

Качество модели проверяется расчетом стандартной ошибки уравнения регрессии:

$$S_{\bar{y}_x} = \sqrt{\frac{\sum(y_i - \bar{y}_x)^2}{n - m}} = \sqrt{\frac{903275,59}{9 - 3}} = 388,00249, \text{ где } m - \text{ число параметров в уравнении;}$$

Относительная ошибка уравнения регрессии - коэффициент вариации:

$$K_{S_{\bar{y}_x}} = \frac{S_{\bar{y}_x}}{\bar{y}} * 100\% = \frac{388,00249}{13661,17} * 100\% = 2,84$$

Достоинство коэффициента вариации – он может служить мерой сравнения однородных по характеру величин, но имеющих существенную разницу в абсолютном значении. Если коэффициент вариации имеет значение менее 33 %, а в нашем случае так и есть, то построенным уравнением регрессии можно пользоваться для принятия управленческих решений.

Рассчитаем коэффициент детерминации, который показывает, какую часть вариации результативного признака объясняет построенная модель:

$$n^2 = 1 - \frac{\sum(y_{\text{факт}} - \bar{y}_x)^2}{\sum(y_{\text{факт}} - \bar{y})^2} = 1 - \frac{903275,59}{149581995,93} = 0,993$$

Долю дисперсии результативного признака Y , вызванную влиянием остальных не учтенных в модели факторов характеризует величина $(1 - \eta^2)$. Следовательно, факторы X_1 и X_2 объясняют вариацию доходов на 99,3 %, а оставшийся 0,7 % является дисперсией результативного признака, вызванного влиянием других, не учтенных в модели, факторов.

Соответственно, полученная нами регрессия и корреляция оказались адекватными. Результаты корреляции доказали существование связи между ВРП, объемом подрядных работ и розничным товарооборотом. Была построена модель регрессии, найдены коэффициенты регрессии и установлен уровень зависимости между переменными. Используемые методы могут служить эффективным инструментарием для региональной власти при разработке и реализации стратегии развития региона. Достаточная степень конкретности и достоверности показателей позволят: дать однозначную оценку фактическому состоянию региона; распределить бюджет, основываясь на результатах; обоснованно отстаивать точку зрения региона.

Список использованных источников

1. Журавлева Г.П. Экономическая теория. Макроэкономика – 1, 2. Метаэкономика. Экономика трансформаций: учебник. М.: Дашков и Ко, 2014. 920 с
2. Национальный статистический комитет Республики Беларусь (Белстат) - Регионы Республики Беларусь, 2021 (том 1) [Электронный ресурс]. – Режим доступа: https://www.belstat.gov.by/ofitsialnaya-statistika/publications/izdania/public_compilation/index_41220/ – Дата доступа: 02.11.2022.
3. Харченко М.А. Корреляционный анализ: Учебное пособие для вузов. - Воронеж: Изд-во ВГУ, 2008. - 31 с

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ИНСТРУМЕНТЫ СЕНСОРНОГО МАРКЕТИНГА КАК ДРАЙВЕР РОСТА ПРОДАЖ

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SENSOR MARKETING TOOLS AS A SALES GROWTH DRIVER

Annotation. The article considers sensory marketing as an effective tool for influencing consumer behavior, which contributes to sales growth. The author characterizes the tools of sensory marketing, gives examples of their impact on the target audience.

Аннотация. В статье рассматривается сенсорный маркетинг как эффективный инструмент влияния на поведение потребителя, способствующий росту продаж. Автором охарактеризованы инструменты сенсорного маркетинга, приведены примеры их воздействия на целевую аудиторию.

Keywords: MARKETING, SENSORY MARKETING, TARGET AUDIENCE, CONSUMER STIMULATION, PSYCHOLOGICAL STIMULUS, SALES GROWTH, COLOR, SMELL, TASTE, SOUND, TACTILE CONTACT, TASTING.

Ключевые слова: МАРКЕТИНГ, СЕНСОРНЫЙ МАРКЕТИНГ, ЦЕЛЕВАЯ АУДИТОРИЯ, СТИМУЛИРОВАНИЕ ПОТРЕБИТЕЛЯ, ПСИХОЛОГИЧЕСКИЙ СТИМУЛ, РОСТ ПРОДАЖ, ЦВЕТ, ЗАПАХ, ВКУС, ЗВУК, ТАКТИЛЬНЫЙ КОНТАКТ, ДЕГУСТАЦИЯ.

The modern era is a time of strong influence of advertising on the consumer and the struggle for the client at a high level using various methods. Particular attention is paid to the impact on the subconscious of consumers. It is for these reasons that a new direction in marketing has appeared - sensory marketing, the essence of which is to influence the feelings of buyers and their emotional state in order to increase profits. Sensory marketing is a modern and promising type of marketing, the use of which tools has already proven to be effective. It should be noted that its appearance is caused by a decrease in the effectiveness of traditional marketing. The marketing tools that have been established for years can no longer effectively support communications and retain customers, since traditional marketing is largely focused on the functional properties and benefits of products and does not have a solid psychological basis on which consumer response would be based.

Nowadays, the importance of using sensory marketing tools as a way of psychological stimulation of the consumer is of great importance - with their help, customers develop conditioned reflexes associated with brands. The complex creation of a unified branding policy that takes into account aspects of sensory marketing can significantly increase sales, increase consumer loyalty and ensure brand attractiveness. The use of methods of this type of marketing develops a specific reflex association in the consumer - a clear comparison of melodies, colors, sounds, smells, textures, taste and tactile sensations with a certain brand.

The idea of creating sensory marketing belongs to M. Lindstrom, an American marketing consultant and brand expert [1]. He came to the conclusion that traditional marketing techniques no longer bring the expected results: the target audience becomes indifferent to the classic types of advertising, which requires new approaches to attract it. According to M. Lindstrom, branding should be reoriented to visual and auditory perception, and, if possible, signals and messages should be sent to the consumer using all senses. In the process of creating a successful brand, it is necessary to pay special attention to its properties, when interacting with which the consumer has a rich emotional and sensory experience.

The logic of sensory marketing is quite simple: present product information through various channels of sensory perception. The result will be as follows: the information will be stored in long-term memory and subsequently used in making a purchase decision.

The objectives of sensory marketing are as follows:

- Incentive to purchase the product. The main task of sensory marketing is to improve the consumer's mood, as most buyers hope that shopping will bring them pleasant emotions. The problem of creating an atmosphere that will serve as an incentive to make a purchase is solved by carefully selecting different sensory stimuli at the point of sale.

- The location of the consumer. Sensory marketing tools allow you to contact the buyer without any initiative on his part. In addition, sometimes the interaction can occur completely unconsciously (an example is the smell in a retail outlet).

- Increasing customer loyalty. A pleasant atmosphere in the store and a positive experience of purchasing goods increase customer loyalty. As a result, there is an increase in the client base, the number of subsequent contacts, as well as "recommended clients", which refers to the highest level of the loyalty pyramid.

- Increasing the memorability of the product, outlet, brand. More than traditional marketing, the involvement of the buyer in interaction with the company, which is provided by the impact on all senses, creates more vivid and, as a result, more stable memories.

- Competitive advantage. Sensory marketing helps to develop a conditioned reflex in the consumer, which consists in a specific association of melody, sounds, smells, colors, taste and tactile

sensations with a certain company in the market. In this way, sensory marketing helps to establish a strong stand-alone position in the minds of consumers.

An important economic component of effective sensory marketing is sales growth and, as a result, an increase in company profits.

Scientists have proven that 95% of a person's mental work occurs unconsciously, without the influence of the mind [2]. Consequently, the decision to purchase is carried out under the influence of emotional and motivational factors. Due to the fact that a person has five main senses (sight, hearing, taste, smell and touch), the following sensory marketing tools can be distinguished: color, sound, aroma, tactile contact, taste sensations.

A person receives most of the information about the world around him daily through the organ of vision (eyes), and the outlets where potential buyers come are no exception. This means that in order to successfully promote their product and brand, the company must first of all pay attention to the color design and color design of its outlets. It must be borne in mind that each color has a certain effect on a person, causing him to have specific associations and connections.

Knowledge of the psychological semantics of each color allows you to make the color scheme of the outlet so that it matches the tastes of consumers, increases their loyalty, allows you to effectively promote the product and form a positive brand image.

When psychologically stimulating the consumer, the musical design of the outlet plays an important role. Music in the store should be played in order to influence the subconscious of the consumer. When musically designing retail outlets, a number of factors should be taken into account: the number of people in the store at the moment; Times of Day; volume; product range.

The musical accompaniment of the store has the following positive impact: creates an individual style, atmosphere and brand perception; improves the mood of the employees of the trading floor and customers; promotes consumer loyalty; stimulates an increase in the number of regular customers.

Another sensory marketing tool that has a significant impact on the customer is smell. It is able not only to evoke associations with the brand in the consumer, but also to affect certain emotions and feelings, to awaken memories. In addition, it has been experimentally proven that an object with a pleasant smell can improve mood by 40% [3]. Therefore, one should not underestimate such an instrument of psychological stimulation of the consumer as the aromatization of the outlet and the product range.

It should be noted that one of the advantages of the aroma is that only with a single breath it instantly affects the nervous system and remains in the memory of the consumer for a long time. Each smell affects the client in one way or another, and this depends on individual memories of events, life stages and various associations.

It is important to understand that the smells of specific products, flowers, objects cause a certain reaction in a person, which should be taken into account when flavoring the outlet.

There are various extraordinary and complex engineering solutions and systems to draw attention to a particular object. We can give the following example: in a shopping center, a multi-layered smell is used, with the help of which it is necessary to "lead" the consumer to an ice cream parlor located on the ground floor. In order to solve this problem, a light aroma of fruit is spread on the upper floors, the smell of ice cream is spread on the middle floors, and waffles and caramel are closer to the cafe itself [3].

When using aromatization in various outlets, there are certain patterns that must be observed. According to the European Merchandising Institute, due to the rational use of aromatization at the point of sale, the following results are observed: the time spent by consumers in the store increases by 15.9%; the emotional state of customers and staff improves; the desire to purchase the product increases by 14.8%; the impressions that arise when visiting a retail outlet are enhanced; the consumer's perception of the quality of the offered products becomes more positive; 98% of buyers are more likely to visit a retail outlet again; increases the productivity of staff; the number of impulsive purchases increases by 60% [4].

While at the point of sale, the consumer seeks to make not only visual, but also tactile contact with the product. Of course, the opportunity to touch it, feel its packaging is important in the process of making a purchase decision, as it allows you to form a holistic impression of the subject of purchase. Studies show that about 25% of consumers made an unplanned purchase of a product after they had the opportunity to hold it in their hands [5]. It should be noted that people with a well-defined tactility are prone to impulsive purchases.

According to experiments, the decisions that clients made while sitting in a comfortable easy chair, in a much greater number of cases, were favorable than the decisions they made while sitting on hard chairs. In this regard, the Starbucks cafe, which uses sensory marketing technologies, in order to maintain a homely, cozy, relaxed, friendly atmosphere, offers its customers soft comfortable sofas, and not hard chairs, which are so common in most cafes [3].

According to studies, brochures and brochures printed on thick, durable, cardboard paper can significantly increase the client's confidence in the stability, reliability and high image of the company [3]. For example, for this reason, when issuing an insurance policy, an agency representative gives the buyer documents in a dense heavy folder, so that in this way one can feel the value of the purchase made [5]. It should be noted that paper media also have an advantage over electronic ones, as they can cause distinct associations with the advertised product and the brand itself.

For most buyers, soft, warm clothes are associated with the ability to feel safe and trust. In this regard, the American company Best Buy, which owns a large chain of consumer electronics and related products stores, was able to achieve a 43% increase in sales when its managers began to give soft pillows as a gift to their customers at the beginning of negotiations [5].

Another center of influence on the psychological stimulation of the consumer are taste buds. It should be noted that this factor is especially important to consider for those enterprises that are engaged in the food industry, since it is food products that are the only product that it is important for buyers to taste before making a purchase.

It should be noted that taste can not only determine how pleasant this or that product is, but also affect the mood of the buyer.

Tastings help draw attention to a particular brand, its products, as well as to new products launched for sale. Thus, the company tries not only to give an advertising message to the consumer about its products, but also to provide an opportunity to experience the product to taste. It is on how successfully the tasting will be carried out that it depends on how high the company's profit will be. In this regard, the management of the enterprise must take a responsible approach not only to the quality of manufactured products, but also to the selection and training of promoters, the correct installation, placement and decoration of the promotional stand. The appearance of the promoter and his knowledge of the product being tasted, the convenience of finding the promotional stand, the attractiveness of its design; the way the products are presented, as well as the number of samples provided - all this matters for holding a tasting at the highest level. After tasting, the taste is stored in the memory of a potential buyer, and if the product made a positive impression on him, then the probability of purchasing the product reaches 100%.

In conclusion, it should be noted that each of the listed tools of sensory marketing, the essence of which is the effective psychological stimulation of the consumer, has its own characteristics of impact on the human psyche. At the same time, it is impossible to single out any most effective tool, the application of which eliminates the need to use all the others. On the contrary, only in the case of a well-composed color design of the outlet, a rationally selected musical design, the right smell for flavoring, creating pleasant tactile sensations from contact with the product, high-quality tastings, it is possible to achieve consumer recognition, increase his loyalty, create long and positive associations with both the product and the brand as a whole.

Список использованных источников

1. Lindstrom, M. Buyology: Truth and Lies about Why We Buy / M. Lindstrom. – New York, Currency, 2010. – 272 p.
2. Сенсорный маркетинг [Электронный ресурс] / Автор 24 : справочник. – Режим доступа: https://spravochnick.ru/marketing/sensornyu_marketing. – Дата доступа: 06.10.2022.
3. Казнина, О.В. Как эмоции и чувства помогают продавать [Электронный ресурс] / О.В. Казнина // Маркетинговые коммуникации. – 2019. – № 4(108). – С. 296–309.
4. Сенсорный маркетинг [Электронный ресурс] / Энциклопедия маркетинга. – Режим доступа: http://www.marketing.spb.ru/lib-mm/strategy/sensory_marketing.htm. – Дата доступа: 06.10.2022.
5. Сенсорика продаж: как маркетологи используют знания об органах чувств человека [Электронный ресурс] / Vc.ru : интернет-издание о бизнесе, стартапах, инновациях, маркетинге и технологиях. – Режим доступа: <https://vc.ru/marketing/224979-sensorika-prodazh-kak-marketologi-ispolzuyut-znaniya-ob-organah-chuvstv-cheloveka>. – Дата доступа: 06.10.2022.