

## Model Emotional Codes and Decision Making

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### Abstracts

This research presents a model of Emotional Codes (EC) that influence the processes of choice, decision and action in clients. The model represents a sequence of steps to follow to identify the EC. (i) Identify the problem. (ii) Recognize the emotion (how) see Table 3. (iii) Identify the reason. (because); and (iv) Identify the emotional code (What) see Table 2. In addition, results obtained from theses and articles that demonstrate the use of emotional codes are presented. It is concluded that the emotional codes applied to language and marketing allow effective communication, the CE's have become strategies that companies use to convince, persuade and retain customers, through the effective communication of the subconscious knowledge of the emotions that the human being surfaces and the emotional code that it produces in the search for being. CE's have similar results despite globalization and the interaction of other cultures, and they adapt to the circumstances in which they operate in a technological, cultural and social environment. The EC are classified according to the triune brain; From the point of view of emotions, EC's allow us to feel, to let ourselves be carried away by impulses, by emotions, by experiences that cause us joy or, on the contrary, pain, whether they drive us or not. The EC represent the human being, emotional, with inheritances and stories that frame the needs, desires, whims, fears, experiences and fantasies.

**Keywords:** triune brain, emotional codes, emotions, decisions, choices, behaviors, behaviors.

Introduction

In the context of neuroscience, “emotional codes” are not yet evident. However, their contribution allows us to develop efficient strategies in neuromarketing and advertising, so that the information that determines how emotions are processed and encoded in the brain, these psychophysiological responses being the result of the interaction between the brain, the nervous system and the environment. The coding of emotions involves the representation of emotional experiences in the brain, through patterns of neuronal activity and the release of neurotransmitters. These emotional responses are extremely complex and can vary depending on the individual and the context.

The “triune brain” model was proposed by Paul D. MacLean, a neuroscientist, in the 1960s. This model conceptualizes the brain as a three-dimensional structure consisting of three main parts, each associated with specific functions and behaviors. Although this model has been subject to criticism and revisions over time, it remains a useful tool to simply understand brain functions, see Table 1.

Table 1. Characteristics of the Triune Model.

Reptilian Brain	Limbic Brain	Neocortex or Cerebral Cortex
First most primitive structure.	It is the second in evolution.	It is recently evolved from the brain.
It is associated with: basic survival functions, such as regulating heart rate, breathing, and the fight or flight response.	It is associated with: emotions and memory, these regions regulate emotional responses and the formation of memories.	It is associated with: higher cognitive functions, such as conscious thinking, reasoning, planning and decision making.
Its structure: brain stem and cerebellum.	Its structure: amygdala, hypothalamus and hippocampus.	Its structure: Cortical lobes, Cortexes: prefrontal, motor, sensory, associative, auditory and visual, precentral and postcentral.

The study of the functioning of the nervous system emphasizes the relationship between the brain and people's behavior as a generator and comparator of information coming from the inside and outside. The MacLean model is divided into “three interconnected biological parts, each one has its own characteristics and specific intelligence, subjectivity, sense of time and space, as well as its own memory functions, motor functions of all kinds” (Carvajal, 2018, p. 12).

Due to the functionality of the brain, Paul MacLean called the Triune Brain, which is composed of three parts: The first brain, reptilian or instinctive brain: it is basically the primitive defense system, in charge of the entire instinctive part, its objective is "to preserve the life of the human being and its ability to survive after processing primary, non-verbal experiences" (Tarantino, 2018, p. 4) this first brain is in charge of guaranteeing survival, through monitoring and controlling the fulfillment of needs. human basics; However, when it is in conditions of threat and insecurity, it is capable of depriving the functions of the other brains (limbic and neocortex).

The second brain, limbic or mammalian: the limbic brain “acts as a link between higher cognitive functions (Neocortex Brain), reasoning, and the most primitive emotional responses such as fear”, this brain is linked to the ability to memorize, feel, desire, receive the affective and motivational intelligence and the moods that are generated in relation to the environment. The third brain, neocortex or executive, is the largest and most evolved part of the human brain

compared to other species. Through this system, the individual allows the individual to behave, here self-awareness and self-awareness, emotions and acting in relation to the environment are developed (Tarantino, 2018).

On the other hand, cognitive neuroscience, which is the correlation of two disciplines, neuroscience and cognitive psychology, provides information on the material bases of the cognitive and emotional processes of human behavior (Lozoya et al., 2018, p. 12 ). Thus, the different cognitive domains such as: attention, memory, social cognition and emotional processing allow the development of learning. In this general context, neuroscience shows an opportunity that must be taken advantage of by neuromarketing, it allows us to know how an individual's brain works during the decision-making process and understand that decisions are born from conscious and unconscious perceptions in the being. . In this sense, it is specified that neuroscience is a great contribution that facilitates objectively understanding the customer's purchasing decision according to their emotional codes, desires, needs and subconscious expectations.

Emotional codes are positive or negative emotional words that remain trapped within us and do not allow us to communicate effectively, nor to fulfill ourselves personally and professionally (Vallejo, et al., 2019, p. 439). Emotional codes decipher all the emotional load of language in the purchasing decision process, which is why communication will always have an emotional load that is related to expressions (verbal, non-verbal) in the customer's behavior depending on the information transmitted by the company that offers the products and/or services. Soler (2016, p. 54) indicates that individuals have communicated, through codes, which, over the years, became a human need to obtain effective communication and provoke an emotional reaction. On the other hand, emotional codes are the unconscious mechanism that focuses on the individual characteristics of people and their private emotions contained in each of the individuals.

Finally, Cisneros (2013, p. 74) states that emotional codes arise in the triune brain and facilitate understanding the genetics of consumers. For this reason, emotional codes contain current trends adapted to the world and commerce. In context, emotional codes have become strategic parts that companies manage to convince potential customers.

The important characteristics of emotional codes according to Cisneros (2013, p. 84) is that they generate similar results in globalization and the interaction of cultures that are changing and adapt to the circumstances in which the client operates. The most important characteristic of emotional codes highlights the permanent evolution of customer behavior, influenced by globalized, technological, cultural and social environments. It is important to indicate that emotional codes are personal representations of the clients' needs that allow us to capture "what they are looking for" in the choice and decision of each individual.

As mentioned in previous paragraphs, emotions are reaction mechanisms in the face of unexpected situations, actions that stand out that are part of the nervous system, and reach the Triune Brain. Jürgen Klarić (2014) are three biological parts interconnected with each other, it is important to highlight that the limbic brain is the one that connects the most with emotions and allows it to receive the affective, motivational intelligence and moods of individuals.

Jürgen Klarić (2018) in his neurosales book talks precisely about the emotional codes of the reptilian brain, and how it should be used in sales. Vallejo-Chávez L, 2021 in his book Neuromarketing classifies emotional codes according to each brain, these codes produce and generate positive and negative emotions, having an adaptive function, they produce emotional responses that generate decisive learning in individuals, in this way, it can be stated that memory, motivation, and attention can function more productively when they are influenced by emotional codes. In reference to the types of emotional codes, these are classified according to the division of the triune brain. Since there is a relationship between the triune brain model and the “emotional codes” in the connection and processing of emotions and decisions, which are linked to the brain structures amygdala, hypothalamus and hippocampus and play a crucial role in the generation and regulation of emotional responses. However, it is important to point out that emotional codes influence the choice and decision-making process, and facilitate understanding the brain functions that are interconnected in this three-dimensional model. In this way, the model of emotional codes is presented in Table 2.

Table 2. Model of emotional codes.

Emotional code of the Reptilian Brain	Emotional code of the Limbic Brain	Emotional code of the Brain Neocortex
Immediate happiness	Happiness in the family	Control
Pleasure	Security	Domination
Curiosity	Protection	Relevance
Taste	Share	Can
Confusion	Transcendence	Logical
Exploration	Relevance	Rational
Fear	Motion	Hypothesis
Fear	Recognition	Compare
Pain	Harmony	Reflect
Survival	Empathy	Can
Recognition	Happiness	Status
Impulsiveness	Tranquillity	Find out
Confusion	Reproduction	Interpret
Instinct	Peace	Organize
Loss Perception	Empathy	Rethink
Anchoring (first impression).	Love	Analyze
Immediate reaction	Tenderness	Quiet the mind
Rebellion	Friendship	To meditate
Challenges	Union	Serenity
Freedom	Acceptance	Stillness
Unsafety	Welfare	Justice
Unconscious	Emotional	Order
	Sensitivity	Recognition
		To plan
		Aware

Source: (Klaric, 2017), modified by (Vallejo et al., 2023)

Table 2 makes a classification of the emotional codes, in relation to the Triune brain model, these codes require knowledge of the customers' emotions, in this way, they provide marketing and advertising with an opportunity to develop strategic personalized content and effective, based on a deep understanding of the emotional codes that influence decisions. Emotional codes regulate

instincts, impulses, and, therefore, our behavior, and they can be in our favor or against us when choosing and acting.

Enríquez, AC (2013), the emotional code offers an ontological vision of the human being to understand practical or existential phenomena. From the point of view of emotions, where we feel, letting ourselves be carried away by impulses, these experiences cause us joy or, on the contrary, pain, they drive us or do not stop us, it is the place where attention is focused on emotional phenomena such as source of identity. Emotional codes are present in all people, it is a human, emotional representation of inheritances and stories that are framed in the needs, desires, whims, fears, experiences and fantasies of the human being.

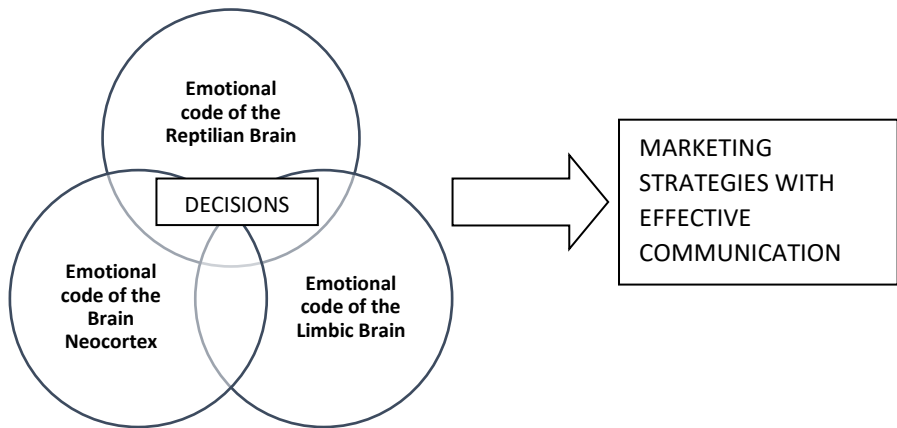


Figure 1. Emotional codes model. Vallejo-Chávez, L. (2023)

Figure 1 shows the model of emotional codes that facilitates the implementation of efficient marketing strategies. Emotional codes are behavioral patterns or specific emotional responses that are associated with certain stimuli, which in marketing are used to develop strategies that seek to evoke specific emotional responses in customers to influence their purchasing decisions. Next, the process to identify emotional codes is presented.

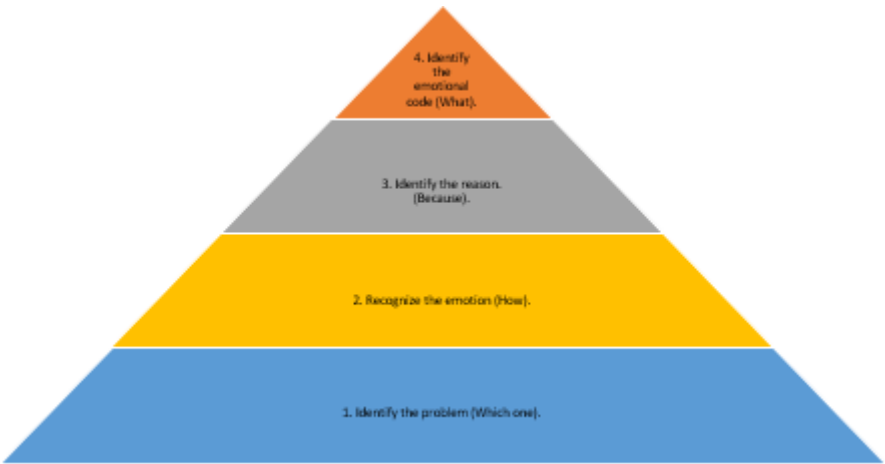


Figure 2. Process model to identify Emotional codes, (Vallejo, 2023)

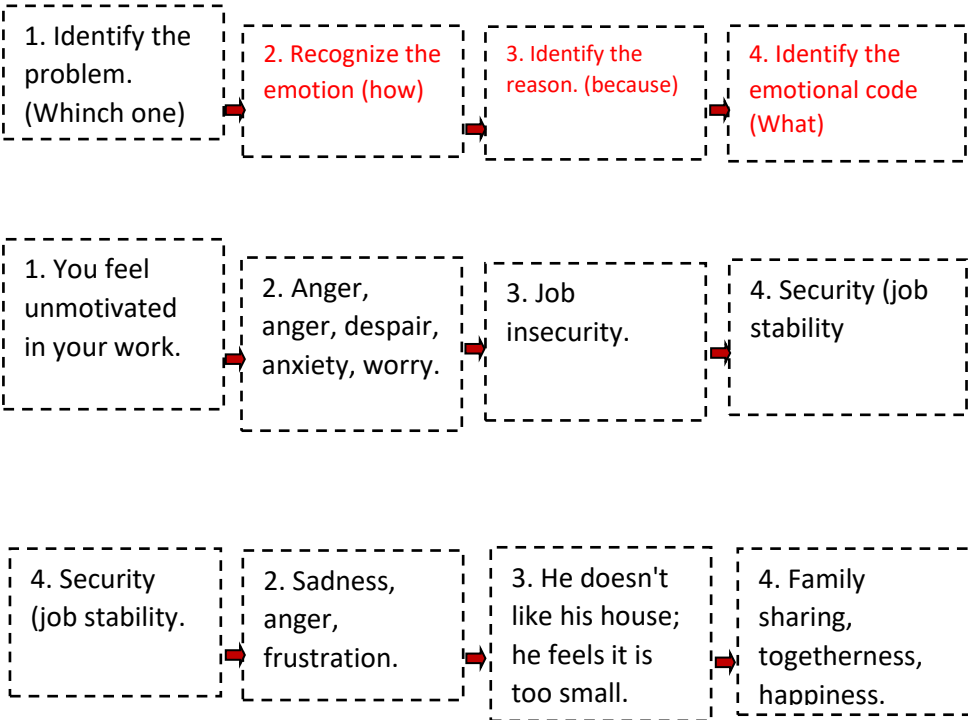


Figure 3. Procedure to identify emotional codes.

Figure 2 shows the process to identify the emotional code(s), 4 steps are identified. (i) Identify the problem, (ii) recognize the emotion, (iii) identify the reason, and (iv) identify the emotional code or codes. Once the emotional code or codes have been identified, it facilitates effective communication between the sender and receiver, in order to develop marketing strategies with personalized and effective content, in which people search with a foundation of analysis in the deep understanding of the codes. emotions that are born in the subconscious of the being and that influence the choices and decisions of purchase or behavior.

Cisneros Enríquez, A. (2012), emotional codes are multidimensional and polyvalent in nature, and can be reflected in the interior and exterior of each person, they are positive or negative, benign or destructive, admirable or ignoble, profound or trivial. Thus, the same individual can be active or receptive at the same time.

In this way, the emotions that human beings experience are subjective experiences and vary according to different individual perspectives. Below is Table 3 with the most common emotions that people can experience.

Table 3. Emotions and description.

No.	Emotion	Description.
1	Happiness	Description. Feeling of happiness and pleasure.
2	Sadness	Feeling of loss or discouragement.
3	Fear	Response to a perceived threat or danger.
4	Gonna	Feeling angry or frustrated.
5	Surprise	Reaction to something unexpected.
6	Disgust	Sensation of repulsion or aversion.
7	Love	Deep and loving emotional bond.
8	Contempt	Feeling of contempt or disdain.
9	Shame	Feeling of humiliation or discomfort.
10	Blame	Remorse for an action perceived as bad.
11	Anxiety	Anticipatory worry or fear.
12	Euphoria	Feeling of extreme happiness and exaltation.
13	Gratitude	Gratitude and appreciation towards something or someone.
14	Envy	Desire to possess what others have.
15	Empathy	Understand and share the feelings of another.
16	Confusion	Mental disorientation or lack of clarity.
17	Frustration	Feeling of helplessness in the face of an obstacle.
18	Fun	Feeling of fun and joy.

Table 3 shows the emotions that can vary in intensity and nuances. Each person experiences and expresses emotions differently.

## Methodology.

The model is based on several studies carried out in theses and articles, which have been put into practice, applied to different disciplines and fields of study, verified the hypotheses and the correlation of the variables. The model represents a sequence of steps to follow, then the process to identify emotional codes is presented.

- 1. Identify the problem.
- 2. Recognize the emotion (how) see Table 3.
- 3. Identify the reason. (because)
- 4. Identify the emotional code (What) see Table 2.

The first step allows us to recognize the problem or conflict, the second step is to recognize the emotion we feel and how we feel it (these can be one or several), the third step is to identify the reasons, that is, the why, the cause. that generates this conflict, and finally step four is to identify the emotional code (it can be one or several) what people look for from brands, products, services, or relationships among others, for this point check Table 2 and observe which code relates to what you feel; Applying the steps described makes it easier to create marketing strategies with personalized and effective content.

Below, evidence of thesis results and research carried out at the Higher Polytechnic School of Chimborazo (ESPOCH) is presented.

Article 1:
Incidence of emotional codes in the educational process in higher education. ESPOCH case.
Authors: Luz Maribel Vallejo Chávez, Willian Enrique Pilco Mosquera, Sonia Enriqueta Guadalupe Arias, Luis Enrique Silva Adriano
Summary <p>The incidence of Emotional Codes (EC) in the educational teaching-learning process in higher education, of thematic line 2, innovative educational actions in Higher Education. Research with a qualitative-quantitative approach, exploratory, descriptive, correlational, observational, prospective and longitudinal level, inductive, deductive, analytical, synthetic and systemic methods, the technique was the structured online survey, the study population was 415 students (first-tenth), the sample is 200 students from the School of Marketing-ESPOCH. In the communication process: sender-receiver, teacher-student; the message is assimilated as: stimulus-motivation, on the contrary, it causes academic stress; The stimuli interact in cognitive abilities, they are: words, phrases, conscious or unconscious gestures, which become CE, with neurophysiological, bodily, psychological and social effects.</p> <p>The educational emotional codes (EEC) decipher the emotional charge of language in the educational process, since communication always contains an emotional charge related to expressions (verbal, non-verbal) in the student's behavior depending on the culture and context. The CE identified in the research was classified as: (i) Internal and (ii) External, (iii) Positive, (iv) Negative. It is concluded that students receive CE in the teaching-learning</p>



process between teachers-students (sender-receiver), the way in which CE is transmitted generates emotional charge in academic performance, culmination of their studies, on the contrary, the Negative results produce low performance, demotivation, stress and dropout.

Fuente: Vallejo-Chávez, Luz; Wilian Enrique Pilco Mosquera, Wilian; Guadalupe Arias, Sonia & Silva Adriano, Luis. (2019).

#### Article 2:

Emotional codes and purchase decisions in clients of the construction machinery rental company.

#### Authors:

Luz Vallejo Chávez

Silvana Chicaiza Pimboza

The objective of the research was to determine the Emotional Codes (EC) that influence the purchasing decision of the clients of the Construction Machinery Rental company (AMC), in the city of Ambato-Ecuador, 2021.

The methodology was a mixed approach, Quantitative-qualitative, at a correlational level, non-experimental and transversal design, documentary and field research, the techniques applied were: survey, interview and Eyes Tracking biometric equipment. The techniques were: the survey of the PEA of 381 inhabitants (city, Ambato), the interview with the general manager of the company, the two techniques allowed the identification of the CE marks of the clients; and 30 clients used Eyes Tracking biometric equipment from the Neurolab laboratory to obtain information about clients' reactions to photographs of the model home. After identifying the CEs, 6 neuromarketing strategies were proposed.

The results identified the ECs in the home purchase decision, these are: Joy, Peace, Family, Pacer, family happiness, harmony, organization, security, immediate happiness, in the three brains (reptilian-limbic-cortex).

It is concluded that the identified CEs are an important tool in home purchase decisions; they must be applied in the content of neuroadvertising strategies in the sale of homes.

Fuente: Vallejo-Chávez, L. Chicaiza-Pimboza, S. (2021).

#### Article 3:

Emotional codes and purchase decisions in the customers of the markets in Riobamba.

#### Authors:

Luz Vallejo Chávez

Genoveva Tapia Bonifaz
Chicaiza Pimboza
<p>Abstract</p> <p>The objective of the research was to identify the emotional codes (CE) of customers in the markets, in the purchase decision-making process in the markets of the city of Riobamba. The research approach was mixed, descriptive level, inductive, deductive, synthetic analytical and systemic methods, the technique that was applied was the survey in google drive, the instrument used was the questionnaire (40 items), the research design did not experimental and transversal. The population of 177 723 inhabitants of the projected PEA 2021, with a simple random sample of 383 surveys, applied to customers from 11 markets, the Cronbach's Alpha of 0.962, with excellent results.</p> <p>The results identified the CEs in the markets sections. It is concluded that, the CE that were identified in the purchase decision process the sections of: fruits, vegetables, vegetables and meat were: healthy, fresh, fair price, empathy, trust, economy, variety, cleanliness, relevance, surprise, organization. The negative CEs, were found in the sections of: vegetables, vegetables and meat were that there is no adequate cleaning and an organization in these sections. It is recommended to make content of advertising messages and strategies with the CE to generate emotions in the clients.</p>
Source: Vallejo-Chávez, L. Chicaiza-Pimboza, S. (2022)

Article 4:
Merchandising plan based on emotional codes for a Los Ángeles commercial in the canton of Santiago de Pillaro, province of Tungurahua.
Authors:
López Chicaiza, Melissa Raquel
Vallejo Chávez, Luz Maribel
Pilco Mosquera, William Enrique

### Abstract

The objective of this curricular integration work was to define a "Merchandising Plan based on emotional codes for "Comercial Los Ángeles" in Santiago de Pillaro canton, Tungurahua province, in order to increase sales by improving the shopping experience based on the client through sensory stimuli. To achieve this objective, a qualitative and quantitative approach was applied, with a non-experimental cross-sectional design, documentary and field type. The methods were deductive-inductive, analytical-synthetic and systemic. On the other hand, the instruments such as the interview and observation guide allowed to know the situation of the company with respect to merchandising, the survey revealed the emotional codes of the customers and the eye tracking determined the areas of focal attention about the bussines company.

In the results it was possible to know the weaknesses of the company within these the inadequate distribution of counters and exhibitors, agglomeration of products and absence of advertising at the point of sale, among others. To test the hypothesis, the Chi Square method was used, showing that the merchandising plan based on emotional codes and the increase in sales are correlated with each other.

The proposal proposed strategies based on the Hulten, Broweus and Van Dijk model of visual merchandising, seduction and management based on three elements: company, target and sensory experience; which were created from the information obtained in the investigation. The implementation of the proposed merchandising plan is recommended, as it will allow you to improve the consumer's shopping experience and improve the profitability of the company.

Source: López Chicaiza, Melissa; Vallejo Chávez, Luz, & Pilco Mosquera, William, (2021).

### Article 5:

"Emotional codes to identify purchasing decisions in consumers of "Mar y Sierra Carnes y Mariscos" in the city of Riobamba"

### Authors:

Viteri Avalos, Kimberly Sofia

Vallejo Chávez, Luz Maribel

Pilco Mosquera, Willian

### Abstract

The present study aimed to determine emotional codes to identify consumer purchasing decisions. This research was deductive in nature, inductive starting from emotional codes to purchasing decisions, the analytical, synthetic and systemic methods allowed the

interpretation of tables, figures and the verification of the hypothesis. Similarly, it had a qualitative and a quantitative approach, with an exploratory level, and a descriptive and correlational research, it also had a non-existent experimental design with a cross-sectional nature because a single data survey was carried out, the type of study was documentary using digital and field bibliography for the collection of data. In addition, techniques such as a survey and an interview were applied to the competition to know the emotional experience transmitted by their restaurants. A measurement was made with the biometric “eyetracking” equipment to identify the points of attention in advertisements placed around the restaurant. With the results, it was shown that they lacked promotional material, presence in social networks, they used inappropriate music, and a simple decoration of plates. Therefore, some strategies were designed to prevent these weaknesses adapted to the persuasive model of neuromarketing and the Fishbein model which were directly related to the consumer decisions focused on emotional codes and sensory stimuli that motivated a purchase. Therefore, it was concluded that emotional codes definitely influence purchasing decisions by consumers.

Source: Viteri Avalos, Kimberly ; Vallejo Chávez, Luz & Pilco Mosquera, Willian, (2021).

Article 6:

“Emotional codes to position the tourist attractions of the Guano canton”

Authors:

Mazabanda Cóndor, Luis Eduardo;

Vallejo Chávez, Luz Maribel

Espín Oleas, María Elena

## Abstract

The present work of curricular integration is about emotional codes and how they influence the positioning of the different tourist attractions of the Guano canton, which had as its general objective to design a neuromarketing plan through a market study, developing efficient positioning strategies in order to increase tourism and the experience of visiting these places. Starting with the collection of information related to neuromarketing, emotional codes, and positioning of tourist attractions with wide bibliographic support. The research methodology used a qualitative, quantitative, and mixed approach, making use of data collection techniques such as the survey directed to the PEA of Guano and people who visit the place, as well as direct observation. With a cross-sectional, correlational, non-experimental, documentary, and field research design.

The research methods used were deductive, inductive, analytical, and synthetic. It is noted that several tourist attractions have reduced their recognition, and others lack recognition due to the lack of permanent communicative actions that show the location of the different attractions. The proposal is developed with situational analysis allowing the discovery of internal and external factors that directly or indirectly influence the Guano, using tools such as eye tracking, analysis of emotional codes discovered, SWOT matrix, strategic SWOT, statistical analysis of fixation time results, total fixation, route maps, and heat maps. Finally, neuromarketing strategies focused on emotional codes based on principles such as happiness, curiosity, security, and attraction were developed based on the bibliographic and field information collected. It is recommended to use the proposed hybrid persuasive-positioning model, aligned with the objectives of the canton's GAD with respect to the tourist attractions it offers.

Source: Mazabanda Córdor, Luis Eduardo; Vallejo Chávez, Luz Maribel & Espín Oleas, María Elena (2023)

## Conclusions

MacLean's triune brain model proposed in the 1990s made it possible to classify the emotional codes found in the consciousness, subjective self-awareness, and unconsciousness of the individual in their way of choosing, saying, and acting in certain day-to-day circumstances.

The cognitive and emotional processes of human behavior are found in attention, memory, social cognition and emotional processing that allow the development of learning and understanding that decisions are born from conscious and unconscious perceptions. In this sense, neuroscience makes a contribution to the understanding of the brain to objectively understand how the customer decides to purchase according to their emotional codes, desires, needs and subconscious expectations.

Emotional codes are positive or negative emotional words, which decipher the emotional charge of language in the purchase decision process; Over time, linguistic codes have allowed humans to communicate through codes, and despite the years it has become a human need to obtain

effective communication with emotional effects and reactions. In context, emotional codes have become a strategic part that companies manage to convince potential customers and build loyalty through effective communication.

Emotional codes have similar results despite globalization and the interaction of cultures and are adapted to the circumstances in which the client operates in a technological, cultural and social environment. It is important to consider that the limbic system is the one that connects with emotions and decision-making brain structures such as the amygdala, hypothalamus and hippocampus and has a direct relationship with the emotions and moods of individuals.

Emotional codes are classified according to the triune brain, these codes produce and generate positive and negative emotions, which is why this brain area has an adaptive function, and also produces emotional responses that generate learning, memory, motivation, and attention.

From the point of view of emotions, emotional codes allow us to feel, to let ourselves be carried away by impulses, by emotions, by experiences that cause us joy or, on the contrary, pain, where they drive us or do not stop us; It is the place where attention is focused on emotional phenomena and is the source of the identity of the being. Emotional codes are present in all people on the planet, it is a human, emotional representation of the inheritances and stories that frame the needs, desires, whims, fears, experiences and fantasies of the human being.

The emotional code is related to feeling and makes it easier to generate effective communication, personalized content in marketing strategies with a deep understanding of the individual's unconscious. This model provides the innate essence of thought that limits or allows us to act in choices and decisions. This information provides how emotions are processed and encoded in the brain, these psychophysiological responses being the result of the interaction between the brain, the nervous system and the environment. The coding of emotions involves the representation of emotional experiences in the brain, through patterns of neuronal activity and the release of neurotransmitters, generating emotional responses that vary depending on the individual and the context.

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