Original Paper

Investigating the Impact of Neuromarketing on Consumer Purchase Intention (Case Study of Sports Goods Customers in Ardabil City)

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Abstract

The purpose of this research was to investigate the effect of neuromarketing on consumer purchase intention (a case study of sports goods customers in Ardabil city). The current research is applied research in terms of purpose and descriptive-analytical in terms of nature and content. The statistical population of this research includes all private sports clubs and sellers of sports goods in Ardabil city, the sample size was 352 people considering that the statistical population is unlimited and the sampling method was clustered. The measurement tools include neuromarketing questionnaire (Azeimi et al., 2015) and consumer purchase intention questionnaire (Mahdavi, 2015). The content and form validity of the questionnaires were confirmed by the management professors and then Cronbach's alpha reliability (AVE) was reported as 0.83 for the neuromarketing questionnaire and 0.88 for the consumer purchase intention questionnaire, respectively. The structural equation method was used for analysis using Imus version 23 and SPSS version 19 software. The findings of the research showed that neuromarketing has an effect on the purchase intention of sports goods consumers. Therefore, it can be concluded that the use of neuromarketing can influence the senses and minds of customers and make consumers' minds ready for repeat purchases.

Keywords

neuromarketing, consumer purchase intention, Ardabil

1. Introduction

Neuromarketing is the application of tools, achievements and tests from the scientific disciplines of psychology and neuroscience and neurology in order to measure and measure biological reactions in the face of marketing stimuli (marketing strategies, communications, advertising, new products and existing products). The concept and term of neuromarketing was first proposed in 1990 by psychologists and researchers at Harvard University. This technology discusses a model in which the main part of the intellectual body of human activity (more than 90%) happens in the subconscious of their brain; which is in the lower part of controlled consciousness (Jaafari, 2022). Neuromarketing offers more depth and accuracy in market research than qualitative research alone. Studies have shown that data collected from neural experiments predicts future trends more accurately than traditional market research. Assessing physiological proxies for brain activity circumvents deficiencies such as incomplete recall and participant dishonesty. Whether due to pressure to please or embarrassment, consumer responses are not necessarily an accurate representation of the brain's actual response. One of the biggest advantages of neuromarketing is the ability to better understand the decision-making process of consumers with less influence on those decisions due to the talents of the brand, style, product, market, genre, etc. (Nazadi, 2022). Customer purchase intention is defined as the desire and intention of the consumer to purchase a particular product or service from a seller. The intention to purchase the product comes from the customers' perception of the service providers' performance. It means that the consumer has confidence in the seller or brand in terms of service. It also shows whether customers are willing to buy more from a particular organization. Finally, it is the purchase intention that turns the consumer into a customer. Purchase intention refers to the probability that a customer will choose a particular brand when purchasing an item from a category of products (Crosno et al., 2006). Purchase intention is the probability of buying a certain product by the consumer in the future. Purchase intention is also said to the extent that a customer buys a specific product and changes direction to other products at the same time and moment (Yu & Danso, 2001). Purchase intention is defined as a situation in which the consumer is inclined to buy a specific product under specific conditions (Shah et al., 2012). Marketers should pay more attention to their opinions, needs and desires in order to retain, attract and repurchase customers and provide better services and By examining the problems and dealing with these problems and ultimately increasing their satisfaction, which is related to increasing the perceived quality of them, it leads to the intention of customers to buy sports goods. For this reason, most sports marketers use types of marketing such as neuromarketing, which has a great impact on the brain and nerves of customers, to retain and attract customers and finally repurchase all types of sports goods. The main problem here is the quality perceived by the customers, considering the advancement of technology and technology in the production and manufacturing of all kinds of sports goods, as well as the existence of sports goods manufacturers and having a large variety, which can expand the purchase intention of the customers and cause them to buy again to be. Therefore, managers of sports clubs and sellers of sports goods must develop the quality of sports goods in the

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minds of customers in order to promote and expand the purchase intention of customers using neuromarketing. Therefore, according to the previous statements of the researcher, in this research, she seeks to investigate the question of whether neuromarketing has an effect on the purchase intention of sports goods consumers.

Neuromarketing uses behavioral cognitive science in a market research setting to assess consumer response to marketing stimuli. According to today's needs, paying attention to this science in marketing and advertising is very effective and important. Neuromarketing is a new science in marketing, which is a combination of two marketing sciences and neuroscience, which takes into account the functioning of the brain, and all marketing operations are carried out. Neuromarketing efforts can be profitable and effective in attracting customers at a lower cost for smaller businesses. The purpose of neuromarketing is to better convey marketing messages to others and increase the probability of purchase by the audience, which reduces marketing and advertising budgets and It also aims to collect empirical data using neuroscience techniques to better understand consumer behavior and develop more effective marketing campaigns and products. Neuromarketing researchers apply biometrics to the traditional focus group through technologies such as electroencephalography, which track participants' neural responses to elements of a particular brand. A variety of neuromarketing methods are used to obtain and decode brain data to reveal the consumer's unconscious decision-making processes (Najafi, 2021). One of the stages of purchase decision is the purchase intention, which studies the behavioral reason of the consumer to buy a particular brand. Researchers have introduced various factors that influence consumers' purchase decisions (Keller & Lehman, 2006). The relationship between behavioral intention and behavior shows that people tend to engage in behaviors that they intend to do (Yaghoubi & Shakeri, 2020). Purchase intention expresses the consumer's desire to buy a product or receive a special service in the future. In other words, increasing purchase intention means increasing the probability of purchase (Schiffman & Kanuk, 2007). According to Cresno, Ferling, and Skinner, 2009, purchase intention refers to the probability that customers will purchase a specific brand of a product class in a given purchasing situation. Often, the purchase intention scale is used to identify the possibilities of buying goods during a certain period of time. Day states that volitional scales can be more effective than behavioral scales in achieving the customer's decision, because customers may buy under compulsion (Hu, 2010). When a consumer has a desire to buy from a store, this desire is expressed in the form of a commitment that leads her to actual purchase behavior (Schiffman & Kanuk, 2007). It is necessary to study neuromarketing and customers' intention to purchase sports goods as an attractive and vital category in marketing, and for the success of these two variables, the quality perceived by the customer should be increased. Therefore, it is necessary for sports marketers to pay enough attention to perceived quality as one of the important and essential factors for sales growth and increasing and attracting customers. As a result, it is important to address the issue of purchase intention and perceived quality of sports goods customers as the main pillar of sports goods marketing. Therefore, in this research, the researcher seeks to investigate the impact of neuromarketing on the

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consumer's purchase intention (a case study of sports goods customers in Ardabil city) that with the results and findings of this research, people who are somehow related to sports goods can attract more customers and Identify different methods and ways.

In 2023, Gharbi et al concluded in a research that social media marketing activities have a direct, positive and significant effect on repurchase intention and sustainable social connection and customer satisfaction. In a research, Nezadi (2022) concluded that customers and consumers of sports services in taekwondo clubs in Tehran are encouraged to repurchase the club's services with neuromarketing stimuli along with satisfaction and loyalty. Davari (2022) concluded in a research that impulse marketing and its dimensions have an effect on the impulse buying behavior of sports brand buyers, and nervous marketing and its dimensions have an indirect effect on the impulse purchase behavior of sports brand buyers through passion for the brand. Liu et al. (2018) concluded in a research that social and informational benefits have positive effects on attitude, which in turn significantly affect revisit intention and brand trust, and the moderating effect of community type. Online was significant in predicting the relationship between attitude and impulse purchase, but not between attitude and revisit intention.
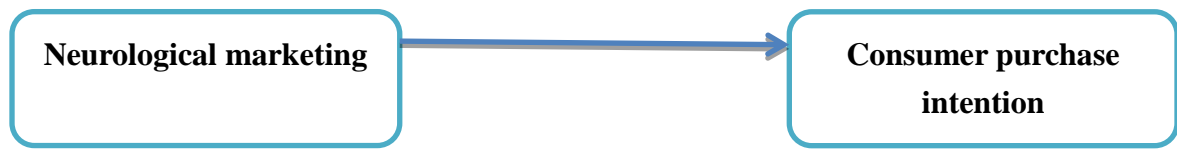
| Neurological marketing | → | Consumer purchase intention |

Figure 1. Research Conceptual Model

2. Methodology

The current research is applied research in terms of purpose and descriptive-analytical in terms of nature and content. Also, the current research is of the type of causal modeling or structural equation modeling and the relationship between the variables was tested. Also, this research was based on field data collection and questionnaire. Regarding the collection of information related to the literature of the subject and the background of the research, library methods were used, and field methods were used to collect information to confirm or reject the research hypotheses. The target population of this research includes all customers of sports stores in Ardabil city. The population of the current research includes the customers and sellers of sports goods in Ardabil city, which due to the unavailability of the study population, the statistical population was determined as unlimited. The sample of this research includes all athletes, sellers and customers of sports goods in Ardabil city, and the sample size was determined to be 384 people based on Morgan's table due to the unlimited statistical population that After collecting the questionnaires, it was found that 32 of the questionnaires could not be used due to incomplete answers, and therefore the data of 352 questionnaires were analyzed. In this research, the sampling method was clustered. First, the city of Ardabil was divided into six clusters and randomly selected a number of clusters; So that a total of 6 regions are selected and According to the number of stores and

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clubs in each region, a number of stores and sports clubs were selected randomly. To measure the neuromarketing variable, the questionnaire used by Azimi et al. (2015). This questionnaire consists of 17 questions in 4 dimensions, the dimensions of the above questionnaire are 1- consumer trust (from questions 1 to 5), 2- variety of products (from questions 6 to 9), 3- use of the five senses (from questions 10 to 13) and 4- emotional experiences caused by consumer purchases (from questions 14 to 17). A questionnaire used by Mahdavi in her research in 2016 was used to measure the variable of consumer purchase intention. This questionnaire is made of 6 questions in one dimension, and the scoring method of this questionnaire is based on a 5-point Likert scale, which ranges from completely disagree to completely agree. In this research, Cronbach's alpha method, which is the basis of reliability measurement in most researches, has been used. The content and form validity of the questionnaires were confirmed by the management professors and then the Cronbach's alpha reliability of the neuromarketing questionnaire was 0.837 and the Cronbach's alpha reliability of the consumer purchase intention questionnaire was 0.882. In order to analyze the hypotheses of the research, the method of structural equations was used using the software of Imus version 23 and SPSS version 19.

3. Analysis of Findings

The distribution of respondents is according to gender: 149 people, i.e., 42.3% are men, and 203 people, i.e. 57.7% are women. The distribution of the respondents according to their marital status is that 145 people, i.e. 41.2%, are single and 207 people, i.e. 58.8%, are married. The distribution of respondents based on age shows that the lowest age range is less than 30 years old with a frequency of 19 people, i.e., 5.4%, and the highest age range is between 35 and 40 years old with a frequency of 123 people, i.e., 34.9%. The distribution of the respondents according to the level of education shows that a doctorate with a frequency of 8 people, i.e., 2.3%, and a bachelor's degree with a frequency of 155 people, i.e., 44%, are respectively the lowest and the highest level of education of the respondents. The distribution of respondents based on sports history shows that less than 5 years with a frequency of 43, i.e., 12.2%, between 5 and 10 years with a frequency of 136, i.e., 38.6%, between 10 and 15 years with a frequency of 116, i.e., 33%, and more than 15 years with The frequency is 57, that is, 16.2%.

Basic measurement equations

The primary measurement model of the research, which examines the relationship between latent and manifest variables, was implemented in the Imus version 23 software, and it can be seen in the three modes of non-standard estimation, standard estimation and the significance of the coefficients in three Figures 1 and 2.
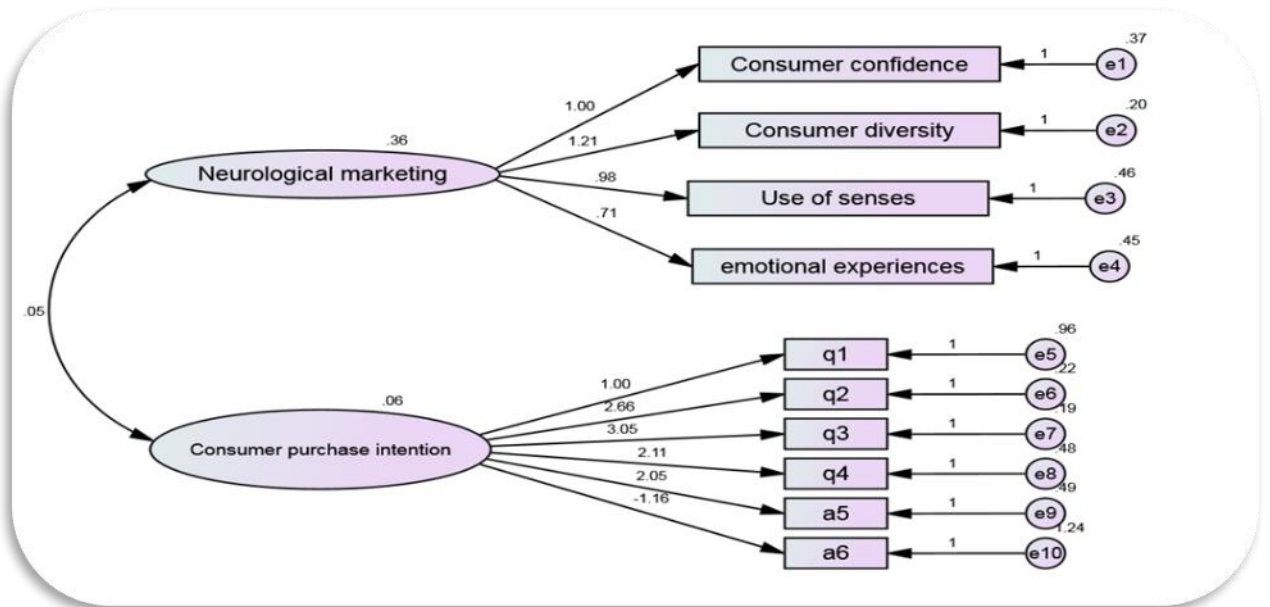
Figure 2. Primary Measurement Model in the Mode of Estimation of Unstandardized Coefficients
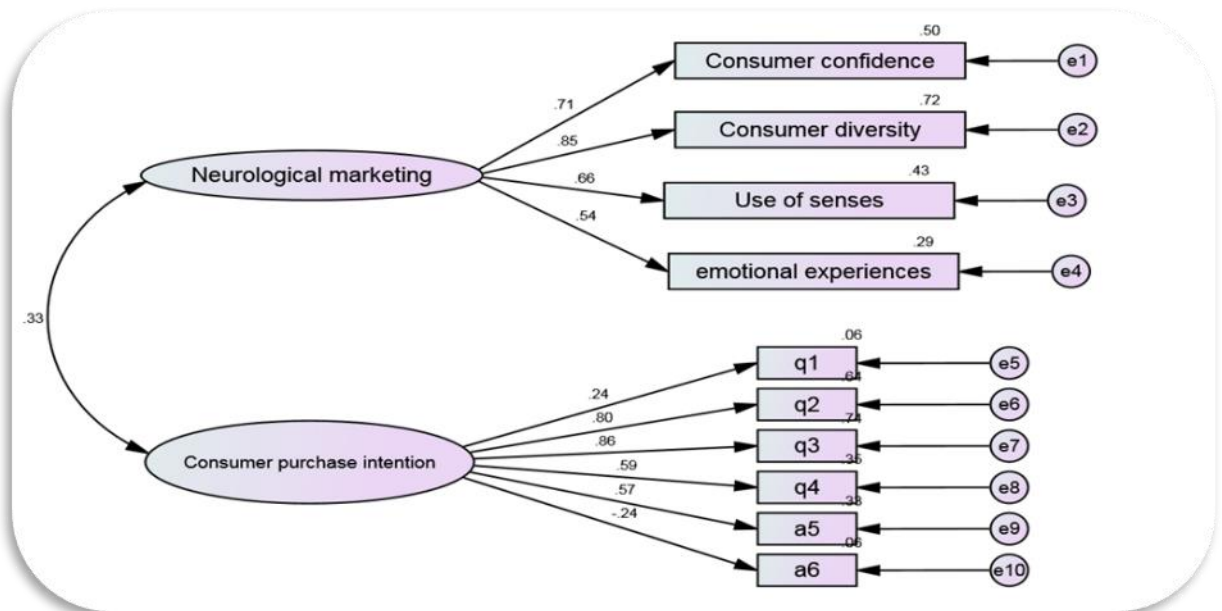

Figure 3. Primary Measurement Model in the Mode of Estimation of standardized Coefficients

Initial measurement model fit

Fit means matching the observed model in the research sample with the expected model in the real society.

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Table 1. Fit Indices of the Primary Measurement Model

Amount obtained	Limit	Fit index rate	Fit indices
1.625	smaller than 3	Thrifty indicators	CMIN/DF
0.058	smaller than 0.08	Thrifty indicators	RMSEA
0.662	Greater than 0.5	Thrifty indicators	PNFI
0.889	Greater than 0.8	Absolute indices	GFI
0.894	Greater than 0.8	Absolute indices	AGFI
0.921	Greater than 0.9	Comparative indicators	NFI
0.930	Greater than 0.9	Comparative indicators	NNFI=TLI
0.987	Greater than 0.9	Comparative indicators	CFI
0.917	Greater than 0.9	Comparative indicators	RFI
0.903	Greater than 0.9	Comparative indicators	IFI

Among the 5 comparative indices mentioned in the table of main sources of structural equations, at least three indices must be greater than 0.9. The structural model has a good status in all three indicators, absolute, absolute and comparative.

In order to establish the reliability and validity of the structure, the following 9 conditions must be met. Failure to establish even one condition will destroy the construct validity and the results will be discredited because the researcher's results in a quantitative survey must be reliable and generalizable as well as valid or valid.

Table 2. Checking the Reliability and Validity of the Structure

	CR	AVE	MSV	ASV
Neurological marketing	0.709	0.837	0.454	0.316
Consumer purchase intention	0.813	0.882	0.166	0.091

Table 3. Fornell and Larcker's Divergent Validity Analysis

	New educational technology	Consumer purchase intention
Neurological marketing		0.713
Consumer purchase intention	0.408	

If you pay attention to the Fornell and Larcker table, fortunately, the square root of the AVE of each variable is greater than the correlation of that variable with other variables. Considering that it was found in the initial measurement model that it has two necessary conditions for the implementation of the structural model, i.e. the validity and reliability of the structure and the fit, so there is no need for a modified measurement model and we directly carry out the structural model of the research.
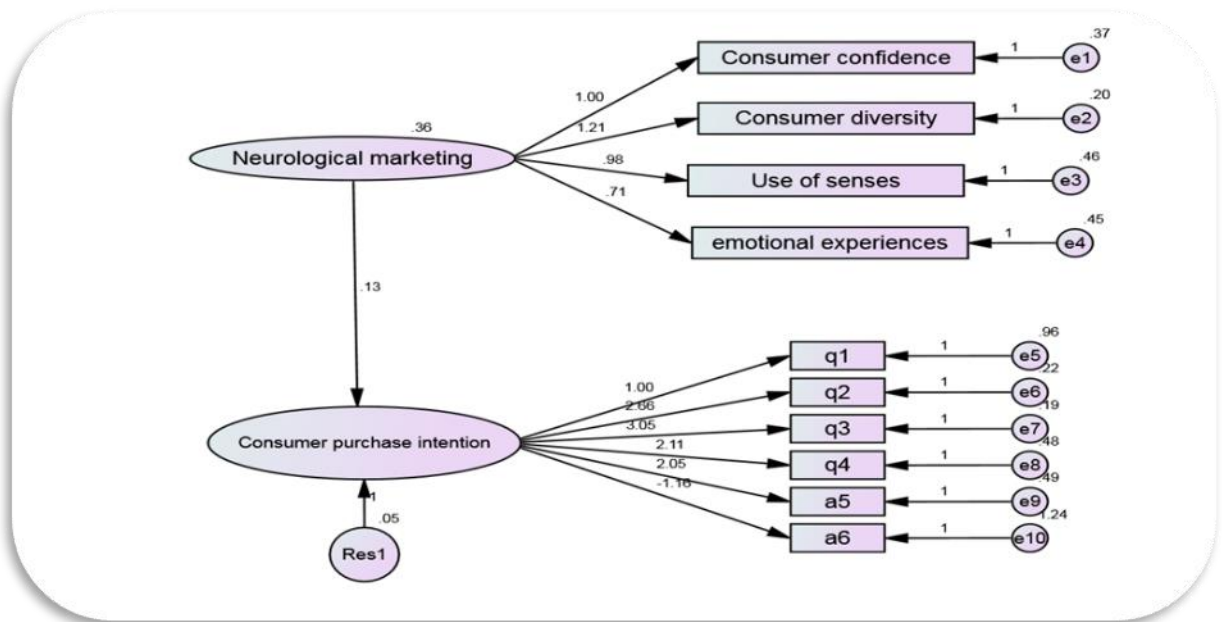
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Figure 4. Analysis Model of Neuromarketing Effect on Consumer Purchase Intention in Non-Standard Estimation Mode
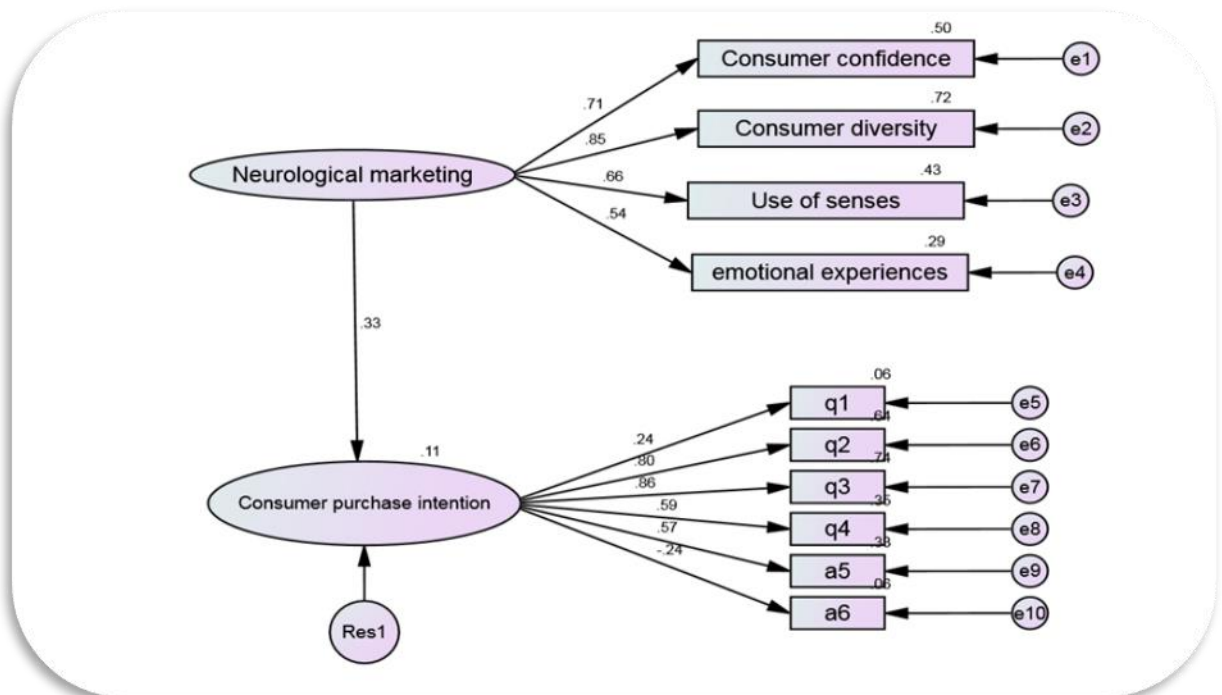

Figure 5. Analysis Model of Neuromarketing Effect on Consumer Purchase Intention in Standard Estimation Mode

Table 4. Analysis of the Impact of Neuromarketing on Consumer Purchase Intention

Hypothesis analysis	direct route	T-VALUE	P	Result
effect of neuromarketing on consumer purchase intention	0.33	3.072	0.002	Meaningful

Table 4 shows the results of investigating the path coefficient of the impact of neuromarketing on the purchase intention of consumers of sports goods in Rasht city. According to the above table, the beta coefficient in this path is 0.33, T-Value is 3.072 and p is 0.002. Considering that the t-value is outside (1.96 and -1.96), at the confidence level of 0.99, hypothesis H0 is rejected and hypothesis H1 is confirmed. That is, neuromarketing has a significant effect on the purchase intention of consumers of sports goods in Ardabil city On the other hand, in Table 4, the intensity and impact is determined by beta or the path coefficient, which beta is 0.33, which means that the direction is positive and direct, the intensity of the effect is 0.33. That is, if we change one unit of the exogenous variable of the consumer's purchase intention, it changes by 0.33 units of the neuromarketing endogenous variable in the same direction. In other words, neuromarketing had a positive and significant effect on the purchase intention of sports goods consumers in Ardabil city.

5. Conclusion

The hypothesis of the research showed that neuromarketing has an effect on the consumer's intention to buy sports goods in Ardabil city. Therefore, in the above explanation, it can be said that today companies produce sports goods that have legal ownership and They can influence consumer behavior and buy and sell products and provide security and stability from the future for their income and products and directly and indirectly affect consumers with these benefits. that makes consumers want to buy products from their desired brands. Therefore, companies producing sports goods should seek to create a special and necessary passion in the minds of consumers. unitel the tell consumers that what they are buying is the best product or service available and that they think it is better than the products of competitors. Therefore, the interest and participation in neuromarketing can make customers satisfied with their purchases, and these customers' purchases cause profits for the benefit of manufacturing companies. According to the findings and discussions, it can be concluded that customers make their decisions on a mental, emotional, and instinctive level. And due to the development and expansion of sports at the global level, the sports goods production industry is considered one of the main pillars of any country's economy. And customers have a key role in that, in the meantime, the role and importance of neuromarketing due to its direct impact on the growth and survival of manufacturing companies competing in the market has caused the perceived quality to be understood and accepted by customers today. And the direction of their activity should be towards the intention of buying customers and considering that Ardabil city is one of the most populated and

sports-friendly cities and athletes in this city use up-to-date and appropriate sports goods and equipment. Therefore, the supply of quality sports goods and providing better services to consumers at a high level permanently makes the companies producing sports goods compete to attract consumers and buy customers. If the customers are satisfied with the quality of the goods and services of the sports goods manufacturing companies, they can make repeated purchases.

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