

## USING SENSORY ANALYSIS AND SENSORY MARKETING AS MODERN MEANS OF SATISFYING CONSUMER PREFERENCES

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### **Abstract**

*The world is constantly changing, both in terms of consumption habits, consumption patterns or consumer attitudes. Therefore, producers must pay much more attention not only to the products obtained, but also to the way in which these products are promoted and reach these consumers. That is why the marketing techniques had to keep up with these changes and which led to the separation of new promotion channels and new ways of promotion, all with the aim of increasing sales. In this paper we aim to discuss sensory marketing that starts from the data provided through sensory analysis tests that aim to either identify sensitive points that appear in technological schemes or extend the life cycle of products, in the end, they aim at both consumer satisfaction and ensuring profit for producers. The research methodology involved reviewing the literature, collecting information through questionnaires to which the valid answers belonged to a number of 127 respondents. The data processing was done using descriptive statistical methods and the Likert scale, and the interpretation of the data allowed us to draw conclusions about how the relationship between sensory analysis and sensory marketing could be used so that the results are used as efficiently as possible.*

**Key words:** sensory marketing, sensory analysis, consumer, profitability

### **INTRODUCTION**

Both marketing and sensory analysis are the so-called "moments of truth". There are times when the manufacturer can see if the products he gets and wants to sell are accepted and appreciated by the consumer. If marketing is the first of these moments, sensory analysis is certainly the second moment, depending on which consumer makes the decision to buy or give up a product. Therefore, sensory analysis identifies consumer preferences that can contribute to the improvement of manufacturing technologies, the development of new products or the anticipation of the success or failure of a product before its launch into production and before its release on the market. At the same time, based on the decisions taken, the lifespan of some of the products can be extended [5].

In order to obtain the desired results, a combination of the two fields is needed, their modernization because the traditional methods drag modernized with the

modernization of consumers, with the change of their generations and consumption habits [4]. Starting from the features of consumers, marketing must be based on personalizing the relationship with them, on their individuality, on stimulating the senses, thus becoming a psychological or sensory marketing, the notion of sensory brand is not a recent one, it appeared in the '40s advertising began to use visual images, so to use the sense of sight [9, 3]. Therefore, sensory marketing appeals to one of the 5 senses (sight, hearing, smell, taste, tactile sense) or a combination of these senses, thus replacing logic and aiming to create a reflex reaction or emotional association with a certain brand or with a product [2, 6, 7].

The use of sight in sensory marketing is based on colour, graphics, image, text, light; hearing use is based on thematic music and sound effects; the use of smell involves the use of aromas and perfumes; the use of tactile sense on the possibility of testing the products, of

touching them; the use of taste involves trying samples.

There are many such examples, the orange colour associated with the Orange brand, the pumpkin smell associated with Starbucks coffee, the use of touch sense to recognize an iPhone, certain musical fragments associated with brands (ex. Jumbo), etc.

Specialty studies show that in 90% of cases the choice of products is made starting from the colour associated with them or from the way in which a colour is associated with a brand or a product. Although there is a direct link between colour and colour perception (red means emotion, blue reliably, etc.), modern marketing tries to overcome these stereotypes and find a brand identity [5].

Scent marketing is also a way of sensory marketing that cannot yet pass in the online environment and which tries to create attachment to the brand and which consists in providing a signature that distinguishes products from others on the market. It is likely that solutions to print these thematic, environmental and online promotion scents will soon be found through the use of flavour dispersers, which will be able to contribute to increasing the attachment to a certain brand, and will strengthen companies' strategies development by using emotional factors in their marketing strategies.

In this context, the purpose of the paper was to analyze the connection between sensory analysis and sensory marketing used in the specific scientific researched destined to assess consumer preferences.

## MATERIALS AND METHODS

Establishing the relationship between sensory analysis and sensory marketing involved the study of literature, articles published in databases such as Web of Science, Google Scholar and Science Direct, and other sites dedicated to the topic, in order to perform an analysis detailed and for formulating conclusions and recommendations in order to increase the efficiency of the promotion and marketing of goods.

The study was based on a survey conducted through an online questionnaire answered by

127 random respondents who are customers of mall stores in Bucharest. The questionnaire had 10 questions with both multiple answers and hierarchical questions, which aimed to determine how the different elements of sensory marketing influence the behavior of consumers of non-food products.

The questionnaire also included demographic data regarding the respondents (sex, age, education, income, environment).

The research in this paper was based on the application of the questionnaire of the group of respondents, on the analysis of the data and on their interpretation.

In order to establish the information regarding the demographic data, the frequencies and the percentage were calculated. For the calculation of the monthly income, but also of the age, we used the quadratic mean deviation and the statistical mean, which were calculated based on the following formulas:

$$\delta_2 = \sum_{i=1}^n \frac{(x_i - \bar{x})^2}{n-1}$$

$$\bar{X} = \frac{\sum_{i=1}^n x_i}{n} \quad [1, 10]$$

The Likert rating scale, with 4 ratings, is used to measure buyers' preferences, which is a forced scale, but which offers non-overlapping options that offer open answers [8]. Although it generally uses from 5-7 steps of appreciation, other values can be used.

For the uniform distribution, descriptive statistics and the chi-square test were used both in the data analysis and their comparison in order to formulate the conclusions.

## RESULTS AND DISCUSSIONS

The sample to which the online questionnaire was applied on how the elements of sensory marketing influence purchasing decisions included a number of 127 people for whom the answers were validated.

The questions contained in the questionnaire were the following:

- (1) Does the light and design of the shop windows influence your purchasing decision?
- (2) How do you feel when the light and design of the windows are attractive?

- (3) Can you associate an environmental scent with a brand?
- (4) Do you prefer a strong ambient odor or a subtle odor?
- (5) How do you feel when you can associate an ambient smell with a certain brand?
- (6) What kind of music do you like in a store?
- (7) How do you feel when you hear a favorite song in a store?
- (8) Do you use tactile sense when purchasing goods?
- (9) What is the order in which the following sensory elements influence your purchasing decisions?
- (10) What do you consider to be the factors that influence your purchasing decisions the most?

**Socio-demographic features of the respondents**

Of the total number of individuals included in the sample, 67% were women and 23% men. Out of the total number of respondents, the majority have university studies (61.17%), followed by those with secondary education (29.65%) and those with secondary education (9.18%).

Regarding the incomes, 37.23% have incomes over 10,001 lei/month, 26.14% have incomes between 5,001 lei - 10,000 lei/month, 20.92% have incomes between 2,501 lei - 5,000 lei, and 15.71% have lower incomes of 2,500 lei/month.

Analyzing the residence environment, we find that 57% of buyers come from urban areas, 34% from suburban areas, and 9% from rural areas.

Regarding the frequency of visiting mall stores, 48% of respondents answered that they visit them once a week, 33% 2-3 times a week, and 19% occasionally (Table 1).

Questions 2, 5 and 7 had four answer options regarding how the respondents feel about the hypotheses tested: excited, relaxed, happy or indifferent.

Regarding the way in which consumer behavior is influenced by the atmosphere of

the store, to the question "How do you feel when the light and the design of the windows are attractive?" it is found that out of the 127 respondents, the largest share of those in the age group between 18-35 years, that is, 48% said they enjoyed it, and 30% of them felt exciting or were not impressed by the presence of lights. In the age group between 36-55 years, 40% feel enjoy, and 26% feel relaxed. In the age group between 56-65 years, the largest share of respondents feel relaxed (32%) and none of them feel excited. These results are shown in Table 2.

Table 1. The socio-demographic characteristics of the consumers

	Frequency	Percentage
<b>Gender</b>		
Female	85	67.02
Man	42	32.98
<b>Age</b>		
18-35	44	34.87
36-55	47	36.96
56-65	22	17.14
Over 65	14	11.03
<b>Education level</b>		
Gymnasium	12	9.18
Secondary	38	29.65
University	78	61.17
<b>Monthly income level (lei/month)</b>		
>2,500	20	15.71
2,501-5,000	27	20.92
5,001-10,000	33	26.14
over 10,001	47	37.23
<b>Residence environment</b>		
Urban	73	57.12
Periurban	43	33.68
Rural	12	9.20
<b>Frequency of visits</b>		
Once a week	61	48.21
2-3 times a week	42	33.17
Occasionally	24	18.62

Source: Own calculation.

Table 2. How do you feel when the light and design of the windows are attractive?

	Age				Total
	18-35	36-55	56-65	Over 65	
Exciting	5	7	4	0	16
Relaxing	13	12	7	4	36
Enjoy	21	19	6	5	51
Nothing	5	9	5	5	24
<b>Total</b>	<b>44</b>	<b>47</b>	<b>22</b>	<b>14</b>	<b>127</b>

Source: own processing.

Therefore, the visual experience of the group 39%, relaxed for 25%, and 23% are of respondents is appreciated as enjoy for indifferent (Table 3).

Table 3. Correlation of the tested hypothesis regarding the light and the design of the showcases

	Age			
	Frequency	Percent (%)	Valid percent (%)	Cumulative percent (5)
Exciting	16	12.5	12.6	12.6
Relaxing	36	25.0	25.2	37.8
Enjoy	51	39.1	39.4	77.2
Nothing	24	22.7	22.8	100.0
<b>Total</b>	<b>127</b>	<b>99.2</b>	<b>100.0</b>	
<b>System</b>	<b>1</b>	<b>0.8</b>		
<b>Total</b>	<b>128</b>	<b>100.0</b>		

Source: own processing

When asked how customers feel when they can associate a brand with the environmental smell, for the age group between 18-35 years, the highest percentage (45%) feel enjoy, 25% relaxed and 16% they are different (Table 4).

Table 4. How do you feel when you can associate an ambient smell with a certain brand?

	Age				Total
	18-35	36-55	56-65	Over 65	
Exciting	6	5	2	1	14
Relaxing	11	22	6	3	42
Enjoy	20	11	5	4	40
Nothing	7	9	9	6	31
<b>Total</b>	<b>44</b>	<b>47</b>	<b>22</b>	<b>14</b>	<b>127</b>

Source: own processing.

What is found is that for the age groups between 56-65 and over 65 the association of the brand with an environmental smell is no longer perceived as important, but rather relaxing for 27% of respondents in the group 56-65 years or enjoy for 29% of respondents over 65 years.

Table 5. Correlation of the tested hypothesis regarding the environmental smell of a brand

	Age			
	Frequency	Percent (%)	Valid percent (%)	Cumulative percent (5)
Exciting	14	10.9	11.0	11.0
Relaxing	42	32.8	33.1	44.1
Enjoy	40	31.3	31.5	75.6
Nothing	31	24.2	24.4	100.0
<b>Total</b>	<b>127</b>	<b>99.2</b>	<b>100.0</b>	
<b>System</b>	<b>1</b>	<b>0.8</b>		
<b>Total</b>	<b>128</b>	<b>100.0</b>		

Source: own processing.

The experience of associating the brand with the environmental smell is enjoyable for 32% of the respondents and relaxing for 33% of them. The percentage of those who are indifferent at the time of association is quite

high (24%). However, this can also be based on the individual ability of the respondents to perceive certain smells or to associate them with a certain brand (Table 5).

Table 6. How do you feel when you hear a favorite song in a store?

	Age				Total
	18-35	36-55	56-65	Over 65	
Exciting	7	16	4	1	28
Relaxing	13	12	6	2	33
Enjoy	21	12	8	5	46
Nothing	3	7	4	6	20
<b>Total</b>	<b>44</b>	<b>47</b>	<b>22</b>	<b>14</b>	<b>127</b>

Source: own processing.

When respondents were asked about how they feel when there is ambient music in a store, for those in the 18-35 age group it is found that this is important given that 93% they feel excited, happy or relaxed. For the 36-55 age group, those who try these hemorrhages

represent 85%, for those in the 56-65 age group the percentage is 89%, and for those over 65, the percentage is 57%. Therefore, the presence of ambient music greatly influences the customer when entering a store (Table 6).

Table 7. Correlation of the tested hypothesis regarding ambient music

	Age			
	Frequency	Percent (%)	Valid percent (%)	Cumulative percent (5)
Exciting	28	21.9	28.3	22.0
Relaxing	33	25.8	26.0	26.0
Enjoy	46	35.9	36.2	36.2
Nothing	20	15.6	9.4	15.7
<b>Total</b>	<b>127</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>System</b>	<b>1</b>	<b>0.8</b>		
<b>Total</b>	<b>128</b>	<b>100.0</b>		

Source: own processing.

Out of the total number of respondents to the interview question regarding the state created by the presence of ambient music at the time of shopping, almost 36% of respondents feel happy, 26% feel relaxed, 22% excited, and 16% are indifferent (Table 7).

For questions number 1, 3 and 8, the Likert scale of appreciation was used, and the answer options were: very much, much, very little and not at all.

When asked how the design of shop windows, light, atmosphere can influence purchasing decisions or attract the attention of visitors, 22% of respondents considered that these aspects influence them a lot, 10% quite a lot, and 37% are quite influenced. Little or not at all, the motivation being that when they want

to purchase a certain known or desired product they do not let themselves be influenced by the environment.

The distribution of the respondents' answers to question 1 "How do you feel when the light and design of the windows are attractive?" is highlighted in Figure 1. It reflects that most of the consumers (41%) are impressed " a lot" by what they can see in the shops windows. Also, 22% are very much impressed, 21 % are very little impressed and 16% are not at all impressed. This is an important result for the shop owners who has to think how to arrange the shop windows in a more attractive manner to impress the potential clients to visit the shop and identify and buy the products they are interested to.

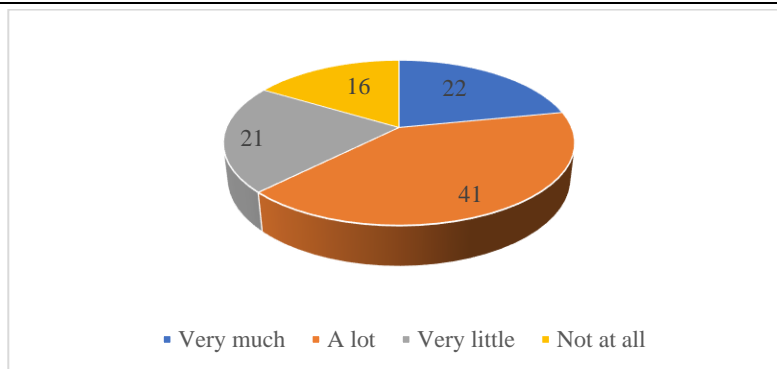


Fig. 1. Distribution of the respondents' answers to question 1 "How do you feel when the light and design of the windows are attractive?"

Source: own processing.

When asked about the possibility of associating a brand with an environmental smell, 20% of respondents were able to associate this smell very well, and quite well they were able to associate 42% of them. Almost 38% of the respondents could not achieve this association or managed quite

hard to achieve the association, but this is related to the individual's ability to perceive smell or olfactory memory. Therefore, olfactory sensory marketing can use the ability of buyers to associate a scent with a particular brand, precisely to create customer loyalty (Figure 2).

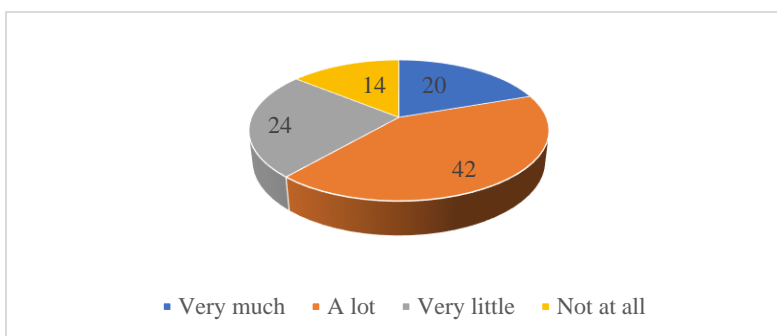


Fig. 2. Distribution of the respondents' answers to question 3 "Can you associate an environmental scent with a brand?"

Source: own processing.

When asked how tactile sense influences purchasing decisions, 35% of respondents (21% very little and 14% not at all) considered that this aspect influences their purchasing decision quite little or not at all, considering that a large part of the purchased goods does not allow this due to the packaging, but 65% of buyers are influenced by the possibility of touching non-food products at the time of purchase (Figure 3).

These answers could led to an improvement of the marketing strategy applied by shop owners in the sense to increase the importance of information written on packages in order to

develop consumers' curiosity or to convince them to purchase a product. This is especially important for packaged goods.

In case of other products, like clothing, footwear, leather goods, household appliances, electronics, cars etc, clients could touch the products and use their tactile sense to identify what they like or dislike to that product.

In fact, while a client is looking for a good to buy it is very important to touch it, to try it, to feel its texture, fineness/harshness etc which are features closed connected to product quality.

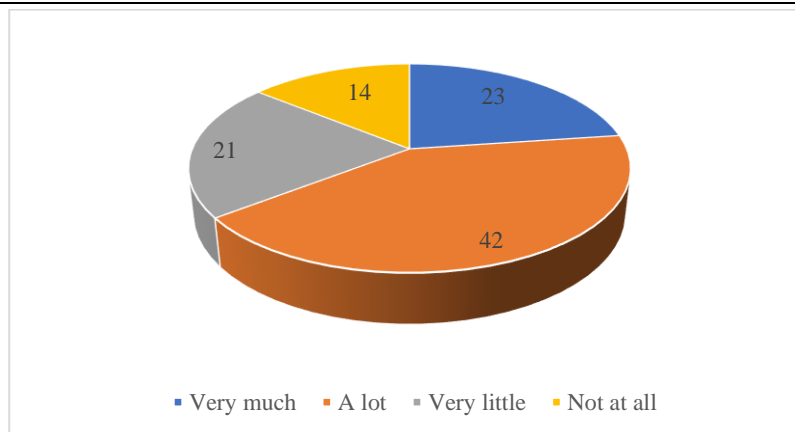


Fig. 3. Distribution of the respondents' answers to question 8 "Do you use tactile sense when purchasing goods?"  
Source: own processing.

Question 4 was a closed-ended question that measured consumers' preferences regarding the ambient smell in a store. Thus, 84% of the respondents preferred a subtle smell, and 16% a strong smell. As age groups, mainly in the category of consumers who prefer a strong smell, young people aged 18-35 were included.

When asked about the musical style that buyers want to represent ambient music, this style also depends on the age and preferences of the respondents. Thus, 18% of them prefer classical music, most of them belonging to the 56-65 age group (23%), followed by only 1.5 percentage points of the 36-55 age group. Regarding the preferences for pop music, it is preferred by the majority of respondents (44%). Compared to the favorite music category by age groups, we find that 39% of those aged 18-35 prefer the pop style, 46%, from the group 36-55 years, 50% from the age group 56-65 years and 42 % of those over 65 years of age. Rhythmic music is preferred by 15% of respondents, and 68% of them are between 18-35 years old. Relaxation music is preferred by 23% of respondents, distributed as follows: 28% aged between 18-35 years, 34% aged between 36-55 years, 17% aged between 56-65 years and 21% with over 65 years old. Therefore, the choice of ambient music in order to influence the purchase decision can be made depending on the age of buyers, but also gender, because of the 18% attributed to lovers of classical music 15% are women and 3% are men, of the 44% who prefer pop music 31% were women and 11%

men, of the 15% respondents who prefer rhythmic music 8% were women and 7% men, and of the 23 percent owned by those who prefer relaxation music 14% were women and 9% men, given the share of the sample. However, if we refer to the number of respondents, by categories of musical preferences, we see that 74% of women prefer classical music compared to 26% of men, 71% of respondents who prefer pop music are women, compared to 29% men, 53% of those who prefer rhythmic music are women compared to 47% men and 62% of respondents who prefer relaxing music are women, compared to 38% men.

The last question was about the factors that could influence their purchasing decisions. If 62% of the respondents considered that the objective reasons influence their comparison decisions, the remaining 38% answered that often the ambiance or emotional state influences their purchase decision. In terms of gender, out of the 79 respondents who are influenced by emotions or environment in shopping, 82% were women and 18% men, and of the 48 respondents who do their shopping based on objective needs 38% are women and 62% are men.

## CONCLUSIONS

Sensory marketing consists in identifying consumers' emotions, in measuring and understanding them, in identifying new markets in order to capitalize on their potential and creating brand loyalty.

The use of sensory marketing is made starting from measuring consumers' preferences by using sensory analysis methods, objective and subjective that take into account both the physical and chemical characteristics of products, but also their sensory aspects.

Taking into account the results of surveys, case studies and research, marketing can exploit consumer preferences depending on age, gender, etc. so that the best channel for promoting products can be found in order to satisfy consumer preferences, given the achievement of a high level of sales, which from the point of view of trade translates into increasing profit and profitability of the activity carried out.

The present study thus allowed us to find that consumers' preferences are largely influenced by sensory experiences. The strongest influence has the olfactory sense that not only convinces the consumer, but also reminds memories according to which the purchase decision is made.

At the same time, buying decisions are influenced by factors such as: age, training environment, income, mood, personality, lifestyle, which means that future studies should take into account as many aspects as possible influence consumer preferences.

Market research must be as complex as possible, as innovative as possible so that it can contribute to improving the relationship between consumer and producer.

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