

Neuromarketing and purchase intention: use of neuroscience and advertising elements to improve the commercialization of products.

Dr. en Mkt. José Trinidad Marín Aguilar

PLEM. Juan Eduardo Delgado Lucio

PMenA. Miguel Ángel Anaya Galván

ABSTRACT: Neuromarketing is a recent area of knowledge of marketing in which, using techniques and knowledge of neuroscience, research is conducted to know how individuals respond to the presence of advertising stimuli and thus improve the sales of a particular product or brand. The present study included 140 subjects who were submitted to an interview of 71 items that mediate the reasons for the choice of products, involvement with food, quality of life, concern for health, attitude toward healthy slogans and credibility towards slogans healthy, then they were placed a headset to measure alterations in the cerebral cortex. The results suggest that the factors that caused the most electrical stimuli were: easy to interpret the information on the label (77.1%), use of simple words (85.7%), colors of the label or packaging (74.2%) and product information (51.4%). On the other hand, the factors that generated the lowest electric charge were: the country of origin (62.2%) and the packaging material (33.5%). We were able to compare a sample of men and one of women, the results suggest that women care more than men or choose their food more carefully giving greater importance to the flavor of the food, which contains natural ingredients, which is nutritious, easy to find in stores and supermarkets, the smell of food, appearance and good value for money. Men, on the other hand, give more importance to their food when they travel and like to mix food more.

KEYWORDS: Neuromarketing, neuroscience, marketing, packaging and label, quality of life, slogan.

Date of Submission: 17-08-2018

Date of acceptance: 31-08-2018

I. INTRODUCTION

With the support of PRODEP and the Autonomous University of Aguascalientes (UAA) an intervention was made to the Pando Group choosing "Lady Godiva, chocolates" belonging to its business area "La Suiza", the project was carried out with the intention of applying the Project research with PRODEP funds to an organization in the productive sector. The study consisted of two stages, the first included a preliminary analysis of the company and then submitted the premium line of chocolates "Lady Godiva" to a neuromarketing study. Figure 1 shows the complete integration of the Pando Group in Mexico.

Figura 1. Estructura del Grupo Pando.



Fuente: Extraída de la página web de Grupo Pando.

Background

Neuroscience and marketing: Neuromarketing

Currently the study of neuromarketing has been increasing, several authors can be taken into account for its conceptualization (Smidts, 2002, Braidot, 2007, Lee et al., 2007, Humbert, Kenning, 2008, Randall, 2009, Pradeep, 2010, Sánchez et al., 2014), all have agreed that neuromarketing studies how the consumer's brain behaves, using techniques and methods of neuroscientific research with the aim of improving marketing strategies aimed at company or a product.

According to Plassmann et al. (2012), neuroscience is the study of the nervous system that seeks to understand the biological basis of human behavior. In other words, it is the practical application of neurological results to science that tries to understand human behavior, emotions and thoughts (Morin, 2011). Randall (2009) indicates that neuromarketing is the practice of using technology to measure brain activity in consumer subjects in order to inform about the development of products and communications and inform about the 4P of the brand. The brain is the main mediator of human behavior, expressing emotions and decision-making processes (Murphy, Illes and Reiner, 2008).

On the other hand, Hubert and Kenning (2008) consider that neuromarketing is nothing more than a business activity, not an academic discipline, that applies the different techniques of neuroscience to the knowledge of consumer behavior in order to achieve business objectives. The vision of neuromarketing has been basically related to actions aimed at the sale of products, even attacking consumer freedom, similar to subliminal advertising (Murphy et al., 2008). The effects of neuromarketing for companies and society are important since it is assumed that there is potential to discover the implicit and automatic processes that determine the decision to make the purchase process, and that will reveal secret information about consumer behavior that can not be obtained by traditional marketing methods (Zară and Tuță, 2013).

Regardless of the position taken, academic discipline or just business activity, we can conclude that neuromarketing seeks to obtain objective information on the functioning of the brain of consumers and the elements that drive the purchase and consumption of certain products compared to others. similar, what some have called the "buy button" (Lewis and Bridger, 2005, Fugate, 2007).

Consider the development from marketing to neuromarketing, the factors that have determined it, have to do with the ways in which we want to obtain more information about consumption and the specific preferences of consumers (Ariely and Berns, 2010). According to Mejía (2011), the objectives of Neuromarketing can be:

- Identify the emotional impact generated by the product, service, brand, channel, etc.
- Predict consumer behavior at the time of purchase.
- Understand and meet the needs and expectations of customers

Similarly, Mejía (2011) reports that, with some of the technological tools, Neuromarketing measures brain waves and takes into account three components: attention, emotion and memory. The process of learning a new sound, color, aroma, word or concept modifies the synaptic connections of certain circuits, allowing people to recognize more quickly some aspect of reality when they have already experienced it (Braidot, 2005). We remember what it feels like and this, in turn, is what becomes experience (Alvarez del Blanco, 2011).

Castro (2014) states that the study of neuromarketing takes into account elements such as color, size, design, packaging texture, among other aspects, and can also be applied to improve the image of a product, since through this technique you can register the preferences and emotions that you awaken in the client. All the elements are configured under human perception, which will naturally be based on the learning of each individual.

Perception is the result of internal and external inputs that interact to form personal ideas about objects, situations or individuals. When perception occurs, the individual forms a new reality of a subjective nature (Arellano, 2002). Trout and Peralba (2004) summarize the importance of perceptions in a sentence: "Perception is reality, do not confuse it with facts" (p.33).

Braidot (2005) indicates that perception determines not only the vision that people have of the world, but also their behavior and learning, hence the importance of this process for companies. Analyzing the perceptual process allows a better understanding of the way in which clients receive the stimuli when they come into contact with a product, service, packaging, brand or any other dimension of the communications package.

In most cases, people are unable to express their reasons for behavior or the reasons for the preference of certain things, consciously or unconsciously (Zară and Tuță, 2013). That is why neuromarketing becomes a fundamental tool to understand the consumer from the inside and thereby know their deepest motivations to make a purchase or choose a particular brand.

Neurosciences do not replace the traditional tools of marketing, but complement them, so that we can study three different paths in behavior: what the consumer says they will do, what the consumer really does, and what they do not. He knows what he wants to do but that he remains in his subconscious. (Ruiz, 2015).

II. MATERIALS AND METHODS

Once the first phase of this investigation was completed, which consisted of knowing the company, it is proposed to address the second, and for this, an investigation will be carried out in three moments, a prior investigation, during and after the experiment.

In the first questionnaire the information of the individuals is collected, which will allow us to classify them according to their personal characteristics related to the consumption of certain products.

During the realization of the experiment, the reaction of the individuals to certain constructs related to the package shown is analyzed, with respect to the product contained therein and related to the verbal and / or visual information that will be displayed on the package and the label thereof.

1. For this, in the first place, the individuals will go to the experimental room.
2. Next, the advertising elements (natural chocolate container vs. sugar-free chocolate container) will be displayed and their physiological response will be measured before the presented stimuli.
3. At the end of the researched will choose the product that you like.

At the end of the experiment, the subsequent analysis will be carried out, which will include, among others, the style of decisions. The main objective is to know the opinions and evaluations of the interviewee regarding the product evaluated, with respect to their lifestyle and regarding the effects of the information that appear on packaging and labels in general.

For purposes of the present project, the research will focus on the analysis of the attitude that the individuals analyzed show towards the product after having visualized the container and its label; It will allow us to know the global assessment of the different types of packaging and information that will appear in them and determine the use of each one of them in the commercialization of foods reduced in fat, in the specific case of Lady Godiva, chocolate without sugar. To measure it we will use a scale of semantic differential, based on the proposal of Kozup, Creyer and Burton (2003).

Three questions will be used to measure the effect of the container and the information contained therein (Kozup, Creyer and Burton, 2003). The objective is to analyze if the appearance of information related to the "healthy" character of the product increases, or not, the purchase intention of the product (Garreston and Burton, 2000).

Another important issue related to the information regarding the health characteristics of the products, especially in the case of food, is the credibility of the information presented in the containers and labels thereof (Kozup, Creyer and Burton, 2003). These elements are one of the first sources of information for potential consumers, and their presence affects their perceived image (Roe, Levy and Derby, 1999). To measure this construct we will follow the proposal of Kozup, Creyer and Burton (2003).

The classification of a food product as healthy, or not healthy, depends to a large extent on how the consumer considers the food category to which it belongs, especially when the information received is ambiguous (Lord, Ross and Lepper, 1979). Therefore, we consider it interesting to know the opinion of the individuals participating in the study about the healthy and unhealthy condition of the products contained in the analyzed packages. This construct is analyzed following the proposal of Kozup, Creyer and Burton (2003) that relates the consumption of food with three possible diseases associated with the high consumption of foods rich in fats.

The containers also serve to define the personality of the consumers who choose such containers. Indeed, through the design of the containers and their labels, the color of these or the images that appear in them, the manufacturers of the products can transmit information that seeks to relate the consumption of said product with certain characteristics of the consumer (Wakefield et al. al., 2002). It is even possible to modify the perception in the consumer of certain sensory issues of the product through changes in the design of the container (Freedman and Dipple, 1978). To analyze this transfer of image between the food and the typical consumer of the same we use the proposal of Wakefield, Germain and Durkin (2008) which consists of a 10-point scale, asking the respondent for his opinion on what will be typical consumer.

Another aspect that has been observed by researchers, is the formation of expectations related to the price based on the observation of the packaging of the products (Teas and Agarwal, 2000). For this reason, and following the proposal of Jun, MacInnis and Park (2005), we will ask an open question in which we will ask you to indicate the price that you consider appropriate for the product shown.

Traditionally the visual aesthetics of a product, inferred from its packaging and its label, has been one of the important elements in the decision making of purchase and consumption of the product, although its importance is not equal in all product categories, being also a possible source of differentiation with respect to competing products (Cox and Cox, 2002). In addition, the repetition of the exhibition of aesthetic stimuli reinforces the acceptance, or rejection, of them by consumers, and therefore the product contained in the container. To measure the assessment of the aesthetic aspects of the containers and labels proposed to the

individuals investigated, we used the scale proposed by Cox and Cox (2002), using a semantic differential. Since it is about food packaging we have added an item related to the perception of quality.

III. RESULTS

A study was conducted on 140 people, 70 men and 70 women, who were subjected to a previous analysis in a measuring instrument that included 71 items which sought to measure the reasons for choosing the products, involvement with food, quality of life, concern for health, attitude towards healthy slogans and credibility towards healthy slogans. Below are the general results obtained with marketing and neuroscience techniques:

Reasons for choosing products.

After analyzing the results of the previous interviews, it was concluded that on average women (3.56 out of 5) care more than men (3.53 out of 5) or choose their food more carefully giving greater importance to the flavor of the food, that contains natural ingredients, that is nutritious, easy to find in stores and supermarkets, the smell of the food, the appearance and a good value for money. In the case of men who make up this sample, they are more concerned than women about very basic elements such as taste, ease of finding, appearance and preparation time.

Involvement with food.

In this section we find that men have, on average, a greater involvement with food (3.5 out of 5). They give more importance to their food when they are traveling and they like to mix food more. The women (3.4 out of 5) in turn take into account the arrangement of the table and consider that the daily decisions about their food is very important. According to the data, men consider cooking more fun and they like talking about what they have eaten or go out to eat.

Quality of life.

According to the information analyzed, men in general worry about their quality of life (3.11 out of 5) to a greater extent than women (2.69). In all the indicators of this section (with the exception of one) they had a higher average, affirming that they have a fixed bedtime and that they feel when they wake up that they have rested enough, however, these results also affirm that it is the men who consume tobacco, drugs and alcohol to a greater extent than women.

Concern for health.

This section shows that women (3.44) worry slightly more than men (3.41) about their health. Women are more in agreement that nutritional information is useful, although men in this factor also mostly agree that this information is useful for the consumer and both agree fairly that the nutritional slogans on a reduced diet are true, while they do not agree with the fact that the slogans on high fiber content are true.

Attitude towards healthy slogans.

Both genders have an indifferent attitude, with women (3.26) presenting the greatest response in this comparison section of men (2.98). In the three items that make up this section, women presented a higher average than men, considering it important to observe nutritional information, buy food with slogan and use nutritional information in their usual diet.

Credibility towards healthy slogans.

This section was very similar between the two samples, with men (3.1) presenting greater credibility than women (3.01). Men believe more in slogans that talk about low-fat foods, which reduce the feeling of hunger and that facilitate digestion, while women believe more in those who talk about reducing cholesterol and strengthening the bones.

The next step included the placement of a headband that measures electrical signals in the cerebral cortex. This section measures six variables Stress (stress), Relaxation (relaxation), Engagement (involvement), Excitement (enthusiasm or excitement), Interest (interest), Focus (concentration), in this section the analysis of the first two variables is carried out. That its performance will determine the efficiency of neuromarketing results, the four remaining variables will be resolved in the discussion and conclusions of this research work:

Stress (estrés)

85% of the informants presented low levels of stress at the time of the interview, which is positive for the investigation, since a low level of stress increases the veracity and objectivity of the responses generated on the factors that influence the decision of purchase during the session.

Relaxation (relajación)

39.3% of the informants maintained medium-high levels of relaxation during the session while 60.7% remained at medium-low levels. It is important that the informant maintains a medium level of relaxation since maintaining high levels can be interpreted as lack of interest in the interview.

The results suggest that the factors that caused more electrical stimuli in the cerebral cortex of the analyzed subjects were: the ease to interpret the information of the label (77.1%), the use of simple words (85.7%), the colors of the label or packaging (74.2%) and product information (51.4%). On the other hand, the factors that generated the lowest electric charge were: the country of origin (62.2%) and the material of the container (33.5%), on this last factor, it is important to note that informants coincided in 66.5% that Container materials were important, however, when analyzing the electric charges generated in the cortex with respect to this question, the results showed little excitement to this factor.

IV. DISCUSSION AND CONCLUSIONS

The following is a detailed analysis of the four most important variables to be analyzed in order to carry out the strategy proposal for Lady Godiva, as well as its relationship with other variables generated for the present study:

Discussion

Table 1 shows the variables and their contrast of the neuroscience version and those analyzed from the marketing perspective.

Tabla 1. Variables sujetas de análisis

Variable neurociencia	Variable marketing	
Engagement (implicación)	Diseño de la etiqueta Confianza Marca Colores Uso de imágenes y dibujos País de origen	
Excitement (entusiasmo o excitación)	Diseño de la etiqueta Marca Colores Uso de imágenes y dibujos País de origen	
Interest (interés)	Diseño de la etiqueta Marca Colores Uso de imágenes y dibujos Uso de palabras sencillas y fáciles de comprender (slogan) País de origen	
Focus (concentración)	Uso de palabras sencillas y fáciles de comprender (slogan) Información del producto Énfasis solo en nutrientes importantes	
Stress (estrés)	-	
Relaxation (relajación)	-	

Fuente: Elaboración propia por los Autores.

1. Variable: Engagement (implicación)

Regarding the design of the label and the engagement (involvement) 56.42% of the informants presented a high and very high level of involvement between the brand and the design of the label (43.57% high and 12.85% very high). It is very important to indicate that 87.85% of the people interviewed who had a high and very high level of brain activity agreed that this indicator is important in their purchase decision (the design of the label).

On the other hand, the relationship between the engagement was reviewed and the brand generates confidence when seeing the label. It was observed that in general the informants agree that the label should inspire confidence or security to buy a product and this data is supported by the high level of engagement registered in the participants during the session. In total 85.71% of the informants consider that this is an important factor in their purchase decision.

Regarding the relationship brand and involvement, again 56.42% of the informants maintained a high level of engagement when answering the question about the brand, however, only 42.14% had a strong relationship between considering this factor and the high level of engagement despite the fact that 77.14% considered that the brand is essential to make the decision to purchase a premium chocolate.

Regarding the relationship between colors and engagement, 74.29% commented that colors are important, although only 42.14% maintained a high level of engagement, and only 25.71% considered that they do not give much importance to this factor. Of the previous percentage, 11.43% had a medium-low level of engagement, so it is likely that the colors in the package if they cause an unconscious reaction and this variable must be analyzed in depth to determine a future change in the image of Lady Godiva

Regarding the use of images and drawings, it could be observed that 69.26% of the informants indicated that they are important at the time of the purchase decision. However, when analyzing the electrical reactions in the cerebral cortex, it was observed that 39.26% of the informants maintained a high level of engagement. In this item, 30.71% of the analyzed subjects mentioned that the images and drawings on the packaging are not very important to them, which was confirmed in the electroencephalograms since only 13.57% maintained medium-low levels of engagement, which is why the unimportance and even unconscious level of this factor in the product to be marketed is confirmed.

Regarding the country of origin and involvement with the brand, only 37.86% considered that the country of origin is important to decide on their purchase, despite only 20.71% who consider this factor important and maintained a high level of engagement.

2. Variable: Excitement (entusiasmo o excitación)

Regarding the variable of excitement (excitement) we could observe a decrease in the relationship with the design of the label, only 7.14% had a high level of excitement during the interview, of which upon seeing the design of the label alone 6.43% mentioned that it was important to make the purchase decision. The rest of the informants (81.43%) said that this factor is important, however, they maintained low levels of excitement, so it is likely that the design of the label does not generate an important reaction in the informants.

The 70.71% of the interviewees said that the brand is very important to determine the purchase of Premium products, however, the level of excitement that they maintain has a downward trend. The observed reason is due to the ignorance of the brand of the product analyzed (chocolates Lady Godiva). On the other hand, 21.43% of informants who recorded average levels of excitement (with a downward trend) argued that the brand is not so important to them, as long as the product complies with what it offers. The 6.43% mentioned that the brand was important in the purchase decision and had a high level of excitement during the study.

Only 5.71% of participants with a high level of excitement argued that colors are important, however, media excitement levels prevailed, where 63.57% of informants mentioned that this is an important factor, so it is likely that, although if the color is important, in the case of this product people do not take it too much unconsciously.

A 6.43% of the informants had a high level of excitement when viewing the images and drawings of the container and they argued that it is an important factor, on the other hand, 62.86% of the informants who mentioned giving importance to this element to decide on their purchase they had average levels of excitement with a downward trend, so it is likely that these levels are due to the stimulus created by the packaging shown to be unique and to have possible uses after the purchase.

35% of the participants argued that it is important to see the country of origin in the container, however, they maintained average levels of excitement with a downward trend, which is why it is probably not a very influential factor in the user. Only 2.86% of the informants considered this factor important at the moment of making the decision and maintained a high level of excitement. 28.57% of respondents who maintained medium levels with a tendency to high excitement answered that it was little or not important to include the country of origin on the label.

3. Variable: Interest (interés)

Regarding the variable design of the label and interest, a total of 83.57% of informants presented a high level of interest during their session regarding the design of the label, while 74.29% mentioned that it is an important factor to have a Label design suitable for the product to be marketed. On the other hand, 8.57% of the informants do not consider this factor very important, however, they presented a high level of interest.

Regarding the brand variable, 72.14% of the interviewees mentioned that it is an important and influential factor in the purchase decision. In the same way, 12.86% of the informants agree that the brand is important and they maintained a medium level of interest in this factor. However, 19.26% of the participants mention not giving much importance to the brand, however, the level of interest they presented was high, for which and with all the previous considerations, if it is necessary to see the Lady Godiva brand in the container in a privileged place.

Regarding the variable of color and interest, 74.26% of the informants consider that the color is important and if it influences the purchase decision. In the case of Lady Godiva's packaging colors, 61.43% showed real and measurable interest in encephalograms and also showed an understanding of the use of light colors to determine their interest in tasting the product without sugar. On the other hand, the remaining

informants (22.14%) who also presented a high level of interest in the colors, considered that this is not an important factor for the final decision to purchase.

Regarding the use of images and drawings, 69.26% of the informants consider this factor to be fundamental to generate interest on the part of the consumer, this information was contrasted with the results of the encephalogram and it could be observed that high levels of interest were presented. In general, most people showed interest in this factor and, although 30.74% of respondents mentioned not giving much importance, the results of their brain activity showed a high level of interest in this variable.

In this variable, a new one was contrasted which involved identifying the use of simple and easy to understand words (slogan) and the results showed that 70.71% of the informants considered and showed a higher level of interest towards the simple words on the label, for what is an important factor to rethink the labels of the products to be marketed and that, in addition, unconsciously generated a positive response among the participants according to their reactions in the cerebral cortex obtained in the present study.

50.71% of the informants consider that the country of origin is unimportant for the purchasing decision, however, according to the level of interest presented, it is likely that they will see the country of origin on the package if it catches their attention and more when it is a Premium product because it would give them the confidence to know that the product has been prepared by the experts according to the type of product that is marketed.

4. Variable: Focus (Concentración)

The variable concentration refers to the interviewee to assess whether the use of simple words will help to decide the purchase of the product analyzed, however, only 22.86% considered this important factor which is found when analyzing the encephalograms since there is a low level of concentration so you have to assess the information currently on the label of Lady Godiva. The low level of concentration could be due to the fact that people really understand the message with few words and without the need to make an effort to do so. Of the rest of the participants who maintained a concentration level from medium to high, that is, 68.57% agree that this factor is important in their purchase decision.

Regarding the product information in this factor we found that 20% of the 52.14% who considered it an important factor to be able to see the product information on the label, showed a low level of concentration, so it is probably not a factor very influential in its decision to purchase and must comply with the specifications proposed by the authority on this type of product and decrease in the most quantity the text displayed on the label or the product analyzed.

According to the information of the product, 12.14% of the informants considered an important factor the emphasis only on the important nutrients in the label, however, they maintained a low level of concentration, so it is probable that this factor does not really consider it when making the purchase decision. On the other hand, 29.29% of the interviewees who also considered this factor important, showed levels of concentration higher than the initial percentage of this contrast of variables.

V. CONCLUSION

Next, the objectives and their results are presented that allow to establish conclusions based on the previous discussion:

Thanks to the use of neuroscience and joint marketing, the 6 previous objectives were analyzed through 71 items, all the objectives were complemented and a technical report was delivered to the company Grupo Pando who trusted in the research and contributed all the information that we request in a timely manner.

1. Measure the attitude towards the product from the visualization of the container.
2. Determine the purchase intention of the product from its packaging.
3. Determine the credibility of the product from its packaging.
4. Determine the personality associated with the buyer-user of a certain package.
5. Determine the expectation of the price of the product from the package Presented.
6. Determine the aesthetic evaluation of the container.

1. The positive attitude towards the containers shown during the experiment was determined. Users recognize the value of the packaging as a distinctive element that will determine the purchase of the Premium product.
2. The shape, color and information included in the Premium product sold offers a possibility on the final purchase decision.
3. The confidence generated by the packaging is centered on the information on the label, which is why it is very important to propose a minimalist label that can provide the minimum but sufficient information to encourage the purchase of the Premium product.
4. The personality of the guests to conform the present study were adult men and women who seek to satisfy their purchase needs with high quality products and the reasons that lead them to acquire these products are: Causality, independence, novelty, defense of the ego, affirmation and modeling of the status quo. They will

become frequent users once they try the product and will be prescribers of it. Your loyalty is a fundamental characteristic so that the user acquires the product and recommends it.

5. The estimated price is medium-high and was accepted by the interviewees since when asked how much they would be willing to pay they coincided with the current prices of the product analyzed.

6. There were two types of packaging. The glass was the most accepted and the most invited to try the product. This result should be contrasted since both packages had an exclusive design and this gave rise to different interpretations, what if a fact, is that the consumer of this product is interested in making higher contributions if the packaging can contribute something to the society and not only be aesthetically more beautiful.

Four goals to be achieved were established in the research project, which are listed below:

1. Determine the impact of advertising stimuli (packaging and label) on the purchase decision

2. Determine the most suitable strategies for the use of advertising based on neuroscience

3. Establish the effectiveness of neuroscience in the marketing environment in a specific case.

4. Compare samples of end users

1. It was found that the packaging and information on the label are important, not only at a conscious level, but that there is evidence of encephalograms showing brain activity in different layers of the brain in such a way that there is a positive assessment unconsciously about the packaging and the label and that these elements can determine the purchase.

2. We can now say that the use of neuroscience is an appropriate tool to generate more efficient strategies to attract the attention of consumers, so, for example, design a campaign with less information, but with appropriate colors, ensures greater success in the purchase of products or services.

3. Thanks to the support of the company Grupo Pando, we have visualized a real case where men and women chose a regular product (chocolates) against a light product (chocolate without sugar), and it has been demonstrated that the use of light colors directly identifies those healthier products and with the use of less text on the labels you can get higher sales.

4. A sample of 70 men and 70 women was compared and it was observed that there is no difference between both groups when it comes to mass consumption products. However, when it comes to selective distribution products, women are more cautious in their purchase and men respond more easily to the functionality of the brand rather than the benefits of brand image.

BIBLIOGRAFÍA

- [1]. Álvarez del Blanco, R. (2011). *Neuromarketing, seducir al cerebro con inteligencia para ganar en tiempos exigentes*. USA: Financial Times – Prentice Hall.
- [2]. Amin, T., Al-Sultan, A., y Ali, A. (2008). Overweight and obesity and their relation to dietary habits and socio-demographic characteristics among male primary school children in Al-Hasa, Kingdom of Saudi Arabia. *European Journal of Nutrition*, 47 (6), 310-318.
- [3]. Ariely, D. y Berns, G.S. (2010). Neuromarketing: the hope and hype of neuroimaging in business. *Nature Reviews Neuroscience*, 11(4), 284-292.
- [4]. Arrellano, R. (2002). *Comportamiento del consumidor: enfoque América Latina*. México: Mc. Graw Hill/Interamericana Editores.
- [5]. Barreiro-Hurle, J., Gracia, A. y de-Magistris, T. (2010). Does nutrition information on food products lead to healthier food choice? *FoodPolicy*, 35, 221-229.
- [6]. Bell, R. y Marshall, D. (2003). The construct of food involvement in behavioral research: scale development and validation. *Appetite*, 40, 235-244.
- [7]. Braidot, N. (2005). *Neuromarketing. Neuroeconomía y Negocios*. Buenos Aires: Biblioteca Braidot.
- [8]. Braidot, Néstor (2007). *Neuromarketing ¿Por qué tus clientes se acuestan con otro si dicen que les gustas tú?* Barcelona: Editorial Gestión 2000. ISBN: 978 8498750447
- [9]. Camfield, L. y Skenvington, S. (2008). Ob Subjective well-being and quality of life. *Journal of HealthPsychology*, 13(6), 764-775.
- [10]. Castro, M. *Itesm Primera Universidad De América Latina En Contar Con Laboratorio De Neuromarketing*. (2014, Noviembre 10). Disponible en: <http://cierredeedicion.blogspot.com/2014/11/ itesm-primera-universidad-de-america.html>
- [11]. Cox, D. y Cox, A. (2002). Beyond first impressions: the effects of repeated exposure on consumer linking of visually complex and simple product designs. *Journal of the Academy of Marketing Science*, 30 (2), 119-130.
- [12]. Freedman H. y Dipple S. (1978). The effect of masculine and feminine brand names on the perceived taste of a cigarette. *DecisionScience*, 9, 467-71.
- [13]. Garreston, J. y Buston, S. (2000). The nutrition facts panel and package claims: the role of nutrient values, multiple claims, and congruent information on attitudes, disease-related risk, and consumer trust. *Journal of Public Policy & Marketing*, 19 (invierno), 213-227.
- [14]. Grimaldo, M. (2010). Calidad de vida y estilo de vida saludable en un grupo de estudiantes de posgrado de la ciudad de Lima. *Pensamiento Psicológico*, 8-15, 17-38.
- [15]. Hubert, Mirja y Kenning, Peter (2008). A current overview of consumer neuroscience. *Journal of Consumer Behavior*, vol. 7, p. 272-292.
- [16]. Hubert, Mirja; Kenning, Peter (2008). "A current overview of consumer neuro-science". *Journal of consumer behaviour*, July, v. 7, n. 4-5, pp. 272-292.
- [17]. Kenning, P., Plassmann, H., y Ahlert, D., (2007). Applications of functional magnetic resonance imaging for market research. *Qualitative Market Research*, 10(2), 135-152.
- [18]. Kotler P. y Keller, K. (2013). *Dirección de Marketing*. Estados Unidos: Prentice Hall.
- [19]. Kozup, J., Creyer, E. y Burton (2003). Making healthful food choices: the influence of health claims and nutrition information on consumers' evaluations of packaged food products and restaurant food products and restaurant menu items. *Journal of Marketing*, 67 (abril), 19-34.

- [20]. Kuvykaite, R., Dovaliene, A. y Navickiene, L. (2009). Impacto of package elements on consumers' purchase decision. *Economics & Management*, 14, 441-447.
- [21]. Lator, F., Kennedy, J., Flynn, M. y Wall, P.G. (2010). An examination of nutrition and health claims – a snapshot of what's on the Irish market. *PublicHealthNutrition*, 13 5, 704-11.
- [22]. Landstrom, E., Koivisto, U. y Magnusson, M. (2009). Functional foods compensate for an unhealthy lifestyle. Some Swedish consumers' impressions and perceived need of functional foods. *Appetite*, 53 (1), 34-43.
- [23]. Lee, Nick; Broderick, Amanda J.; Chamberlain, Laura (2007). "What is 'neuromarketing'? A discussion and agenda for future research". *International journal of psychophysiology*, February, v. 63, n. 2, pp. 199-204.
- [24]. LEWIS, DAVID Y BRIDGER, DARREN "Market researchers make increasing use of brain imaging". *Advances in Clinical Neuroscience & Rehabilitation*, vol. 5, n° 3 (2005), p. 36-37.
- [25]. Lord, C., Ross, L. y Lepper, M. (1979). Biased Assimilation and Attitude Polarization: The Effect of Prior Theories on Subsequently Considered Evidence. *Journal of Personality and Social Psychology*, 37 (2), 2098-2109.
- [26]. Marietta, A., Welshimer, K. y Long, S. (1999). Knowledge, attitudes, and behaviors of college students regarding the 1990 Nutrition Labeling Education Act food labels. *Journal of the American Dietetic Association*, 99 (4), 445-449.
- [27]. Marshall, D. y Bell, R. (2004). Relating the food involvement scale to demographic variables, food choice and others constructs. *Food Quality and Preference*, 15, 871-879.
- [28]. Mejia, J.C., (2011). *Marketing Digital*. Fecha de Consulta, 25 de Septiembre, 2014. Disponible en: <http://www.ecbloguer.com/marketingdigital/?p=1875> (Agosto, 2017)
- [29]. Morin, C. (2011). *Neuromarketing: The New science of consumer behavior; symposium: consumer culture in global perspective*. Springer Science Business Media, 131-135.
- [30]. Murphy, E. R., Illes, J., y Reiner, P. B. (2008). Neuroethics of neuromarketing. *Journal of Consumer Behaviour*, 7(4-5), 293-302.
- [31]. No-Seong, D. (2001). Functional foods. Part 1: The development of a regulatory concept. *Food Control*, 12, 99-107.
- [32]. Orth, U., Campana, D. y Malkewitz, K. (2010). Formation of consumer Price expectation based on package desing: attractive and quality roles. *Journal of Marketing Theory and Practice*, 18 (1), 23-40.
- [33]. Padreep, A. K. (2010). *The buying brain: secrets for selling to the subconscious mind*. New Jersey: John Wiley&Sons. ISBN: 978 0470601778
- [34]. Piggford T, Raciti M, Harker D, Harker M. (2008). Young adults' food motives: an Australian social marketing perspective. *Young Consumers*, 9, 17-28.
- [35]. Randall, K. (2009). *Neuromarketing Hope and Hype: 5 Brands Conducting Brain Research*. Fecha de Consulta, 20 de Septiembre 2015. De: <http://www.fastcompany.com>
- [36]. Randall, Kevin (2009). *Neuromarketing hope and hype: 5 brands conducting brain research*. Fast Company.
- [37]. Ranicovic, J. y Colic, I (2011). Differences between younger and older populations in nutrition label reading habits. *British Food Journal*, 11 (1), 109-121.
- [38]. Roe, B., Levy, A. y Derby, B. (1999)- The Impact of Health Claims on Consumer Search and Product Evaluation Outcomes: Results from FDA Experimental Data. *Journal of Public Policy & Marketing*, 18 (primavera), 89-105.
- [39]. Roth, V. (2013). *The Potential of Neuromarketing as a Marketing Tool*. Bachelor Thesis Conference, June 27th, Enschede, The Netherlands, pp. 1-16.
- [40]. Ruiz, J. (2015, Marzo 30). *Innovación Audiovisual*. Fecha de Consulta, 20 de agosto 2016, Disponible en: <https://innovacionaudiovisual.com/2015/03/30/el-neuromarketing-y-el-impactoemocional-en-el-audiovisual/>
- [41]. Sánchez, A. García, C. & Martín, P. M. (2014). Situación del Neuromarketing en España. *El profesional de la Información*. 23 (2), pp. 151-157
- [42]. Serra, L., Ribas, L., Aranceta, J., Pérez, C., Saavedra, P., y Peña, L. (2003). Obesidad infantil y juvenil en España. Resultados del estudio enKid (1998-2000). *Medicina Clínica*, 121 (19), 725-732.
- [43]. Smidts, Ale (2002). *Kijken in het brein: Over de mogelijkheden van neuromarketing*. Rotterdam: Erasmus Research Institute of Management – Inaugural lectures. ISBN: 978 905892 036 2
- [44]. Steptoe A, Pollard T, Wardle J. (1995). Development of a Measure of the Motives Underlying the Selection of Food: the Food Choice Questionnaire. *Appetite*, 25, 267-284.
- [45]. Teas, R. y Agarwal, S. (2000). The effects of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. *Journal of the Academy of Marketing Science*, 28 (2), 278-290.
- [46]. Trout, Y., y Peralba, R. (2004). *La estrategia según Trout*. Madrid: Mc.Graw-Hill/Interamericana Editores.
- [47]. Wakefield M., Morley C., Horan J., et al. (2002). The cigarette pack as image: new evidence from tobacco industry documents. *Tobacco Control*, 11(Suppl 1), 73-80.
- [48]. Wakefield, M., Germain, D. y Durkin, S. (2008). How does increasingly plainer cigarette packaging influence adult smokers' perceptions about brand image? An experimental study. *Tobacco Control*, 17, 416-421.
- [49]. Zarā I.A. y Tuğ a M. (2013). *Neuromarketing Research – A Classification and Literature Review*. *Research Journal of Recent Sciences*; Vol. 2 (8), 95-102.

Dr. en Mkt. José "Neuromarketing and purchase intention: use of neuroscience and advertising elements to improve the commercialization of products. "International Journal of Business and Management Invention (IJBMI) , vol. 07, no. 08, 2018, pp. 01-09