Consumers Economic Behavior and Emotions: the case of iphone 6 in Neuromarketing

José Chavaglia Neto[1], José António Filipe[2]

[1]*Instituto Universitário de Lisboa (ISCTE-IUL), Lisboa, Portugal*

jnchavaglia@gmail.com

[2]*Instituto Universitário de Lisboa (ISCTE-IUL), Business Research Unit (BRU-IUL), ISTAR-IUL Lisboa, Portugal*

jose.filipe@iscte.pt

***Abstract* – In the current era, consumers' fascination for many notable brands in the market is rising considerably. This effect shows that many companies are trying to consistently reproduce this effect in their current (and potential) customers and thus look for creating a strong identification with their brand(s), what allows the company to add new economic value. However, the vast majority of these companies finds limitations in the way traditional marketing works to achieve a necessary emotional state for the generation of a brand identification. Thus it is necessary to go further and use more effective tools for the study of consumer behavior. An interesting possibility is the use of Neuromarketing, emphasizing research methods for studying people's emotion feelings, by facing stimuli related to a specific brand. From this analysis, companies may adjust their commercial and economic strategy to take advantage from their brands competitive positioning in the market.**

Keywords *- Neuromarketing, Neuroeconomics, shot on iphone 6, Face Reader, emotion in advertising, consumer behaviour.*

1. Introduction

Marketing world has suffered a transformation in its analytical bases. Many consumers hold information on their hands (and from now on, on their wrist too) thanks to smartphones, tablets, and watches. This big revolutionary technological transformation on economic basis of countries' markets and in the global economy makes that companies may have to adjust their strategies to better understand markets' movements and be leaders in the way they understanding markets. However, big countries, such as China, USA, United Kingdom and even other countries, have global strong economies, considerably resilient in the current turbulent days, but they are growing less than they could or should. Also in other countries as the case of Brazil, the climate of uncertainty is considerably greater due to a very troubled and complex political environment in such countries. Besides, there is a global concern involving the environment, which has made the term "sustainability" to become an important part of companies' strategies. Given this global scenario, many companies face a great difficulty in convincing consumers that their products and services are worthy of being purchased by them, to be object of their credit cards use. However, not all companies are facing such difficulties, once some exceptional companies transformed all the "love consumers feel about their selves" in "love for their selves in the form of a product to be got". It is the case of Apple for one of their featured products, iPhone.

The number of companies and Governments which care about the topic of decision makers "behavioral biology" is increasing. However, this is still a negligible number of cases if compared to the number of organizations that still use formal techniques as satisfaction questionnaires and collection of secondary data for the consumer behavior research. Maybe this may explain why so many companies fail, for example, when they launch their products and services on market.

Another way to investigate consumer behavior, which is widely used by many companies, is simply "not investigate" consumer behavior. These companies take their decisions about their positioning in the market by ignoring any kind of innovation, just copying their competitors. It is evident that this is the worst form of acting in the market because it is assumed that all companies present identical vision, mission and values, what is not true. It is simply impossible to replicate the strategy of a company to another. That happens because the culture of a company is unique and it is conditioned by personal employees' characteristics as well as specific

environmental factors.

A reason by which companies face today market difficulties resides in the general belief that market laws are the major force of customer decision making. Therefore, they give a considerable importance to their positioning in the market considering strategies based on their product or service price, substitute goods' price and consumer income. Some time ago, such kind of information was an important source of information for strategic decision making and companies' planning. However, nowadays it is not anymore. Technologies of research of human behavior were precarious at that time. Today, that way is not appropriate for research in the consumers decision-making area. This is because these techniques completely ignore the aspects concerning the real motives of consumer decisions, which result from chemicals release in the human brain and throughout the body.

However, unlike most companies which fail in the market, or which only grow in an inertial form, there are other companies - as it is the case of Apple – which are devoted to give full attention to the experience of purchase and to the use that their clients may give to their products. Considering that, they invest considerably in the investigation of consumers decision-making processes. This will have strong economic and financial impact in companies.

There are pro-active companies that have powerful brands which are able to influence an entire way of life, throughout the whole world. This fact is evidenced, for example, by considering the annual products releases made by these companies which transform an event into a real show, generating huge expectations on users and experts from around the world. That happened recently when "iPhone 6s" was released by Apple; or with the launching of PES 2016 "virtual football game" of the Japanese company KONAMI; or yet, with big brands of cars that annually have new released models.

At this point there is a question: what is the secret for the success of these companies to fully predict and reach the brain of consumers? In the present analysis, it is defended that part of the answer lies in the way how these companies deal with their real and potential clients emotions. This is what will be tried to be demonstrated in this study with the support of a discipline that seems to be configured as the most appropriate tool to answer this question, Neuromarketing.

2. Some Conceptual Considerations

The use of Neuromarketing may set a campaign final result for a company brand positioning. That is the reason why a company - while investigating the true feeling of its clients - is conditioned when realizes about clients´ frustrations in the process of development of a positive relationship with its clients.

Before going further, it is necessary to take in account a set of questions about this new discipline. For instance: what is Neuromarketing? How did Neuromarketing have emerged? Which are the main techniques of investigation in the area of Neuromarketing? How can Neuromarketing investigate the role of emotions' feelings? What are the main important implications for companies and the economy as a whole resulting from the use of innovative processes in this area to better understand the brain of consumers? These are just some of many possible questions to clarify about Neuromarketing issue.

In the recent literature, it is not uncommon to find books and articles stating that Neuromarketing has emerged in the 1990s when the neurologist Read Montague made a blind test to consumers' taste to Pepsi and Coca-Cola products in competition, using neurocientific equipments. However, it is necessary to recognize that Neurmarketing studies began before, in the seventies, with the studies by Daniel Kahneman (1934-) and Amos Tversky (1937-1996). These researchers have begun the study of behavioral economics, culminating in the development of Neuroeconomics, in which, in a large sense, Neuromarketing may be included.

It is necessary to check how some important authors are conceptualizing this scientific discipline. Neuromarketing is an area of research of consumer behavior related to all aspects of marketing communication in all media: product, including brand perception; price and distribution, what embraces different kind of strategies including exhibition techniques at the point of sale (Camargo, 2010, p. 160).

Neuromarketing is a science which explains processes and which tests campaigns, applications, or sensations in a more exact way by using Neurosciences as an ally of marketing (Rodrigues, 2011, p. 10).

Neuroeconomics is itself the fusion not only of Neuroscience with Economics as the name suggests directly, but is also the junction of many other disciplines (biology, physics, chemistry, statistics, mathematics, psychology, pharmacology, among others). It makes the decision-making process to appear as more "realistic" and suitable for the everyday life of economic agents. Neuromarketing, by its turn, arose from the need of achieving the most reliable results on individuals economic decisions (Chavaglia *et al.*, 2011, p. 184). Neuromarketing studies use the brain and body reactions on what attracts, or not, any product, person or idea on its particular purpose (Chavaglia *et al.*, 2012, 27).

There are many objects of study in Neuromarketing as it is the case of attention, memory, hormone levels, conscience, the role of emotions in the market, among many others. For this purpose there are some widely used techniques such as functional mapping through magnetic resonance imaging, scanning with Tomography support (SPET and PET), mapping of the eye movement using Eye Tracking devices, measurement of eletrodermal activity, or mapping of facial micro expressions as FaceReader (Chavaglia, 2014, p. 53).

The present study will give special attention to the study of feelings arising out from emotions. In this case the most appropriate technique is micro expressions reading.

At this point, before going on the issues relating to this study, it is necessary to define at this stage what is "emotion", "sense of excitement" and the FaceReader technique, to be used later. A research on emotions involves an investigation of extremely varied regulatory devices of life which are present in the brain, nevertheless being inspired by existing principles and objectives before the action of brain activity. Consequently, in general, they work automatically and almost blindly, until they start to be recognized by the conscious mind in the form of feelings (Damasio, 2010, p. 142). So, feeling is the emotion that becomes aware (Frazzetto, 2013, p. 19).

According to the famous psychologist and American researcher, Paul Ekman (1934-), it is possible to identify through facial micro expressions, seven basic or universal emotions. So, accordingly, these emotions may be (see Fexeus, 2013, p. 116):

1. Surprise;
2. Sadness;
3. Anger;
4. Scariness;
5. Happiness / joy;
6. Disgust;
7. Contempt.

In order to detect people's emotions through the movement of facial muscles, a company - supported on the study of micro expressions - made available in the market a software that excellently executes this procedure. *FaceReader Software* allows to make the mapping of one of these emotions in front of a stimulus. For that, this software uses a scale from "0" (which means that emotion is not present) and "1" (which means that the emotion is fully present).

Another important factor is that *FaceReader Software* has been prepared to allow a classification of the seven emotions above mentioned. It is not possible to add any emotions more than the available ones, to the software. In addition, FaceReader can classify facial expressions either directly using a webcam, or offline through video files or images (see Noldus Information Technology, 2015, p. 3).

Therefore, Neuromarketing in recent years has become notable by allowing to study the human being as he really is. Maybe this is why Neuromarketing has been used in market practices by large companies when consumer behavior is studied. In this context of the investigation of the unconscious part of the consumer, the identification of emotion's feelings has been highlighted through micro expressions face reading.

3. The Study

The purpose of this study is to verify the importance of the role of emotions in marketing campaigns aimed at a targeted consumer stimulus test through a commercial internet video. In addition it is aimed to analyse the effectiveness of the commercial *Shot on iphone 6 - by Jin C.* (http://bit.ly/1VrsBrX), making relevant the emotions analysis of smartphone consumers in general, with very relevant economic implications.

In what the type of research is concerned, it is possible to subdivide it into two segments: considering the purposes; and considering the means (Vergara, 2004, p. 58).

As for the purposes:

- It is explanatory because it aims to clarify which factors contribute somehow to the occurrence of the given phenomenon.

As for the means:

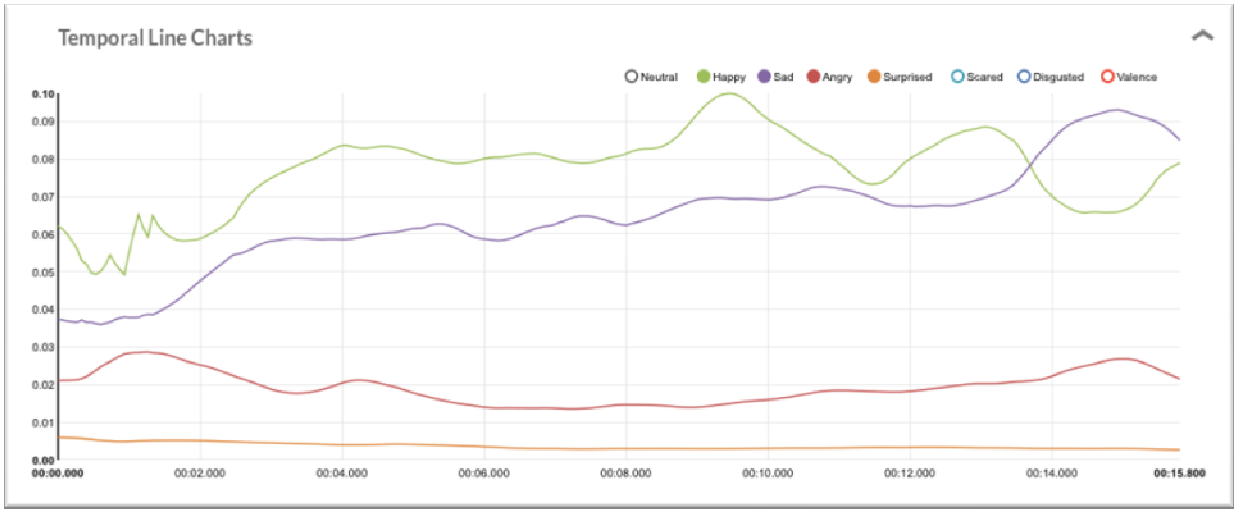
- It consists on a laboratory research, because it is an experiment carried out in a limited area, since in the field it would be virtually impossible to accomplish it;
- It is bibliographical, once it consists of material published in books, magazines, newspapers, electronic networks;
- It is a case study, because it was based on one or on a few entity units: a person, a company, a family, a public entity, a community or a country.

The sample of this study is a non-probability one (or for accessibility), in a total of 15 people (9 men and 6 women), all MBA students and aged between 25 and 35 years and residents at the city of Ribeirão Preto – SP, being smartphones consumers, in the period 1-30 July, 2015. Data have been obtained through a laboratory research using a program developed by Noldus (*FaceReader Software*^{TM}).

4. Results

In this sense, considering the timeline in the commercial "Shot on iphone 6 - by Jin C." it is possible to get some interesting results.

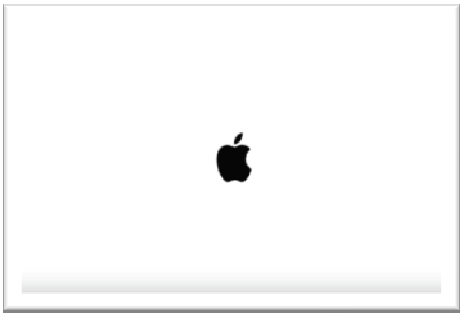
Figure 1 - Face Reader timeline



Source: Authors one

Figure 2 - Man in the canoe (second 9)

Figure 3 - Apple Logo (second 14-15)



Source: https://www.youtube.com/watch?v=6DOmgey5-4w

The obtained results are the following ones:

- Considering Figure 1, three emotions stand out:

- one positive: “happiness”;

  and

- two negative, in greater intensity “sadness” and then “anger”;

- In specific terms, it is possible to see now two moments within the fifteen seconds of the video film that record a mark (are highlighted) on the emotion curves. Watching the timeline in Figure 1, it is possible to see that the positive emotion “happiness” is present throughout all the period of the video. However, when crossing the ninth second, this emotion triggers reaching a peak. This means that this emotion is fully present in front of a stimulus. In another moment, this positive emotion “happiness” becomes strongly notable again, this time with less intensity than in the first time, precisely in the 13th second of the video when Apple logo appears in the video (see Figure 3);
- The negative emotion “sadness” (which also appears throughout the video) appears in a rather intense way between the fourteenth and the fifteenth second of the commercial video, this is, in the period which refers to the final period of the logo exposure;
- Finally the emotion “anger” - as “happiness” and “sadness” - is present throughout all the video time. However, this emotion presented a minor relevance in the commercial video than the other two mentioned previously.

5. Discussion

The main objective of the study was to ascertain the emotional context of consumers of smartphones on the commercial video “Shot on iphone 6 - by Jin C.”, considering the importance that large companies deliver to the role of emotions in the relationship of companies with their present and potential customers.

As stated earlier, the analysis of micro expressions using facial FaceReading is based on the a set of emotions like happiness/joy, surprise, sadness, anger, fear, gross, for example (or the terms as presented by Noldus software: “happy”, “surprised”, “sad”, “angry”, “scared”, “disgusted”). A period of neutrality must also be considered in the analysis, since this state reveals, in potential, the absence of an emotional process, when facing a stimulus (Peruzzo, 2013, p. 71).

The video depicts a beautiful picture of nature involving water, sky, sun and people (Figure 2). Of course this type of image tends to provoke a positive feeling in most people. Maybe this may explain why the emotion “happiness” is the dominant emotion in most commercial scenes of the video.

Another important point to highlight (nevertheless it is extremely difficult to represent it by writing the idea) is the sound effect in the video. Exactly on the eighth second of the commercial video there is a sudden change of pace. Maybe this aspect has also contributed a little bit to the peak of happiness that occurred in the 9th second of the video, since there has not occurred a significant change in the visual aspects of the video themselves. However, this effect does not explain why the change in emotion was positive and not negative or revealed other kind of feelings, as surprise. It is necessary to further study this situation by considering for example data resulting from the commercial sound effect.

Still working the sense of emotion “happiness” found in the video, at the end of the commercial video (second 13) when the apple appears representing Apple brand, a change for better is noted associated to the emotion “happiness ”.

About negative emotions, some neuroscientists point the fact that a negative emotion is much more impressive to the memorization of an episode than a positive emotion. This happens because there is a dilemma: “fighting” *versus* “escaping”, which is directly related to the survival and maintenance system of a living organism. This means that a threat appears as being more important than an opportunity over the course of human evolution. This has conditioned a genetic (or epigenetic) development of the brain function on these types of stimuli. However, this is a subject that deserves a study devoted exclusively to the details of this kind of analysis. Considering this aspect of the impact of an emotion, it is necessary to accept that the strong presence of the emotion “sadness” is relevant to the global effects of the commercial video. This fact confirms the need for more specific studies on commercial stimuli existing on the “shot on iPhone 6-By Jin C.”)

In this way, it is necessary to say that these results are not conclusive about the commercial’s

video effectiveness for generating a positive emotion on current and potential Apple's customers.

Obviously, facial expressions vary in intensity and are often a mix of emotions. In addition, there is a lot of inter individual variation. Therefore, even if this seems to be a great technique it still has some recognized limitations. However, this does not mean that a marketing manager must return to the ancient models based on questionnaires and interviews. On this line of ideas, it only means that it is prudent to use more than one research tool of the consumer unconscious behaviour by combining, for example, FaceReader and Eye Tracking.

Results obtained through the use of this kind of software, in this case the *FaceReader Software*, allows the mapping and helps in the understanding of the process of generating emotions in front of a marketing stimulus, as occurred in the case of the commercial video discussed in this study about iPhone 6. However, considering specifically the commercial "shot on iPhone 6 - by Jin C.", it is important to deeply study this subject to specify exactly each episode of emotion and preferably with different kind of consumers (for example, Apple Smartphones consumers *versus* other brands Smartphone consumers).

6. Conclusion

This paper has approached the study of emotion's feelings in a commercial video with the case study of the commercial "shot on iphone 6 - by Jin C.", analyzed in light of a technique widely used in Neuromarketing studies, the FaceReading.

Neuromarketing appears itself as a viable alternative to the study of economic human behavior because it depicts "consumer real feelings, not what he says he feels". The focus on the unconscious aspects of the Neuromarketing can provide more reliable information for decision-making of marketing managers, which directly promotes a better understanding of customers' needs.

In the specific case of the study of emotion's feelings on the commercial "shot on iPhone 6 - by Jin C.", it can be concluded that emotional states are possible to be measured by using *FaceReader Software*.

With regard to specific aspects of emotion's feelings, the emotion "happiness" performed as dominant in most of the commercial moments, followed by the negative emotion "sadness" and then, at another lower level or at a lower intensity, appears the negative emotion "anger". However, without the support of other technologies it is not possible to verify specifically what triggered the emotion.

However, it is possible to conclude about the need of looking into this campaign with targeted different kind of biology. So, by analyzing the video only with iPhone users and then only with users of other smartphones, it is possible to get additional results. This measure is intended to remove any doubt about the specific role that emotional stimuli represent for the success of this commercial video, once positive emotion "happiness" and negative emotion "sadness" were stronger throughout the commercial video.

In general, the stimuli that trigger the emotion's feelings are robust in the moment to get the consumer's attention. It is valid either for consumers of a brand itself who present positive emotions about the company's product, either for rival consumers of competing products that present negative emotions about this competitor's product, with important economic consequences for companies.

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