

Exploring Neuromarketing from a Business and Consumer Perspective

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By

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Abstract

An unfamiliar primary market research technique, called Neuromarketing, surfaces and is on the rise to being heavily used by corporations that obtain the budget to indulge in this expensive and what some call, “intrusive”, practice. Neuromarketing is the lens to what reactions first occur -inside the brain- when consumers are presented with specific marketing stimuli with the use of EEG and fMRI scanning equipment. Receiving valuable consumer information, using medical technology, is deconstructed through this literature review. In the beginning section, there’s a focus on the reasoning behind big businesses choosing to utilize this kind of strategy when conducting marketing research. Then, examples of several companies that use Neuromarketing will be presented. Lastly, the ethical and economical concerns that Neuromarketers face are laid out by showing that technology is consistently improving. This continuous improvement creates a fearful response in consumers, who feel like they’re being taken advantage of by Neuromarketers.

Introduction

Common market research techniques that have been used since the beginning of studying consumer behaviors include surveys, questionnaires, focus groups, and observations. Recently, market researchers have been turning their attention to utilizing current medical technologies. The increase in utilizing medical technologies has market researchers astounded given how specific their findings are when brain scanning devices are used in their research, alongside other common market research techniques. This literature review examines the new primary market research technique called “neuromarketing”. Additionally, it illustrates the complexity of the technique but showcases the success stories of use. Lastly, it touches on the conflicting side by opposing the continuation of this new technique using ethical concerns and lack of knowledge in the realm of studying consumer behavior from a brain’s perspective. Ultimately, market researchers are focused on increasing sales, understanding consumer demands, manipulating their promotions to make their products more enticing, and building a great brand. Using neuromarketing, researchers are given physiological explanations on what aspects of their marketing strategies are lacking and what is working.

Part I:

Overview of Neuromarketing

What Neuromarketing Entails

Neuromarketing is a relatively new marketing research technique that brings together the power of neuroscience and physiological research techniques, which could be used to grant insight into consumers' behavior, preferences, and decision making. To bring together marketing and neuroscience, marketing departments from many companies are spending their budgets on EEG Scanning equipment and fMRI Scanning equipment. Both kinds of medical machinery allow one to scope out physiological responses within the brain. Neuromarketing is used in conjunction with other research techniques such as surveys, focus groups, experiments and ethnography in order to enhance their company strategies.

Equipment Utilization

fMRI scans are functional magnetic resonance imaging scans, and they measure blood flow in the brain when someone performs a task. When someone performs a task, the brain requires more oxygen and glucose in that area. Different areas are activated when consumers and subjects view different things.

EEG scans are electroencephalograms. Electroencephalograms track and record brain wave patterns by small disks being placed on a subject's scalp. These disks send signals to a computer to record the activity results. EEG scans work because the brain communicates by electrical impulses, which is what the scan picks up on. Analysts can see which areas of the brain are active when subjects are presented with specific stimuli and understand how subjects are reacting based on what area is lighted up and the everyday function of that area is.

Key-Areas to Spot

Neuromarketers obtain the capacity to pin-point areas of the brain that are activated while focusing on certain aspects of the business' marketing strategies, products, placements, and promotional incentives. When targeting areas of the brain, Neuromarketers are knowledgeable to understand and assume what emotional reactions are occurring when participants are undergoing EEG and fMRI Scans. These emotional reactions, seen inside the brain, are telling Neuromarketers if their strategies are successful or not.

Part II:

Diving into the Relevancy of Neuromarketing in Business: Examples

Educational Toy Packaging

Toys are meant to grant children with mental stimulation, while offering a fun and creative activity. Because of toy companies' target markets being children and parents of young children, marketers must take the packaging into heavy consideration. Marketers will want to focus on the packaging so that children are drawn to the toys and for parents to predict that the toy can offer their children great joy.

Neuromarketing was used to evaluate the packaging of several educational toys on the market in 2020 (Juarez, 2020). The goal of the Neuromarketing application was to reveal which elements of the educational toys were most attractive to consumers. Through the utilization of eye-tracking, Neuromarketers were able to collect data from 30 participants, ages from 35 to 45 years old. Other criteria stated for the participants was that they must have a child between the ages of 4 and 8 years old. The randomly and voluntarily selected participants happened to be 33% men and 66% women.

The measurements that were used to determine what packaging was most effective include average fixation duration, total number of fixations, and frequency of fixations per second, total time of fixations.

The parents who were studied revealed to spend more attention to packaging that had images, which indicated what the toy was used for. Another finding was that parents were focused more on packaging of toys that had text or an image located in one specific quadrant of the box/package. The quadrant that consumers focused heavily on was the center. Authors of the study interpreted this effect using heat maps. Additionally, when participants knew the price of an educational toy, their GSR showed the highest emotional arousal. GSR means galvanic skin response and refers to the changes in sweat gland activity. GSR reflects the emotional state of an individual. This predicts that the prices of the educational toys had much influence on their buying decisions. The least percentages of attention were brand names, recommended ages of the educational toys, product families, and the game names.

The findings led to considerations in changing designs of educational toy packaging. The considerable changes include showcasing images of the games, number of game questions, recommended ages, and topics so that these elements were easily displayed. Another change would be decreasing elements that caught less attention by consumers, like the size of the product name. Changing these elements would draw heavier consumer interest and increase purchasing behaviors of educational toys overall.

Pharmaceutical Drug Advertising

In the United States alone, 4.38 billion retail prescriptions were predicted to be filled in the year of 2019 (Sabanoglu, 2021). According to an analysis by Rx Saving Solutions, more than

3,400 prescription drugs had boosted their prices in the first six months of 2019. Prices increased by an average of 3.3% over 70 companies in this specific year.

If one needs one or several of these 3,400 prescription drugs, the prices might shock and upset them. To take away the feelings of shock and anger, of rising drug prices, pharmaceutical drug companies are focusing heavily on how they advertise the helpfulness of drugs they produce. For instance, pharmaceutical drug companies use neuromarketing research in order to further “encourage the rapid acceptance of new high-priced pharmaceutical drugs and to increase the profit level.” (Orzan, 2012)

When drug advertisements are shown, they often depict people living in a carefree, symptomless, and positive environment. Ways that drug advertisements showcase people living positively include having smiling actors, in some commercials the actors are playing sports, many times the people are shown outdoors with radiating light, and sometimes they are surrounded by their families. Additionally, the action packed, happy commercials are voiced over by empowering messages. These drug advertisements often lead viewers to believing that medication or prescription drug could grant them a happier lifestyle.

Companies use neuromarketing techniques to make preliminary tests and select the most effective TV pharmaceutical drugs commercials. This is possible by understanding facts and answers to questions like:

- Which commercials are more attractive and which are less.
- Which parts of them are more memorable and engage emotionally the potential customer.
- Which revealed the emotions and feelings generated by different parts of the commercial.

- ❑ - Record patterns in the brain's activity for each commercial.
- ❑ - Monitor second by second the brain activity of potential customers when watching each commercial.

Upon completion of Neuromarketing research on prospected pharmaceutical drug commercials, companies select the most effective commercials. By choosing the most effective commercials, companies reduce the cost of launching more than one version at a specific time, minimize the image damage of the drug company if they launch a commercial that's deemed inadequate, and have understood the conscious and unconscious mind of the potential consumers viewing or using the future produce.

McDonald's Color Psychology

McDonald's revenue in 2020 reached \$19.21 billion dollars. When one drives along the highways, busy roadways, and intersections, they will never be more than 107 miles from the nearest McDonald's location. To reach such a success in revenue and being ranked the world's largest fast-food chain, the company has its thoughtful strategies. One of McDonald's clever strategies is understanding color psychology.

McDonald's is easily accessible to travelers, and its golden arches are painted in the most visible shade of yellow. Color psychology was quickly applied to McDonald's grand logo of its arches after careful consideration of how the brain interprets specific colors. For example, "the color yellow is associated with happiness and is the most visible color in daylight" according to *Readers Digest*. Additionally, mentioned by *Readers Digest*, "red is stimulating and is associated with being active. It also increases heart rate, which helps to jumpstart your appetite" (Cutolo, 2020).

Clearly, McDonald's is methodical in its understanding of how consumers subconsciously react to specific color pigments because they've applied two bold colors to their logo. These colors, yellow and red, lead the company to attract more consumers and are a contributor to their success. From this understanding of color psychology, with the help of neuromarketing, McDonald's will continue to market its brand successfully and confidently.

Times Square Advertisements

Chris Burfield, CEO of VanBurf Media, had the idea for participants to use eye tracking while they toured New York City's Times Square. Burfield's (2020) intentions of this neuromarketing research was to find out what types of advertisements were most successful and grabbing the most consumer attention. Times Square is a marketing hub for many companies, as they display ginormous signs over the popular area of the city. To advertise in Times Square, companies pay between \$1.1 and \$4 billion dollars per year. The high trafficking area brings on average, 380,000 pedestrians plus 115,000 drivers and passengers a day.

Participants of this neuromarketing research were required to wear eye tracking software to measure what goes on in their brain as they view the many advertisements available in Times Square. The measurement that was drawn from the recorded walks through New York City's Times Square was a percentage of emotional increase.

The highest percentage in emotional increase came from advertisements that were depicting action packed movies or scenes (68%). Another high percentage of emotion increase occurred when the advertisements obtained a red background (62%). An additional observation was advertisements that were larger, drew in more views and had a higher emotional increase percentage. On average, only 12% of the signs/advertisements were noticed, while producing a 37% average of emotional increase (Burfield, 2020). It's important to point out that attention time

does not imply emotional increase. However, Burfield claimed that fixation time reflected emotional increase.

For such a high trafficking area, it is shocking to know that marketing strategies are not as effective as companies anticipated. This means that billions of company dollars are being spent in ineffective areas, such as Times Square. Companies who currently advertise in this area, might want to rethink their advertisements or pick a new location based on the neuromarketing research. It is important to understand the focus/mindset of the consumer before choosing where to market a product, service, or business.

Part III:

The Disadvantages of Neuromarketing

Neuromarketing is on the radar for critics. Reasons being that there ethical and legal issues, on top of difficulties arising when accessing equipment necessary to conduct neuromarketing research.

Ethical and Legal Concerns

Ethical and legal concerns that exist within the utilization of neuromarketing is that the company relies on an outside perspective when they receive the results of an FMRI Scan, EEG Scan, or GSR. This means the company's "results obtained are not very direct and must be explained by someone – which may take away from their credibility." (Baños-González, 2020) Businesses and companies must be knowledgeable in how to further explain the outcome of their neuromarketing research, in order to be successful when it comes to deciding the future budget and changing the marketing strategies of the company.

Also, within the field of business, there's not a standardization in speech since each company uses its own names and speaks differently about specific things. A non-standardized way of communicating across businesses increases the confusion of goals and neuromarketing research conducted. When conducting neuromarketing research, companies might be looking for different "indicators, even though they might have the same name, measuring different things." (Baños-González, 2020)

Lastly, there's a fear that conducting neuromarketing research takes the natural environment away from the consumer, causing the research to be flawed. In a real-world setting, the consumer would be surrounded by substitute products, competitor products, and more. When conducting neuromarketing research, the consumer is only faced with one specific product or stimulus. This could lead to a faulted research strategy, since this is not necessarily how a consumer would see or view the initial product.

Cost of Utilizing Neuromarketing Technology

A company must have the funds in their budget to successfully conduct neuromarketing research. "In fact, an fMRI machine can cost as much as \$5 million (and twice that to set up). Additionally, a single ad sample group of 20 people can cost in excess of \$10,000." (*Marketing Schools*, 2020) EEG Scans can cost from \$10,000 to \$20,000 depending on the scope and size of the research (Pike, 2016). Because of how costly medical machinery is, to use for Neuromarketing research, smaller businesses lose the opportunity to engage in such an insightful technique. Losing out on marketing research techniques could build a barrier between businesses and their prospective consumers, given that the purpose of research is to understand the needs and wants of consumers.

Closing Remarks

The Future of Neuromarketing & Market

The Neuromarketing Market is growing, and North America is holding the largest market share (“Neuromarketing Market: Growth, Trends, COVID-19 Impact, and Forecasts (2021 - 2026)”, 2021). North America is expected to hold the largest market share of the Neuromarketing Market because of its large investment in digital marketing tools and United States based market vendors. The United States is also noted as a “pioneer” in exploring this controversial and significant technological advancement and technique. Even though the United States is a pioneer in this field, the technique has expanded for global usage in South America, Europe, Asia, Australia, and Africa. The quick expansion of Neuromarketing grants the ability to predict that it will become a common primary market research tool that aids other research techniques to create accuracy when understanding consumer behavior. Even though there have not been validity studies on Neuromarketing, there is room for this technique to soar in aiding marketing research.

Given that the Neuromarketing market has expanded globally, the future is looking bright. Businesses are increasingly interested in technologies that could increase accuracy, build a better relationship with consumers, and cut current costs. Neuromarketing could hold the capacity to replace widely used current marketing techniques, given that marketers enjoy accurate and precise data that’ll identify the specific faults in a business’s marketing strategy.

Neuromarketing Aiding Marketing Strategies

Neuroscience has already aided and provided many well-known and successful businesses in their investigation of consumer behavior. Neuromarketing solutions are created and crafted to fit the uniqueness of the company and its targeted market. The main goal of

Neuromarketing research is to comprehend a consumer's driving force for buying or not buying a product, as well as their emotional responses towards a stimulus that's specific to a product or the product itself.

Bottom line, businesses aim to generate revenue. To generate revenue, the business will want to enhance the consumer experience so that the consumer notices the product, favors the product, buys the product, uses the product, and more. Neuromarketing aims to enhance the consumer experience, to bring a product or service that is more favorable to the consumer. To generate more revenue, a company will want to adopt the primary market research technique of neuromarketing.

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