

Identify and prioritize Neuromarketing strategies nervous and their impact on the competitive advantage of the company on the basis of the marketing mix(Case Study: Shiraz Travel Agencies)

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Abstract: The aim of this study is to identify and prioritize neuromarketing strategies and investigate its effects on the company's competitive advantage on the basis of the marketing mix. The travel agencies in Shiraz City were selected as the case study in this research. In this study, we first tried to identify the neuromarketing strategies. Then, we evaluated the impact of these strategies on the company's competitive advantage. In this study, competitive advantage has been divided into the four components of the marketing mix that is price, product, promotion and distribution. We have considered one main hypothesis and four sub-hypotheses in this study in order to investigate the relationship between neuromarketing strategies and the company's competitive advantage. The study population includes all of the 140 personnel and managers of Shiraz travel agencies that make up the city of Shiraz, among whom 113 individuals were selected as the sample for the study. After the distribution and collection of the questionnaires among the population, the questionnaire data were analyzed using SPSS software and the t-test was used for testing the hypothesis. It was finally shown that all of the research hypotheses were confirmed and neuromarketing strategies have a significant impact on the company's competitive advantage.

Key words: Neuromarketing, competitive advantage, marketing, mix, SPSS

INTRODUCTION

Science and technology has had such a rapid development in the 21st century that one should await an amazing innovation in the aspects of daily life each hour. Science and innovation has such an acceleration that innovation has turned into an integral part of people's lives. One of the areas that has received a huge impact by scientific research and technological advances is the field of marketing (Ebrahimzadeh and Aghasizadeh, 2009). The subject of neuro marketing, which may be referred to as a revolutionary innovation in the field of marketing has for some time brought about major changes in the science of marketing. Neuro marketing makes people buy and receive services by targeting their mind and consciousness without their being aware of what they are doing. This branch of marketing that benefits from its close relationship with medicine and neurology benefits, uses the very modern techniques used and will indeed be a reliable substitute for the traditional advertising in the relatively near future. Therefore, those companies that seek the new strategies of neuro marketing and are capable of adapting these strategies with the conditions of their own businesses, can be waiting for the achievement of a reliable competitive advantage. As a

result, as this sub-field of marketing is very new, it can be said that it is high time one researched in this area and found and evaluated the neuromarketing strategies (Gharebiglu and Shadi Dizaji, 2011).

Today, tourism has found a great position in the regional development as a new approach to coexistence of human and society in order to reach economic efficiency. Tourism has turned into an inclusive and dynamic industry in the form of a global system, so that it can be considered one of the most successful industries of the world. Many experts regard tourism as a unique and special economic opportunity (Britton and Shipley, 2010). Some of the reasons for the accelerated development of tourism process are its positive direct and indirect effects, such as: achievement of high income from foreign exchange, the increase in per capita income, job creation, the development of cultural and scientific relations, the stability and security of regions and ultimately, sustainable development. With the start of the twenty-first century, the tourism industry has become one of the world's highly profitable industries so that an intensive competition exists among many countries to attract tourists and the tourism industry has received a major part of the economic and manufacturing activities of the developing and developed countries as a dynamic industry with unique features.

Researchers and experts have been looking for the new and mixed ways of consumers' purchasing decisions so that they can help the sales' increase and the effectiveness of advertisements. This is why the use of neurology has become so common in marketing and there has in recent years been a significant growth in neuroscientists' scientific capabilities. These experts deal directly with the study of brain's cortical activity in different periods of time, places and frequencies. On the other hand, the merge of the psychological and physiological sciences has led to the application of certain techniques to reach amazing advances in understanding the brain activity and identifying its different parts.

Today, many social science researchers use neuroimaging as a standard tool or approach for research. Although, both the scientific field of marketing and neurology had a lot in common in various fields, science, marketing has long been realizing the benefits of using brain imaging techniques (Akbari, 2014). Many social scientists of neuroimaging as a standard tool or approach for research use. The application of this concept reached a peak particularly when the economics began to use neuroimaging techniques in its research and there arose a new discipline called neurology economy. Although the scientific fields of marketing and neurology had a lot in common in various fields, the marketing science did not notice the benefits of using brain imaging techniques for a long time (Akbari, 2014).

Considering the above-mentioned points, it seems inevitable to give much attention to the new concepts of marketing in businesses. Due to the rapid technological progress in all fields, companies and businesses should have enough flexibility to keep pace with the new marketing techniques and to keep up with customers' needs and wants. Moreover, paying attention to these new approaches in marketing will lead to a company's surpassing its rivals in today's highly competitive market and will eventually bring a competitive advantage for the company. The aim of this study is to find out the relationship between neuromarketing strategies and the creation of competitive advantage in a company.

Literature review

Exploration into the brain: Neurology is the linking point of various disciplines such as molecular biology, physiology, electrical physiology (electrophysiology), neural physiology (neurophysiology), anatomy, embryology and biology of growth, cell biology, behavioral Neurology, psychology, neurology and cognitive science. This relatively new field of research in recent years has become a major contributor to a better

understanding of human behavior. In this respect, it provides insights into consumer behavior (Bardzell *et al.*, 2008).

Functions of the nervous system: Nervous system is the main system that controls the body. It includes the brain, spinal cord, nerves and ganglia which are in turn made up of several groups of cells including the nerve, blood and connective tissue. Your nervous system maintain your contact with the external and internal environment by help of its receptors. The nervous system together with the endocrine system (that secretes the hormone) control and retain the balance of the body. The different functions or activities of the nervous system can be divided into three general and interrelated functions:

- Sensory
- Integrative
- Motor

The nervous system also functions like the center of mental activity including thinking, learning and memory. It has two main components from the physical or functional perspective:

- The peripheral nervous system including the nerves
- The central nervous system including the brain and spinal cord

The use of neurology and biometrics in marketing: The use of neurology can help in the decisions related to practical marketing. According to the estimates made around the world by the researchers, there are approximately 90 private neurology laboratories that have contracted with firms to carry out practical studies on consumer behavior and different viewpoints and subjects. These studies are also conducted in several academic centers, centers that sometimes carry out studies supported by industry. The fame of the neurological methods in consumer-related researches in future depends on the relational evolution of fuel and cost. Experts are skeptical and pessimistic about the correct interpretation of brain atrophy. For example, the existence of just one terrible scene in ads that influence a viewer does not mean that the viewer will be horrified by it forever; rather, the brain will quickly regard it as an attractive bait (strange idea) because his real environment is safe and the stimulus is regarded as a distinctive attractive element. In a study by Millward Brown the Marketing Research Company, the television advertising related to health products have been tested (Acker, 2008).

In these tests, the results of the examining the questionnaire were combined with the non-verbal diagnostic mode of electro encephalography. The two approaches had very similar results in identification of the tested advertising scenes which had the strongest and weakest emotional reactions. Thus, confirming what the merchants have in mind about the traditional studies rarely justifies the extra cost. Therefore, regardless of revealing the general trends in consumer response, neurology has been considered useful in practical studies by some experts of the industry field since it dealt with individual sensitive issues and explored the implicit relationships. (Caplin and Dean, 2008). At present, many companies that turn toneurology marketing research have no fear of the “Frankenstein style” experiments. Moreover, they do not want to disclose private information. The next factor also affects neurology marketing research service providers and accounts for the lack of information regarding the practical implementation of new methods and technologies. Considering these limitations, we describe the identified better efforts in the following (Bleichrodt and Prades, 2009).

The use of neurology for advertisements: One area in which the neurology methods including biometrics have a particular application is the advertising arena. Considering the fact that American consumers have become saturated with marketing communications and have more tendency toward advertising, reforming the way of interacting with the market is considered a necessity. In what is appropriate for measuring emotional reactions, subjects about single advertisement commercial affairs, billboard images and reaction related to different ways are practiced (Compero and Hernandez, 2013).

The data obtained via the mind control data and biometric research indicate three dimensions of responses to the presented materials. First, it registers the importance of favorable emotional responses over the negative responses and describes the tendencies toward the approach/deletion. This represents a scale (ability to love). Secondly, it measures the extent of the arousal-intensity of emotions regardless of whether it is positive or negative and shows how the information form influences encouragement. Finally, it reveals the mental effort during joint contact with stimuli and confirms the cognitive effect on the formation of ideas (Helm and Landschulze, 2009).

The neuromarketing strategies: As previously mentioned, this study seeks to identify the strategies used in neuromarketing. For this purpose, we identified famous companies in sales and marketing and identified some strategies and the results of using the strategies by examining the information included in the websites of these companies. In order to get further explanations and remove the existing vagueness, we also established relationships with some managers active in marketing in these companies and asked the managers questions via interviews and inserted them in the questionnaire. The strategies which had been identified and used in neuromarketing have been presented in Table 1, along with a brief explanation about each one of the strategies. As shown in Table 1, some 17 companies active in different areas of marketing were investigated and researched and some of the active managers in these companies were interviewed. This Table 1 presents the strategies of neuromarketing and gives brief explanations on the strategies.

Table 1: Neuromarketing strategies

Explanation	Strategies
Providing appropriate options	Complexity of choice leads to the reduction of sales. In this technique, the number of options for the customer is minimized but customers are provided with effective and complete information about the products. When a customer’s number of choices increases, he will get confused and it will be more likely for him to get a sense of not purchasing
Eye movement tracking techniques	In this way, the customers’ eye movements at the goods and items are tracked using special sensors and thereby their tastes and interests are recognized. Focus on a particular item or looking at a specific group of goods can be indicative of the attractiveness of the product to customers
Small requests	In this technique, the customer is first given small logical requests and then the main request will be posed, in which case the customer will have more tendency for purchase
The reduction of pain	Research has shown that when you buy something and pay for it, stimulus such as feeling of pain in the brain are activated in the body. In this way, it is proposed based on this principle that a friendly environment is provided for a customer when he is paying for what he has bought
Justifying the price	Both high prices and lower prices than the market price require proper justification because both high and low prices can have a negative impact on the customer’s mind
Careful selection of images	Similarity and forgery immediately leads to one’s reaction in the brain. It is better to use real images with respect to local conditions. The use of Foreign though attractive and high-quality images will create a sense of similarity and forgery for customers
The technique of providing immediate information using mobile technology	In this technique, enters into the store and uses communication lines such as Wi-Fi and Bluetooth, whereby a large volume of information and useful and concise ads appear on his cell phone and he can track customers’ requests via the computer
Using proper adjectives	Using adjectives that affect one’s feelings has a significant impact on sales. The brain receives pleasant information when analyzing prices and buying something which is an unpleasant task

Table 1: Continue

Explanation	Strategies
Adding unreasonable options	Unreasonable options are products that help the sales of another product. That unreasonable product may itself may have no sales, but it makes the decision-making process easier for the customer's brain
The order of presenting the products	This technique has been developed based on a psychology principle called ((primacy effect)). It is said in this principle that the brain will better remember the option which it will encounter first. Accordingly, care must be taken in marketing to present the products for customers in the best order
reaction	This method is based on the Principles of ((Reaction)). According to this principle, the human brain subconsciously tends to express positive reaction in response to others' expression of friendship or love
Reducing customers' regret after purchase	Regret after purchasing is very common. In order to avoid this unpleasant feeling in customers, multiple options should be kept out of sight of the customers and the customers should not be talk to about the other options after the purchase, even the disadvantages of the options should not be talked about and the only thing that should be focused and talked about is the customer's purchase
Using figures and statistics in marketing	It is better to use true figures instead of the percentage so that the statistics can have more impact on customers' mind
Facilitating the first purchase	The first purchase is the hardest choice for the during product selection. It is recommended that a space be created for customers to be more relaxed during their first purchase
Instant benefit	The brain is always looking for quick and instant benefit and it prefers to think of momentary profit rather than long-term consequences. It is better to highlight the quick and instant benefit in buying products in the marketing operations.
Using more influential terms and expressions	Some words will have more effect on the brain and draw customers' attention more. The use of these terms make the advertisements more effective
Product rarity	When a product or service becomes scarce, its mental value and thus the demands for it will go up. This is also the case about marketing. The more scarce the information about a particular subject, the more valuable it will seem
Facial expressions	Using special sensors in this technique, one can follow the customers' facial expressions when walking in shopping centers or companies and their tastes and ideas can be recorded with regard to the changes that have occurred in their faces
Recording the changes of heart beat	In this way, by attaching sensors like the ECG machine to customers' bodies, the changes and fluctuations in the customers' heart rate are recorded when they are passing by the goods. Due to heart's rhythm changes in different emotional modes and conditions, the goods or services by which customers are most affected emotionally can be determined
Nervous wave in tastes	In this technique, the customer satisfaction level is determined using the brain imaging when customers put different foods in their mouth
Using stories	In the method, short and story-like statements are told by the salesperson to customers about the characteristics of the products or services so that their brain can associate the desired conditions when hearing the statements. Stories stick in the mind better and can be retrieved more easily and faster
The effect of salespersons	Salespersons have a huge impact on the buyers' brain, thereby driving them toward purchase. It is better that the salespersons have a smiling look and be harmonious with the nature of the company in terms of appearance and clothing so that the customers can get a further sense of trust. It is also better that they just focus on one subject of one goods and avoid providing customers with too many suggestions rapidly
Converting protests into income	Attempts are made in this technique to hear customers' protests quite well and to have proper, polite and friendly responses to the protesting customers. With this technique, a number of the lost customers can be regained
Cumulative effect in customer satisfaction dissatisfaction	Customer dissatisfaction is not often the result of a big event or happening, but is the result of a few or small cases of dissatisfaction which are combined to build a negative feeling and attitude in customers
Neuromarketing in products design	One should try to avoid being new and different at all costs. Balanced innovation should be used when needed. After testing a new product, consumers will stop buying it after a short while and will return to their previous habits if they do not have much satisfaction with the product
Appropriate naming of products	Giving appropriate names to products plays an important role in their sales increase. The effect of naming on products is more than can be imagined. A product's name should be convenient and have pleasant sounds. It is also better to choose names that can convey to customers the basic information about the product

MATERIALS AND METHODS

Since, the purpose of this research is to identify and prioritize neuromarketing strategies investigate their effects on the travel agencies in Shiraz City, the study is a descriptive survey in terms of the data collection method. The data collection tool used in this study is a questionnaire. The questionnaire used in the study has good content validity and reliability, as measured by Cronbach's alpha. The results of assessing the reliability of the questionnaire have been presented in Table 2. For

Table 2: Reliability of the questionnaire\

Components	Cronbach's alpha
The whole questionnaire	0.839

data analysis, the collected data have first been sorted and classified using EXCEL software and have then been analyzed using SPSS Software. The study population includes all the 140 personnel and managers of the travel agencies in Shiraz City and the sample size was determined 103 people using Morgan Table (Khaki, 2011). The conceptual model of the research shown in Fig. 1.

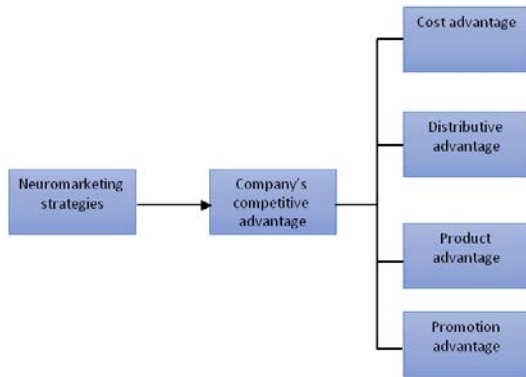


Fig.1: The conceptual model of the research

RESULTS AND DISCUSSION

Analysis of the research data

Analyzing the accuracy of the research hypotheses using

one-sample t-test: In this study, we analyze the accuracy of the research hypotheses using single-sample t-test. If the significance level is <0.05, it will be concluded that the hypothesis is confirmed, otherwise the hypothesis will be rejected. The results presented in the following Table 3 and 4 show that the main hypothesis and the four sub-hypotheses of the research have been accepted.

The first sub-hypothesis:

- The neuromarketing strategies affect the price
- The neuromarketing strategies affect the product
- The neuromarketing strategies affect promotion
- The neuromarketing strategies affect distribution

The main hypothesis: The neuromarketing strategies affect competitive advantage.

Friedman test for prioritization of the components of the sub-hypotheses: In analysis of the priority of the factors using Friedman test, since the significance level of the chi-square statistic is smaller than the error of 0.05, it can be concluded that the factors affecting the competitive advantage can be prioritized. The significance of the prioritization and the priority of the factors are shown in Table 5 and 6.

The research summary: We used a questionnaire including 26 questions in this study in order to investigate the effect of neuromarketing strategies on competitive advantage. For the more detailed and precise investigation of the relationship between the

Table 3: Results of the research sub-hypotheses

Hypothesis	t	Level of Sig.	No.	Mean
1st sub-hypothesis	17.308	0.000	0.97598	3.9760
2nd sub-hypothesis	17.842	0.000	113	3.8367
3rd sub-hypothesis	10.799	0.000	113	3.5548
4th sub-hypothesis	15.864	0.000	113	3.8638

Table 4: Results of the main hypothesis of the research

Indicators of the main hypothesis	t	Level of Sig.	No.	mean
The main hypothesis	19.087	0.000	113	3.8036

Table 5: The significance of prioritization of the factors affecting competitive advantage

Chi-square statistic	Degree of freedom	Significant level
56.405	3	0.000

Table 6. Prioritization of the factors influencing competitive advantage

Factor	Friedman rank mean
Price	2.97
Product	2.66
Distribution	2.64
Promotion	1.73

neuromarketing strategies and competitive advantage, we divided competitive advantage into four marketing mixes. We used three items in the questionnaire regarding the component “price”, seven items about the component “product”, 12 items about the component “promotion” and 4 items about the component “distribution”. The reliability of the questionnaire was confirmed using Cronbach’s alpha technique and one-sample t-test was utilized for testing the research hypotheses. The results showed that all of the research hypotheses are confirmed and there is a significant relationship between neuromarketing and competitive advantage in the company.

CONCLUSION

Findings: The main purpose of this study is to identify and prioritize then euromarketing strategies and investigate their effects onthe compan’s competitive advantage. The results of the first sub-hypothesis showed that: the significance level forthe first sub-hypothesis and also for all the in dicators related to this hypothesis is <0.05. Therefore, it was concluded that the first sub-hypothesis is confirmed and it can thus be said that then euromarketing strategies have an impacton prices. The results of the second sub-hypothesis showed that: the significance level forthe second sub-hypothesis and also for all the in dicators related to this hypothesis is < 0.05. Therefore, it was concluded that the second sub-hypothesis is confirmed and it can thus be said that the neuromarketing strategies have an impacton prices.

The results of the third sub-hypothesis showed that: the significance level for the third sub-hypothesis and also for all the indicators related to this hypothesis is <0.05 . Therefore, it was concluded that the third sub-hypothesis is confirmed and it can thus be said that the neuromarketing strategies have an impact on promotion.

The results of the fourth sub-hypothesis showed that: the significance level for the fourth sub-hypothesis and also for all the indicators related to this hypothesis is <0.05 . Therefore, it was concluded that the fourth sub-hypothesis is confirmed and it can thus be said that the neuromarketing strategies have an impact on distribution.

The results of the main hypothesis of the research showed that: the significance level for the main hypothesis and also for all the indicators related to this hypothesis is <0.05 . Therefore, it was concluded that the main hypothesis is confirmed and it can thus be said that the neuromarketing strategies have an impact on competitive advantage.

SUGGESTIONS

Suggestions based on the main hypothesis (The neuromarketing strategies affect the achievement of competitive advantage): As previously mentioned, findings of the research show that neuromarketing strategies have a positive impact on the company's competitive advantage. It is thus recommended that the marketing managers of the travel agencies and other similar beneficiaries take measures to train the employees and to familiarize them with the concepts and strategies of the neuromarketing strategies. In the shadow of proper and comprehensive training, one can expect that the neuromarketing strategies prove effective in the organization and can bring competitive advantage to the organization.

Suggestions based on the first sub-hypothesis (The neuromarketing strategies affect the price): Finding neuromarketing strategies that can affect the price of goods or services offered by the company can also create competitive advantage and have appropriate financial interests for the organization. To this aim, it is recommended that the marketing managers of the travel agencies and other similar beneficiaries take measures to identify the best and most appropriate strategy related to the price of supplying goods or services and thus make use of the cost benefits that neuromarketing strategies can have.

Suggestions based on the second sub-hypothesis (The neuromarketing strategies affect the product): Any organization uses certain methods and procedures in

order to deliver its products and services. One of the areas in which neuromarketing can increase the company's competitive power is the area of introduction of goods and services. It is thus recommended that the marketing managers of the travel agencies and other similar beneficiaries use the innovative and ingenious methods that the neuromarketing provides for presenting the products and services.

Suggestions based on the third sub-hypothesis (The neuromarketing strategies affect promotion): It may be claimed that the most use can be made of neuromarketing in promotion. According to various definitions, by promotion in the marketing mix is meant the set of actions made for the purpose of establishing relationships with customers and creating a sense of perception and a positive sense in them. According to the definitions, it can be concluded that the use of marketing strategies and concepts for establishing perceptual relationships with customers is very efficient. Due to the fact that neuromarketing is indeed the use of the techniques that engage the customers' mind unconsciously, the application of these concepts can help increase the power of influence in the customers' mind and take an important and basic step toward the achievement of competitive advantage.

Suggestions based on the fourth sub-hypothesis (The neuromarketing strategies affect distribution): Distribution and customer access to goods or services is one of the most important factors in achieving competitive advantage for the organization. Organizations use a variety of methods to make their products accessible to their customers. For this purpose, it is recommended that the marketing managers of the travel agencies and other similar beneficiaries use the various marketing methods in order to make their products accessible to their customers in such a way that they can have access to the products in the least possible time.

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