

MEASURING THE SATISFACTION OF CONSUMERS OF APPLE JUICE. CASE STUDY

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Abstract

Starting from the important role that consumer perception plays in the success of a business, in this paper we set out to analyze their perception of the apple juice obtained from an agricultural farm in Dambovita county. The study was attended by 103 respondents who were asked a questionnaire consisting of 12 questions, the survey taking place face to face. The data were processed using statistical methods, being interpreted using the Likert scale and highlighting that the product is rated with an overall score of 4.08 points out of a maximum score of 5 points. Based on this study, the owners want to know both the consumers' perception of the apple juice they produce and market, as well as finding solutions to improve their marketing activity so that their products are as attractive as possible, and then to leads to increased market share and the profitability of the activity.

Key words: quality, satisfaction, consumer, profitability

INTRODUCTION

The quality of the products is one of the factors that influence the purchasing decisions of the consumers, and the success of the business depends on the perception of the customers regarding the services or products marketed, regardless of the sector of activity. Generally, customers are willing to pay extra to get better quality products, but they have become more informed, more demanding and more careful with the money they spend.

In order to improve the quality of a product, it is often not necessary to make large investments, but to change the way the production is obtained, the way it is presented or promoted.

In the case of agricultural products, the same principle applies to the quality of the products and their promotion. In general, however, small producers do not have the means to promote their products, so they face numerous barriers to marketing [2].

Producers who are not aware of the important role that customers have in developing their

business and who focus only on production, will not get the expected results [1].

That is why the marketing strategies that are today in a continuous change have an important role, due to the shocking audience, but also due to the latest trends in the field. That's why the words that define the new marketing are creativity, targeting, multichanneling and data integration [11]. Also, the use of psychology in identifying consumer preferences will continue to be a challenge in identifying consumer preferences [9]. Also, personalizing the product, creating the brand, but also simplicity and authenticity can be advantages in attracting consumers [10].

Therefore, each manufacturer must try to identify what could be made of the product or product sought by the market.

And it should not be forgotten that the success and failure of a business can be influenced by many other factors, by preferences, but also by the whims of consumers, which in the end means demand and supply [3].

In this paper we set out to analyze consumers' perception of one of the most common products on the market, fruit juice.

Studies show that fruits and vegetables are important elements in the diet, they should be consumed daily in an amount of about 400 g, divided into 5 servings. And because most of the time this is not the case, for convenience or inactivity, fruit juices can be a solution in providing the necessary vitamins, carbohydrates, minerals and polyphenols. Moreover, juices can be easily purchased, transported, stored and consumed. Due to the pasteurization process they retain their properties and can be kept for a few days after opening.

As the data published by the National Institute of Statistics show, fruit consumption in Romania in 2015 was 87.8 kg / inhabitant. In 2016 it increased by 8.2 kg / inhabitant, and in 2017 the increase was only 0.1 kg / inhabitant in 2016 [4, 5]. A study by Havas Media shows that in 2017 the consumption of fruit juices increased by 3-5 liters/week compared to 2015 and 2016, demonstrating the increasing interest of the market towards this product.

However, this consumption should be analyzed in correlation with the production of fruit and fruit juices. Although the Romanian orchards benefit from favorable conditions for obtaining high yields, the areas cultivated with fruit trees have decreased compared to the 1980s, when they occupied almost 290 thousand hectares, currently reaching an area of about 138 thousand hectares [6].

Statistical data show that the average area of an agricultural holding holding apple orchards is 2 to 5 ha [7]. Under these conditions, the competitiveness of such a farm depends to a large extent on the ratio between the production that is intended for fresh consumption and that for processing. Although the processing industry, for both fruits and vegetables at the level of Romania is about 160,000 to/year, there is still potential for development in this sector.

Due to the fact that Romania imports high quantities of fruits and vegetables, which compete with domestic production, and the producers face problems related to marketing,

they have resorted to processing as a way of absorbing excess production.

One of the causes of their problems is the lack of vertical integration to ensure the relationship between producers and processors. Another element is that related to the perishability of fruits, which causes the producers to resort to finding solutions to reduce losses.

Therefore, due to the perishability of the production, its low quality, the low prices of capitalization, but also the lack of possibilities of capitalization, the producers in this sector have invested in small processing factories through which fruit production is transformed into juices.

This is also the case of a family farm in Dambovită county, which has a surface of 3.2 ha with fruit trees, of which 92% are apples and which also has a natural apple juice factory with a capacity of 1,000 l / hour. In addition to the fruits obtained from its own production, the farm produces juice and fruits purchased from the area that is located in a fruit basin.

Analyzing the production of apples, we find that in the county of Dambovită it has had an oscillating evolution in recent years. If the production level was 96.6 thousand tons in 2007, in 2008 it decreased to 39.6 thousand tons, and in 2014 it was 41.6 thousand tons. One of the causes was the climatic conditions. Then in 2015 and 2016, production increased, reaching 63.1 thousand tons in 2017 (Fig.1).

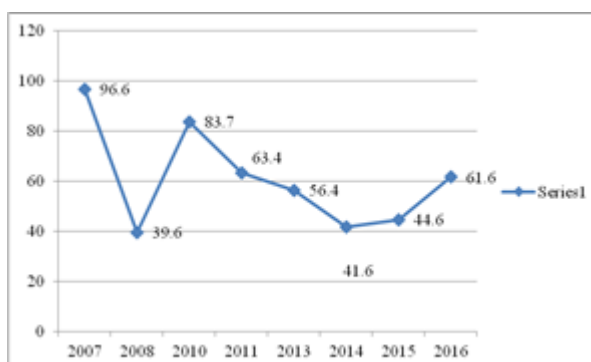


Fig. 1. Evolution of apple production in 2007-2016 (thousands of tons)

Source: Own calculation [8].

The manufacturing technology used in the processing plant involves washing, chopping, pressing, pasteurizing and packing. The

packaging is done in plastic bottles, as well as through the bag-in-box system. Juices do not contain preservatives, additives or flavors. In addition to apple juice, other juices are obtained that contain combinations between apples and other natural juices (pears, carrots, beets, etc.).

Since the producers are permanently interested in increasing the quality of the products they market, the improvement of their marketing activity, during the period September - November 2019 they conducted a survey among the buyers who bought the apple juice both directly from the factory and among the buyers from fairs and exhibitions through which their products were marketed.

MATERIALS AND METHODS

The objective of this paper is to analyze the satisfaction of the customers regarding the consumption of apple juice. In this respect, the respondents were asked a questionnaire consisting of 12 questions, as follows:

- (i) How often do you buy apple juice?
- (ii) What kind of natural juices do you prefer?
- (iii) What fruit additions would you like in apple juice?
- (iv) What are the reasons why you buy apple juice?
- (v) What would be the element on which you intervened, in order to improve the quality of the apple juice?
- (vi) How satisfied are you with the taste of the product?
- (vii) How satisfied are you with the product packaging?
- (viii) How satisfied are you with the price of the product?
- (ix) How satisfied are you with the value for money of the product?
- (x) How satisfied are you with the overall quality of the apple juice?
- (xi) Would you recommend the product to other consumers?
- (xii) Do you still purchase our product?

The questionnaire also included demographic data regarding the respondents, namely: sex, age, education, income and environment.

The research was based on the application of the questionnaire and on the analysis and interpretation of the data.

For the demographic data, the frequencies and the percentage were calculated, and for the determination of the monthly income and the age, the mean squared deviation and the statistical mean were used.

Thus the mean squared deviation was determined based on the formula:

$$\delta_2 = \sum_{i=1}^n \frac{(xi-\bar{x})^2}{n-1} \quad [12]$$

The statistical average was calculated using the formula:

$$\bar{X} = \frac{\sum_{i=1}^n xi}{n}$$

The other information regarding the satisfaction of consumers regarding the quality of apple juice and which were based on questions with a favorable or unfavorable answer was analyzed and processed. The 5-level Likert Scale was used (highly satisfied, satisfied, satisfactory, neither satisfied or dissatisfied, dissatisfied, highly dissatisfied).

RESULTS AND DISCUSSIONS

The sample to which the questionnaire on the satisfaction of the consumers of natural apple juice was applied comprised 103 people, who purchased different types of apple juice during the period September - November 2019.

The socio-demographic characteristics of the interviewed consumers are presented in Table 1.

Out of the total 103 people, 60% were women and 40 men. In those regarding age, the highest weight was held by persons between 35-45 years (37.86%), followed by those aged 55-64 years (33.98%). The average square deviation was 13.25.

Of the total number of interviewees the majority have secondary studies (51.46%), followed by those with university studies (37.86%) and those with high school studies (10.68%).

As far as incomes are concerned, most of those who buy apple juice are those with incomes over 4,000 lei (41.75%). The calculated deviation was 13.05.

Analyzing the residence environment we find that 66% of the buyers come from the urban area and 34% from the rural area.

Table 1. The socio-demographic characteristics of the interviewed consumers

	Frequency	Percentage
Gender		
Female	41	39.81
Man	62	60.19
Age		
18-34	12	11.65
35-54	39	37.86
55-64	35	33.98
65 and over	17	16.50
Education level		
Gymnasium	11	10.68
Secondary	53	51.46
University	39	37.86
Monthly income level (lei/month)		
1000-2000	12	11.65
2001-3000	21	20.39
3001-4000	27	26.21
over 4000	43	41.75
Residence environment		
Urban	68	66.02
Rural	35	33.98

Source: Own calculation.

Regarding the frequency of consumption of apple juice, 26% of the respondents replied that they consume it frequently, 17% very often, and 57% occasionally.

Regarding the assortments of preferred apple juices 52% preferred the simple apple juice, and 48% appreciated that I prefer the apple juice with different fruit additions.

For the question of why other fruit additions prefer consumers to be added to apple juice, 28% prefer the addition of clams, 24% the addition of pears, 18% the addition of carrots, 14% the addition of red beets, and 16% do not know. The answer regarding the element on which the product should be intervened, 61% of the respondents appreciated the quality of the product (color, taste, etc.), 17% the quality of the packaging, 9% the weight, and 3% do not know. From the analysis of the data regarding the satisfaction of the consumers regarding the taste of the product, it is found that the average obtained is of 4.46 points out of a maximum of 5 points.

Thus 68% of buyers are highly satisfied, 14% satisfied, and 15% undecided (Table 2).

Table 2. Customers' satisfaction regarding with taste the products

	Highly satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Highly dissatisfied	Total	Score
	5	4	3	2	1		
Frequency	70	14	15	4	0	103	4.46
Percentage	68	14	15	4	0	100	

Source: Own calculation.

Analyzing consumers' perception of the product packaging it is found that only 41% of the respondents are very satisfied with its design, and 26% are satisfied, which resulted

in a score of 3.96 points granted to this criterion. Thus, it is found that a fairly large weight, 33% consider that the appearance of the packaging is not very attractive (Table 3).

Table 3. Customers' satisfaction regarding with product packaging

	Highly satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Highly dissatisfied	Total	Score
	5	4	3	2	1		
Frequency	42	27	22	12	0	103	3.96
Percentage	41	26	21	12	0	100	

Source: Own calculation.

The next criterion analyzed was the one regarding the price of the product, the question referring rather to how fair the price is and not to its level, considering that the juice marketed is 100% natural. Therefore

78% of the buyers consider it to be the right one, 13% are undecided, and 5% consider the price high or very high. The score obtained for this criterion was 4.02 points (Table 4).

Table 4. Customers' satisfaction regarding with product price

	Highly satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Highly dissatisfied	Total	Score
	5	4	3	2	1		
Frequency	45	35	13	5	5	103	4.02
Percentage	44	34	13	5	5	100	

Source: Own calculation.

From the analysis of the degree of customer satisfaction regarding the quality-price ratio resulted in a score of 3.69 points.

It is found that 69% of buyers consider this report to be correct, while 20% consider it rather high (Table 5).

Table 5. Customers' satisfaction regarding with quality-price ratio

	Highly satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Highly dissatisfied	Total	Score
	5	4	3	2	1		
Frequency	38	33	12	11	9	38	3.69
Percentage	37	32	12	11	9	37	

Source: Own calculation.

Responses regarding the overall quality of apple juice revealed a score of 4.28 resulting

from the appreciation of 78% of buyers (Table 6).

Table 6. Customers' satisfaction regarding with quality of apple juice

	Highly satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Highly dissatisfied	Total	Score
	5	4	3	2	1		
Frequency	65	15	14	7	2	103	4.28
Percentage	63	15	14	7	2	100	

Source: Own calculation.

To the question regarding the recommendation of the product and to other buyers the answer was 72% affirmative and 28% negative, the reasons being generally the price (for the negative answers) or the taste (for the affirmative answers).

the apple juice is appreciated by the interviewed consumers.

CONCLUSIONS

The present paper is a proposal to analyze the satisfactory clients regarding the quality of the natural juice of simply obtaining an operating family from Dâmbovița county.

The conclusions of care were clear regarding the conduct of a consumer opinion poll on the juice of only one of the following aspects:

- Customers appreciated with the highest score the taste quality, as well as the overall quality of the apple juice;
- The ratio between quality and price was considered to be a good one, but the score obtained was the lowest for the analyzed criteria. The price could be considered high compared to other products on the market, but the fact that the product is 100% natural leads to the conclusion that it is correct;

Table 7. The global score for apple juice

Analyzed quality criteria	Score
Taste quality	4.46
The quality of the packaging	3.96
The price of apple juice	4.02
Quality-price ratio	3.69
The quality of apple juice	4.28
The global score for apple juice	4.08

Source: Own calculation.

From the centralization of the scores regarding the satisfaction of the consumers regarding the apple juice, a general score of 4.08 was obtained (Table 7), which shows that

- Customers appreciated with the highest score the taste quality, as well as the overall quality of the apple juice;
- The ratio between quality and price was considered good, but the score obtained was the lowest for the analyzed criteria. The price might be considered high compared to other products on the market, but the fact that the product is 100% natural leads to the conclusion that it is correct;
- The production and marketing of apple juice is a way of capitalizing on both low quality production, but also a way of capitalizing on production, when selling prices for apples are low.
- Capitalizing on apple production by this means is an example of integrating agricultural production and increasing the incomes of small producers.

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