

# THE APPLICABILITY OF NEUROMARKETING IN BUSINESS DECISION MAKING

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Neuromarketing takes advantage of this knowledge to improve the understanding of consumers' mental processes and use effective strategies to influence their purchasing decisions.

Neuromarketing tracks consumers' brain activity and eye movements as they interact with marketing stimuli. These techniques help companies create more personalized and effective marketing strategies because they better understand consumers' emotional and cognitive responses. Companies can tailor their advertising messages, product designs, and brand experiences to maximize their appeal and relevance to target audiences by understanding how the brain processes information and makes decisions.

**KEYWORDS:** purchasing behavior, cerebral cortex, neuromarketing, techniques.

### LA APLICABILIDAD DEL NEUROMARKETING EN LA TOMA DE DECISIONES EMPRESARIAL

**RESUMEN:** El comportamiento de compra es un proceso complejo influenciado por una variedad de factores psicológicos y sociales. En este sentido, el córtex cerebral desempeña un papel fundamental, ya que

**ABSTRACT:** Buying behavior is a complex process influenced by a variety of psychological and social factors. In this sense, the cerebral cortex plays a fundamental role since it is the region responsible for rational thinking and conscious decision-making.

es la región responsable del pensamiento racional y la toma de decisiones conscientes. El neuromarketing aprovecha este conocimiento para mejorar la comprensión de los procesos mentales de las personas consumidora y utilizar estrategias efectivas para influir en sus decisiones de compra.

El neuromarketing rastrea la actividad cerebral y los movimientos oculares de los consumidores mientras interactúan con los estímulos de marketing. Estas técnicas ayudan a las empresas a crear estrategias de marketing más personalizadas y efectivas porque comprenden mejor las respuestas emocionales y cognitivas de los consumidores. Las empresas pueden adaptar sus mensajes publicitarios, diseños de productos y experiencias de marca para maximizar su atractivo y relevancia para el público objetivo al comprender cómo el cerebro procesa la información y toma decisiones.

**PALABRAS-CLAVE:** comportamiento de compra, cortex cerebral, neuromarketing, técnicas.

## INTRODUCTION

In the fast-paced world of modern marketing, companies are striving to increasingly understand the complex mechanisms underlying consumer purchasing decisions. In this context, neuromarketing has emerged as a powerful tool that allows companies to unravel the mysteries of the human mind and leverage this knowledge to influence purchasing decisions more effectively. This interdisciplinary discipline, which combines principles of neuroscience, psychology, and marketing, has gained increasing attention in the last decade, becoming a prevailing trend in the commercial field.

In this way, neuromarketing has become a predominant trend due to its ability to offer an unprecedented understanding of how the mental and emotional processes of consumers really work in relation to the services and the products they consume. Unlike traditional research techniques, such as surveys and focus groups, which often rely on conscious, verbal responses from participants, neuromarketing focuses on the brain's unconscious responses, providing a deeper and more accurate insight into behavior. of the consumer.

Given this, it is worth highlighting the importance of neuromarketing, which lies in its ability to reveal perspectives that can significantly influence the way companies design their marketing strategies. By understanding how sensory stimuli, emotions, and cognitive processes impact purchasing decisions, companies can tailor their advertising messages, product designs, and brand experiences to maximize their appeal and effectiveness.

Companies are currently using neuromarketing in a variety of ways to improve their business strategies and become more competitive in the market. One of the most common applications is neuroimaging, which scans consumers' brain activity as they interact with marketing stimuli, such as advertisements or products. These neuroscientific studies offer useful insights into how the visual, auditory, and emotional elements of an advertising campaign affect consumer perception and response.

In addition, they use other applications of great importance such as research into consumer behavior in retail environments. By tracking customers' eye movements and emotional reactions as they walk through a store or interact with specific products, companies can identify behavioral patterns and design product layout and visual merchandising strategies that maximize sales and customer satisfaction. .

In turn, it should be noted that neuromarketing is also used to optimize the user experience in digital environments, such as websites and mobile applications, by analyzing the brain activity and emotional responses of users while they navigate digital interfaces, businesses can identify areas of improvement in usability and design, as well as develop personalized content that resonates with the needs and preferences of the target audience.

However, to better understand the benefits of neuromarketing, it is necessary to take a tour of the main concepts that make it up, so that it is possible to know their definitions, as well as a series of practical cases that allow in a timely manner to illustrate the way in which that these concepts are presented in the purchasing processes of the consumer.

## DEVELOPMENT

The definition that should be started with is the one that corresponds to neuromarketing, which is based on neuroscience and uses techniques such as electroencephalogram, magnetic resonance, steady state topography and others to measure in detail how customers and/or consumers respond to a stimulus to carry out their purchasing decision process (Kotler and Armstrong, 2013, Hsu, 2017).

Neuromarketing's main objective is to decode the processes in the consumer's mind so that we can discover their desires, ambitions, and reasons why they make purchases. This will allow us to provide them with what they need. A concrete example of neuromarketing can be seen in a furniture company that wants to promote its new line of sofas for the home. Using neuromarketing techniques, the company conducts a study in which it scans the brain activity of participants while they view images and videos of different sofa models in their home environment.

During the study, certain aspects of sofa design, such as warm colors, soft lines, and soft cushions, are found to activate brain regions associated with comfort, relaxation and emotional well-being. These findings suggest that consumers have a positive and emotionally resonant response to sofas that evoke feelings of comfort and warmth.

With this knowledge, the company adjusts its marketing strategy to highlight these emotional attributes in its advertising campaign. They use images and messages that highlight the feeling of comfort and relaxation that their sofas offer, emphasizing how this furniture can transform a domestic space into a cozy and welcoming haven.

However, neuromarketing can be divided into several categories, emphases, or subdivisions. Auditory neuromarketing, which focuses on the use of sound stimuli, such

as music, specific sounds, or narratives, to influence consumers' emotional and cognitive responses and improve the effectiveness of marketing and advertising strategies (Arteaga, 2009).

A specific example of auditory neuromarketing can be found in a clothing store that wants to improve its customers' shopping experience and increase sales, for which it carefully selects the background music in its establishments. This is because music with a moderate tempo and soft melodies has a relaxing effect on customers, making them spend more time in the store and increasing the likelihood that they will make an impulse purchase.

On the other hand, there is visual neuromarketing, which involves the use of visual elements, such as colors, images, shapes, and designs, to activate specific regions of the brain related to perception, emotion and memory, in order to influence in purchasing decisions and improve the emotional connection with products or services (Avendaño, 2013).

A basic example of this type of neuromarketing is a food company that is launching a new line of healthy products for children, for which it designs the product packaging with bright, eye-catching colors, as well as images of fresh fruits and vegetables. This is because the bright colors and images of fresh foods activate areas of the brain associated with health and vitality, generating a positive emotional response in parents, who perceive the products as a healthy and nutritious option for their children.

Finally, it is possible to talk about kinesthetic neuromarketing, which focuses on the stimulation of tactile senses and movement to create immersive sensory experiences that generate a positive emotional response in consumers, which implies including the design of products with pleasant textures or the development of interactive shopping experiences that involve the physical movement of the customer (Salazar, 2020).

As a concrete example, a technology company that is promoting a new smartphone, to highlight the touch features of the device and create an immersive experience for consumers, organize launch events where customers can physically interact with the product.

During these events, customers can try out the phone's features, such as swiping the screen, using touch recognition, and experimenting with the feel of the device's material. Additionally, the company creates interactive areas where customers can participate in games and activities that highlight the phone's touch capabilities.

When talking about neuromarketing, it is essential to emphasize the neuromarketing techniques that are used in advertising, marketing, and sales to get closer to the user, establish a connection with the customer, provide them with a unique experience and stimulate the purchasing process. Biofeedback is a popular neuromarketing technique that consists of analyzing those changes in clients that are difficult to detect, such as pupil dilation, increased heart rate, and acceleration in the breathing process.

It is possible to also mention eye tracking analysis, which is performed using an eye tracker, a device that can track and record eye movements in response to a stimulus. The most current trackers include a camera and glasses with infrared sensors that simultaneously record what is observed and where the gaze is fixed, allowing us to understand how a consumer explores a shelf and what products his or her gaze rests on.

To illustrate these techniques, it is possible to refer to a cosmetics company that is launching a new line of skin care products, to better understand consumers' reactions to the different visual elements of its advertising campaign, they decide to carry out conducted a study using biofeedback and eye-tracking, in which they recruit a group of participants and ask them to watch various advertisements for the new product line while using eye-tracking devices to track their eye movements and biofeedback cameras to Measure your physiological activity, such as heart rate and skin conductance.

Thus, during the experiment, they discover that certain visual elements, such as the use of bright colors and the presence of models with radiant skin, attract the participants' attention in a significant way and generate positive emotional responses, such as excitement and interest. Additionally, using biofeedback, they also identify specific moments in the ads that cause changes in participants' physiological activity, such as increases in heart rate and sweating, suggesting a higher level of excitement and engagement.

Within neuromarketing theories, the main role played by the central nervous system should also be mentioned: spinal cord, brain stem, cerebellum, thalamus and hypothalamus, cerebral hemispheres (Baptista et al., 2010). And from which the concept known as the Triune Brain is derived. This concept was created by neuroscientist Paul MacLean and describes three different neural zones, or three specialized brains that interact and connect with each other. These are called reptilian brain, limbic brain, and cerebral cortex according to their function and their order of appearance in the evolutionary process (Sánchez, 2016).

The way in which these three types of neural zones come together in neuromarketing may be by assuming a health food company is developing a marketing strategy to promote its new line of granola bars. To maximize its effectiveness, they decide to use neuromarketing principles that consider the different aspects of the human brain.

- **Reptilian Brain:** This component of the brain is associated with basic instincts and impulsive decisions. In the case of granola bars, the company could focus on visual and design elements that awaken survival instincts and satisfaction of primary needs, such as hunger and energy. For example, they could highlight colors on packaging that evoke nature and freshness, such as green and brown, as well as use images of fruits and nuts, which are foods naturally associated with healthy eating and energy.
- **Limbic Brain:** This component of the brain is related to emotions and past experiences. The company could appeal to the limbic brain through messages that evoke positive emotions and pleasant memories associated with nutrition and

well-being. For example, they could use storytelling in their ads, highlighting stories of people who feel revitalized and energized after consuming granola bars, thus creating an emotional connection with the product.

- **Cerebral Cortex:** This part of the brain is associated with higher cognitive functions, such as rational thinking and conscious decision making (Muñoz, 2016). The company could provide detailed information about the nutritional benefits of granola bars, highlighting their fiber, vitamin, and mineral content, to appeal to consumers' logical and analytical side. Additionally, they could use testimonials from nutrition experts or seals of approval from health organizations to back up their claims and increase the credibility of the product.

Neurotransmitters are chemicals that transmit information from one neuron to another. This information spreads through the synapse, which is the space between the end of a neuron and another cell (Moreno and Moreno, 2005). Therefore, the importance of neurotransmitters and synapses cannot be ignored. Neurotransmitters are chemicals that normally carry nerve impulses to nearby cells. Here you can find substances such as dopamine and serotonin, which can be used in neuromarketing applications.

To illustrate this example, it is prudent to think of a technology company that is launching a new high-end mobile device. To generate buzz and maximize sales, they design a marketing strategy that takes advantage of the release of dopamine and serotonin in consumers' brains as follows:

- **Dopamine:** This neurotransmitter is associated with the feeling of reward and pleasure, so the company uses neuromarketing techniques to create an exciting and stimulating advertising campaign that piques the public's interest. For example, they could release teasers on social media that gradually reveal innovative features of the device, generating anticipation and curiosity among consumers.
- **Serotonin:** This neurotransmitter is related to the feeling of well-being and satisfaction, so the company makes sure to design a shopping experience that gives consumers a feeling of satisfaction and happiness. For example, they could offer exceptional customer service, ensuring a hassle-free experience from purchase to product delivery. In addition, they could include exclusive gifts or special discounts for first-time buyers, which generates a feeling of gratitude and satisfaction that increases the release of serotonin in the brain.

Next, there is neural rationalism, which explains that decisions occur in two ways, both rational and emotional (Sánchez, 2016). Since the rational decision is more neural, since it is activated under the analysis of prices, needs, sizes and more, on the contrary, the emotional decision gives us the choice more based on impulses and feelings.

To illustrate this in a better way, you can think of a car company that is promoting a new model of electric car, so, to persuade consumers to buy this vehicle, the company focuses on highlighting its technical features and tangible benefits. clearly and directly. In its advertisements, the company presents specific data about the vehicle's performance, such as its range, energy efficiency and safety features.

He also provides comparisons with other electric and internal combustion car models to support his argument about the superiority of the new model. Additionally, the company uses testimonials from automotive industry experts and reviews from satisfied customers to back up its claims about product quality and reliability.

All the above is necessary to explain consumer behavior, a concept that includes all the actions and decisions that a person takes when buying, using and disposing of products or services (Gómez and Sequeira, 2015). This behavior is the result of a variety of internal and external factors that influence buyers' decision-making process.

It is presented as psychological and social behavior, in the psychological, there is the own decision part and the neural part, where the different parts of the brain are activated in conjunction with one or more behaviors, where a result of the purchase. In the social part, it is a group factor, where my decision is involved under pressure from the social environment in which the person develops.

An example of this is given by a person who is in an electronics store looking to buy a new television. As you examine different models, your behavior is influenced by various psychological and social factors that are relevant to neuromarketing. The individual may be influenced by the behavior of other people in the store, if they see other customers showing interest in a specific model or receiving positive recommendations from sales staff, they are more likely to consider that option as a valid purchase.

On the other hand, the person may be influenced by the perception of quality and status associated with different brands and models of television, since, if a particular model is associated with a prestigious brand or has high-end features, it is the consumer is more likely to choose it to project an image of status and sophistication. Furthermore, emotions and past experiences also play an important role in the consumer's decision-making process. If the individual has had positive experiences with a brand or type of product in the past, he or she is more likely to have a favorable predisposition toward that option and choose it again in the future.

## CONCLUSIONS

Finally, it is possible to conclude that neuromarketing has emerged as a dominant trend in the commercial field due to its ability to provide a deep and accurate understanding of consumer behavior, as well as valuable insights that can inform and improve companies' marketing strategies. From neuroscientific research to customer experience optimization, neuromarketing is transforming the way businesses understand and engage with their target audiences, setting a new standard for effectiveness and relevance in the competitive world of modern marketing.

In addition, it is important to know the neural processes present, since by releasing dopamine and serotonin in the brain of consumers, the company can create a marketing

experience that not only generates initial interest in the product, but also promotes positive feelings and lasting values associated with the brand, increasing the likelihood of long-term loyalty and recommendation.

By understanding these aspects of consumer psychological and social behavior, companies can create more effective marketing strategies that align with the needs, wants, and motivations of their target audience. This allows companies to influence purchasing decisions and create shopping experiences that create a deeper emotional connection with consumers more effectively.

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