



## Effect of Sensory Experience on Customer Word-of-mouth Intention, Considering the Roles of Customer Emotions, Satisfaction, and Loyalty

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### ABSTRACT

Although word-of-mouth (WOM) intention has been studied as an outcome variable of some constructs such as loyalty, satisfaction, and trust in retail businesses but less attention has been given to the investigating the effect of sensory experience on customer WOM intention. Since studying concurrently the effects of sensory experience on customer emotions and customer WOM intention in retail chain stores are rare, the purpose of this paper is to study how customer sensory experience affect customer WOM intention in retail chain stores, considering the mediating role of customer emotions. For this purpose, 306 valid questionnaires were collected and analyzed from customers of one of the largest and oldest retail chain stores in Iran (ETKA chain stores). The proposed conceptual model of this research is developed on the basis of S-O-R model. Structural Equation Modeling (SEM) and multiple regression analysis used to examine the conceptual model of research. This model has been tested using the Partial Least Squares (PLS) approach by SmartPLS software. The results demonstrate that customer sensory experience directly and significantly affects customer emotions. It was also found that the direct effect of customer sensory experience on customer WOM intention is not very considerable but customer sensory experience indirectly affects customer WOM intention through customer emotions, satisfaction, and loyalty. In addition, regression analysis demonstrates that among the five sensory experiences (taste, touch, sight, sound, and smell), taste has the most effect on customer positive emotions. After taste experience, touch, sight, and sound have the most effect on customer positive emotions, respectively. Similarly, it was found that taste and touch experiences have negative and significant effect on customer negative emotions, and the effect of taste experience is stronger than the effect of touch experience.

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## 1. INTRODUCTION

Initially the major attraction of retail chain stores for customers in the world was the low price of products due to the economy of scale advantage. But nowadays, due to the increase in number of these stores and consequently the intensification of competition among them, it is not possible to compete in this market with only low pricing strategy. Delivering the best services and creating a distinctive and enjoyable customer experience, as well as gaining satisfaction, trust, and thereby creating a loyal customer is one of the major competitive strategies in service businesses. There are a lot of research in this area; for example Terblanche [1], Thuan et al. [2], Choi et al. [3], Baser et al. [4], and Kim et al. [5].

The last century is considered the age of experience economy, where marketing activities are expected to create valuable experiences for customers [6]. In experiential marketing, the customer is seen as both rational and emotional person, in which the marketer seeks to create an emotional experience for the customer by creating an emotional connection between the customer and the brand [6]. Creating a distinctive experience in the services providing will make the brand lasting in the customer's mind. Brand experience comes from a set of customer interactions with a brand, and involves sensations, feelings, cognitions, and behavioral responses evoked by brand related stimuli that are part of a brand's design, identity, packaging, communications, and environments [7]. Brand experience consists of four

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dimensions: sensory, affective, intellectual, and behavioral experience [7]. Sensory experience as one of the subsets of brand experience focuses on the five senses of human such as sight, sound, smell, touch and taste [8]. Studying about customer sensory experience creation is related to the sensory marketing scope, where the marketer seeks to influence customer perception, judgment and behavior by stimulating the customer's five senses through sensory stimuli [9]. In recent years, some research has been conducted on the impact of sensory experience on customer behavior in different businesses. For example, Iglesias et al. [10] in banking industry, Yoganathan et al. [11] in ethical brands, Chen and Lin [6] in chain coffeehouses, and Moreira et al. [12] in catering industry studied the impact of sensory experience on customer behavior.

Based on the stimulus-organism-response (S-O-R) model that was developed by Mehrabian and Russell [13], environmental stimuli elicit an emotional response that results in the behavioral response of individuals. The S-O-R model consists of three parts: stimuli, a set of interface or mediator variables, and response variables that must be conceptually explicit and comprehensive and measurable operationally [13]. One application of the S-O-R model is its use in marketing science and customer behavior analysis; for example, Choi and Kandampully [14] based on the S-O-R model concluded that a hotel atmosphere such as social and room design, influences customer satisfaction and subsequently customer WOM intention. Also, according to the study of Ha and Im [15] based on the S-O-R model to examine the role of website design quality on customer satisfaction and WOM intention in online shopping, revealed that website design quality as an external stimulus through the three mediators such as pleasure, arousal, and perceived quality of information influences customer satisfaction and customer WOM intention. In addition, some research has used S-O-R model to examine the effect of external stimuli on customer behavior. For example, Chen and Lin [6] and Han et al. [16] used the S-O-R model to examine customer behavior in coffeehouses. Jang and Namkung [17], Liu and Jang [18], and Kim and Moon [19] have used this model to examine customer behavior in restaurants environment (See Table 1).

In this research, we consider sensory experience as an external stimulus; emotion as an organism, and customer behaviour such as WOM intention as a response on the basis of S-O-R model.

In this research, we attempted to study the relationships between customer sensory experience, customer emotions, and customer WOM intention based on the proposed model. In addition, the role of customer emotions as a mediator variable in the relationships between customer sensory experience and customer WOM intention was examined. Also, we determined the

effect of each of the customer's five senses on customer emotions by means of regression analysis.

This paper is organized as follows: In the second section, the literature of the research are reviewed and in the third section, the research model and hypotheses are presented. Section forth provides research method and results, and section fifth discusses about findings and conclusions. In the final section, limitations of the research and suggestions for future research are presented.

**TABLE 1.** References using S-O-R model

References	S-O-R Variables	Research area
Chen and Lin [6]	<p><b>S:</b> Sensory experience (Sight, Sound, Smell, Touch, Taste)</p> <p><b>O:</b> Positive emotions, Negative emotions</p> <p><b>R:</b> Behavioral intentions, Buying behavioral</p>	Chain coffee house
Choi and Kandampully [14]	<p><b>S:</b> Atmosphere (Social, Public design, Room design, Ambience)</p> <p><b>O:</b> Customer satisfaction</p> <p><b>R:</b> Customer engagement (Willingness to suggest, Word of mouth)</p>	Upscale Hotel
Ha and Im [15]	<p><b>S:</b> Website design</p> <p><b>O:</b> Pleasure, Arousal, Perceived quality of information</p> <p><b>R:</b> Satisfaction, Word of mouth intention</p>	Online shopping website
Han et al. [16]	<p><b>S:</b> Cognitive drivers (Brand awareness, perceived quality, Brand image, Perceived value)</p> <p><b>O:</b> Affective drivers (Pleasure, Arousal)</p> <p><b>R:</b> Brand satisfaction, Brand loyalty, Relationship commitment</p>	Chain coffee shop
Jang and Namkung [17]	<p><b>S:</b> Product quality, Service quality, Atmospherics</p> <p><b>O:</b> Positive emotions, Negative emotions</p> <p><b>R:</b> Behavioral intentions</p>	Restaurant
Liu and Jang [18]	<p><b>S:</b> Dining atmospherics</p> <p><b>O:</b> Positive emotions, Negative emotions, Perceived value</p> <p><b>R:</b> Behavioral intentions</p>	Chinese restaurant
Kim and Moon [19]	<p><b>S:</b> Service scape (Facility aesthetics, Layout, Electric equipment, Seating comfort, Ambient Condition)</p> <p><b>O:</b> Pleasure-Feeling, Perceived service quality</p> <p><b>R:</b> Revisit intention</p>	Restaurant

## 2. LITERATURE REVIEW

### 2.1. Customer Sensory Experience

Sensory marketing is a type of marketing strategy that aims to influence customer perception, behavior and judgment by engaging the five senses such as sight, sound, taste, touch and smell [9]. These five senses are the basis of creating customer sensory experience. Lindstrom [20] has stated that creating a sensory experience is vital to building an emotional relationship between customer and product. According to Brakus et al. [7], brand sensory experience is one of four subsets of brand experience that focuses on the customer's senses. In this paper customer sensory experience defines as customer sensory perception that is stimulated by the store environment.

Most research focused on only two aspects of the visual and auditory of customer sensory experience. For example, Iglesias et al. [10], and Ong et al. [21] focused on the visual dimension of the customer sensory experience. Yoganathan et al. [11] in addition to examining the impact of visual and auditory cues on the willingness to pay for ethical brands in online shopping, examined tactile cues in the form of a tactile priming statement. But in limited research the impact of all five types of sensory experience on customer behavior has been analyzed. For example, Chen and Lin [6] in the vision section examined the impact of color, interior design, lighting, layout, staff clothing, and store logo; in the auditory section examined the impact of store background music; in the smell section examined the impact of aromas; in the touch section examined the impact of store temperature and the texture of the table, chairs, and other item in store; and in the taste section, examined the impact of the taste of coffee and other foods which sold in the store. So in general we can say that, in a shop or store atmosphere all visual cues, sounds and aromas of the environment, the taste and quality of the foods and the ambient temperature and anything related to the customer's sense of touch can be considered as a sensory stimulus for creating customer sensory experience. One study found that 37% of respondents feel that sight is the most important sense, followed by smell (23%), sound (20%), taste (15%), and touch (5%) respectively [20]. But this may not be true in different environments. For example, according to Chen and Lin [6] the sense of taste has the greatest impact on customer positive emotion; then sight, sound and, touch are the most effective senses respectively in coffeehouses.

Multi-sensory experience occurs when more than one sense help customers to perception sensory experience. Hulten et al. [22] stated that each of the five senses can affect and be affected by other senses. According to Yoganathan et al. [11], the influence of two sensory cues is greater than one cue and the influence of three sensory cues is greater than two cues.

### 2.2. Customer WOM Intention

Markovic et al. [23] stated that usually when a customer is loyal to the brand or product, he or she tends to convey positive emotion to others. The concept of word of mouth is defined as oral and person-to-person communication about a brand, product or service between a receiver and a communicator whom the receiver perceives as non-commercial [24]. WOM refers to informal interpersonal communication regarding the evaluation of a store, product, service, and related experience [25]. WOM is the exchange of information and experiences among customers that helps them make purchasing decisions [26]. WOM as one of the most common non-trading behaviors, plays a fundamental role in disseminating information about products and services [27]. WOM is defined as providing a particular brand or product by customers that can be positive or negative; positive WOM is the result of customer satisfaction and loyalty, and negative WOM is caused by customer dissatisfaction with a particular brand or product [23]. Positive WOM not only helps to create a positive image of the brand or firm, but also increases the confidence of customers who are unfamiliar with the brand or firm [28]. Creating positive WOM among Consumers, has become an important marketing strategy, due to its important impact on Consumer Purchasing Decision [15]. A study found that WOM is nine times more effective than traditional advertising [29]. It was also found that customers who are affected by WOM have a higher chance of purchasing a product than customers who watch its advertising [30].

In many papers, customer loyalty and satisfaction have been considered as predictors of customer WOM. For example Choi and Kandampully [14], Markovic et al. [23], and De Matos and Rossi [31]. For this reason, in this paper WOM is defined as a result of customer satisfaction and loyalty based on three components of saying good things about the store, encouraging friends and relatives, and recommending the store to them.

### 2.3. Customer Emotions

Emotion is a mental state of readiness that arisen from the cognitive appraisal of events or thoughts [32]. Understanding customers' emotional responses to a product is very important, because it influences customer buying decisions [33]. Customer emotion is considered as a key element for perception of service experiences [34]. Positive emotions lead to positive responses and less thinking about decision [35]. Consumers' emotional responses not only appear briefly but lingers in their consciousness and is more persuasive than cognitive messages in switching consumer behavior [6]. In this paper, customer emotions is defined as customer's affective responses to the environmental stimuli available in the store.

According to Mehrabian and Russell [13] in the S-O-R model, emotion is considered as mediator variable between environmental stimuli and individual behavior.

They stated that the main structures of emotional response are pleasant, arousal, and dominance. The modified S-O-R model stated that emotional response can be interpreted as pleasure and arousal [36]. According to previous studies, there are two different approaches to emotion segmentation: the unipolar view and the bipolar view. In the bipolar view, according to the S-O-R model, emotions are divided into two poles: pleasant and unpleasant, or arousal and non-arousal. In unipolar View Unlike bipolar view, emotions are in one pole, for example, Plutchik [37] suggested eight basic emotions: fear, anger, joy, sadness, acceptance, disgust, expectancy, and surprise. According to Izard [38] suggestion, there are ten Primary emotions: interest, joy, surprise, sadness, anger, disgust, contempt, fear, shame, and guilt. According to the unipolar approach of Differential Emotions Scale (DES), he categorized these ten emotions into two groups of positive and negative emotions, namely positive emotions: interest, joy, and surprise, and negative emotions: sadness, anger, disgust, contempt, fear, shame, and guilt. Dividing emotions into two poles has some limitations, for example, individuals may have neither a pleasant emotion nor an unpleasant emotion towards a stimulus. In addition, the occurrence of a positive emotion does not prevent the occurrence of negative emotion in the individual [17]. In general, using a unipolar approach with differential emotion scales is more appropriate than a bipolar approach for studying customer emotions. For this reason, in this paper like some other papers, such as Chen and Lin [6], Jang and Namkung [17], and Liu and Jang [18], DES approach has been used for studying customer emotions.

**2. 4. Customer Satisfaction** The concept of satisfaction in marketing was introduced by Cardozo for the first time in 1965 [39]. Traditionally, customer satisfaction is defined as the post-consumption evaluation of a brand, firm or their offer that depends on the perceived value, quality, and consumer expectations [10]. Satisfaction is a judgment of the product or service feature, or the product or service itself, that providing a high or low level of consumer pleasure. Customer satisfaction refers to fulfilling a consumer's needs and desires, and is a fundamental factor in marketing [3]. Customer satisfaction can be defined as customer response to the perceived discrepancy between prior expectations and actual product performance observed after consumption [40]. It is also stated that customer satisfaction is based on the comparing product or service profitability with customer expectations, and satisfaction is achieved if the profitability is equal to or greater than the customer expectations [41]. The level of customer satisfaction depends on the relationship between expectations and actual consumption experiences [42].

Customer emotions (e.g., pleasure and arousal) and customer cognition (e.g., perception of the retail

environment) are prerequisites of satisfaction [15]. In some papers customer satisfaction is defined as customer emotional and affective responses. For example, it has been stated that customer satisfaction is the result of positive or negative emotional responses and cognitive dissonance. Satisfaction or dissatisfaction is determined by the level of difference after comparing expected functions before purchase and the actual function experienced after purchase [5]. It is also stated that satisfaction is a positive emotional response to the result of past experience [43]. In this paper customer satisfaction defines as customer emotional and psychological state after sensory experiences in the store.

**2. 5. Customer Loyalty** In marketing, loyalty is defined as the intention to perform a diverse set of behaviors that indicate the motivation to maintain relationship with a brand or company [44]. Loyalty can be attributed the attitude of customers who are satisfied by a brand's products or services and use the same products and services continuously and repeatedly [5]. Brand loyalty refers to the consumer willingness to repurchase a brand product [3]. Customers with a high level of loyalty tend to repurchase a particular product or brand or continue to use a particular service or brand over a wide range of times. Loyal customer tends to continue shopping even when the cost or packaging of the product changes, but the non-loyal customer tends to buy other products without the slightest change or even no change. Despite the situational impact and marketing efforts, a loyal customer does not tend to change behavior [45]. In some papers, loyalty is defined as a kind of customer commitment. For example, Thuan et al. [2] defined loyalty as the customer commitment to buy a product or choose a service. Customer loyalty has been expressed as a deep commitment to repurchase a product or service consistently in the future, resulting in repeated purchases from the same brand or set [40]. Customer loyalty is a key goal for strategic market planning and an important basis for developing a sustainable competitive advantage, because it is possible to achieve long-term profits by loyal customers and making meaningful relationships with them [46]. Loyal customers do not think pay more; because they believe comparing brands will never offer unique value that obtain from their loyal brand [47]. Loyal customers tend to pay more money for a particular product or brand. Loyal customers will continue to buy and use the brand as long as they are satisfied with the brand; in addition, a loyal customer tends to pay more for a particular brand because thinks other brands cannot offer the same offers as the brand [4]. Jacoby explored the psychological meaning of loyalty and introduced a concept of brand loyalty that encompasses both behavioral and attitudinal components. Behavioral loyalty is measured by probability of repurchase, probability of long-term choice, or switch in customer

behavior and attitudinal loyalty is defined as brand preference or emotional commitment, therefore measured by repurchase intention, resistance against better options, WOM intention, or price tolerance [48].

In the marketing literature, repeat purchase, preference, commitment, and allegiance used as alternatives to loyalty [49]. Ong et al. [21] defined loyalty based on three indicators of willingness to pay more, WOM, and repurchase intention. Customer loyalty is considered as the most important metric for developing marketing strategies, and refers to continued consumer patronage for a particular brand. In this paper customer loyalty is defined as the result of customer satisfaction and is operationalized based on the three components of shop non-change, price sensitivity, and repurchase intention.

Due to the importance of customer loyalty in marketing, a lot of research has been done in this scope. In most of which satisfaction has been mentioned as the most important factor affecting customer loyalty. What matters in marketing science is how to build loyalty and create positive WOM among customers. Research in this field has examined the impact of various variables as a key factor of loyalty and subsequently positive WOM in customers, such as service quality, product price, employee attitudes, brand image, product diversity, and etc. But the impact of customer sensory experience on customer WOM intention has not been extensively explored in past research. In addition, it is rare to study this topic in retail chain stores environment. Therefore, the purpose of this paper is to investigate the effect of customer sensory experience on WOM intention by considering customer emotions as a mediator.

### 3. RESEARCH MODEL AND HYPOTHESES

#### 3. 1. Relationships between Sensory Experience and Emotions

The influence of customer sensory experience from surrounding environment as an external stimulus on customer emotions has been studied in some papers. Studies conducted at some Starbucks coffeehouses in Taiwan found that customer sensory experience has direct and significant effect on customer positive and negative emotions, also became clear in this research that the taste experience has the most influence on customer positive emotions among the five sensory experiences [6]. In restaurants, the service scape (such as facility aesthetics, layout, electric equipment, seating comfort, and ambient conditions) directly and positively affects customer pleasure-feeling [19]. It was also found in another study, that in the restaurant environment, atmospherics and service quality as external stimuli increase customer positive emotions, and product quality decrease customer negative emotions [17]. Liu and Jang [18] concluded that dining atmospherics (such as interior

design, ambience, spatial layout, and human elements) as external stimuli directly and significantly affect customer positive and negative emotions and customer perceived value. Studying the influence of sensory experience on customer emotions is not limited to restaurants and coffeehouses, Iglesias et al. [10] found that sensory experience directly and positively influences customer affective commitment in a service business environment such as bank industry. In the research that conducted in three markets such as laptops, sneakers, and cars; stated that sensory experience positively and significantly affects customer affective commitment [50]. In the university environment, the space design style has an active role in the affective experience of students [51]. In addition, the impact of sensory experience on emotions has been studied in the digital environments; for example, Ha and Im [15] stated that the website design as a visual stimulus has a positive and direct effect on the customer emotions in an online shopping website. Therefore, the following hypotheses are proposed:

**H1:** Customer sensory experience has a positive and direct effect on customer positive emotions.

**H2:** Customer sensory experience has a negative and direct effect on customer negative emotions.

#### 3. 2. Relationships between Emotions and Satisfaction

The direct effect of customer emotions on customer satisfaction has not been studied in many papers. Terblanche [1] stated that customer in-shop emotions as one of the subsets of shopping experience have a strong and significant relationship with customer satisfaction in the supermarket environment. According to Lin and Liang [34] that examined the effect of physical and social environment on customer emotions, satisfaction, and behavioral intentions; both environments affect customer emotion, satisfaction, and subsequently their behavioral intentions. Moreover, Lin and Liang [34] stated customer emotion directly and positively affect customer satisfaction in both environments. In the coffee shop environment, two affective drives of pleasure and arousal that induced by cognitive drives have positive and significant effect on brand satisfaction, while the effect of pleasure is stronger than arousal [16]. Ha and Im [15] found that the pleasure and arousal of the website design quality have positive and significant effect on customer satisfaction in an online shopping context. Therefore, the following hypotheses are proposed:

**H3:** Customer positive emotions have a positive and direct effect on customer satisfaction.

**H4:** Customer negative emotions have a negative and direct effect on customer satisfaction.

#### 3. 3. Relationships between Sensory Experience and Three Behavioral Responses (Satisfaction, Loyalty, and WOM)

Numerous studies have been

conducted to investigate the effect of brand experience on customer satisfaction, customer loyalty, and to some extent on customer WOM; but the effect of customer sensory experience as a separate construct on these three variables less studied in the previous papers. For example, in a study on customers of four brands such as Apple, Coca-Cola, Nike, and PlayStation, it was found that sensory experience directly and positively affects customer satisfaction, trust, and loyalty [4]. Brakus et al. [7] found that brand sensory experience as one of the subsets of brand experience directly influences brand satisfaction and loyalty, they also stated that brand sensory experience indirectly influences brand loyalty through brand satisfaction as a mediator variable. Similarly, Kim et al. [5] found that in shopping malls, brand sensory experience as one of the subsets of brand experience directly influences brand satisfaction and loyalty, and indirectly influences brand loyalty through brand satisfaction. According to Sahin et al. [49] regarding the impact of brand experience on brand satisfaction, trust, and loyalty in several global brands, it was stated that brand experience directly and positively affects brand satisfaction, trust, and loyalty. In addition, it was specified that brand experience indirectly affects brand loyalty through two separate path with two mediators, namely satisfaction and trust (satisfaction is a better mediator than trust). In studies that conducted in several US coffee shops, specified that brand sensory experience as a subset of brand experience indirectly affects brand satisfaction, trust, and attitudinal loyalty through brand prestige as a mediator variable. It was also specified that attitudinal loyalty directly and significantly affects behavioral loyalty [3]. In the three categories of laptop, sneakers, and cars markets, brand sensory experience as a subset of brand experience directly (and indirectly through affective commitment) affects brand loyalty [50]. Ong et al. [19] in studies that explored the impact of brand experience on customer loyalty with three dimensions such as willingness to pay more, WOM, and repurchase intentions in restaurant industry, found that brand sensory experience has a significant and positive effect on customer willingness to pay more and repurchase intentions, but doesn't have significant effect on WOM. According to Mukerjee [29], brand sensory experience directly and positively affects customer loyalty and WOM, and indirectly affects customer WOM through customer loyalty in the banking industry.

In addition, some research has been conducted on the impact of customer sensory experience separately, as well as the impact of the environment and interior design as a sensory stimulus on customer satisfaction, loyalty, and WOM. For example, it was clarified that in the banking industry, brand sensory experience has a direct and positive influence on customer satisfaction, and satisfaction plays a mediating role in the influence of brand sensory experience on brand equity [10].

Elsewhere, it was stated the sensory experience has a direct and positive effect on customer satisfaction, and has an indirect effect through this mediator on customer loyalty in the supermarket environment [2]. In addition, it has been stated that internal shop environment as a sensory stimulus has a significant and positive effect on customer satisfaction in supermarkets [1]. In hotels, the room design as a visual stimulus has a direct and positive effect on customer satisfaction and has an indirect effect on customer WOM through customer satisfaction variable [14]. Moreover, the results of an experimental study clarified that store design and store novelty influence brand loyalty in retail fashion stores [52]. In addition to physical environments, website design as an external stimulus indirectly affects customer satisfaction and WOM intention through customer emotions and perceived quality of information [16]. Therefore, the following hypotheses are proposed:

**H5:** Customer sensory experience has a positive and direct effect on customer satisfaction.

**H6:** Customer sensory experience has a positive and direct effect on customer loyalty.

**H7:** Customer sensory experience has a positive and direct effect on customer WOM intention.

### 3. 4. Relationships between Satisfaction, Loyalty, and WOM

A lot of research has been done to investigate the relationships between customer satisfaction, loyalty, and WOM intention. For example, Baser et al. [4] found that satisfaction and trust from customer brand experience, positively and significantly affect customer loyalty. A study conducted at several US coffee shops found that customer satisfaction has a direct and positive effect on attitudinal and behavioral loyalty, as well as an indirect effect through attitudinal loyalty on behavioral loyalty [3]. According to Han et al. [16] regarding the process of customer loyalty generation by studying a case in a chain coffee shops in South Korea, it was found that customer satisfaction directly and indirectly affects customer loyalty. Another study also found that in social media, customer loyalty affected by customer satisfaction and behavioral intentions. Studies of several global brands have specified that satisfaction and trust from brand experience have positive effect on brand loyalty [49]. In the tourism industry, customer satisfaction directly and indirectly through affective commitment influences customer loyalty [40]. In a research conducted in five Asian countries, it was found that in all five countries, service quality has a positive and significant effect on customer satisfaction, which in turn leads to loyalty and customer happiness [53]. Some other research has also confirmed the direct and positive effect of customer satisfaction and brand satisfaction on customer loyalty [2, 5, 7].

In addition to the relationship between customer satisfaction and loyalty, some papers have examined the

impact of either or both of these variables on customer WOM. For example, based on a meta-analytic review, De Matos and Rossi [31] found that customer satisfaction and loyalty have a strong and significant effect on customer WOM activity. In addition, they found that satisfaction has stronger relationship with positive WOM than loyalty, whereas disloyalty has stronger relationship with negative WOM than dissatisfaction. A survey of eight categories of different service businesses, specified that customer loyalty directly and positively affects customer positive WOM [23]. Choi and Kandampully [14] stated that customer satisfaction has a positive correlation with customer WOM behavior. In addition, Mukerjee [29] stated that in the banking industry, brand loyalty directly and significantly influences customer WOM recommendations. In online shopping websites, customer satisfaction directly and positively influences customer WOM intention [15]. Therefore, the following hypotheses are proposed:

**H8:** Customer satisfaction has a positive and direct effect on customer loyalty.

**H9:** Customer satisfaction has a positive and direct effect on customer WOM intention.

**H10:** Customer loyalty has a positive and direct effect on customer WOM intention.

The proposed conceptual model, based on the S-O-R model, consists of three parts: external stimuli (sensory experience), mediating organism (emotions), and behavioral responses (satisfaction, loyalty, and WOM). The model consists of ten hypotheses that examine the relationships between six variables, which described in the previous section. The proposed conceptual model is shown in Figure 1. According to this model, the independent variable is customer sensory experience; the mediating variables are customer positive and negative emotions, satisfaction, and loyalty; and the dependent variables are customer satisfaction, loyalty, and WOM intention.

**4. RESEARCH METHOD AND RESULTS**

**4. 1. Questionnaire Development**

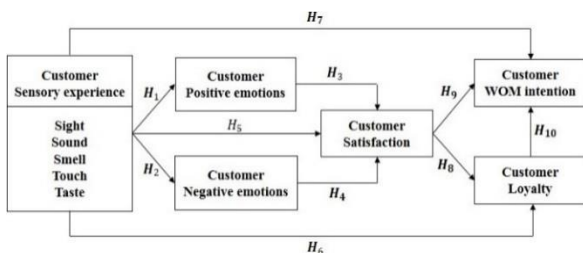
The final questionnaire consisted of 6 primary questions about demographic characteristics and then 30 questions about research conceptual model variables. Most of these

questions were selected based on previous studies related to the subject of research and some of them were slightly modified according to society condition, country culture and environment of study in order to be tangible and acceptable for respondents (See Appendix Table A for list of constructs and items used in the questionnaire). The answers of conceptual model questions were collected by a Likert’s 7-point scale and analyzed by SmartPLS software.

**4. 2. Samples and Data Collection**

Since we have used a quantitative approach to investigate the effect of customer sensory experience on customer WOM intention in this study, Samples randomly selected from customers of three branches of ETKA chain stores in Tehran. A Pilot study conducted on a population of 25 store managers, staff and customers to identify possible defects through feedback and suggestions, and improve the questionnaire. After passing this stage, according to the achieved results, four questions that reduced the validity and reliability of the research deleted. After that, 320 questionnaires (in Farsi language) provided to customers of these three branches. Questionnaires completed by direct interview and personal answering.

From 320 distributed questionnaires, 306 completed questionnaires returned to the researchers. In a few of these questionnaires, there were one, two or three unanswered questions. In order to fix this defect, the average of the total answers given to the same question, replaced for that item. According to Table 2, the mean of all constructs except the construct of negative emotions was higher than the median (4.240 to 4.837). This is due to the negative nature of questions of negative emotions section. The standard deviation of all constructs is from 1.172 to 1.521, which represents a narrow band around the mean. In addition, the skewness and kurtosis values of the constructs, which are the criteria for measuring the data normality, are in the range of (-0.670, 0.209) and (-0.197, 0.518), respectively. Data is normal when the skewness and kurtosis values are in the range of (-1, 1) [54], therefore this condition is confirmed in this study.



**Figure 1.** Research conceptual model

**TABLE 2.** Descriptive statistics

Construct	Mean	Standard deviation	Variance	Skewness	Kurtosis
Sensory experience	4.763	1.250	1.577	-0.368	0.518
Positive emotions	4.765	1.172	1.375	-0.254	0.313
Negative emotions	2.769	1.180	1.400	0.209	-0.082
Satisfaction	4.837	1.311	1.720	-0.670	0.515
Loyalty	4.240	1.521	2.332	-0.179	-0.197
WOM intention	7.758	1.328	1.767	-0.439	0.278

Table 3 shows different values for mean, standard deviation, variance, skewness coefficient and kurtosis.

#### 4. 3. Respondent Profile

Among 306 respondents, 65.36% are male and 34.64% are female. 18.95% are single and 81.05% are married. Approximately the age of 66% are in the range of 30 to 49 years, from the rest of the respondents, approximately 18% are less than 30 years old and 16% are 50 years or older. In addition, many have a college or university education (77.78%). It is necessary to mention that 67.32% live in a family of three or four, 16.67% live in a family of two, 11.67% live in a family of five or six and

4.25% live alone or in families with more than six members. Family monthly expenditure of 18.63% are under two million tomans, 35.62% are between two and three million, 34.31% are between three and five million, 7.52% are between five and seven million and the rest are more than seven million tomans. All demographic statistics are shown in Table 3.

#### 4. 4. Data Analysis

As mentioned earlier, structural equation modeling approach has been used in this research. According to Hsu et al. [55], there are two different approaches to analysis in structural equation modeling: Covariance-based and variance-based. In this research, we used partial least squares method, due to the accuracy and appropriateness of the variance-based approach in small-scale cases and predictive purposes [54]. According to Hair et al. [56], partial least square analysis consists of two parts: measurement model (outer model) and structural model (inner model). The measurement model examines the quality of all constructs for evaluating validity and reliability, and the structural model examines the relationships between different model constructs for hypothesis analysis [56].

##### 4. 4. 1. Measurement Model Analysis (Outer Model)

According to the model analysis algorithm in PLS method, two main criteria of reliability and validity have to examine for outer model evaluation. Cronbach's alpha, factor loadings, and composite reliability (CR) are the criteria for measuring reliability. In addition, average variance extracted (AVE) and composite reliability calculated as convergent validity criteria, and the Fornell-Larcker criterion and HTMT ratio of correlation computed to assess discriminant validity [57] (Tables 4-6). The version 3.2.6 of SmartPLS software used to calculate Cronbach's alpha, factor loadings, and composite reliability. According to Bagozzi and Yi [58] the factor loading of each indicator should be greater than 0.5. Based on Table 5, the factor loadings obtained in this research are above 0.5 (Three indicators above 0.6 and others above 0.7). The value of Cronbach's alpha coefficient can be between 0 and 1 and how much is closer to 1, shows higher internal consistency [59]. According to Moazanzadeh and Hamidi [60], the acceptable value of alpha coefficient in exploratory research is 0.7 or more. Based on Table 5, the alpha coefficients obtained in this research are above 0.7. The third step to assess reliability is to calculate composite reliability. The minimum accepted value for composite reliability is 0.7 [61]. Based on Table 5, the composite reliability of all constructs are higher than 0.7.

According to Fornell and Larcker [62], the AVE value for each construct should be greater than 0.5, in addition Hamidi and Chavoshi [63] believe that to confirm convergent validity, the CR value should be greater than AVE. In this study, the AVE of all structures

TABLE 3. Demographic profile of respondents

Characteristics	Range	Number	%
Gender	Male	200	65.36
	Female	106	34.64
Age	<18	2	0.65
	18-29	53	17.32
	30-39	121	39.54
	40-49	82	26.80
	50-59	31	10.13
	>60	17	5.56
Marital status	Single	58	18.95
	Married	248	81.05
Level of education	Under high school diploma	9	2.94
	High school diploma	59	19.28
	Associate degree	40	13.07
	Bachelor of Science degree	118	38.56
	Master of science degree	64	20.92
	Doctor of Philosophy degree	16	5.23
Number of family member	1	10	3.27
	2	51	16.67
	3 or 4	206	67.32
	5 or 6	36	11.76
	$\geq 7$	3	0.98
	<2	57	18.63
Family monthly expenditure (million tomans)	2-3	109	35.62
	3-5	105	34.31
	5-7	23	7.52
	>7	12	3.92



is greater than 0.5 and the CR of each construct is greater than the AVE of the same construct. The results of convergent reliability and validity calculation are shown in Table 5. Based on these results, it can be concluded that convergent validity and reliability have been confirmed.

After examining the convergent validity, we assessed the discriminant validity using heterotrait-monotrait (HTMT) ratio of correlation and Fornell-Larcker criterion. Version 3.2.6 of SmartPLS software has been used for this purpose. The Fornell-Larcker method evaluates discriminant validity at the latent variables

**TABLE 4.** Descriptive, reliability and convergent validity

Construct	Indicator	F. loading	$\alpha$	CR	AVE
Sensory experience	SEV.1	0.817	0.901	0.917	0.503
	SEV.2	0.747			
	SEV.3	0.764			
	SEA.1	0.667			
	SEA.2	0.687			
	SES.1	0.732			
	SES.2	0.766			
	SES.3	0.742			
	SETO.1	0.619			
	SETO.2	0.657			
Positive emotions	SETA.1	0.683	0.940	0.955	0.808
	PE.1	0.865			
	PE.2	0.926			
	PE.3	0.936			
	PE.4	0.889			
Negative emotions	PE.5	0.877	0.941	0.955	0.809
	NE.1	0.848			
	NE.2	0.922			
	NE.3	0.951			
	NE.4	0.916			
Satisfaction	NE.5	0.856	0.916	0.947	0.855
	SA.1	0.913			
	SA.2	0.929			
Loyalty	SA.3	0.933	0.854	0.911	0.774
	LO.1	0.925			
	LO.2	0.776			
WOM intention	LO.3	0.930	0.958	0.973	0.923
	WOM.1	0.947			
	WOM.2	0.970			
	WOM.3	0.966			

level [64]. This method compares the square root of AVE with the correlation of latent variables and states that the square root of each construct's AVE should be greater than the correlations with other latent variables [64]. Based on Table 5, in this research the square root of each construct's AVE is greater than the correlations with other latent variables. HTMT is able to achieve higher specificity and sensitivity rates compared to the Fornell-Larcker [64]. If all ratios in the HTMT matrix are less than 0.9, the discriminant validity of measurement model is confirmed. HTMT values close to 1, indicates a lack of discriminant validity [64]. Based on Table 6, all ratios in the HTMT matrix are less than 0.9.

**4. 4. 2. Structural Model Analysis (Inner Model)**

The structural model describes the relationship between latent variables. According to Malekinezhad and Bin [65], in evaluation of structural model,  $\beta$  (path coefficient),  $R^2$  (determination coefficient),  $f^2$  (effect size) and  $Q^2$  (predictive relevance) should be calculated. In this research, all criteria were calculated using version 3.2.6 of SmartPLS software.

Table 7 shows the path coefficients ( $\beta$ ) between the constructs in the conceptual model. The path coefficient indicates the existence of a relationship, intensity, and direction of the relationship between two latent variables.

**TABLE 5.** Discriminant validity, Fornell-Larcker criterion

	1	2	3	4	5	6
Loyalty	<b>0.880</b>					
Negative emotions	-0.538	<b>0.900</b>				
Positive emotions	0.723	-	<b>0.899</b>			
Satisfaction	0.762	-	0.610	<b>0.925</b>		
Sensory experience	0.651	-	0.684	0.673	<b>0.709</b>	
WOM intention	0.819	-	0.738	0.786	0.649	0.961

**TABLE 6.** Discriminant validity, Heterotrait-Monotrait Ratio

	1	2	3	4	5	6
Loyalty						
Negative emotions	0.577					
Positive emotions	0.790	0.674				
Satisfaction	0.840	0.655	0.835			
Sensory experience	0.721	0.533	0.729	0.719		
WOM intention	0.888	0.620	0.777	0.683	0.683	

**TABLE 7.** Structural model’s hypotheses

NO.	Hypothesis	Path coefficient	t-value	p-value	Supported
1	SE->PE	0.684	18.666	0.000	Yes
2	SE->NE	-0.500	9.502	0.000	Yes
3	PE->SA	0.502	8.496	0.000	Yes
4	NE->SA	-0.169	3.751	0.000	Yes
5	SE->SA	0.245	4.261	0.000	Yes
6	SE->LO	0.252	4.477	0.000	Yes
7	SE->WOM	0.095	2.031	0.043	Yes
8	SA->LO	0.593	10.949	0.000	Yes
9	SA->WOM	0.347	5.307	0.000	Yes
10	LO->WOM	0.492	8.428	0.000	Yes

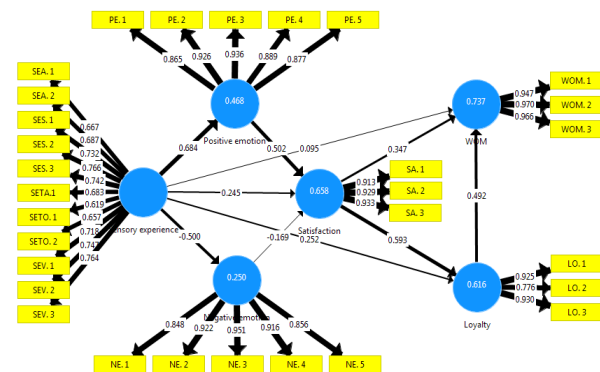
We used bootstrapping method by version 3.2.6 of SmartPLS software to analyze path correlations. As shown in Table 7, all t-statistics pass from ±1.96 and all p-values are less than 0.05, so according to Zare et al. [66], all research hypotheses are confirmed.

From the path analysis, it can be stated that the sensory experience has a direct and positive effect on customer positive emotions with significant β value of 0.684 (t = 18.666 >1.96, p <0.001), thus the H1 hypothesis is supported. It was also found that the sensory experience has a direct and negative effect on customer negative emotions with significant β value of -0.500 (t = 9.502 >1.96, p <0.001), thus the H2 hypothesis is supported. Customer positive emotions have a direct and positive effect on customer satisfaction with significant β value of 0.502 (t = 8.496 >1.96, p <0.001) and customer negative emotions have a direct and negative effect on customer satisfaction with significant β value of -0.169 (t = 3.751 >1.96, p <0.001), thus the H3 and H4 hypotheses are supported. From the results it can be deduced that the sensory experience has a direct and positive effect on customer satisfaction with significant β value of 0.245 (t = 4.261 >1.96, p <0.001), hence H5 hypothesis is supported. In addition, this construct has direct and positive effect on customer loyalty and customer WOM intention with significant β value of 0.252 (t = 4.477 >1.96, p <0.001) and 0.095 (t = 2.031 >1.96, p <0.05), respectively, thus the H6 and H7 hypotheses are supported. Moreover, it was specified that customer satisfaction has direct and positive effect on customer loyalty and customer WOM intention with significant β value of 0.593 (t = 10.949 >1.96, p <0.001) and 0.347 (t = 5.307 >1.96, p <0.001), respectively, thus the H8 and H9 hypotheses are supported. In addition, It can be deduced from the results that customer loyalty has a direct and positive effect on customer WOM intention with significant β value of 0.492 (t = 8.428 >1.96, p <0.001), thus the H10 hypothesis is supported.

The  $R^2$  value is a criterion used to connect the measurement and structural components of structural equation modeling and indicates the influence of an independent variable on a dependent variable. The value of  $R^2$  is between 0 and 1, and the higher the  $R^2$ , the better the independent variable predicts for the dependent variable [67]. The values of 0.75, 0.5 and 0.25 for  $R^2$  indicate respectively that the model is substantial, moderate and weak [67]. In addition, the values of  $R^2$  larger than 0.35 represent a substantial model. According to Figure 2, the model is approximately substantial.

After evaluating hypotheses, the effect of each independent variable on dependent variables should be calculated. We can measure the of an independent variable on a dependent variable by  $f^2$  criterion [67]. The values of 0.02, 0.15 and 0.35, indicate small, medium and large effect size. According to Table 8, there are three variables with medium effect size and three variables with large effect size in model.

$Q^2$  criterion indicates the predictive relationships of model. We calculated  $Q^2$  by blindfolding process of SmartPLS. If the value of  $Q^2$  is greater than zero, the dependent variable has predictive relevance [56]. According to Hair et al. [56], the three values of 0.02, 0.15 and 0.35 are considered as low, medium and high predictive relevance. As shown in Table 9, all predictive relationships are high except one, that is medium.



**Figure 2.** Obtained values of β and  $R^2$  through SmartPLS

**TABLE 8.** Effect size of independent variables

	1	2	3	4	5	6
Loyalty						0.354
Negative emotions				0.049		
Positive emotions				<b>0.308</b>		
Satisfaction	<b>0.501</b>					0.167
Sensory experience	0.091	<b>0.333</b>	<b>0.879</b>	0.092		<b>0.017</b>
WOM intention						

**TABLE 9.** Indicator of model's predictive relevance

Dependent variable	Q <sup>2</sup>
Positive emotions	0.352
Negative emotions	0.187
Satisfaction	0.528
Loyalty	0.445
WOM intention	0.641

#### 4. 4. 3. Mediating Effect Analysis

The indirect effect is examined in paths that exist one or more mediator variables. In the following, the effect of positive emotions, negative emotions, and loyalty as partial mediator variables are examined. According to Baron and Kenny [68] the existence of a partial mediator variable is confirmed: if the total effect is significant (The sum of direct and indirect effects), the indirect effect is significant (from independent variable to mediator and from mediator to dependent variable), and the direct effect is significantly less than the total effect.

We used regression analysis to examine how customer sensory experience affects customer satisfaction through two mediator variables of customer positive and negative emotions and how customer satisfaction affects customer WOM intention through customer loyalty as a mediator variable. According to Baron and Kenny [68] and as shown in Table 10, the existence of three partial mediator variables: customer positive emotions, customer negative emotions and

**TABLE 10.** verification of mediators

NO.	Hypothesis	Path coefficient	Standard deviation	t-value	p-value
<b>Sensory experience-&gt;Positive emotion-&gt;Satisfaction</b>					
1*	SE->SA	0.676	0.031	21.543	0.000
2	SE->PE	0.685	0.034	20.016	0.000
3	PE->SA	0.590	0.050	11.708	0.000
4**	SE->SA	0.272	0.055	4.912	0.000
<b>Sensory experience-&gt;Negative emotion-&gt;Satisfaction</b>					
1*	SE->SA	0.678	0.032	21.363	0.000
2	SE->NE	-0.503	0.050	10.085	0.000
3	NE->SA	-0.359	0.048	7.473	0.000
4**	SE->SA	0.497	0.048	10.424	0.000
<b>Satisfaction-&gt;Loyalty-&gt;WOM</b>					
1*	SA->WOM	0.787	0.028	28.508	0.000
2	SA->LO	0.764	0.026	29.599	0.000
3	LO->WOM	0.524	0.055	9.555	0.000
4**	SA->WOM	0.387	0.061	6.344	0.000

\*Total effect, \*\*Direct effect

customer loyalty confirmed. Thus, it is clarified that sensory experience has indirect effect on customer satisfaction through customer positive and negative emotions, and customer satisfaction has an indirect effect on customer WOM intention through customer loyalty. It can be deduced that positive sensory experience promote positive emotions and relieve negative emotions, leading to customer satisfaction. Moreover, it can be deduced that satisfaction strengthens customer WOM intention through customer loyalty. Therefore, sensory experience is a strong and critical antecedent of three customer behavioral responses, especially customer WOM, and focus on this aspect can help retail businesses owner to improve his/her business.

#### 4. 4. 4. Effect of Five Types of Customer Sensory Experiences on Customer Emotions

According to Chen and Lin [6], we used regression analysis to examine the effect of five types of customer sensory experiences on customer positive and negative emotions. Each of these effects will discuss below.

##### 4. 4. 4. 1. Effect on Customer Positive Emotions

In this regression analysis, sensory experiences have been considered as independent variables and positive emotions as dependent variable. As shown in Table 11, all VIF values are less than 2.5, indicating no notable collinearity in the regression model. The regression model is highly significant with the determination coefficient of 52.7%. According to Table 11, the greatest effect of sensory experience on customer positive emotions is taste experience, and subsequently touch, sight, and sound experiences, respectively. It should be noted that the effect of smell experience on positive emotions is not significant.

##### 4. 4. 4. 2. Effect on Customer Negative Emotions

Similarly, we considered sensory experiences as independent variables and positive emotions as dependent variable. As shown in Table 12, all VIF values are less than 2.5, indicating no notable collinearity in the regression model. The regression model is highly significant with the determination coefficient of 29.6%. According to Table 12, only the effect of touch and taste

**TABLE 11.** regression analysis of five types of sensory experience on positive emotions

Sensory experience	$\beta$	t-value	p-value	R <sup>2</sup>	VIF
Sight	0.134	2.053	0.041	0.527	1.998
Sound	0.134	2.058	0.038		2.360
Smell	0.062	0.942	0.347		2.453
Touch	0.193	3.600	0.000		1.798
Taste	0.386	7.019	0.000		1.542

**TABLE 12.** regression analysis of five types of sensory experience on negative emotions

Sensory experience	$\beta$	t-value	p-value	$R^2$	VIF
Sight	-0.041	0.579	0.563		1.979
Sound	-0.114	1.328	0.185		2.337
Smell	-0.023	0.245	0.806	0.296	2.449
Touch	-0.248	3.874	0.000		1.765
Taste	-0.251	3.814	0.000		1.547

experiences on customer negative emotions are significant, while the effect of taste on customer negative emotions is slightly greater than the effect of touch experience.

## 5. DISCUSSION AND CONCLUSIONS

As mentioned earlier, the purpose of this study is to examine the effect of sensory experience on customer WOM intention in retail chain stores. Structural equation modeling (SEM) and questionnaire have been used to achieve this purpose. Version 3.2.6 of SmartPLS software used to test the hypotheses and calculate path coefficients. We describe the research findings below, and then the results related to the effect of sensory experience on customer emotions in the retail chain stores is compared with similar results obtained in the chain coffeehouses by Chen and Lin [6]. In the last part, the conclusions of this research will be express.

### 5. 1. Findings Related to Customer Sensory Experience

According to the path analysis carried out in section four of the paper, hypothesis 1 (SE-> PE) and hypothesis 2 (SE-> NE) are confirmed, which indicates that, sensory experience in the retail chain stores directly and significantly affects customer positive and negative emotions. These results are supported by the results of Chen and Lin [6] in coffeehouses, and Liu and Jang [18] in restaurant environments. According to the path analysis, hypothesis 5 (SE-> SA) is confirmed, which shows the direct and positive effect of customer sensory experience on customer satisfaction. This result is supported by the results of Iglesias et al. [10] in banking industry and Thuan et al. [2] in supermarket environments. In addition, it was found that sensory experience indirectly affects customer satisfaction through partial mediators of customer positive emotions and customer negative emotions. According to Variance Accounted For (VAF) proposed by Zhao et al. [69], and path coefficients, over 51% ( $0.684 \times 0.502 / 0.673$ ) of the total effect of sensory experience on customer satisfaction is transmitted through customer positive emotions, and approximately 13% ( $-0.500 \times -0.169 / 0.673$ )

of the total effect of sensory experience on customer satisfaction is transmitted through customer negative emotions (so approximately 64% of the total effect is transmitted through customer emotions), and the rest of the total effect is transmitted directly. Finally based on the path coefficients and VAF, it can be concluded that customer positive emotions mediator is better than customer negative emotions mediator, and the major effect of customer sensory experience on customer satisfaction is transmitted indirectly through customer positive emotions. The path analysis also shows that hypothesis 6 (SE-> LO) and hypothesis 7 (SE-> WOM) are confirmed, that reflect the direct and positive effect of customer sensory experience on customer loyalty and customer WOM intention. Due to the calculated path coefficients, it can be stated that, the direct effect of sensory experience on customer loyalty is considerable, but the direct effect of sensory experience on customer WOM intention is not very considerable, and much of the total effect (with coefficient of 0.649) is transmitted indirectly through available mediators on the path, such as emotions, satisfaction and loyalty. According to VAF and path coefficients, it can be concluded that approximately 85.5% of the total effect of sensory experience on customer WOM intention is transmitted indirectly, that is described separately below:

- 18.5% of the total effect is transmitted through the path of sensory experience-> positive emotions-> satisfaction-> WOM ( $0.684 \times 0.502 \times 0.347 / 0.649$ ).
- 15.5% of the total effect is transmitted through the path of sensory experience-> positive emotions-> satisfaction-> loyalty-> WOM intention ( $0.684 \times 0.502 \times 0.593 \times 0.492 / 0.649$ ).
- 4.5% of the total effect is transmitted through the path of sensory experience-> negative emotions-> satisfaction-> WOM intention ( $-0.500 \times -0.169 \times 0.347 / 0.649$ ).
- 4% of the total effect is transmitted through the path of sensory experience-> negative emotions-> satisfaction-> loyalty-> WOM intention ( $-0.500 \times -0.169 \times 0.593 \times 0.492 / 0.649$ ).
- 13% of the total effect, is transmitted through the path of sensory experience-> satisfaction-> WOM intention ( $0.245 \times 0.347 / 0.649$ ).
- 11% of the total effect is transmitted through the path of sensory experience-> satisfaction-> loyalty-> WOM intention ( $0.245 \times 0.593 \times 0.492 / 0.649$ ).
- 19% of the total effect is transmitted through the path of sensory experience-> loyalty-> WOM intention ( $0.252 \times 0.492 / 0.649$ ).

### 5. 2. Findings Related to Customer Satisfaction, Loyalty and WOM Intention

According to the path analysis carried out in section four, Hypothesis 8 (satisfaction-> loyalty) and Hypothesis 9 (satisfaction-> WOM intention) are confirmed, which indicates that

customer satisfaction in the retail chain stores directly and positively affects customer loyalty and WOM intention. The positive effect of customer satisfaction on customer loyalty is similar to the results of Choi et al. [3], Baser et al. [4], Brakus et al. [7], Han et al. [16], Richard and Zhang [40], LV et al. [46], and Gong and Yi [53] in different businesses. In addition, the positive effect of customer satisfaction on customer WOM intention is similar to the results of Choi and Kandampully [14], Ha and Im [15], and De Matos and Rossi [31]. Based on the calculated path coefficients, it can be concluded that both effects are significant, but the direct effect of customer satisfaction on customer loyalty is greater than the direct effect of customer satisfaction on customer WOM intention, which is justified by considering the mediating role of customer loyalty in the indirect effect of customer satisfaction on customer WOM intention. In addition, according to the path analysis Hypothesis 10 (loyalty->WOM intention) is confirmed, indicating a direct and positive effect of customer loyalty on customer WOM intention. This result is supported by the results of Markovic et al. [23], Mukerjee [29], and De Matos and Rossi [31]. Based on the results, it can be inferred that customer loyalty is a partial mediator in the relationship between customer satisfaction and customer WOM intention; according to the concept of VAF, it can be concluded that approximately 46% ( $0.593 \times 0.492 / 0.639$ ) of the total effect of customer satisfaction on customer WOM intention is transmitted through the customer loyalty. In general, it can be stated that satisfaction affects customer loyalty and this loyalty will lead to customer WOM intention.

### 5. 3. Comparison of The Effect of Sensory Experiences on Customer Emotions in Two Different Environments

In this section, we compare the regression analysis performed in this study with the similar regression analysis performed by Chen and Lin [6]. According to Table 13, in this study, all VIF values (variance inflation factor) are less than 2.5, which is similar to study of Chen and Lin [6]. In addition, the value of  $R^2$  obtained in both studies are approximately equal. Based on the results of this analysis, and similar to study of Chen and Lin [6], the effect of smell experience on positive emotions is not significant but the effects of the other four senses on positive emotions are significant. In both studies, taste experience has the most effect on positive emotions, but unlike result of Chen and Lin [6], touch experience has more effect on positive emotion than the other two senses. In addition, it is specified that in this study, the effects of sight and sound experiences on positive emotions are approximately equal, that is not the case in Chen and Lin [6]. The differences in the effect of five type of sensory experiences on positive emotions between two different environments of retail chain stores and chain coffeehouses are shown in Table 13.

**TABLE 13.** Comparison of two different environments (PE)

Proposed model				
Sensory experience	$\beta$	t-value	$R^2$	VIF
Sight	0.134	2.053*		1.998
Sound	0.134	2.058*		2.360
Smell	0.062	0.942	0.527	2.453
Touch	0.193	3.600***		1.798
Taste	0.386	7.019***		1.542
Chen and Lin [6] model				
Sensory experience	$\beta$	t-value	$R^2$	VIF
Sight	0.284	6.798***		2.065
Sound	0.134	3.494**		1.741
Smell	0.055	1.390	0.524	1.846
Touch	0.111	2.566*		2.212
Taste	0.298	7.469***		1.887

Significance levels: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Similar to the analysis performed in the positive emotions section, in the negative emotions section, all VIF values are less than 2.5, which is similar to the result obtained in Chen and Lin [6] (See Table 14). In this study, the effects of taste and touch experiences on negative emotions are significant and approximately equal, but in the research of Chen and Lin [6], only the effect of sight experience on negative emotions is significant. In addition, the regression analysis performed in this study revealed that the  $R^2$  value of customer negative emotions is approximately three times the  $R^2$  value of customer negative emotions in the regression analysis performed by Chen and Lin [6].

Regression analysis suggests that among the five senses related to the customer sensory experience, the sense of taste has the most effect on positive emotions. After that, touch has the most effect on positive emotions. Sight and sound are the next. From these results, it can be inferred that the taste and quality of food products sold in retail chain stores have the greatest effect on positive emotions. Moreover, the feature that customers in the retail chain stores can touch goods before buying, as well as the condition of ventilation and temperature of the store have the greatest effect on the positive emotions after taste and quality of food products. Sight experience that affects the sense of vision, such as the lighting, cleanliness of the store and the layout of products, and sound experience that affects the sense of auditory, such as music playing or annoying sounds in the store, have less effect on positive emotions than taste and touch experiences. In addition, according to regression analysis, it can be stated that like positive emotions, the

**TABLE 14.** Comparison of two different environments (NE)

Proposed model				
Sensory experience	$\beta$	t-value	$R^2$	VIF
Sight	-0.041	0.579		1.979
Sound	-0.114	1.328		2.337
Smell	-0.023	0.245	0.296	2.449
Touch	-0.248	3.874***		1.765
Taste	-0.251	3.814***		1.547
Chen and Lin [6] model				
Sensory experience	$\beta$	t-value	$R^2$	VIF
Sight	-0.269	-4.703***		2.065
Sound	0.009	0.180		1.741
Smell	-0.069	-1.281	0.106	1.846
Touch	0.039	0.662		2.212
Taste	0.066	-1.215		1.887

Significance levels: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

sense of taste has the most effect on negative emotions and the sense of touch is next. It means that the good taste and high quality of food products will reduce the negative emotions more than desirable touch of goods before buying or favorable temperature and ventilation of the store.

## 6. CONCLUSIONS

In this research, it is concluded that among the three constructs related to customer behavioral responses namely satisfaction, loyalty, and WOM intention; customer satisfaction acts as a strong predictor of customer loyalty and customer WOM intention. In addition, due to the indirect effect of customer sensory experience on customer satisfaction through partial mediators of customer positive and negative emotions, it can be concluded that sensory experience as an external stimulus, affects customer satisfaction as a behavioral response and predictor of two other behavioral responses (loyalty and WOM). Moreover, according to the research findings, it can be concluded that taste and touch experiences have the most effect on customer positive and negative emotions respectively. Smell does not affect either positive or negative emotions, in addition, sight and sound do not affect negative emotions. In general, it can be concluded that engaging five senses of customers as a sensory marketing strategy can affect customer emotions, and consequently, based on the proposed model it can be used as a way to develop customer loyalty programs in retail chain stores and subsequently create positive WOM.

## 7. LIMITATIONS AND FUTURE RESEARCH

Usually in any research, obstacles and limitations placed on the way to the researchers. This research is not an exception, so the limitations of the research will discuss:

- One of the limitations is the community under study. The focus of this research was on customers of three branches of a retail chain store in Tehran. So due to the differences in culture, attitude, shopping behavior, etc. of the customers under study, compared to the customers of other retail chain stores or even customers of other branches of this store, different results may be obtained. Thus, future research could explore this topic in other retail chain stores.
- The inherent limitations of questionnaire, such as superficial attitude to the actual events and scalability of the responses, could prevent the results from being real. In addition, respondents may answer questions with their own understanding. Because of this issue, newer methods of data collection, such as neuromarketing could be used in future research. Moreover, the total questionnaires distributed for data collection was 320 copies, out of which 306 analyzed. Naturally, increasing the number of questionnaires and consequently increasing the available data can increase the consistency and validity of the results.
- It should note that the present study used only the opinions of customers and did not use the views of business owners and marketers, therefore in future research, researchers can collect other views and compare these results with customer opinions. In addition, it should not overlooked that the moderator variable not used in this study. In general, using moderator variables could provide more comprehensive and accurate results.
- Variables affecting WOM intention include a wide range, that in this study, we sought to investigate the effect of sensory experience on this variable. Future research can examine the effect of other independent variables such as service quality, price, technological facilities, etc., along with sensory experience, and compare these effects with each other.

## 8. REFERENCES

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## 8. APPENDIX: CONSTRUCTS AND ITEMS USED IN THE QUESTIONNAIRE

**TABLE A.** Constructs and measurement items

Construct	Item	Reference
Sensory experience	SEV.1: The lighting at this store is comfortable	Chen and Lin [6]
	SEV.2: The interior space of this store is clean and tidy	By researchers
	SEV.3: The products arrangement and appearance at this store are attractive	Chen and Lin [6]
	SEA.1: The background music at this store is pleasing	Chen and Lin [6]
	SEA.2: There are no annoying sounds in this store	By researchers
	SES.1: The aroma in this store is pleasant	Kim and moon [19]
	SES.2: I like the aroma in this store	Chen and Lin [6]
	SES.3: The staff at this store are fragrant	By researchers
	SETO.1: It is pleasant for me that touch the products before purchase	Yoganathan et al. [11]
	SETO.2: This store has comfortable indoor temperature and ventilation	Chen and Lin [6]
SETA.1: The food products sold at this store are delicious and quality	By researchers	
Positive emotions	PE.1: Satisfaction (pleasing, fulfilling)	Chen and Lin [6]
	PE.2: Joy (happy, enjoyable)	Chen and Lin [6]
	PE.3: Excitement (appealing, animating)	Chen and Lin [6]
	PE.4: Peacefulness (comfortable, relaxed)	Chen and Lin [6]
	PE.5: Refreshment (fresh, novel)	Chen and Lin [6]
Negative emotions	NE.1: Regret (remorse, penitence)	Liu and Jang [18]
	NE.2: Anger (upsetting, irritating)	Chen and Lin [6]
	NE.3: Sadness (disappointing, gloomy)	Chen and Lin [6]
	NE.4: Fear (frightful, uneasy)	Chen and Lin [6]
	NE.5: Shame (embarrassing, awkward)	Chen and Lin [6]
Satisfaction	SA.1: The performance of this store has fulfilled my expectations	Iglesias et al. [10]
	SA.2: This retail store responds well to my needs	Sahin et al. [49]
	SA.3: I am satisfied with my decision to visit this store	Choi et al. [3]
Loyalty	LO.1: I will continue to visit this store, even if other alternatives are available	Choi and Choi [70]
	LO.2: If the price of products in this store is more than the other stores, I will buy again from this store	By researchers
	LO.3: I purchase from this store again, because it is the best choice for me	Choi et al. [3]
WOM intention	WOM.1: I say positive things about this store to other people	Choi and Choi [70]
	WOM.2: I encourage my friends and relatives to use this store	Choi and Choi [70]
	WOM.3: I would provide my relatives with positive things about this store when deciding to shopping	By researchers

## Persian Abstract

## چکیده

اگرچه قصد توصیه دهان به دهان (WOM) به عنوان یک متغیر حاصل از سازه‌هایی همچون وفاداری، رضایت و اعتماد در کسب و کارهای خرده‌فروشی مورد مطالعه قرار گرفته شده‌است، اما توجه کمتری به بررسی تأثیر تجربه‌حسی بر قصد WOM مشتری در این زمینه شده‌است. از آنجایی که مطالعه همزمان تأثیرات تجربه‌حسی بر احساسات و قصد WOM مشتری در فروشگاه‌های خرده‌فروشی زنجیره‌ای نادر است، هدف این مقاله مطالعه چگونگی تأثیر تجربه‌حسی بر قصد WOM مشتری با در نظر گرفتن متغیر میانجیگر احساسات مشتری در فروشگاه‌های خرده‌فروشی زنجیره‌ای می‌باشد. برای این منظور 306 پرسشنامه معتبر از مشتریان یکی از بزرگترین و قدیمی‌ترین فروشگاه‌های زنجیره‌ای ایران (فروشگاه زنجیره‌ای اتکا) جمع‌آوری و مورد تجزیه و تحلیل قرار گرفته شد. مدل مفهومی پیشنهادی این پژوهش بر مبنای مدل محرک-اورگانیسم-پاسخ توسعه‌یافته و برای بررسی این مدل از روش مدل‌سازی معادلات ساختاری (SEM) و تحلیل رگرسیونی استفاده شده‌است. این مدل به وسیله روش حداقل مربعات جزئی (PLS) و با استفاده از نرم افزار SmartPLS مورد آزمون قرار گرفته شده‌است. نتایج حاصله نشان می‌دهد که تجربه‌حسی تأثیر مستقیم و معتاداری بر احساسات مشتری دارد. علاوه بر این مشخص گردید که تجربه‌حسی تأثیر مستقیم قابل ملاحظه‌ای بر قصد WOM مشتری ندارد ولی به صورت غیرمستقیم و از طریق میانجیگرهای احساسات، رضایت و وفاداری بر قصد WOM مشتری تأثیر می‌گذارد. آنالیز رگرسیونی صورت‌گرفته نشان می‌دهد که در بین پنج تجربه‌حسی (چشایی، لامسه، شنوایی، بینایی و بویایی)، چشایی بیشترین تأثیر را بر احساسات مثبت مشتری دارد. بعد از تجربه‌چشایی، تجربیات لامسه، بینایی و شوایی به ترتیب بیشترین تأثیر را بر احساسات مثبت مشتری می‌گذارند. به صورت مشابه مشخص گردید که تجربیات چشایی و لامسه تأثیر منفی و معتاداری بر احساسات منفی مشتریان دارند، که تأثیر تجربه‌چشایی قوی‌تر از تجربه‌لامسه می‌باشد.