International Journal of Experiential Learning & Case Studies

Neuromarketing Practices and Their Role in Raising the Efficiency of Marketing Performance - An Applied Study in the General Company for Cars and Machinery Trade/ Al-Waziria

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Article Information

Abstract

This research aims to diagnose the impact and contribution of Neuromarketing on the marketing performance of Sardar Automotive Trading Company and determine the nature of that relationship. To achieve this, the research seeks to understand the role played by Neuromarketing in enhancing overall marketing performance. Sardar Automotive Trading Company, a public company specializing in car and machinery trading, was chosen as the research site. A total of (58) questionnaires were analyzed, and distributed among a sample of marketing department managers and employees within the company, serving as the research sample. The data was analyzed using the statistical software SPSS, and a descriptive-analytical approach was adopted in conducting the research. The results indicated a significant relationship and correlation between neuromarketing and marketing performance. The research recommends that decision-makers within the company focus on marketing strategies based on the philosophy of Neuromarketing to influence customers, thereby achieving higher sales and greater profits, ultimately improving the entire marketing process

1   Introduction

In the era of innovation and technology, marketing strategies are witnessing massive transformations that require continuous adaptation and innovation. The field of neuromarketing practices is considered one of the most prominent developments that the world of marketing has seen in recent decades and is witnessing great interest. It is a field based on psychology and brain science to deeply understand customer behavior and analyze their interactions at the level of mind and emotion. Companies can direct their marketing strategies more accurately and effectively through neuroscience techniques (Nilashi et al., 2020). Neuromarketing uses technology to record brain signals of consumer behavior toward marketing stimuli (Zhu, 2022). Marketers use neuroscience techniques to study

consumer preferences and behavior and direct their marketing techniques associated with this science to influence consumer decisions and increase the effectiveness of their marketing techniques (Arad, 2017). Neuroscience reveals information about consumer preferences that cannot be obtained through traditional methods and studies the brain's neural activity to explore the minds of consumers, knowing the motivations and constraints and influencing them from targeted marketing activity (Lin et al., 2018). Neuromarketing allows us to measure unconscious states in consumers' behavior (Hranilovich et al., 2023). This contributes to developing new marketing practices (Lim, 2018). The information obtained by marketers thanks to Neuromarketing has led to improved marketing operations and thus achieved high levels of marketing performance for the company (Constantinescu et al., 2019).

This study seeks to explore and analyze the relationship between neuromarketing practices and increasing the efficiency of marketing performance. This includes a comprehensive conceptual presentation of Neuromarketing, marketing performance, and its dimensions: market share, increased sales, social responsibility, and customer retention. We will highlight how Neuromarketing impacts marketing performance, market share, sales, social responsibility, and customer retention to better understand customer preferences and needs. We will also address the advantages and disadvantages of neuromarketing practices, including ethical and privacy issues. We will explore the expected future trends in this field and how it can be developed sustainably and effectively. This research is an opportunity to dive into the world of Neuromarketing and understand how these practices can contribute to achieving corporate goals and raising the efficiency of marketing performance in a market where change is accelerating so rapidly.

1.1 Research problem

In the Context of Business today, marketers face increasing challenges in attracting and motivating customers to interact with their products and services. Technology and big data development have changed how brands and customers interact. This opens the door to exploring new methods of marketing that take advantage of the concept of Neuromarketing. Neuromarketing depends on the concepts of Psychology and brain science to understand how customers make decisions and are motivated. These practices include tools and

techniques that focus on understanding clients on a neurological and emotional level. Therefore, the research problem poses the following question:

"What is the role of neuromarketing practices in raising the efficiency of marketing performance? And how can these practices be applied effectively to achieve marketing goals and attract customers better?"

Examining this issue, the potential benefits of adopting neuromarketing practices and improving marketing performance through their application can be highlighted. The research will also include a full analysis of expected results and potential impacts on marketing performance. This research can be useful to companies and marketers seeking to develop more effective marketing strategies and a deeper understanding of customer needs and wants through using Neuromarketing. Presenting this problem in the research also opens the door to exploring the specific methods and techniques used in neuromarketing practices in the General Company for Automobile and Machinery Trading/Al-Waziria and whether it relies on analyzing neural data to better understand customer interactions and needs and how this information can be transformed into effective marketing strategies. Based on the above, the current research attempts to answer the following questions:

RQ1: Does the General Company for Automobile and Machinery Trading/Al-Waziria use Neuromarketing to market cars?

RQ2: Was the General Company for Automobile and Machinery Trading/Al-Waziria able to employ Neuromarketing to raise the efficiency of marketing performance?

RQ3: Is there a role for Neuromarketing in marketing performance?

RQ4: What is the level of awareness and understanding of the company's management about Neuromarketing and its importance?

1.2 Research Aims

This research seeks to diagnose the extent of the impact and contribution of Neuromarketing and its dimensions in raising the efficiency of the marketing performance of the General Company for Cars and Machinery Trading/Al-Waziria. As well as determining the nature of the relationship between neuromarketing and marketing performance and learning about the reality of applying Neuromarketing and the extent of its adoption in the General Company for Automobile and Machinery Trade/Al-Waziria. The current research also seeks to provide some recommendations to stakeholders in the General

Company for Automobile and Machinery Trading/Al-Waziriyah that contribute to adopting the philosophy of Neuromarketing in increasing the company's sales and achieving high marketing performance.

2   Literature Review

2.1   Neuromarketing concept

The term neuromarketing was first introduced by the scientist (Ale Smidts) in 2002 and is defined as the study of the brain mechanisms responsible for consumer behavior to improve marketing strategies (Jesus et al., 2022). A year after the term was introduced, the first specialized academic study on the concept was presented, entitled "Neural Correlates of Behavioral Preference for Culturally Familiar Drinks" by the American neuroscientist Read Montague, which he conducted on a group of people using magnetic resonance imaging to learn about their tastes (Vela & Varga, 2022). Neuromarketing is a modern marketing tool that influences the consumer's mind to control his decisions to purchase a specific product or brand (Fisher et al., 2010). It is also an attempt to explain the consumer's brain's response to the price or brand and the extent to which he is influenced by advertisements to purchase a specific product. Also, Royo-Vela and Varga (2022) defined it as a market research technique that relies on neuroscientific techniques, thus understanding consumer purchasing processes. Neuromarketing is a relatively new field of marketing that involves innovative techniques and changes in the marketing research process and the tools and methods used (Pilelienė et al., 2022). Solomon (2018) believes Neuromarketing is a marketing strategy based on the subconscious mind and feelings to evaluate the consumer's cognitive reaction to the marketing techniques. Perhaps one of the most prominent experiments in this field is the experiment conducted by (McClure et al., 2004), examining the brains of consumers of soft drinks Pepsi or Coca-Cola using magnetic resonance imaging technology. The results showed increased brain activity when the consumer is familiar with the brand, as the activity of the brain's frontal cortex increases when the consumer uses his favorite brand. Hranilovich et al. (2023) confirm that Neuroscientific research has revealed that the unconscious mind controls consumerism and decision-making processes. Therefore, companies are intensifying their efforts toward the unconscious mind of the consumer, which makes Neuromarketing very important for companies. In the same context, Srivastava and Bag (2023) indicate that Neuromarketing

helps marketers Better understand customer preferences and provides better insight and technological progress in market research. Neuromarketing includes many uses, as it is used to test different marketing stimuli, for example, packaging, pricing, advertising, and building websites, and is used in psychology, decision-making, and computational analysis (de Jesus et al., 2022). Neuromarketing includes two main types, as indicated by Guzmán et al. (2022), which are visual Neuromarketing and auditory Neuromarketing. The first relates to the consumer's visual process, while the second relates to the consumer's auditory process. There are many ways to use Neuromarketing in its two types that can be placed into three main categories, which are functional magnetic resonance imaging and measuring the physiological response without recording brain activity, as each of these three groups includes several techniques (Nyoni & Bonga, 2017). Neuromarketing has now entered the digital field, where it has been linked to the Internet and social media networks, and the use of the digital field has led to the possibility of identifying consumer behavior and his subconscious. Now, there are many concerns about the ethical legitimacy of Neuromarketing as Jalbani & Ul Haq, (2022) point out that Neuromarketing could be considered a violation of consumers' rights, in addition to the possibility of them being exposed to harm.

2.2   The importance of Neuromarketing

The importance of Neuromarketing stems from the fact that it is a multidisciplinary field, as it allows researchers to predict consumer choices and understand them more broadly (Cardoso et al., 2022). Also, its ability to extract more accurate information than previous traditional methods is because consumers are generally influenced by their subconscious beliefs when purchasing (Ali Shah et al., 2022). Neuromarketing also helps develop brand strategies and position the brand within different markets. There is also the possibility of modifying the pricing strategies used by the company (Hranilovich et al., 2023). Neuromarketing answers many questions related to the market study, including discovering what end customers are thinking and speculating, thus being able to develop marketing strategies that reach them directly (Guzmán et al., 2022). Neuromarketing aims to transfer expertise from neuroscience to marketers to explore customer behavior by applying neuroscientist strategies to promote relevant issues (Jalbani & Ul Haq, 2022).

2.3   Advantages of Neuromarketing

Neuromarketing offers several notable advantages, as highlighted by various researchers, including Solomon (2018), Krajnovic et al. (2012), Ali Shah et al. (2022), Martín et al. (2022). First and foremost, it provides invaluable insights into understanding customers—delving into their desires and identifying the products they need. Moreover, Neuromarketing has elevated the marketing field by delving into a previously uncharted territory: customer awareness. It has allowed companies to understand better how consumers perceive and interact with brands and products.

Another crucial benefit is its role in shaping effective products and brands that influence customers. By tapping into the subtleties of consumer behavior, neuromarketing aids in crafting offerings that truly resonate with the target audience. Furthermore, it furnishes critical information about customers' internal emotions, perceptions, and attitudes, offering the means to better meet their needs and preferences. This understanding of the customer's psyche is obtained swiftly and efficiently, enhancing decision-making processes.

It's important to note that Neuromarketing is continually evolving in both scientific and academic realms, closely paralleling developments in marketing and advertising. This ongoing progress promises to bring even more sophisticated tools and insights to the field, further advancing our understanding of consumer behavior and preferences.

2.4   Disadvantages of Neuromarketing

Neuromarketing has its fair share of drawbacks, as indicated by several researchers, including Solomon (2018), Al-Taie et al. (2008), Krajnovic et al. (2012), and (Guzmán et al., 2022). One significant issue is that the expected impact on customers often falls short of what was envisioned. This is often due to using techniques that customers find uncomfortable or undesirable.

Additionally, many experts and business owners are still skeptical about, or outright oppose, the expansion of marketing initiatives related to Neuromarketing. Their reservations often stem from the belief that these campaigns don't directly contribute to improving the quality of the product itself.

Another challenge lies in the limited understanding of the connection between brain activity and customer desires. This relationship remains somewhat confined in its scope. Moreover, neuromarketing strategies can inadvertently disrupt the relationship between producers and customers by restricting the customer's ability to acquire knowledge and build meaningful connections with the seller.

Furthermore, the costs and resource intensiveness of conducting new and ongoing experiments pose additional hurdles. These financial and resource-related constraints can limit the capacity to continuously explore and refine neuromarketing methods, ultimately impeding their full potential.

2.5   Concept Marketing Performance

Performance reflects the company's ability, in general, to adapt under turbulent environmental conditions and continue to grow. Marketing performance is integrated with the company's overall performance, represented by its ability to expand or concentrate in its market, achieve its marketing goals, and invest its resources efficiently and effectively (Al-Shuwaili, 2013). Performance, known as Marketing, is the mechanism through which the company's level of performance is determined and its marketing potential is known, based on certain financial and operational standards to measure the achieved performance. Salam and Bajaba (2023) also define marketing performance as the tool through which we determine the organization's ability to exploit its resources to achieve its general and marketing objectives and implement its activities according to predetermined standards that suit the nature of the company and the market. Radhi (2022) confirms that performance Marketing reflects the extent of the company's success in achieving its goals of survival and growth or its failure and deviation from its goals. It is a tool for measuring and monitoring marketing activity (Hendrayati & Gaffar, 2016). Until the interest is in marketing performance, it leads to achieving financial revenues and makes the marketing process effective. As the company's marketing performance improves, the competitive position improves, the company's overall performance increases, and its growth expands Mohammed and Al-Hamad (2020) believe that marketing performance reflects the extent of the company's honesty and commitment to its promises toward customers in achieving their aspirations.

From the above, marketing performance can be defined as a tool to measure the company's ability to achieve its marketing goals, follow up its activities based on market variables, and exploit its resources to expand its market share, increase its sales, and raise the company's overall efficiency to attract and retain customers.

2.6   Most important Marketing performance

The significance of marketing performance is prominently underscored, playing a pivotal role in helping a company achieve its objectives, including expanding market share, increasing sales, profitability, and cost reduction to ensure customer satisfaction (Rezazadeh et al., 2023). It also holds immense importance in aligning with stakeholders' goals, fulfilling the company's responsibilities towards society, and effectively implementing marketing strategies and plans (Lazem, 2017).

Al-Bayati (2019) and Al-Rabi'awi and Al-Shuwaili (2013) concur on the significance of marketing performance for several reasons. Firstly, it serves as a critical measure to gauge the extent to which goals have been attained, facilitating the alignment of actual performance with the planned initially objectives and allowing for detecting and correcting deviations. It also plays a pivotal role in disseminating information to all company departments and units at various levels. It fosters greater harmony, coherence, and coordination among the company's various segments, ensuring a more cohesive operational environment.

Moreover, it contributes to the ongoing improvement of the marketing plan by enabling constant monitoring, deviation correction, and adjustments based on market data. The company gains insights into its market share, reach, customer satisfaction levels, sales, and profitability by utilizing marketing metrics and indicators. These metrics provide a means to accurately assess results and, in turn, work toward their development and enhancement. Lastly, marketing performance tools enhance the efficiency of the company's administrative processes, ultimately improving the decision-making process. Through proper diagnosis of the company's capabilities, these tools allow for precise alignment with goals, enabling the company to make informed decisions in its pursuit of objectives.

2.7   Standards Marketing performance

In the realm of marketing performance measurement, there is a consensus among researchers, as evidenced by Hendrayati & Gaffar (2016), and Al-Bayati (2019), that the key metrics include market share, sales volume, and customer retention. Expanding upon these conventional metrics, Lazem's study in 2017 introduced the dimension of social responsibility, reflecting the views of several researchers who stress the significance of social responsibility as a pivotal measure of a company's marketing performance.

According to Nakanishi and Cooper (1988), market share is the company's sales within a specific market during a designated timeframe. This metric also pertains to the company's percentage of the total industry market and its control over sales, as defined by Bearden et al. (2007). Al-Shuwaili (2013) asserts that increasing market share at the expense of competitors signifies competitive success and the achievement of higher sales and profits. Market share growth can be facilitated by entering new markets or targeting new market segments.

On the other hand, sales volume represents the net sales realized within a specific period. An increase in sales volume reflects the company's strong marketing performance, with companies consistently seeking to boost sales volume to enhance profitability, as highlighted by (Šaković Jovanović et al., 2020).

The inclusion of social responsibility in marketing performance measurement has gained prominence. Companies now recognize the need to incorporate social responsibility concepts into their marketing strategies, as this approach offers advantages in the marketplace, per Bateh et al. (2015). Social responsibility is a company's moral and legal commitment to society and stakeholders, contributing to sustainable development (Lazem, 2017). Social responsibility aims to maximize the company's positive impact on society while minimizing negative effects.

Furthermore, as suggested by Al-Bayati (2019), customer retention is deemed more favorable than constantly seeking new customers due to its cost reduction and profitability enhancement potential. Customer retention strategies involve maintaining the loyalty of existing customers, ensuring their satisfaction, and aiming to attract new customers through

optimizing perceived value and effective customer relationship management, as discussed by Lazem (2017). Collectively, these measures provide a comprehensive framework for evaluating and enhancing a company's marketing performance.

2.8   Research Model

This research deals with the independent variable (Neuromarketing X_i) and the dependent variable (Marketing performance). The Research Model of the study consists of the following variables:

Figure 1 Research model
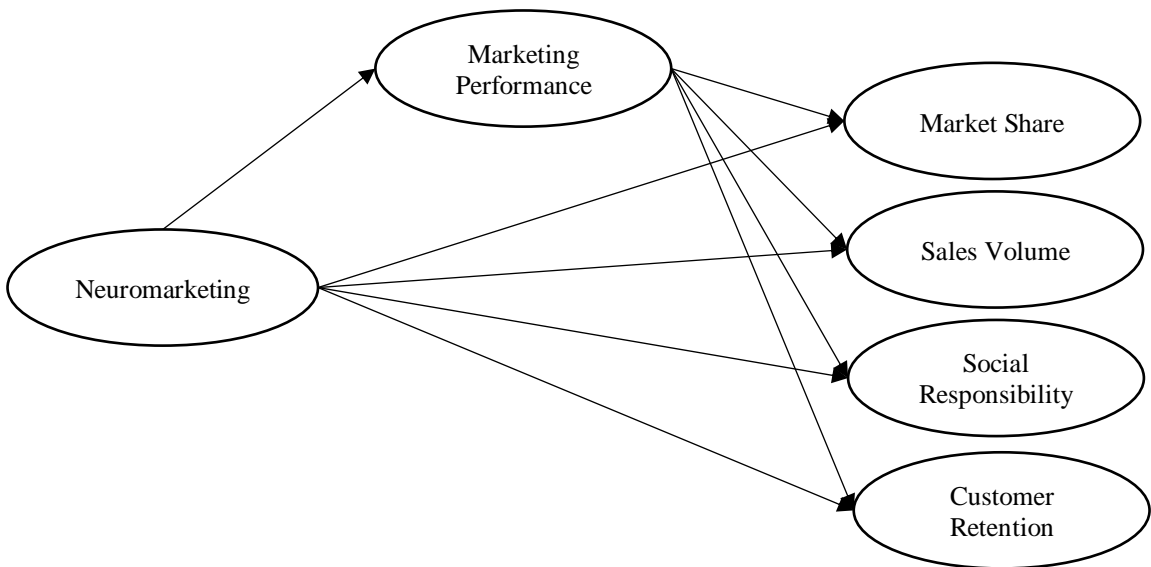
Source: Prepared by researcher

2.9   Research Hypothesis

H1: There is a statistically significant correlation between neuromarketing X_i and marketing outcomes through marketing performance Y_i,

H2: There is a statistically significant correlation between Neuromarketing X_i and market share $Y1$.

H3: There is a statistically significant correlation between Neuromarketing Xi and sales volume Y2.

H4: There is a statistically significant correlation between Neuromarketing Xi and social responsibility Y3.

H5: There is a statistically significant correlation between Neuromarketing Xi and customer retention Y4.

H6: There is a positive significant effect of Neuromarketing Xi on marketing performance Yi.

H7: There is a positive significant effect of Neuromarketing Xi and market share Y1.

H8: There is a positive significant effect on Neuromarketing Xi and sales volume Y2.

H9: There is a positive significant effect of Neuromarketing Xi and social responsibility Y3.

H10: There is a positive moral effect of Neuromarketing Xi and customer retention Y4.

3   Methodology

3.1   Research Design

This study adopted a quantitative research approach with an explanatory purpose, employing a survey strategy and a deductive approach. The objective was to implement the research effectively and attain the predetermined goals.

3.2   Population and Sampling

The research community selected for this study was the General Company for Automobile and Machinery Trading located in Al-Waziriya, Baghdad. The research sample comprised employees within the company. Specifically, 60 individuals were selected as participants for the research. Questionnaire forms were distributed to this sample over a period spanning from March 3, 2023, to April 15, 2023. Ultimately, 59 completed

questionnaires were retrieved, with 58 of them deemed valid for measurement, resulting in a questionnaire return rate of 97%.

3.3 Measurement Instruments

A five-point Likert questionnaire was utilized as the primary tool to collect data for this study. In designing the research scale, prior research efforts were taken into consideration. Specifically, the neuromarketing scale developed by Mohamed (2013) and the marketing performance scale developed by Lazem (2017) were adopted. The marketing performance scale includes four key dimensions: marketability, sales volume, social responsibility, and customer retention. The researchers made necessary modifications to tailor the scale to the company's specific context and adapt it to the unique circumstances of the Iraqi environment.

3.4 Data Analysis Method

The data collected in this research were subjected to descriptive analysis, incorporating measures of central tendency and dispersion, including the calculation of arithmetic means and standard deviations. The statistical analysis was conducted using the SPSS program. Cronbach's alpha test was applied to assess the scale's reliability and validity. Furthermore, the Pearson test was utilized to ascertain the nature of correlations between variables, while the coefficient of determination was computed to gauge the degree of influence among them.

4 Result and Discussion

4.1 Measuring the validity and reliability of the questionnaire

The researchers relied on the reliability coefficient test (Cronbach's Alpha) to test the validity and stability of the questionnaire, as Table 1 shows that the value of the reliability coefficient (Cronbach's Alpha) for the first variable, Neuromarketing, reached 0.898, which is a higher percentage than 0.700, which indicates the presence of stability. High for all the items of the independent variable scale. In the good record of the dependent variable, marketing performance, the reliability coefficient was 0.765, which is also a high percentage indicating the dependent variable's stability. Also, the overall items of the questionnaire

recorded a high-reliability coefficient value of 0.723, as shown in Table 1. Therefore, this measure can be considered fit.

Table 1 Stability Test Results

	Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
X	Neuromarketing	0.898	0.904	0.646
Y	Marketing performance	0.765	0.789	0.574
	market share	0.703	0.722	0.513
	Sales volume	0.767	0.803	0.595
	Social Responsibility	0.888	0.921	0.631
	Customer retention	0.75	0.759	0.53
	The entire questionnaire items	0.723	0.794	0.597

Source: Outputs SPSS V26

Figure 2 shows the external model test for Research BUse road SEM the list on Squares Minor Partial (PLS). The model is considered valid if the composite reliability value exceeds 0.70. The average variance value (AVE) is greater than 0.50, and based on Table 1, it indicates the variance of the scale, as all values (AVE) greater than 0.50 and all variance validity values are greater than 0.70, so all indicators are considered valid and the scale is ready.

Figure 2 Results of a Test Sample External
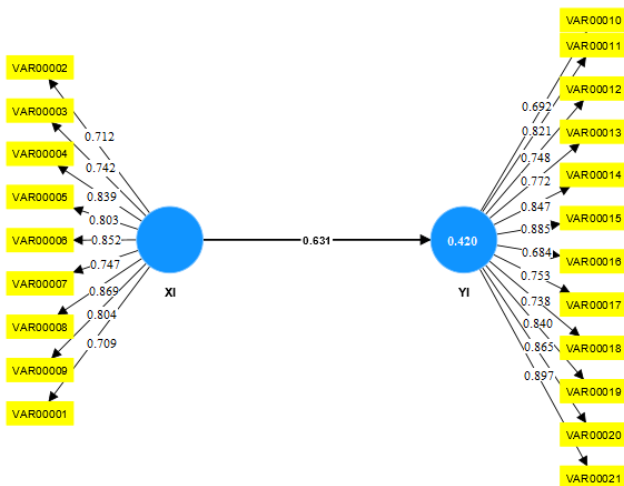
Source: Program outputs SMART PLS

4.2 Demographic Analysis of the Sample Members

Table 2 shows a complete presentation of the demographic information for the sample of 58 individuals.

It is noted from Table 2 that the number of females is greater than the number of males, as the nature of the company's work requires this, as the percentage of females reached (60%) compared to (40%) of males. The age of the respondents between 31-40 years was the largest (38%), followed by 41-50 years (27%), followed by 51-60 years (21%), then 21-30 years (14%). These percentages show that the sample members are all from mature age groups and enjoy wisdom and high awareness, which qualifies them to answer the questions. The questionnaire paragraphs were highly efficient, and they responded to the paragraphs better, and their academic qualifications gave them preference and impartiality. The largest percentage of the sample members were holders of a bachelor's degree (59%), a diploma certificate (20%), and holders of higher degrees (12%). Finally, a certificate was issued. Preparatory school (9%).

Table 2 also showed that the individuals responding to the questionnaire items were mostly from administrative specializations (81%). This makes the sample members more suitable for answering the questionnaire items and it falls within the scope of their work and thus higher accuracy in the answer, in addition to the fact that the majority of them have great experience, reaching 11 years of experience. 15 years ranked first with (28%), then years of experience exceeding 21 years with (24%), followed by (16-20 years) with (22%), then 6-10 years with (16%), and finally less than five years with (22%). (10%) this indicates that the sample members have sufficient experience and the skill required to answer with greater realism and thus accuracy in the results, and this serves the results of the current research.

Table 2 Demographic information for sample members

Demographic	Group	Percentage	Frequency
Gender	Male	40%	23
	Female	60%	35

	Total	100%	58
Age	From 21-30 years old	14%	8
	From 31-40 years old	38%	22
	From 41-50 years old	27%	16
	51 years - 60 years	21%	12
	61 and over		-
	Total	100%	58
Academic Achievement	Preparatory school or less	9%	5
	Diploma	20%	12
	Bachelor's	59%	34
	Higher Diploma	5%	3
	Master's	5%	3
	Ph.D	2%	1
	Total	100%	58
Specialization	Technical	19%	11
	Administrative	81%	47
	Total	100%	58
Years of Experience	5 years and less	10%	6
	From 6-10 years	16%	9
	From 11-15 years	28%	16
	From 16-20 years	22%	13
	21 years and over	24%	14
	Total	100%	58

Source: Prepared by the researcher

4.3   Descriptive analysis

Table 3 shows the intensity of the sample's response to the contents of the questionnaire questions, related to the independent variable neuromarketing, which shows the trends in the responses of the sample members, which numbered 58 individuals. Frequencies, percentages, arithmetic mean, and relative importance were used, and the results were as follows:

Table 3 shows that the value of the arithmetic mean of a variable Neuromarketing has arrived at 4.504, which is greater than the hypothesized mean value of 3. This means that the sample's answers to this variable are heading towards agreement, while the relative importance was (90.1%) and the standard deviation reached 0.218 These are acceptable percentages that confirm the agreement of the research sample on most of the paragraphs

Neuromarketing, as table 3 shows until that paragraph (VAR8) from questionnaire Neuromarketing achieved a relative importance of (93.8%).

Table 3 Descriptive Analysis for Neuromarketing

Paragraph Symbol	Items	Mean	Std	Variance	Percentage
VAR1	The company is interested in the technical development necessary to conduct consumer behavior research using modern marketing methods and techniques appropriate for applying Neuromarketing.	4.66	0.479	0.23	93.2
VAR2	The company uses targeted advertising for its services as an application tool for Neuromarketing	4.52	0.628	0.394	90.4
VAR3	The company allocates an appropriate budget to train sales employees in neuromarketing techniques to influence consumer behavior	4.55	0.626	0.392	91
VAR4	The company employs experts and specialists to study and analyze the psychological behavior of its customers	4.53	0.627	0.394	90.6
VAR5	The company has a database of consumer behavior in emotional, psychological, and neurological aspects	4.31	0.706	0.498	86.8
VAR6	The company uses the services of companies specialized in neuromarketing research to carry out its marketing research.	4.33	0.711	0.505	86.6
VAR7	The company's marketing department includes a unit specialized in neuromarketing research and consumer behavior analysis	4.45	0.68	0.462	89
VAR8	The company's management considers neuromarketing research to be the most important element of competition in the industry market	4.69	0.568	0.323	93.8
VAR9	care administration Company By including Techniques Marketing Nervous when Preparation plan Mix Catalog	4.5	0.656	0.43	90
Total		4.504	0.218	0.047	90.1

Source: Outputs SPSS V26

Table 4 shows that the arithmetic mean of a variable Marketing performance has reached 4.499 which is greater than the hypothesized mean value of 3. This means that the sample's answers to this variable are heading towards agreement, while the relative importance was (90%), which are very good percentage that confirms the agreement of the research sample

on most of the blue market items, as in the Table 4. As table indicates until the paragraph (VAR15) from questionnaire Marketing performance it achieved a relative importance of 93.2% this means the company the general automobile industry's sales are growing.

Table 4 Descriptive Analysis of a Variable Marketing Performance

Paragraph Symbol		Item	Mean	Std.	Variance	Percentage
Market Share	VAR10	The company's customers exceed the number of its competitors' customers.	4.45	0.73	0.532	89
	VAR11	The company's management is achieving growth in its market share compared to the previous three years.	4.57	0.652	0.425	91.4
	VAR12	The company has entered new markets during the past three years	4.59	0.563	0.317	91.8
Sales volume	VAR13	The company's management monitors the performance of its representatives and sales periodically	4.5	0.707	0.5	90
	VAR14	The company's management offers offers for its products with excellent quality and prices	4.66	0.515	0.265	93.2
	VAR15	The company's sales are growing	4.67	0.574	0.329	93.4
Social Responsibility	VAR16	The company's management is keen to provide easily accessible and safe products to customers and friends for the environment.	4.43	0.775	0.6	88.6
	VAR17	Actions related to the company's responsibility towards society contribute to strengthening its position in the market.	4.6	0.528	0.279	92
	VAR18	The company's management tends to achieve the goals of the dealing parties with her.	4.48	0.731	0.535	89.6
Customer retention	VAR19	The company's management precedes the management of other companies in providing after-service sales.	4.33	0.758	0.575	86.6

VAR20	The company's management gives incentivesEncouragement for its customers	4.31	0.706	0.498	86.2
VAR21	The company's management is interested in consolidating the mental image of its brand commercial.	4.4	0.748	0.559	88
Total		4.499	0.19	0.036	90

Source: Outputs SPSS V26

4.4 Hypothesis Testing

Table 5 indicates acceptance of the first main hypothesis, which states that there is a significant correlation between the company's marketing representatives and the consumer's purchasing motives at a significant level of 0.05 as the value of the Pearson correlation coefficient between the two variables was 0.551* This confirms the existence of a direct correlation between Neuromarketing and increasing marketing performance.

Table 5 provides the results related to the acceptance of several sub-hypotheses. First, it demonstrates a statistically significant correlation between Neuromarketing (Xi) and market share (Y1) at a significance level of 0.05, with a correlation value of 0.490*. This correlation affirms the presence of a direct and positive relationship between the application of Neuromarketing techniques and the company's market share. Secondly, the table reveals another statistically significant correlation, this time between Neuromarketing (Xi) and sales volume (Y2) at a significance level of 0.05. The correlation value of 0.289* indicates a direct and positive connection between Neuromarketing efforts and the increase in sales volume.

Additionally, the data presents a statistically significant correlation between Neuromarketing (Xi) and social responsibility (Y3) at the same significance level of 0.05. The correlation value of 0.218* underscores a direct link between Neuromarketing practices and an organization's social responsibility efforts. Lastly, the table demonstrates a statistically significant correlation between Neuromarketing (Xi) and customer retention (Y4) at a significance level of 0.05, with a correlation value of 0.305*. This finding confirms

a direct and positive relationship between Neuromarketing strategies and the ability to retain customers.

Table 5 shows the effect of the independent variable on the dependent variable, marketing performance. The SMRT PLS program was relied upon to analyze the results to test the hypotheses and determine the value of the effect. The researchers conducted the test using the Bootstrap tool to determine whether to accept or reject the hypothesis. The hypothesis will be accepted if the calculated t-value exceeds the tabulated value of 1.96. The P value is significantly less than 0.05.

Table 5 Results of the Correlation Test between variables

		Marketing performance	Market share	Sales volume	Social Responsibility	Customer retention
Neuromarketing	Pearson Correlation	0.551*	0.490*	0.289*	0.218*	0.305*
	Sig. (2-tailed)	0.05	0.05	0.05	0.05	0.05
	N	58	58	58	58	58

Source: Outputs SPSS V26

Table 6 shows the results of the analysis: acceptance of the first main hypothesis, which states that there is a direct significant effect between Neuromarketing and marketing performance, and acceptance of all hypotheses that depend on it, as the p-values showed a significant relationship since all values are less than 0.05 and the calculated t-value is greater than the tabular value, and to know the effect Indirect effects of external and internal variables. The data was analyzed using the same program.

Table 6 Specific Direct Effects

Variable	Path Coefficient	Standard Deviation	T Statistics	P-Value	Note
Neur → MP	0.575	0.083	6.895	0	Supported
Neur → MS	0.645	0.063	9.559	0	Supported
Neur → SV	0.58	0.109	2.567	0	Supported
Neur → SRE	0.541	0.106	5.098	0.01	Supported
Neur → CR	0.16	0.093	3.524	0	Supported

Source: Outputs SMART PLS
Note: Neur = Neuromarketing, MP= Marketing performance, MS= market share, SV= Sales volume, SRE= Social Responsibility, CR= Customer retention.

Table 7 shows the values of the indirect effect of the variables. To determine the value of the square root of R^2, and to know the value of the effect of Neuromarketing on the marketing performance variable and its sub-variables, the R-Square was tested using partial least squares smart pls.

Table 7 Specific Indirect Effects

Path	Path Coefficient	Standard Deviation	T Stat	P Value	Note
Neur → MP→ MS	0.103	0.075	2.376	0	Supported
Neur → MP→ SV	0.086	0.067	4.299	0	Supported
Neur → MP→ SRE	0.045	0.039	2.133	0	Supported
Neur → MP →CR	0.092	0.068	5.343	0	Supported

Source: Output SMART PLS
Note: Neur = Neuromarketing, MP= Marketing performance, MS= market share, SV= Sales volume, SRE= Social Responsibility, CR= Customer retention.

Table 8 shows the results of the analysis, which indicate the presence of an acceptable effect between neuromarketing and marketing performance. There is also An acceptable degree of influence between Neuromarketing and market share, with a weak influence of Neuromarketing on sales volume and customer retention. At the same time, the results showed a very weak influence between Neuromarketing and social responsibility.

Table 8 Square value R^2

Variable	R Square	R Square
Marketing performance	0.420	0.409
market share	0.407	0.385
Sales volume	0.286	0.260
Social Responsibility	0.140	0.109
Retaining customers	0.323	0.298

Source: Program output Smart PLS
The variable Neuromarketing is in the dependent variable, and its dimensions.

Figure 3 shows the structural model of a variable for the neuromarketing variable in the dependent variable, marketing performance, and its dimensions (market share). The figure shows that the coefficient of determination R^2 had a weak effect in most cases. Whenever the size of the effect exceeded 0.75, it was large, and if it was limited to between 0.50 and 0.75, it was moderate; if it was less than 0.50 to 0.25, it was a weak effect. As in Figure 3.

Figure 3 Structural Model
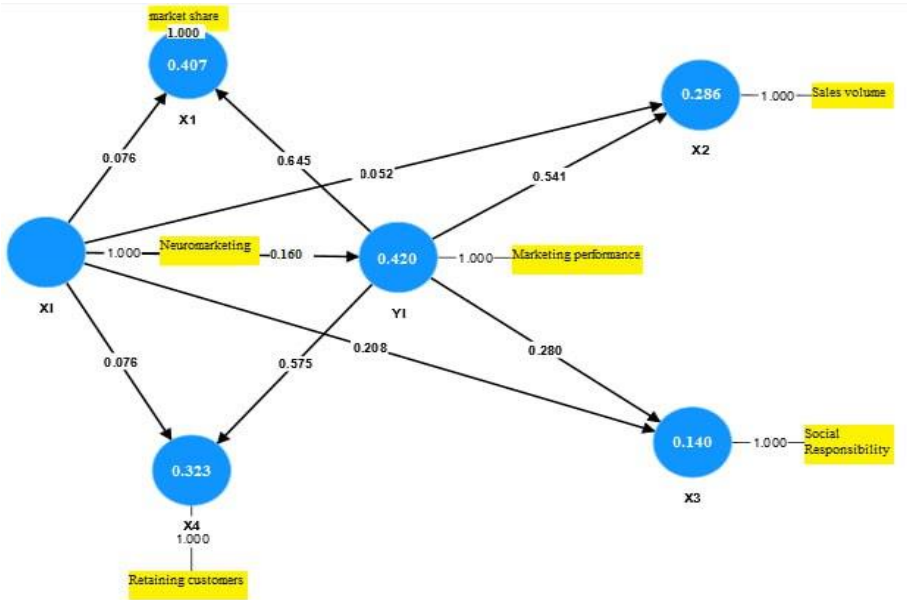
Source: Program outputs SMART PLS

4.5   Discussion

Neuromarketing is important and effective in evaluating customer preference and understanding decision-making processes (Hranilovich et al., 2023). The application of neuromarketing techniques and neuroscience has led to impressive results that have helped marketers better understand consumer behavior and, as a result, improve marketing performance efficiency (Nilashi et al., 2020). This research contributed to diagnosing the extent of the impact and correlation of neuromarketing techniques in raising the efficiency of the marketing performance of the General Company for Cars and Machinery Trading/Al-Waziria. The results of the current research showed that there is an impact and correlation between neuromarketing techniques and raising the efficiency of marketing performance, as neuromarketing techniques contribute to improving the company's market share, increasing its sales, and better understanding of customers, thus increasing the chances of retaining them, which raises the company's marketing performance levels. The current research results are consistent with the study's results (Branch, 2019), which confirms that Neuromarketing affects marketing performance and thus increases the company's market

share. Neuromarketing has a wide range of advantages over traditional marketing. The effects of the current research relate to the advantages and benefits achieved by applying neuromarketing practices in raising the efficiency of the marketing performance of the General Company for Automobile and Machinery Trading. The current research provided strong evidence of the relationship of Neuromarketing to marketing performance. The answers of the sample members confirm that the General Company for Automobile and Machinery Trading has sought to benefit from the advantages of Neuromarketing to improve its sales, expand its market share, and retain customers. The idea of Roth (2014) supports the current research that Neuromarketing contributes significantly to the development of marketing incentives, as the results of Roth's study indicate that Neuromarketing is closely linked to consumer behavior and affect their decisions and that neuromarketing techniques will contribute to improving and developing marketing strategies, which increases the efficiency. Marketing performance in general.

Neuromarketing practices can also expand the company's market share, as thanks to the application of these practices, the General Company for Cars and Machinery Trading expanded its market share and significantly increased its sales for the years 2017-2022. Garczarek-Bąk et al., 2021 believe that the information provided by neuroscience will contribute to improving products and thus, marketing products that suit consumer preferences, increasing sales.

Unexpectedly, the current research results showed that the value of the correlation and influence between neuromarketing and marketing performance was modest. This may be due to the nature of the company on which the study was conducted. It is worth noting that the lowest value of the correlation and influence was between Neuromarketing and the social responsibility dimension, as some believe that The use of neuromarketing techniques is a violation of consumer privacy, as the study (Stanton et al., 2017) emphasizes the ethical aspects of Neuromarketing and protecting consumer information.

Neuromarketing has achieved great positive advantages and benefits for marketers. The information Neuromarketing provides about consumer behavior helps companies increase the efficiency of marketing performance and provide more effective products and services (Nilashi et al., 2020). The current research confirms that Neuromarketing affects

customer retention. The results of the current research are consistent with what was presented by (Guzmán et al., 2022), as it confirms the effect of Neuromarketing on customer loyalty and, thus, customer retention because it measures customers' behavior and reactions and thus improves the ways of dealing with them. Jayavardhan and Rajan (2023) confirm that Neuromarketing increases the chances of gaining and retaining customers.

It is difficult to measure the actual consumer response. The major obstacle to neuromarketing studies may be the high cost of neuromarketing measurement tools, such as magnetic resonance imaging tools, in addition to the small sample size due to the nature of the experiments and tools, which makes it difficult to find a sample acceptable to apply the study to (Gill et al., 2022). Researchers tend to use electroencephalogram (EEG) to explain the consumer's internal mind's response to marketing stimuli. This is due to lower costs and reduced time to obtain information (Rawnaque et al., 2020).

5   Limitations and Future Research Directions

One of the challenges facing the current study is the difficulty of measuring the effect of Neuromarketing at the subconscious level, in addition to the lack of provision of techniques and devices for conducting neuroanalysis. The current research also faced difficulty in providing advanced data analysis programs, the complexity of the analysis mechanism, and the lack of modern technologies. Therefore, the two researchers resorted to This study based on a questionnaire to measure the answers of the sample members and their response questions prepared to measure the research variables. This method may be traditional and does not provide sufficient information regarding Neuromarketing. The nature of the answer is closed and specific. The opportunity to obtain more appropriate information in understanding the subconscious level may be lost. Its answer is also subject to the nature of the respondent, and his mood may affect the accuracy of the answers and, thus the results. In neuromarketing studies, the study process is usually conducted in private laboratories. These techniques were not available in the current study. Functional magnetic resonance imaging often measures the brain's response to stimuli (Hranilovich et al., 2023). The current study measured the intensity of the sample members' answers and analyzed the data to test the study hypotheses.

This research opens the door to exploring modern methods and technologies used in neuromarketing practices, such as conducting applied studies to analyze neural data and determining how these technologies can be used to better understand customers and their needs. Deeper studies can also be conducted on neural sensing techniques and the use of neural tracking to measure customer responses at the global level. The subconscious mind and emotions and analyzing them to understand customer behavior and their emotional responses towards the service or product require conducting more experimental research to measure the effect of Neuromarketing on the consumer using functional magnetic resonance imaging (FMRI) or using electroencephalography (EEG) or measuring the physiological response to eye movement and monitoring rates. Heartbeat is used to measure consumer response to neuromarketing techniques, one of the most applied neuroscience techniques in neuromarketing (Cardoso et al., 2022). It would be good to conduct a study that addresses neuro- and emotional marketing together and examine the influence of emotions on marketing strategies to motivate customers and enhance positive reactions. One of the future directions of studies is the use of artificial intelligence and the metaverse. It is necessary to study the impact of virtual reality and artificial intelligence on neuromarketing. Using these technologies to analyze neural data faster and more effectively and provide accurate guidance for making marketing decisions is possible.

Neuromarketing studies need more cooperation between marketing, neuroscience, and psychology researchers. Neuromarketing studies can also be invested in observing the reasons for the failure of marketing campaigns by exploring the response of customers' minds to marketing stimuli and a better understanding of what they like to increase the marketing campaign's success (Iloka and Onyeke, 2020). There is still an urgent need to conduct more experimental studies in the field of Neuromarketing (Adeola et al., 2022).

5.1   Conclusions

This research reached a set of conclusions, the most important of which was the existence of a causal and correlational relationship between Neuromarketing and improving marketing performance. The results also show an acceptable significant correlation between Neuromarketing and market share, sales volume, and customer retention and a weak considerable correlation between Neuromarketing and social responsibility. As shown by the research results, there is a direct effect of Neuromarketing on marketing performance

and an indirect effect of Neuromarketing on marketing performance on market share, sales volume, customer retention, and to a lesser extent, social responsibility. Neuromarketing practices indicate the use of innovative techniques and methods based on understanding neuroscience and psychology to analyze the behavior of a company. Through the results, it is evident that Neuromarketing helps to enhance the consumer experience by strategically directing marketing strategies to create positive reactions towards the company's products. It also helps to better understand how consumers interact with the company's products. Using neuromarketing practices in the company also improves its communication and advertising effectiveness, as well as understanding how customers think and make decisions. Additionally, Neuromarketing enhances personal interaction between the company and customers by customizing marketing strategies based on individual preferences and emotional responses.

Based on the presented conclusions, several key recommendations can be made to enhance the company's marketing strategies. Firstly, the company must leverage available neurotechnologies in Neuromarketing, such as brain scanning and skin response measurement. These tools can provide valuable insights into consumer responses and preferences. Secondly, the data collected from the company's neuromarketing practices should be effectively utilized to tailor messages and advertisements to align with consumer preferences. This data-driven approach can significantly enhance the effectiveness of marketing efforts.

Additionally, the company should prioritize data analysis, drawing from both neuromarketing practices and other marketing data sources. This analysis should be used to develop new mechanisms and methods for engaging with customers, fostering stronger connections, and resonating with their preferences. Furthermore, improving the consumer experience by developing marketing strategies rooted in consumer neural responses and psychological factors is crucial. This approach can create a more profound emotional connection between consumers and the brand or product. Moreover, customer interaction should be emphasized to create marketing experiences centered around one-on-one engagement, enhancing customer relationships.

Lastly, the researchers should conduct further studies in the field of Neuromarketing, keeping abreast of modern tools, techniques, and emerging research to continuously refine

and improve its marketing performance. Collectively, these strategies can contribute to a more effective and consumer-focused marketing approach.

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