OPEN ACCESS

Volume: 7

Issue: 3

Month: July

Year: 2019

ISSN: 2320-4168

Received: 29.5.2019

Accepted: 28.06.2019

Published: 01.07.2019

Citation:
Ali, Mubarak. "Influence of the Sub Conscious Mind in Consumer Psychology of Buying in Contemporary ERA." *Shanlax International Journal of Commerce*, vol. 7, no. 3, 2019, pp. 1-10.

DOI:
https://doi.org/10.34293/sijash.v7i1.521

Influence of the Sub Conscious Mind in Consumer Psychology of Buying in Contemporary ERA

Mubarak Ali
Head, Department of Administrative and Financial Sciences
Oman College of Management and Technology, Halban, Sultanate of Oman

Abstract
The world is on a high with neuromarketing, the battle to conquer the unconscious mind by the retailers is intensifying. Brands now have the power to persuade the savvy consumer and trigger the buy button through nudging and baiting them in such a manner that they fall hook, line and sinker. Retailers play with the powerful tool of brain wash and trap them with irresistible choices in absolute incredible settings. The contemporary era is about the fine art of influencing the unconscious mind. Consumers are caught in the paradox of choice and the ambiguities further deepen into a cesspool of offers, paybacks, discounts, gift vouchers and the like. The consumer's brain is hacked into by the marketers and the product positioning is irrational; there is no longer a logical and systematic process of trying to occupy the prime space in a consumer's mind but to cut into the sub conscious brain to be unpredictable! The ground rules for today's consumer behaviour are engagement, likeability and paucity. People act and behave with hints and signals taken from the social interactions that they have, mainly on the social media which adds to the crucibles of thoughts and actions. The author through this paper has attempted to understand the nuances of the psychology element in modern day consumers' buying behaviour.
Keywords: Neuromarketing, unconscious mind, influence, consumer behaviour.

Introduction

Human brain with the advanced cognitive processes has always been a fascinating study to uncover mystical responses to stimuli. The representation of various images along with senses has had a profound impact on our ways and actions. Imagine a packet of potato wafers and instantly its crispiness, the flavour and colour can be perceived. Visual perception captured through the motor neurons' signals activates the behavioural process of reactions and responses effectively carried out through the senses.

The consumer behaviour pattern has always been analysed form the external factors, situations and stimuli. The remarkable ability of the human brain to recall any object at will and associate it with experiences, both past and present are being unravelled by neuroscientists in recent years. The brain with multiple layers and levels of neural and brain organization reflect on the mind-brain relationship that are now being used by marketers. The progress in this field has increased the effect, impact and influence of marketing that has created a new consumer with impulse and spontaneous buys. The choice trigger is remotely operated by marketers with this novel tool using multi dimensional approach of behaviour, verbal and psycho physiological measures. The subconscious mind in a reflex manner chooses the options from a million choices, because of the impact of the marketing that catches the attention of the mammalian brain. The fleeting seconds impacted result in consumer making a choice and all modern companies use the tools such as Electroencephalography (EEG), Magnetic Resonance Imaging (MRI), Eye tracking and skin responses.

The extraordinary application of neurosciences in marketing has resulted in a changed psychology of consumer buyer behaviour. Companies can manipulate, twist and tweak the brains by adopting this methodology and repercussions have been felt on the purchase pattern. Immense utilization of neuroscience is seen in broadcast advertising and companies decide on the emotions, timings and frequency of the ads by studying the reactions of the human brain to various stimuli. Corporations have all jumped on to the bandwagon wherein they have intentionally allowed themselves to enter the unconscious elements to understand the interactions and the emotions expressed. Surprise, satisfaction, disgust, or contempt are all recorded on diverse stimuli such as colour, ambience, packaging and the fonts inthemEx 1

Engaging customers have become the ground rules for modern day marketing and plenty of data analytics on the reactions of buyers. Irrespective of the product or service type, the psychology dimension is in the forefront of any company's activity which has translated to greater revenues. Research has proved that consumers today are tech saavy, more exposed and ready to take chances and risks. Even hard core brand aficionados can be converted in a jiffy if touched on the chord of emotions such as touch, hold and feel psychology, store, shelf and product appearances. The knee jerk reactions owe itself to this contemporary science.

The author through this theoretical and unapplied paper has made a concerted effort to observe and comprehend the implications of these components on the consumer behaviour and temperament. Random observations of consumers in retail outlets across the Sultanate of Oman have been made that goes on to prove the fundamental research on contemporary consumer psychology. Cutting across age, gender, education, income level, marketers have successfully implemented the brain mechanism to partially blindfold the consumers at the time of purchase. This does not mean that the consumers are unethically drawn towards this present scheme of things but are inadvertently and subtly taken towards a zone of world of offers and discounts. The victorious consumer who has filled his kitty with reduced prices and bounties go back happy and the retailers make a kill with unexpected sales by catching the consumers off guard!

The emotional appeal to the buyers by the marketer at the intuitive on non conscious level is done through the perfect matching programme for the campaign with the help of suitable algorithms. Fast paced consumer decision making is activated with the support of quick thinking promotions which defeats the traditional market research approach of what people say and what they eventually end up doing. The gaps in this process of consumers' saying and doing are narrowed with this application of neuroscience that concentrates on a impulsive and spontaneous reaction.

Purpose

Through this paper, the author has attempted to understand the influence of the sub conscious mind in consumer psychology of buying in contemporary era by asking the following pertinent questions, the answers to which could unravel the new and emerging field of science and its application in marketing and the ethics of using these new age tools:

What influences the consumer today, to choose a product or service from a clutter with absolutely no barriers to entry?

What is the paradigm shift in the cognitive thinking process when buying?

Are the consumers blinded by the modern scientific tools of marketing?

Is there a co relation between neuromarketing and buying behaviour and are we moving away from traditional marketing research methodology?

Literature Review

The world has woken up to a new order, a new frontier is being researched for decision making in consumer and the last decade has been phenomenal in these areas. The progress is noteworthy and lot of research papers on the subject is there for study and understanding. The perspectives and advances in this field for this paper substantially rest on the paper written by *Ariely, D., & Berns, G. S. (2010)1. Neuromarketing: the hope and hype of neuroimaging in business. Nature Reviews Neuroscience, 11(4), 284–292.*

"The application of neuroimaging methods to product marketing — neuromarketing — has recently gained considerable popularity. We propose that there are two main reasons for this trend. First, the possibility that neuroimaging will become cheaper and faster than other marketing methods; and second, the hope that neuroimaging will provide marketers with information that is not obtainable through conventional marketing methods."

The other premise on which the entire paper is based on the remarkable insights provided by the author *Uma R Karmarkar 2of Harvard Business School, USA https://www.sciencedirect.com/science/article/pii/S2352250X16300021*

Karmarkar cites the example of junk-food giant Frito-Lay, which in 2008 hired a neuromarketing firm to look into how consumers respond to Cheetos, the top-selling brand of cheese puffs in the United States. Using EEG technology on a group of willing subjects, the firm determined that consumers respond strongly to the fact that eating Cheetos turns their fingers orange with residual cheese dust. In her note, Karmarkar cites an article in the August 2011 issue of Fast Company, which describes how the EEG patterns indicated "a sense of giddy subversion that consumers enjoy over the messiness of the product."

In her note, Karmarkar discusses research by Emory University's Gregory Berns and Sara Moore, who connected the dots between neural activity and success in the music industry. In a seminal lab experiment, teenagers listened to a series of new, relatively unknown songs while lying inside an fMRI machine. The researchers found that the activity within the adolescents' pleasure centers correlated with whether a song achieved eventual commercial success. The One Republic song "Apologize" performed especially well in both the brain scans and the market.

"Importantly, Berns and Moore also asked their original study participants how much they liked the songs they heard, but those responses were not able to predict sales," Karmarker's note states, illustrating the marketing value of subconscious cerebral data.

To the World of Oman

A country balanced with tradition and contemporary cultures, the Sultanate of Oman is the oldest independent state of the Arab peninsula, rich in values, beliefs and ethics. Though primarily an Arab monarchy, lacking a democratic form of Government, the population of around 4 million have progressed in terms of advancement in science, technology, health,education and brilliantly adapted to newer ways and means of doing things. The rich oil reserves have helped the establishment in infrastructure building and boasts of cities that are the hallmarks of modern day civilization.

Oman's growth story has been phenomenal and the influx of tourists and life style changes has resulted in newer markets and a robust growth in retail marketing. The net worth of individuals has seen a spurt with an enhanced economy to match the spending and investment habits. The stabilized fuel prices and reforms that will ring in a positive business and industry outlook is making the country more prospective for the investor. With this scenario, the Omanis are hyped about the changes engulfing them and the educated employed and businessmen are heading towards a global perspective. The souqs have given way to large hypermarkets that have diametrically changed and transformed the traditional mindset of a conservative Islamic society. This is where multinational brands of the world have cashed in with the new age marketing tool of striking at the brain's cognitive processes. The store within a store which has retail outlets and all of other entertainments has drawn people to shop, to relax and enjoy their outings. The most trusted brands have found their moorings in the country and competition has indeed brought out champions. This competition has provided good value for customer's money, given the best of services and experiences, offered the best discounts, paybacks, cash backs, customized services by going the extra mile. The modern enriched customer has bitten the impulse and spontaneous buying habits and the buy buttons taken over by neuro marketing (Exhibit 2).

Analysis and Inferences

This paper is the outcome of observations and studying buying habits and behaviour at indiscriminate intervals across a sample of the population in Muscat city and rests on the premise that the investigation could probably reasoned with

logic on an empirical study at a later point in time. The resultant outcome of these arbitrary sightings and observations through this conceptual paper attempts to answer certain pertinent questions as to whether the new age method of consumer behaviour is here to say and are the marketers making a kill with this modern tool. It also tries to understand the paradigm shift from the traditional and conservative research of the market towards a scientific explanation of human behaviour, perception, response and reaction. Conclusions are based on the author's perception of the behavioural changes occurring today with the advent of neuroscience in marketing. Deductions could be extrapolated to a more scientific study and research for accurate results and outcomes. Plenty of research has been happening on this exciting field and interpretations from these papers have also been considered for evaluation which may not be conclusive.

Rationale behind Modern Consumerism

1) The conjecture rests on the fact that influence on the consumer is largely affected by the subconscious mind and its impact on decision making.
2) Hypothesis rests on spontaneous questions thrown at shoppers without any structure or sequence and hence the consequences may not be absolutely convincing and only leads to more in depth research study.
3) Indisputable is the consumer and not only is he a king; he is a knowledgeable and demanding consumer due to the invasion of technology in a great way.
4) The data in tables and graphs is purely dependent on the availability of secondary data collected by Government departments, database, records and research studies undertaken and archived information.
5) Subconscious mind activation could be a resultant force of not only the parameters mentioned aforesaid but on various other factors which are not considered here.
6) The concept of influence of the consumer through the neuroscience is presented through exhibits drawn from various studies.

Core

All brands are customer centric and the commitment to enhance the experiences for the purchasers has hit a new high with brand switching from the good to the best. Even the smaller degree of a drop in expectancy and satisfaction draws the customer to move towards a rival's product who would have already baited him with a psychological thrust. Personalized attention prior to purchase, during the purchase and post the purchase is immense taking the customers off their feet. The connect that is established with the customers carries a strong message of influence on the buying habits. Companies in every field of activity such as construction, banking and finance, automobile, architecture, oil and gas, pharmaceuticals, hospitality, media, trading, health have established themselves firmly Well known brands from designer bags and jewellery to cosmetics are invading the shelves of all the malls, super stores and hyper markets. Among a multitude of determinants for consumer behaviour, store location, ambience, shelves display, touches and hold psychology have a tremendous impact on the customer that translates to purchase decision. Significantly, the winds of change have swept Oman with the combination of consumer research and modern tools of neuroscience. So can our behaviour of purchase be defined by the modern scientific application of neuroscience? Will this technique draw a close relationship between the human brain's cognitive process and buying behaviour that could explain neuropsychology?

The specific decision making, therefore no longer depends on traditional market research of all the Ps of marketing but on the reactions of the black box in our systems. The functional magnetic resonance imaging or firm has taken the marketing world by storm with very early research that has technically moved away from clinical studies on patients to consumers who have had their brains scanned for reactions on products. The executive functions performed by the frontal lobe of the brain decides on attention grabbing, short memory retention and cognitive thought process especially planning. Much water has flown since the term "Neuromarketing" was added in the Harper Collins in 2005 and the big budgets on unproductive advertisements

and product launches have given way to surgical precision advertisements that can maximum impact on consumers and products that are blockbuster hits!

Discussion

The answers to the questions raised by various researchers, lie in the active state of modern neuroscience tools that have broken the conventional thinking system of research and buyer behaviour. An attempt has been made by the author to study the pertinent questions and provide explanatory answers that provide the vital links between neuroscience and marketing. (Exhibit[5])

What influences the consumer today, to choose a product or service from a clutter with absolutely no barriers to entry?(www.pondiuni.edu.in/storage/dde/downloads/mbaii_mm.pdf)

The ground rules for finding a customer is to understand what he reuires, make it and then make the customer aware that the particular product is available for purchase. The factors that hold the consumer in captivity would be quality, price, utility, availability, innovativeness, satisfaction and probably the relationship. The compulsions of the modern man are determined by a rational thinking with an additional emotional involvement largely dictated by Orbitofrontal cortex that controls the cognitive process and decision making (Emotion, decision and orbitofrontal cortex).

The concept of rewards and reinforcements is dealt with by Morten L. Kringelbach, (2005), in the human orbitofrontal cortex: linking reward to hedonic experience. The functionality of the brain in terms of learning through the integration of the sensory organs such as touch, movement, body awareness, sight, sound, smell, taste and the pull of gravity for behaviour and cognitive learning along with the instinctive reactions because of chemical messengers that lead to pleasant and unpleasant reactions. It is important here to understand what the human brain anatomy is and the functions carried out by each as this has a direct bearing on the influence in human behaviour and decision making implications.

The brain comprises of the Occipital lobe - This is found in the back of the brain. The area is involved with the brain's ability to recognise objects. It is responsible for our vision, Temporal lobe - found on either side of the brain and just above the ears; they are responsible for hearing, memory, meaning, and language. They also play a role in emotion and learning. The temporal lobes are concerned with interpreting and processing auditory stimuli, Parietal lobe - The parietal lobes are found behind the frontal lobes, above the temporal lobes, and at the top back of the brain. They are connected with the processing of nerve impulses related to the senses, such as touch, pain, taste, pressure, and temperature. They also have language functions. Frontal lobe - is concerned with emotions, reasoning, planning, movement, and parts of speech. It is also involved in purposeful acts such as creativity, judgment, and problem solving, and planning, Cerebral cortex - controls your thinking, voluntary movements, language, reasoning, and perception. In higher mammals the cortex looks like it has lots of wrinkles, grooves and bumps. Cerebellum- controls movement, balance, posture, and coordination. New research has also linked it to thinking, novelty, and emotions. The limbic system, often referred to as the "emotional brain", is found buried within the cerebrum.Hypothalamus - controls body temperature, emotions, hunger, thirst, appetite, digestion and sleep, Thalamus -controls sensory integration and motor integration. Receives sensory information and relays it to the cerebral cortex, Pituitary gland – controls hormones and it helps to turn food to energy, Pineal gland - controls growth and maturity and is activated by light, **Amygdala -there are two of them that control emotions such as regulating when happy or mad,** Hippocampas -Forms and stores memories and is involved in learning and the Mid- brain - controls breathing, reflexes, and. includes the Thalamus, Hippocampus, and Amygdala.Dr.FabianGrabenhorst at Britain's University of Cambridge has undertaken an in depth study of the Amygdala on monkeys and inferences drawn on the study has thrown light on the fact that this part of the brain comprising of two almond shaped cells are responsible for reward function. Impulse purchase has picked up mainly due to the freebies on offer. Screaming offers catch the attention of the unconscious mind without rhyme and reason and modern marketers have jumped the bandwagon to tap this gullible brain. The consumer tends to take haphazard decisions influenced by neuroscience

tools that have a scientific reasoning and probably this influence reaction can owe its existence to Amygdala!

What is the paradigm shift in the cognitive thinking process when buying? (http://scitechconnect.elsevier.com/new-psychology-simulations/)

The thought process was and is still studied through Phrenology that can identify character and behaviour and all researches have looked at functional aspect that will have a response to astimuli. The fact that what happens between the input stimuli and output as reaction or response is not understood and the relationship between mind and body and which influences which remained unexplained by psychologists. This is where the simulation conducted on complex neural networks emerge as a probable understanding of the influence of the mind over the body and vice versa. The confluence of psychology and neuroscience is the modern shift in research that can give a scientific explanation to what make humans to decide. Neuroscience has applied to packaging and one classic example was FRITo-LAY changed their packaging from shiny packaging to matted finish. Hyundai utilized EEG to study the prototype of the car by participants. Paypal discovered that speed and convenience of commercials enhanced responses. Porche used EEG to measure the experiences of flying an aircraft and a Porche car.

Are the consumers blinded by the modern scientific tools of marketing? (Exhibit[4])

The responses of behaviour and the pattern of buys aided by the marketing tools of today such as electroencephalography (EEG), Magneto encephalography (MEG) and Functional Magnetic Resonance Imaging (FMRI) are accurate and correlated to action and especially useful to redesign the marketing activities to stand out in a crowd. With the rapid influx of products, these have the power to conquer the emotional and subconscious elements and a true report of feelings and thoughts.

Advocating these in such a brash and piquant manner may sound audacious, but new age neuroscience is undoubtedly the rewarding choice for influencing consumer behaviour. The researches have proved that the electrical activity in the frontal lobe of the brain on either side has resultant emotions, left implying positivity and the right side connoting negativity. However, this particular test of EEG is not free from shortcomings and the biggest among them is the lack of understanding the electrical activity in the entire brain that may or may not have a say in the decision making process. This made way to MEG that to a great extent overcame the problem of spatial resolution and helped in consumers remembering incidents and happenings. Continuous research in the development of neuroscience to overcome the flaws of the available mechanisms led to FMRI which in contrast images the oxygen quotient in the brain and the associated disturbances in the magnetic field have far reaching impact in the buy button trigger mechanism through Blood Oxygen Level Dependant or BOLD signal. The changes occurring as a result of these disturbances can be read deep inside at the cortex and that explains the emotional quotient of buying behaviour. With a good strike rate, this methodology has indeed become a favourite for the marketer and may soon become one hard to ignore. Such tests could soon explain fully the reasons for customers seeking or looking for certain products, narrowing down on a choice from among millions and eventually buying the product.

The Reptilian brain, the Mammalian brain along with the new age brain explains different functions performed by the buyers. Oldest among the above, the Reptilian reasons with the inclination towards imaging as a primary consideration for spontaneous behaviour captured by non verbal messages. We live in a world driven by big data that is relevant, irrelevant, necessary, unnecessary, informative, trash, filtered and unfiltered and remembering everything by the Reptilian is an uphill task which explains why a combination of the brain functions makes complete sense. The precise recording of the events by FMRI marvel the marketers as the results are bang on with the 'Wow' and the 'Yuck' expressions revealed at the appropriate times. The hidden experiences will surface that is cost effective and accurate. Multiple implications of science of the brain can be felt which may include product testing, advertisement impact, positioning, branding and pricing.

Modern marketers believe in analysis of consumers' data related to location, earnings, spending, virtually, they are followed everywhere

as we live in a era fortified by E business with internet ruling the roost and this big data analytics has opened an ocean of opportunities in hosting scientific marketing tools such as reward and loyalty programmes, coupons, vouchers, cash backs and paybacks. Marketing strategies and tactical moves by companies are to a large extent dependent on these techniques both for brick and mortar stores as well as online stores. HilkePlassmann, Vinod Venkatraman, Scott Huettel, and Carolyn Yoon, Journal of Marketing Research (August 2015)http://journals.ama.org/doi/10.1509/jmr.14.0048 have explained the need for extending science to marketing practices

Is there a co relation between neuromarketing and buying behaviour and are we moving away from traditional marketing research methodology?

The effectiveness of brand, its reach and the impact is researched well now by science and technology such as neuroscience. Over the years, experiments have been carried out by researchers and companies to find the correlation by making the participants in the survey to wear a cap with a visor and electrode that will study electrical brain activity. While traditional marketing research methodologies depended on the conscious responses, the new age tools use sub conscious responses recorded by scientific instruments. Interpretation on the basis of technology that records cognitive functions silently relating to elements of capturing attention and keeping them engaged. The metrics are further analyzed to use them in different phases of the marketing activities like brand development, story boards, advertising methodology to media selection and other promotional activities.

Marketing research from time immemorial have tried to capture consumer behaviour modelled on marketing campaigns particularly related to advertisements and sales promotions wherein the efforts were focussed on getting pre and post purchase information through face to face interactions, tailor made questionnaires for a large focus group. The results more often tend to lay stress on results purely based on the strong assumption that people can recall and relive through the advertisements and campaigns. But more often than not, the results tend to be inaccurate as the cognitive process may not give the real picture and drags to misrepresent realities due to lots of external influencing factors. The willingness to lay bare the facts of an advertisement depends on the impact and influence of these factors and so the results may never give the real picture.3

Conclusion

Contemporary consumers have done away with conventional methods of browsing the product inside out, look at the prices, compare and then purchase but are dictated by displays in the offline and online stores and their ambience. Accessing what propels the buyer to get influenced and affected is possible with all the neuroimaging tools. These brain tracking mechanisms now reveal the secrets of our purchase behaviour.

While the scope of this paper restricts itself to consumer behaviour influenced subconsciously through contemporary tools, the neuroscience methodology could well go beyond the realms of products into services such as entertainment, hospitality and adapted in fields such as social awareness campaigns, tackling social evils and the like. The basic idea would be to understand human buying behaviour and these tools are used only as a means of study to carry out marketing activity and not to be mixed up with the idea of control of behaviour. The questions of ethics in the probe of the human brain and the subconscious acts may keep propping up as the consumer would always be wary about misrepresentation of data and information and false usage of this brain study and exploration.

Predicting consumer behaviour can help marketers to understand individual preferences, help to customize, make advertising and sales campaigns pay off, The critical functions of the brain coupled with neuroscience tools could help in understanding cognitive thought processes, behavioural patterns and to latch on to the emotional connect to products and brands. This research paper could be extended to an empirical approach for analyzing the influence of brands on the sub conscious mind for an objective conclusion.

References

Ariely, D and GS. Berns. “Neuromarketing: The Hope and Hype of Neuroimaging in Business.” *Nature Reviews Neuroscience,* vol. 11, no. 4,

2010, pp. 284-292.

Bechara, Antoine, et al. Decis*ion Making and the Orbitofron*tal Cortex. 2000.

Belwal, Rakesh. "Hypermarkets in Oman: A Study of Consumers' Shopping Preferences." *Emerald Group Publishing Limited*, vol. 42, no. 8, 2014, pp. 717-732.

Christophe Morin, "Neuromarketing: The New Science of Consumer Behavior." *Springer Science+Business Media*, vol. 48, no. 2, 2011, pp. 131-135. https://link.springer.com/article/10.1007/s12115-010-9408-1.

Fugate, DL. "Neuromarketing: A Layman's Look at Neuroscience and its Potential Application to Marketing Practice." *Journal of Consumer Marketing*, vol. 24, no. 7, 2007, pp. 385-394.

Harris, Joanne M et al. "Consumer Neuroscience for Marketing Researchers". 2018. https://www.researchgate.net/publication/323495486_Consumer_neuroscience_for_marketing_researchers.

Karmarkar, Uma R. "Consumer Neuroscience: Advances in Understanding Consumer Psychology." *Current Opinion in Psychology*, vol. 10, 2016, pp. 160–165. https://www.sciencedirect.com/science/article/pii/S2352250X16300021#!

Mograbi, Gabriel JC. "An Introduction to Decision-Making Experiments under a Philosophical Analysis: Human Choice as a Challenge for Neuroscience." *Forntiers in Neuroscience*, vol.9, 2015. https://www.researchgate.net/publication/281622070_An_Introduction_to_Decision-Making_Experiments_under_a_Philosophical_Analysis_Human_Choice_as_a_Challenge_for_Neuroscience

Nobel, Carmen. *What Neuroscience Tells Us About Consumer Desire Harvard Business School*, 2012.

Phoebe, Kuloba E and Wesonga Justus Nyongesa. "Factors That Influence Consumer Preference For Retail Outlets in Kenya (A Case of Supermarkets in Kisii Town)." *International Knowledge Sharing Platform*, vol. 14, 2015, pp. 102-115.

Plassmann, Hilke et al. "Branding the Brain: A Critical Review and Outlook." *Journal of Consumer Psychology*, vol. 22, no. 18-26, 2012. https://faculty.insead.edu/hilke-plassmann/documents/16_Plassmann_etal_JCP_2012.pdf

Shaw, Steve and Richard Bagozzi. "The Neuropsychology of Consumer Behavior and Marketing". 2017. https://www.researchgate.net/publication/321862594_The_neuropsych*ology_of_consumer_behavior_and_marketing.*

Smidts, Ale et al. "Advancing Consumer Neuro Science." *Springer Science+Business Media New York*, 2014. http://neuroecon.berkeley.edu/public/papers/Marketing%20Letters%202014%20Smidts.pdf.

Spence, Charles et al. "The Consumer Neuroscience of Packaging". 2018. https://www.researchgate.net/publication/329254347_The_Consumer_Neuroscience_of_Packaging

http://www.ledonline.it/NeuropsychologicalTrends/allegati/NeuropsychologicalTrends_21_Sala.pdf

https://en.wikipedia.org/wiki/Oman

https://www.cia.gov/library/publications/the-world-factbook/geos/mu.html

https://www.nationsonline.org/oneworld/oman.htm

Exhibits and Tables

Exhibit[1] Major Companies of the World using Neuroscience for improving sales

S.No.	Name of Brands
1	FACEBOOK
2	MINI COOPER
3	COCA COLA
4	BBC
5	SUBWAY
6	UNILEVER
7	SAMSUNG
8	TWITTER
9	GSK
10	GOOGLE
11	EXPEDIA
12	FAIRFAX MEDIA
13	TOYOTA
14	FORD

15	COLES
16	ALLIANZ
17	AVIVAJ
18	JOHN WEST
19	RACQ
20	WESTPAC

21	MICROSOFT
22	PORCHE

Source : Clients For A Neuromarketing Company https://neuro-insight.com/

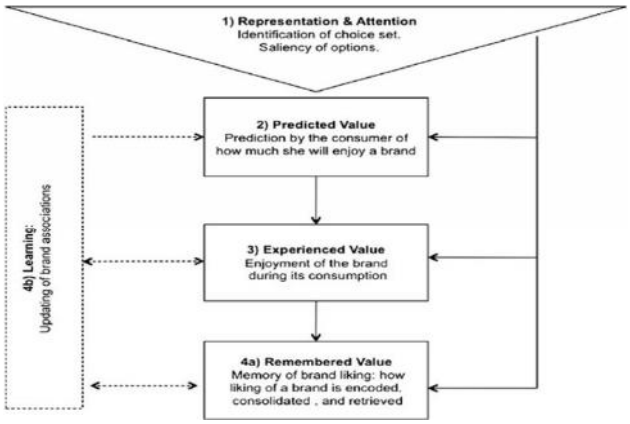
https://www.forbes.com/forbes/2009/1116/marketing-hyundai-neurofocus-brain-waves-battle-for-the-brain.html#4e06490117bb

Exhibit[2] Top Brands in Oman

http://www.businessliveme.com/most-trusted-brands-in-oman/

TOYOTA – AUTOMOTIVE (GENERAL)
BMW – AUTOMOTIVE (PREMIUM)
OMAN AIR – AVIATION (GCC AIRLINES)
BANK MUSCAT – BANKS
GALFAR – CONSTRUCTION
SAMSUNG – CONSUMER ELECTRONICS
SULTAN QABOOS UNIVERSITY – COLLEGES & UNIVERSITIES
SHANGRI-LA'S BARR AL JISSAH RESORT AND SPA – HOTELS & RESORTS
LULU – HYPERMARKETS/SUPERMARKETS
DHOFAR INSURANCE – Delighting customers
SAMSUNG & APPLE – MOBILE PHONES
OMANTEL – TELECOMMUNICATIONS
ROLEX – WATCHES

Exhibit[3] Branding the brain – neuroscience and brain behavioural pattern



Source: https://www.researchgate.net/publication/ 233470025_Branding_the_brain_A_critical_review_and_outlook/figures

Exhibit[4] List of companies using neuromarketing to get customer insights

Name of Company	Type of Company	Product/Service	Tool Used
HYUNDAI	VEHICLE	PRODUCT	EEG
GOOGLE	IT, SEARCH ENGINE	SERVICE	EEG
WALT DISNEY	ENTERTAINMENT	SERVICE	EEG
MICROSOFT	IT	SERVIICE	EEG
CHEVRON	ENERGY	SERVICE	EEG
PEPSICO	BEVERAGES	PRODUCT	FMRI
COCO COLA	BEVERAGES	PRODUCT	FMRI
PAY PAL	E PAYMENT	SERVICE	EEG
DAIMLER	AUTOMOBILE	PRODUCT	FMRI
THE WEATHER CHANNEL	METEOROLOGICAL	SERVICE	EEG
E BAY	E AUCTION	ONINE PRODUCTS	EEG

Source: https://edgy.app/four-companies-using-neuromarketing

Exhibit 5 The influence of sub conscious mind on modern day consumer behaviour

Source:https://www.sciencedirect.com/science/article/abs/pii/S1057740811001136

Table 1 General characteristics of the predominant brain imaging techniques applied in Neuromarketing. Source: Adapted from CONVIBRA ADMINISTRATION (PERRACHIONE; PERRACHIONE, 2008 PÁG.307

Technique	Abbreviation	Physical Measurement	Measurement Application	Temporal Resolution	Spatial Resolution
FUNCTIONAL MAGNETIC RESONANCE IMAGING	FMRI	BRAIN OXYGENATION LEVEL	METABOLIC ACTIVITY	SECONDS	1-5 mm
POSITRON EMISSION TOMOGRAPHY	PET	2 RADIOACTIVE DESOXIGLUCOSA	METABOLIC ACTIVITY	SECONDS	3-5 mm
MAGNETOENCEPHALO GRAPHY	MEG	MAGNETIC FIELDS	NEURAL ACTIVITY	MILLI SECONDS	CENTIMETERS
GALVANIC SKIN RESPONSE	GSR	ELECTRICAL RESISTANCE	EXCITEMENT	FRACTIONS OF SECONDS	NOT APPLICABLE
ELECTROENCEPHALO GRAM	EEG	ELECTRICAL WAVES	CORTICAL ACTIVITY	MILLI SECONDS	CENTIMETERS

Author Details

Dr.Mubarak Ali, *Head of Department, Administrative and Financial Sciences, Oman College of Management and Technology, Halban, Sultanate of Oman.* ***Email ID:*** *Mubarak.ali@omancollege.edu.om*