \pm 1.68	2.50 \pm 1.17	-0.548
Tincture	1.87 \pm 1.46	2.17 \pm 1.54	0.452
Tea	2.07 \pm 1.28	2.19 \pm 1.19	0.437
Syrup	3.06 \pm 1.67	2.13 \pm 1.35	-2.211*
Juice	2.38 \pm 1.92	2.27 \pm 1.35	-0.137
Jam	3.25 \pm 2.06	2.67 \pm 1.03	-0.601
Cosmetic lotions	2.25 \pm 1.50	2.50 \pm 0.91	0.256

Note: Pelt was evaluated by only 1 person, therefore no analysis performed;

* $p < 0.05$, according to t test

The second part of the questionnaire provides information on the socio-demographic characteristics of respondents, data that may help the marketing manager to envision the future target market. This phase is important in order to develop efficient strategies for new sea buckthorn products (Tab. 8).

The average age for the entire sample is 32, with a minimum of 19 and a maximum of 67 years old. The majority of respondents were in the ‘less than 31’ age group. When the data is evaluated by gender, the percentage of male in the ‘less than 31’ age group is 73.68%,

while that of the females is 59.76%. It can be said that the young generation is willing to consume healthy products. When the occupation status of respondents was examined, it was observed that 76.67% are employed and 18.33% are students. As regard to income, all offered levels were encountered among respondents.

Tab. 8

Socio-demographic characteristics of respondents

Characteristics/ gender		Male (n = 38)		Female (n = 82)		Total (n = 120)	
		No. of respondents	%	No. of respondents	%	No. of respondents	%
Age (years)	< 31	28	73.68	49	59.76	77	64.17
	31-40	6	15.79	12	14.63	18	15.00
	41-50	1	2.63	10	12.20	11	9.17
	> 50	3	7.89	11	13.41	14	11.67
Work	Employed	22	57.89	70	85.37	92	76.67
	Retired	0	0.00	2	2.44	2	1.67
	Private activity	3	7.90	1	1.22	4	3.33
	Student	13	34.21	9	10.97	22	18.33
Income (RON)	700-1200	20	52.63	14	17.08	34	28.34
	1200-1700	6	15.79	19	23.17	25	20.83
	1700-2200	7	18.42	18	21.95	25	20.83
	> 2200	4	10.53	13	15.85	17	14.17
	Confidential	1	2.63	18	21.95	19	15.83
Total		38	100.00	82	100.00	120	100.00

CONCLUSION

Based on the obtained results, some general tendencies could be appreciated regarding the knowledge and consumption of seabuckthorn products in the studied area.

Most of the people are familiar with at least three types of sea buckthorn products and are open to the idea of trying new products provided by new producers. Due to the fact that the consumers would rather buy sea buckthorn products for medicinal purposes, the sea buckthorn oil seems to be the best choice to promote further. As the most important aspect to be taken into account when purchasing this sort of goods resulted to be the quality, it is essential to reveal as much benefits as possible. Also, based on the information gathered using the survey, the target market for sea buckthorn products is more likely consisting of women, as they may have a wider range of uses for the products. Though the sea buckthorn products do not represent frequently purchased items (most of the respondents do not buy more than two times per month), the majority of the respondents are willing to try new products from this field. The promotion and distribution of future sea buckthorn products through specialty stores seems to be a good choice. However, the internet should not be neglected for gaining new potential consumers, especially young ones, and for increasing the level of knowledge regarding the products.

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