ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

NEUROMARKETING: A NEW AGENDA FOR MARKETING RESEARCHES WITH PARTICULAR REFERENCE TO EYE TRACKING

HARIT KUMAR[1], Dr. NEHA MATHUR[2], Dr. SANGEETA JAUHARI[3]
[1]Assistant Professor Department of Business Administration PSIT, Kanpur
Email:harit.hradesh@gmail.com Mob: +91-9935405989
[2]Dean, Department of Management, AISECT University Mob: +91-8871064562
[3] HOD, Department of Management, AISECT University , Bhopal Mob: +91-9755002059

ABSTRACT

In current volatile environment, advanced marketing research methods are needed to identify preferences or constraints for fulfilling the needs of customers. Neuromarketing research tools have capacity to study the brain of consumers and may provide answer of many unanswered questions related with consumers. This research demonstrates the complementary role of neuromarketing techniques played in understanding the aspects of consumer behavior. It focuses on the prospective usage of Eye Tracking as techniques of neuromarketing for conducting market research. This research is conceptual in nature and based on literature review. The outcomes of this paper suggest prospective uses for Eye Tracking in marketing strategies, such as segmentation, targeting and positioning. It can be alleged that in the current and upcoming scenarios neuromarketing techniques especially Eye Tracking will be a part of marketing research.

Keywords: neuromarketing, eye tracking, visual attention, consumer behavior, marketing research

I. INTRODUCTION

The competitive business environment and stronger complexities require recent tools for better understanding consumer behavior. The rising quantity of customers, products and competitors

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

along a short span of time to react means in that understanding the consumer behavior is more complicated. In current scenario companies are shifting their focus from organizing a market, to organizing specific consumers groups or customized.

From various studies it has been observed that neuromarketing techniques play significant role in designing marketing strategies to meet consumer expectations. According to Science Daily neuromarketing is being used to develop promotional campaigns more valuable and to make available thorough understanding about the consumer taste & preferences. However, traditional market researches cannot make clear completely why consumers buy? What they buy? or how they response on specific marketing stimuli. While Neuromarketing research tools have capacity to study the brain of consumers and may provide answer of many unanswered questions related with consumers.

Consumer neuroscience emerged in the late twentieth century (Martinez, 2011). It relates with the circumstances the psychological implication, and the behavioural consequences that underlie consumption (Reimann, Schilke, Neuhaus, Weber, & Zaichkowsky, 2011). Consumer neuroscience integrates both new and traditional techniques those were not commonly used for this purpose.

This research wanted to spot some possible applications of a Neuromarketing techniques called Eye Tracking in traditional areas of marketing. Eye Tracking is a technique for the study of visual attention of customer against marketing stimuli and from the outlook of Neuromarketing; it seeks to associate visual attention with the cognitive and emotional responses of consumers. This concern has fascinated increasing interest in recent years (Solnais, Andreu-Perez, Sánchez-Fernández, & Andréu-Abela, 2013).

This research paper focuses a positioning of Eye Tracking as a Neuromarketing technique and acknowledged probable applications of this Neuromarketing technique in the area of marketing. Eye Tracking records what customer is looking for (the gaze point on the screen)?, the eye movement in relation to the head, and pupil dilation (Zurawicki, 2010).

The different Eye Tracking techniques are capable to guesstimate an eye's point of connection on a computer screen, or on the shelf of a supermarket, and may determine precisely where the user's attention is directed (Duchowski, 2003).

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

To Hoffman and Subramaniam (1995), eye movements can be seen as an objective indicator of where a person's overt attention is focused and help to filter visual information.

As this paper has a conceptual and qualitative approach, so for that secondary data sources were taken from publications in major databases such as Scopus, Emerald, ProQuest, Elsevier, Springer, and Science Direct. It is not just a literature review; it also looks into to discover prospective Eye Tracking usage for marketing. Subsequent to studying recent publications connected to neuromarketing and eye-tracking, we have selected the main issues and described some of the prospective uses of Eye Tracking for marketing.

In the view of achieving these objectives, it should be believed that the marketing strategies start with the market investigation, a detailed analysis of the marketer's in association with SWOT analysis and PETLEGS analysis. Based on consumer study, the marketer identifies groups, those have related needs. Then, any of these segments are selected as target markets based on the potential of the company in consideration of competitors. Thus, the marketing mix is prepared: this involves determining the product characteristics, price, communication, distribution, and services that will provide more value to the customer. This set of features, which is called total product, is presented to the target market that is constantly involved in processing information and making consumption decisions (Hawkins, Mothersbaugh, & Best, 2009).

II. NEUROMARKETING

The term Neuromarketing emerged in the early 2000s and speedily gained enormous attractiveness, both within academic and business fields (Fischer et al. 2010, p. 231). Despite the emerging nature of neuromarketing, no particular scholar can be credited as the architect of the practice.

Neuromarketing is a rising field which integrates the consumer buying decision with neuroscience (Christophe, 2011). Neuromarketing is advancing speedy trust and recognition among advertising professionals. As everything depends on consumers readiness and fitness to describe how they feel when they are exposed to an advertising campaign, conventional methods for testing and predicting the effectiveness of huge investments generally have a minimal effect. Cutting edge methods for directly probing minds without requiring demanding cognitive or conscious participation are offered by neuromarketing.

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

There are several brain regions related to vision (approximately 25% of the brain). The processing of visual awareness begins when eyes receive light signals. This information leaves the eyes and moves to the brain through specialised neurons called photoreceptors that convert light signals into encoded electrochemical signals (Zurawicki, 2010). According to Russo (1978), eye movements can be supposed good behavioural candidates for measuring visual attention and information acquisition because they are closely related to higher-order cognitive processes. Therefore, understanding and monitoring pupil dilation and other patterns in eye movement is an important part of neuroscience for Neuromarketing.

For Van Praet (2012), neuroscience depicts that humans create many unreasonable decisions, that perception can be misleading and that people's minds in many ordinary occasions are designed for self-deception.

Neuroscience can point out hidden processes, improve forecasts and the overview of behaviour models, and offer a trustworthy approach to segment customers to communicate better with them (Venkatraman, Clithero, Fitzsimons, & Huettel, 2012).

Michael J.R. Butler (2008) determines the rising field of neuromarketing as a knowledge which has flexibility. Different marketing researchers recognize the development and application of neuromarketing information in different manners. Having different perceptions of knowledge is not a new issue, but finding new interconnections between those perceptions is valuable to knowledge creation and diffusion. The research–practice gap in neuromarketing was briefly discussed and then resolved through the contribution of that commentary, the proposal of a novel Neuromarketing Research Model. The Model interconnects basic research reporting, applied research reporting, media reporting and power processes.

In neuromarketing, brain stimuli and social interaction are central concepts to understand what motivates consumer behaviour to make the buying decision (HenrikWaltera et al., 2010). Both concepts are investigated in consumers using neuroimaging methods.

Recently, the International Journal of Psychophysiology called neuromarketing ‘‘the application of neuroscientific methods to analyze and understand human behavior in relation to markets and marketing exchanges’’ (Lee, Broderick, and Chamberlain 2007, 200). Indeed, improvements in

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

neuroimaging technologies have and will continue to advance our knowledge of how people make decisions and how marketers can influence those decisions.

III. EYE-TRACKING AS A RESEARCH TOOL

Eye-Tracking technologies are used to measure eye movement and the mainly frequent are those that measure the observation of proscribed stimuli at fixed points in videos, photos, and user's interaction with a computer screen. There are more advanced devices that also automatically track the head position in three-dimensional space in relation to the camera (Zurawicki, 2010).

This makes the measurement process more subtle, with very little or no interaction between the researchers and their subjects.

Eye-Tracking records where the person is looking (gaze or fixation point), the time that this person looked at this certain point, the movement of his eyes in relation to his head, pupil dilation, and the number of blinks (Zurawicki, 2010). In addition to the fixation, the sequence in which his or her eyes shift from one location to another (saccade) can also be evaluated (Chae & Lee, 2013).

Various researches with Eye-Tracking equipment have offered new angle within neuromarketing. These studies, and the potential of Eye-Tracking, have obtained relevance in today's world of the visual pollution that is vying for consumers' attention. Understanding the mechanisms that guide consumers to select certain points of interest in an image have many applications for the business world (Zhao & Koch, 2013). Therefore, Eye-Tracking can make available information on what is more appropriate to the involvement of attention, as it is related to patterns of visual fixations, in many different marketing issues (Fiszman, Velasco, Salgado-Montejo, & Spence, 2013).

In addition, Eye-Tracking can also be used with other equipment to measure cognitive responses, lead synergy for new insights, particularly in relation to consumer behaviour and marketing communications. When connected to facial coding, the results show the precise amount of visual activity (exactly where people are looking) associating specific emotional responses to different elements of a stimulus (how people felt about what they saw).

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

The synchronisation between emotional response and visual focus provides a reliable method for understanding what is driving the reactions to a given stimulus (Hill, 2011). This is of inestimable value, especially for TV advertisements, in which lots of information is generated every millisecond, possibly hindering the identification of what the viewer really liked, or what actually called his attention in a positive or negative way.

The typical model of eye movements applied to the use of eye-tracking consists of two concepts: fixations and saccades (Velásquez, 2013). Nielsen and Pernice (2009) define fixation as the moment when the eyes are fixed on an object and it is possible to enjoy it in detail, while saccades correspond to rapid eye movements between two fixations. As seen in Exhibit 1, in addition to these major movements, Eye-Tracking measures other variables that may be of great value for marketing, such as pupil dilation, pupil size (identification of attention and emotions), and eyelid closure (sleepiness monitoring) among other measures.

Eye fixation usually ranges from approximately 200 Ms during the reading of a text to 350 Ms during viewing of a scene. The saccades movement to the new target takes approximately 200 Ms. the resulting series of fixations cand saccades is called scan path. Scan paths are used to analyse visual perception, cognitive intent, interest, and relevance. One possible application for marketing is how humans interact with computers, especially the evaluation of web pages and online advertisements (by highlighting the focal points of attention), and behavioural patterns of navigation (Zurawicki, 2010).

Other eye-tracking uses have been reported by Chae and Lee (2013), such as the recording and analysis of individuals' visual attention by tracking eyesight in various fields: usability, marketing, cognitive psychology, and behavioural psychology. This method helps in identifying more effective ways of producing online sales and identifying difficulties during the customer checkout process, either with the format or any of the purchasing steps.

Orquín and Loose (2013) argue that the eyes' movement during the decision-making process is partially driven by the requirements of a given task and partly by the properties of stimuli (that are causing a bias in order to capture information) where striking visual stimuli are favoured. The factors that contribute to attention, and influence the meaning of a stimulus to an individual, are top-down and bottom-up factors (Behe, Zhao, Sage, Huddleston, & Minahan, 2013). To Pieters and Wedel (2004) bottom-up factors are the characteristics of the stimulus itself, and they are a

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

rapid form of attentional capture. Top-down factors, in turn, are previous ideas about the product that consumer already had. Top-down factors require consumers to voluntarily search and pay attention to specific information.

Table-1

Table 1. Variables usually measured by eye-tracking

What can be tracked?	Application
Gaze direction and gaze point	Gaze interaction with computers and other interfaces in behavioural research. Tests the human response to better understand what attracts people's attention.
Detection of eye presence	Finding the eyes is the first thing the eye-tracking system does and is therefore a key part of eye-tracking.
Eye position	The ability to calculate the eye position in real time is part of what makes the ET system accurate and precise with regard to visual attention, including studies of advertising campaigns on television, internet, and cinemas, with no delays in the processing of this information.
Eye identification	Eye tracking identifies individual ocular characteristics based on geometric calibration. The geometrical characteristics of the eye and iris identification can also be used for user identification.
Eyelid closure	Eyelid closure is used to monitor the attention or sleepiness of people.
Pupil dilation and size	These are reliable measures of emotions and are used in market research.

Source: Tobii Technology (2013)

IV. RESULTS OF THE LITERATURE REVIEW

In this section of paper a analyses papers found in literature that explored the following topics: Segmentation, Targeting and Positioning. These studies were not necessarily specified by the authors as Neuromarketing studies; however, they may fall within this line of research, also helping as a basis for further related studies.

Segmentation

Visual attention as a basis of Market segmentation seems unusual, in fact visual attention plays a vital role of market segmentation since customers have differentiation on their geographic, demographic, and psychographic basis. So any other segmentation criteria would be beneficial as visual attention may be criteria to ascertain the behavior patterns.

Up to a level, every individual has common needs in relation to most products. However, different segments of the heterogeneous market have different needs, and companies seek to target some of these other markets with their advertisements (Hawkins et al., 2009).

Identifying and deciding various needs that a particular product/ service or company can fulfill require traditional marketing research techniques like focus groups, and in-depth interviews etc.

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

These techniques have restrictions in order to identify implicit and unconscious information in the decision-making process. With the knowledge of these cognitive processes that lead to individual variability in consumer behaviour can create new approaches for marketing researchers in the task of segmenting potential target markets (Venkatramanet al., 2012).

The importance of visual attention for neuroscience can be evaluated by the proportion of nominated space in the brain for the processing of visual images and associations: 25% of its volume is dedicated to this purpose (Zurawicki, 2010).

Eye- Tracking studies may contribute to measure these cognitive and behavioural processes related to vision. Behavioural segmentation of visual attention, for example, can occur during a user's online activity, and the result would be the customisation of specific advertisement banners in relation to colours, shapes, message content, etc. (Hawkins et al., 2009). Other attributes commonly used to form segmentation criteria (age, income, religion, educational level, housing, etc.) may possibly be associated with visual attention behaviour in order to identify its specific patterns.

Targeting:

Market Research on Eye-Tracking may contribute to the New Product Development. From deciding the potential product in terms of functionality and usability to the development of a new product and the attractiveness of its design, Eye-Tracking has potential uses that are not yet fully exploited by organisations during the development or improvement of their products.

Target Marketing involves breaking a market into segments and then concentrating the marketing efforts on one or a few key segments. Target marketing can be the key to a business's success. Segmentation is actually the prelude to target market selection. Eye- tracking technique of neuromarketing can also contribute in targeting of customers.

For successfully targeting a product, it must match the needs of the target market better than their competitors (Hawkins et al., 2009). Eye- tracking can significantly contribute to this objective since it helps us to understand what lures a customer to that product, the way the customer is related to the product and its packaging, and the positive or negative ways the customer interacts with, consumes, or uses the product.

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

Retailing is gaining importance for marketing in general, because the competition for consumer attention is increasingly fierce (Shankar, Inman, Mantrala, Kelley, & Rizley, 2011). Many of the impulsive purchasing decisions in supermarkets, for example, are made when consumers are in the store (Point of Purchase Advertising Institute [POPAI], 1997). Consumers only observe and evaluate a fraction of the hundreds of alternatives on supermarket shelves (Inman & Winer, 1998). The behaviour of consumers at the point of purchase is therefore influenced by visual attention factors: the arrangement of the product on the shelf, colours, and other elements (Wedel & Pieters, 2008).

It has been observed that the visual attention behaviour in nutrition information of food labels. With the use of Eye-Tracking, it was possible to identify consumers with two different kinds of characteristics: analytical-rational thinking and intuitive-empirical thinking. Consumers, who primarily used analytical-rational thinking, are looking for more information and performed a more critical analysis of nutritional information to update their choices than those consumers who primarily used intuitive-empirical thinking. These findings have potential implications for the design of communication strategies aimed at changing diet patterns, because it was found that consumers' attention was mainly determined by top-down factors; analytical-rational consumers tend to look for specific information on the labels (Ares et al., 2013).

Positioning:

A brand can attractions and match with the desires for consumers, so it should be dynamic, active, and present in the life and mind of a consumer, stimulating their brain and generating emotions (Martinez, 2011). Companies build their brand equity (BE) by creating brand knowledge structures with the target audience. Three major BE drivers can be categorised as: initial choices of brand elements (brand name, logos, symbols, characters, representatives, slogans, jingles, packaging, and signs); the product, the service, and all associated marketing activities and support marketing programs; and, finally, other associations indirectly transferred to the brand (Kotler & Keller, 2009). ET may contribute to the definition of the brand elements by testing with potential consumers and identifying drivers that cause more visual impact.

Chae and Lee (2013) investigated the impact of using celebrities as human brands on the quality of consumer decisions in an environment of online purchases through the analysis of visual attention using ET. They concluded that using human brands could improve a consumer's decision-making process and improve the quality of their decisions by encouraging intuitive

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

choices and reducing cognitive, emotional effort. They found that the fixation duration on the human brand image (regarded as visual attention in this research) is relatively longer during this high-quality decision. The fixation duration on the human brand image can also increase trust in products and encourage consumers to think positively about the quality of decisions they make (both long eye fixation and high product trust result from high decision quality). Another study on human brands showed that the level of consumer appeal for images of known individuals in online shopping has a significant influence on visual attention and purchase intent for consumers in relation to a product (Chae & Lee, 2013).

The convergence of other attention behaviours, such as selecting channels with a TV remote control during advertisements, and attention to the brand, also represent a great potential for ET. Teixeira, Wedel and Pieters (2012) studied the impact of branding activities through the audio-visual representation of brands. They also analysed the focus, attention dispersion, and evasion of consumers during TV advertisements. Using eye-tracking data in association with records of the TV remote control, they analysed 2,000 participants and 31 TV advertisements. Among their findings, the experiment revealed that keeping full and constant brand exposure significantly decrease devasion.

Another study with TV advertisements using Eye-Tracking evaluated the effectiveness of brand presentation when subjects were allowed to fast-forward through advertisements with a remote control until their program resumed. The study concluded that the viewer's attention is strongly limited to the centre of the screen when fast-forwarding. Eye-Tracking can help us to understand the new challenges created with technological changes and their effects on consumers' attention (Brasel & Gips, 2008). Anticipating this behaviour, advertisements transmitted during fast-forwarding can still bring static images, which would allow advertisers to communicate part of the desired information, like the brand logo, for instance. Clearly, ET has very interesting potential in the study of brands and technologies, revealing many alternatives for bringing the brand to the consumer, even with increasing challenges to maintaining visual attention.

Marketing communications that can benefit from new ET studies include advertising, sales force, public relations, packaging, and other signs that the company provides about itself and its products. All stages of communication-strategy development will provide a better understanding of visual behaviour. ET can assist in understanding the best features of messages directed toward certain groups, features such as words, images, symbols as they are used in mass-media

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

advertising (television, radio, interviews, newspapers, and internet), direct mail, and other time-sensitive venues.

V. RESULTS AND DISCUSSION

Due to the complexity of the neuromarketing researches many of the scientific papers present only theoretic aspects or just assumptions of some neural patterns. The fMRI and the EEG are, by far, the most used methods in neuromarketing researches. Usually the neuromarketing companies have their own instruments and methodologies. NeuroFocus, a Nielsen company, has developed a special EEG device for neuromarketing studies named MYND, a dry wireless headset. Additionally they use eye-tracking and galvanic skin response devices. More areas of research were identified and classified according to the topics and patterns of neuromarketing studies.

Based on these areas of research companies might have direct and indirect benefits from the Eye-Tracking market research techniques. The direct benefits refer to key aspects of the business 0field specifically segmentation, targeting and positioning, includes products and services, brand, advertising, packaging, in-store solutions or business online. In this case the Eye-Tracking market research techniques outputs can be immediately implemented and the results can be measured. Regarding the researches with indirect benefits those can be categorized in more groups: choice and preferences, decision process, purchase intent, regional brain activation to marketing stimuli, hormones and reward and unconscious mind of the consumer underlying the emotions role in consumer behavior. This category of research leads to general outputs and every company has to implement the findings according to their specific.

VI. CONCLUSION

Neuromarketing studies especially Eye- Tracking is in its early life and most of Neuromarketing studies are experimental. Generally, the lack of unity from the methodology point of view may lead to unclear outputs. However, as Dr. Eric Kandel asserted understanding the human mind in biological terms has emerged as the central challenge of science in the twenty-first century. Neuromarketing researchers need to do much more work into theory development and testing in order to move forward. From the methodology perspective the qualitative method is used more often than the quantitative one because of the complexity and high costs of this type of research.
This study gave an integrative literature on neuromarketing studies especially Eye- Tracking. By the review of various researches it has been observed that Eye -Tracking can play a crucial role

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

in designing marketing strategies for a company and give a clear visual attention based cognitive information to develop segmentation, Targeting and Positioning strategies for a marketing company. According to findings there are two classes of studies: with direct benefits and immediate implementation and with indirect benefits which require adjustment to the specific features of each company. Eye- Tracking research helps companies in their marketing campaigns and for deeper consumer insights. It represents a new frontier in understanding consumer behavior, gaining rapid credibility and adoption among marketing professionals and entrepreneurs.

REFERENCES

[1] Ares, G., Giménez, A., Bruzzone, F.,Vidal, L., Antúnez, L., & Maiche, A. (2013). Consumer visual processing of food labels: Results from an eye-tracking study. Journal of Sensory Studies, 28, 138-153.

[2] Ares, G., Mawad, F., Giméneza, A., & Maiche, A. (2013). Influence of rational and intuitive thinking styles on food choice: Preliminary evidence from an eye-tracking study with yogurt labels. Food Quality and Preference, 31, 28-37.

[3] Behe, B. K., Zhao, J., Sage, L., Huddleston, P. T., & Minahan, S. (2013). Display signs and involvement: The visual path to purchase intention. International Review of Retail, Distribution and Consumer Research, 23,511-522.

[4] Behe, B. K., Zhao, J., Sage, L., Huddleston, P. T., & Minahan, S. (2013). Display signs and involvement: The visual path to purchase intention. International Review of Retail, Distribution and Consumer Research, 23, 511-522.

[5] Chae, S. W., & Lee, K. C. (2013). Exploring the effect of the human brand on consumers decision quality in online shopping: An eye-tracking approach. Online Information Review, 37, 83-100.

[6] Clithero J. A., Smith D. V., Carter R. M., Huettel S. A., Within- and Cross-Participant Classifiers Reveal Different NeuralCoding of Information, National Institute of Health, Neuroimage, 2011 May 15, **56(2)**, 699–708 **(2011)**

[7] Duchowski, A. T. (2003). Eye tracking methodology: Theory and pratice. New York, NY: Springer.

[8] Fiszman, B. P., Velasco, C., Salgado-Montejo, A., & Spence, C. (2013). Using combined eye tracking and word association in order to assess novel packaging solutions: A case study involving jam jars. Food Quality and Preference, 28, 328-338.

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

[9] Hawkins, D. I., Mothersbaugh, D. L., & Best, R. J. (2009). Consumer behavior: Building marketing strategy. NewYork, NY: McGraw-Hill.

[10] Hill, D. (2011). Emotionomics: Leveraging emotions for business success (2nd ed.). London, United Kingdom: Kogan Page.

[11] Hoffman, J., & Subramaniam, B. (1995). The role of visual attention in saccadic eye movements. Perception & Psychophysics, 57, 787-795.

[12] Inman, J. J., & Winer, R. S. (1998). Where the rubber meets the road: A model of in-store consumer decision-making. Journal of Consumer Research, 25, 290-301.

[13] Lee, J., & Ahn, J. H. (2012). Attention to banner ads and their effectiveness: An eye-tracking approach. sInternational Journal of Electronic Commerce, 17(1), 119-137.

[14] Kandel E.R., In search of memory. The emergence of a new science of mind., W.W. Norton & Company, New York, US, 9 **(2006)**

[15] Kotler, P., & Keller, K. L. (2009). Marketing management (13th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

[16] Martinez, P. (2011). The consumer mind: Brand perception and the implication for marketers. London, United Kingdom: Kogan Page.

[17] Nielsen, J., & Pernice, K. (2009). Eyetracking web usability. In Berkeley. CA: New Riders.

[18] Orquín, J. L., & Loose, S. M. (2013). Attention and choice: A review on eye movements in decision making. Acta Psychologica, 144, 190-206.

[19] Russo, J. E. (1978). Eye fixations can save the world: A critical evaluation and a comparison between eye fixations and other information processing methodologies. Advances in Consumer Research, 5, 561-570.

[20] Solnais, C., Andreu-Perez, J., Sánchez-Fernández, J., & Andréu-Abela, J. (2013). The contribution of neuroscience to consumer research: A conceptual framework and empirical review. Journal of Economic Psychology, 36, 68-81.

[21] Teixeira, T., Wedel, M., & Pieters, R. (2012). Emotion-induced engagement in Internet video advertisements. Journal of Marketing Research, 49, 144-159.

[22] Tobii Technology. (2013). Retrieved from http://www.tobii.com/en/eye-tracking-research/global/

[23] Van Praet, D. (2012). Unconscious branding: How neuroscience can empower (and inspire) marketing. New York, NY: Palgrave Macmillan.

ISSN: 2348 9510
International Journal Of Core Engineering & Management (IJCEM)
Volume 3, Issue 2, May 2016

[24] Velásquez, J. D. (2013). Combining eye-tracking technologies with web usage mining for identifying Website Keyobjects. Engineering Applications of Artificial Intelligence, 26, 1469-1478.

[25] Venkatraman, V., Clithero, J. A., Fitzsimons, G. J., & Huettel, S. A.(2012). New scanner data for brand marketers: How neuroscience can help better. Journal of Consumer Psychology, 22, 143-153.

[26] Wedel, M., & Pieters, R. (2008). Visual marketing: From attention to action. New York, NY: Taylor & Francis.

[27] Zhao, Q., & Koch, C. (2013). Learning saliency-based visual attention: A review. Signal Processing, 93,1401-1407.

[28] Zurawicki, L. (2010). Neuromarketing: Exploring the brain of the consumer. Boston, MA: Springer.