

Application and Practice of Neural Marketing Theory

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Abstract: From the perspective of consumers, neuromarketing explores consumer behavior more accurately, diversifiedly and individually with the help of cognitive neuroscience research methods and theories. Based on this, the author studies the application and practice of neuromarketing theory. The research shows that the neural marketing theory can deeply explore the brain neural basis mechanism such as consumer brand effect and brand loyalty with its special research methods, which not only promotes relevant theoretical research, but also provides scientific basis for enterprises and merchants to make relevant decisions. This indicates that future neuromarketing research will have broad application prospects in product design, price strategy, marketing communication, brand creation and management, and consumer protection.

1. Introduction

In the early 20th century, Gorky and Kahar invented the neuronal staining method and pioneered the neuronal theory [1]. Conceptually, neuromarketing studies the effects of marketing stimuli on sensory movements, cognition, and emotional responses from neurophysiological levels [2]. It is actually produced along with the development of several basic disciplines that support marketing theory in recent years [3]. Among them, the main role played a major breakthrough in cognitive science and neuroscience. However, there are various indications that differences between different ethnic groups, different cultures, and different religions are important factors that lead to commercial activities and management between different cultures, and friction, collision, and even opposition and conflict [4]. Benefiting from this, marketing scholars have developed a marketing technology based on neuroscience based on the interpretation of the neural mechanism hidden behind consumer behavior, which has led to a new research field, namely neural marketing theory [5]. Neuron Marketing uses advanced functional magnetic resonance imaging (MRI) technology to more accurately understand and analyze consumer preferences, in order to help enterprises to provide more products and services that meet customer needs, as well as more effective advertising [6]. This focus is not only a longitudinal extension of Neuromedicine and physiology, but also a cross-disciplinary development, especially with the development of psychology, sociology, economics and management.

Since then, brain neurology has undergone about 100 years of development and made great progress. Especially with the maturity of brain imaging technology and EEG measurement technology, cognitive neuroscience has made unprecedented development in recent 10 years. Consumer neuroscience emphasizes the combination of neuroscience methods with theories and behavioral theories and models in order to develop neuropsychological theories to understand consumers' psychology and behavior [7]. With the development of behavioral decision-making and cognitive science, marketing theory can borrow many psychological concepts to explain consumer behavior, such as implicit memory, automatic information processing, subconscious, etc. [8]. Especially in today's global economic tide, people's awareness of self-identity, national identity and cultural identity is constantly increasing [9]. The reason is obvious. When globalization standardization penetrates into every corner of the world, nationalism and nationalism are strengthened, and the protection of this culture becomes more and more obvious. In short, the competition in the commercial sea is also mixed with the cultural war, thus creating a contemporary global cultural landscape is developing in symbiosis and conflict. There are many research

techniques in neuromarketing theory, and the most widely used is functional magnetic resonance imaging [10]. This information can be used as the basis for the new advertising campaign and brand promotion of enterprises, so that enterprises can achieve "knowing ourselves and knowing each other" in commercial marketing.

2. Introduction to Neural Marketing Theory

Since the early 1990s, functional magnetic resonance equipment that meets the special requirements of cognitive research has gradually developed. It is the universal brain imaging technology with the highest spatial resolution. It can be seen that the former includes more application and effect testing of marketing. The main goal is to improve the efficiency and effectiveness of marketing strategies, so it is widely used in business practice. Since the human brain controls all aspects of human behavior, understanding how the human brain works can not only help explain human behavior, but also help marketers control the behavior of consumers. Enterprises in each country must choose transnational operations to occupy a larger and broader market and resource advantage when they grow stronger. It refers to the use of functional magnetic resonance imaging (fMRI) and electroencephalogram (EEG) to reveal the subconscious response of consumers to products, brands and advertisements. In order to explore the neurological level of consumer decision-making mechanism, find hidden information behind consumer behavior. Then it studies consumer behavior and marketing science. Neural marketing theory is not to control consumers' buying behavior, but to change enterprises according to the analysis of consumers' brains, so that the business marketing activities of enterprises are more targeted. In China, the concept of neuromarketing has attracted wide attention in recent years after it was introduced.

FMRI and ERP are both stimulus events (including visual, auditory, somatosensory and other physical stimuli and non-induced psychological factors). They have their own advantages and disadvantages, and can not completely replace each other at present. The comparison between the two is shown in Table 1.

Table 1 Comparison of Two Technologies

Content	FMRI	ERP
Basic principles	Brain blood flow, high spatial accuracy, but can only be scanned once a second, can not accurately record shorter brain activity	The discharge of neurons in the brain area is of high accuracy (in milliseconds), but it can only record the surface electrical signals of the brain, so it is difficult to trace the source accurately.
Experimental environment	Subjects lie flat in the claustrophobic space with high magnetic field and high psychological pressure. Less repetition of experiments	Ordinary quiet environment, relax without pressure. For EEG stacking, repeated experiments were repeated many times.
Popular environment	The price is tens of millions, which is inconvenient to popularize.	The price is hundreds of thousands, which is easy to popularize.
Convenience	It is easy to get the image result of the active brain area, and the analysis is simple.	It is not easy to get wave forms with significant differences, and it is difficult to explain the peaks appearing in different latency periods.

So far, neuromarketing theory has been widely used abroad. Some discoveries in neuroscience tell us that many times the processing of your own brain is not controlled by your conscious mind. In fact, when you generate decision-making awareness, the brain has accomplished most of the processing tasks. Marketing is the lifeblood of any company. Without effective marketing, transnational corporations can not develop continuously and healthily. This rational model is

transformed into habits through innate learning and further into the function of brain neuron network. With the help of cognitive neuroscience, neuromarketing research can open the "black box" of consumers' brains. Explain the behavioral motives, behavioral changes and influencing factors of consumers by understanding the brain's internal processing and mechanism of commodity information processing and purchase intention, purchase behavior. The subconscious mind in the human brain can only be finally solved by using the neural level method. The rapid rise of neuro-marketing theory has benefited from the academic community's attempt to discover hidden information about consumer behavior, as well as the strong interest of the business community in applying academic results to the precise scientific guidance of corporate marketing strategies. This research actually proves a key proposition in marketing, that is, the quality of the product is not the final determinant of the purchase.

3. The emergence and development of neural marketing theory

Cognitive neuroscience is a fusion of cognitive science and neuroscience. It applies to two common concepts in marketing: neuromarketing and consumer neuroscience. Neurologically, the central prefrontal cortex of the brain is thought to be a region associated with high levels of cognitive ability. This suggests that the role of the brand in consumers is the result of high-level cognitive function regional activities, rather than the activity of low-level cognitive function areas associated with taste buds. Neuromarketing can observe the impact of internal emotional state on the economic decision-making process, providing more objective neurophysiological information in addition to subjective reporting and evaluation, because it is difficult for subjects to manipulate the results of the measurement, such as unconscious automated processing. The emerging category of neuromarketing theory is in the ascendant and has great potential for development. Moreover, the combination of neuroscience and traditional disciplines in China is still in its infancy, lagging behind the world's leading level. Neural marketing theory is far behind, and the construction of such disciplines in China needs to be strengthened urgently. The characteristics of high situational cultural language are that only a few messages are clearly transmitted through coding in the process of communication. Although neuromarketing theory has achieved some very influential research results of applied and academic type, it has also been recognized by scholars and businessmen in many fields.

Based on the information related to the measurement of commodities and the processing of purchasing behavior in the brain, neuromarketing will mainly contribute to the market in two stages (Fig. 1).

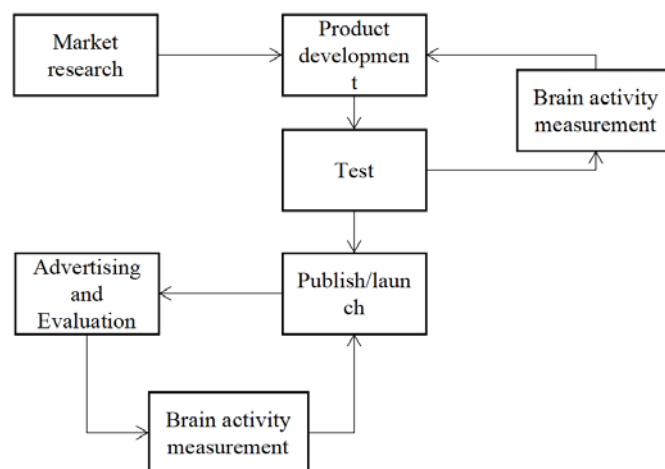


Fig.1. Application of Neural Marketing in Commodity and Market

In the research technology of neuromarketing, the willingness of participants to participate in the experiment has a direct impact on the results of the study, because whether the participants participate in the experiment happily and actively will determine the quality of the experiment and the accuracy of the data. Neuroeconomics has made some remarkable achievements.

Neuroeconomics has reformed a series of famous experiments in behavioral economics in the past to form an experimental paradigm combining neuroscience with behavioral economics, and achieved good results. Neural marketing can monitor the real-time processing process after consumers see the goods, and interpret the consumption process by simulating the real situation, so as to avoid the influence of later information processing and other factors on measurement. The current mainstream market research methods still remain at the stage of large sample research and individual observation. This kind of market research method is very susceptible to the external environment, and the results of the survey vary with the choice of sample and the personal qualities of the tester. Therefore, the result is large and the accuracy has been poor. However, in the past two years, the development of neuro-marketing theory has been slow, and the situation of its research and application is not optimistic. The reason is mainly to study the dual pressures of technology and cost, as well as the constraints of ethics and self-development.

4. Conclusion

It can be said that as long as the "human" factor works, it can be studied at the neuron level, and then the conclusion is introduced into the traditional research process. From the perspective of consumer behavior, past research has focused more on consumer information processing and decision making processes. Then, the generated image is analyzed by using a neurological image analysis technique such as statistical parameter mapping and independent component analysis technology to observe the stimulated and active region of the brain. Domestic competitors are in the ascendant, and their competitors are coming to the fore. There are only two roads in front of us. One is to constantly develop and innovate, to lay down one's own country, and the other is to stick to the rules and regulations. Eventually they become chess pieces and fish of others. This is a problem that managers of many enterprises must face up to. In addition, domestic development in this area is relatively lagging behind, and foreign research results can not be directly used in the marketing decision-making of domestic enterprises. A series of psychological studies, such as the hypothesis of social person based on experiments, have greatly promoted the development of management science at different stages. In the past studies, due to the limitations of traditional research methods, the attention to bad consumer behavior is insufficient, and the research on the psychological mechanism of these behaviors is also insufficient. The 21st century is a century of marketing and cultural integration. With more and more multinational enterprises to occupy the global market to the maximum, they have begun to implement the management strategy represented by cross-cultural marketing.

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