**Original Article**

# Determinants of the smart purchasing of health products in Tehran: a model with a hybrid approach

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## Abstract

**Background:** Recent studies recognized the smart customer experience as a sustainable competitive advantage. This study aimed to determine factors affecting the smart experience of purchasing health products.

**Method**s: This research was a descriptive survey. The statistical population of the first phase consisted of16 People, who were experts in the field of shopping malls with intensity and snowball. The statistical population of the second phase was the customers of shopping malls whose managers were interviewed, which included 298 individuals. Data were collected with a standard questionnaire and were determined by open coding, axial coding, and selective coding in ATLAS.ti software. In phase two, LISREL software was used.

**Results**: The coefficient of the exogenous variable of customer knowledge (0.83), with T = 0.01, perceived quality (0.22), with T = 8.83, sales promotion policies (47.0), with T = 5.08 on the smart customer experience was significant, while the direct path coefficient of the exogenous variable of the store environment on the smart customer experience (-0.05), with T = -0.20, was insignificant. The effect of smart customer experience on customer satisfaction (0.52), with T = -0.87 and on brand equity (0.22), with T = 0.08, was significant. The effect of customer experience on word of mouth (0.50), with T = 8.83 at P <0.05, was negative and insignificant.

**Conclusion**: It is essential to create a smart experience for knowledgeable customers to choose between competing companies that provide services with different levels from poor to excellent.

**Keywords: Banking, Personal; Equipment and Supplies; Tehran.**

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## Introduction

There are countless definitions of smart shopping, but the main one is this: “Smart shopping refers to the customer searching for finding a seller who can offer the best option based on the criteria set by the customer. These criteria include the best price, the best value, the most reputation, the most positive reviews about the product, and so on” (1).

Advances in information technologies have turned the discussion of measuring the

performance of these technologies to meet their customers' needs and try to establish appropriate interactions between smart technology and the positive experience of customers. (2).

Companies have focused on the customer experience rather than on a service-based economy. Experimental marketing focuses on developing a fully observable, interactive, and five-sense stimulating environment in which the products are displayed. Conversely, customer experience management is generally focused on the customer experience and is not merely a way of presenting marketing techniques (3).

"Smart" is a new popular keyword in today's business world, which refers to technological and socio-economic advances in the modern world reinforced by the growth of communication and information and related technologies (4). Smart technologies are predicted to affect the world economy by approximately 6.2 trillion by 2025, with a special influence on the retail industry and shopping malls. Smartening, to introducing and using smart technologies, creates challenges and opportunities for vendors in this area (5).

In Iran, no study is performed to exactly assess the effects of the characteristics of shopping malls and smart experiences in shopping malls. But domestic and foreign similar studies are found. Foroudi et al. examined the effects of intelligent technologies on customer dynamics and customer experience and found a significant effect. Customer dynamics and customer experience also played a role in embracing the application of intelligent technologies innovation in a retail environment (2).

Undoubtedly, studying the smart customer experience and its valuable effects on customers and businesses is of great importance for modern societies. Developed facilities and increased customers' needs have more highlighted the need for smartening commercial and office centers.

Smartening business centers enables sellers, employees, and officials to offer their goods to customers in the best possible way and to manage their business environment in a completely automatic intelligent way. Therefore, this study used the phenomenological method and smart customer experiences to investigate the factors affecting the smart experience of buying health products in Tehran and to design a hybrid approach.

## Methods

This applied research was performed by a hybrid method (exploratory and descriptive survey), and the data were collected in a field-library way. The first phase was performed qualitatively using the phenomenological method. The term phenomenology has an inductive origin and is derived from the study of the phenomenon of everyday life . Phenomenology uses a systematic set of methods to develop a theory about a phenomenon and builds a theoretical formula of reality based on research findings. In this method, theory follows the interaction between data and analysis.

In this method, analyzes begin with "open coding 1" (identifying concepts, features, and dimensions) and continue with "axial coding 2" (examining conditions, strategies, and consequences) and finally, with "selective coding." The statistical population consisted of deputies and managers of shopping malls in Tehran who had a higher organizational state and were experts in shopping malls (N=16). The reason for interviewing the managers instead of consumers of shopping malls' products and services was that in many cases, consumer behavioural studies could be conducted indirectly with key members of distribution networks. The authors preferred to investigate the managers' perspectives for three reasons: 1) The importance and role of shopping malls in

marketing and sales management; 2) The role of shopping malls in value creation for customers and consumer behaviour, and 3) Shopping managers with more experience in interacting with customers can provide more comprehensive information on consumer behaviours and preferences.

In qualitative studies, the sample size depends on five factors: the study domain, subject nature, data quality, research design, and the use of shadow information. In the methods described, data are often obtained through interviews or focus groups, while various texts may be used. This research was performed through the targeted sampling method with multiple strategies (intensity and snowball sampling).

In this study, to collect the highest quality information, with the knowledge of a large number of professional managers of shopping malls and focusing on intensity sampling, those with the most experience of using smart customer experience in shopping malls were selected. Following the study, the next participants were selected using snowball sampling. It should be noted that the request to introduce the next person was made at the end of the interview session, and the participant could introduce help more accurately due to familiarity with the research objectives and the type of questions. Regarding the sample size in qualitative research, Patton, emphasizes that there are no rules for determining sample size in qualitative research; he believes that the sample size depends on several factors: what the researcher wants to know, the purpose of the study, what will be useful, what will be believable, and what can be done with time and resources (6). Therefore, the sample size is determined during the work, and sampling proceeds until data saturation.

In data saturation, the scholar realizes that the new data is a repetition of the previous data, and no new concept that requires new code or expansion of existing codes and categories will no longer be obtained. In this study, the data reached saturation after 16 interviews with managers of shopping malls that had a smart customer experience. An in-depth interview method was used to collect data.

In Phase II, conducted to confirm and test the relationship between the studied variables using the systematic qualitative method of the proposed conceptual model, a questionnaire was prepared based on the qualitative results of Phase I, and it was distributed among ten university experts in the field of shopping malls. Finally, the content of the questionnaire was confirmed by them. The reliability of the scholar-made questionnaire was tested by Cronbach alpha coefficient and composite reliability coefficient. Cronbach alpha value for all the components was higher than 0.85, and the reliability was approved. The statistical population of Phase II was the customers of shopping malls whose managers were interviewed. The number of participants was determined based on Cochran's formula as 298 individuals. In summary, using the sampling method and determination of sample size by available two-stage stratified method according to the number of managers disaggregated by the studied shopping malls, the data were collected with a standard questionnaire (completion rate was 91%).

**Qualitative data coding method:** A model was designed based on the initial, open, axial, and selective coding approaches, as well as examining indexes of smart customer experience. It should be noted that the process of data collection and analysis was performed in a zigzag simultaneous way. Data collection continued until the scholar reached the saturation stage in data analysis, and the concepts related to the phenomenon of smart customer experience in shopping malls, which were raised by various interviewees, were repeated, and no new material was added to the model. To develop a theoretical model of smart customer experience in shopping malls in

Tehran, the researcher has continuously and purposefully moved between open and axial coding processes during the data analysis stage. As Strauss Anselm & Corbin, have emphasized, the open and axial coding processes are not analytical; Rather, the coding process is dynamic and floating (7).

At the beginning of coding in this research, it was attempted to identify the concepts through open coding, and then, they were mutually related during the axial coding process. After the relationships between the categories were identified through open and axial coding processes, categories, subcategories, and their relationships were integrated into the selective coding process. To perform the open coding process, after writing the interviews from the recorded audio files and taking notes during the interview, tables were designed for ease of coding in three columns. The first column belonged to inputs and outputs, the second column belonged to the research variables resulting from the coding processes, and the third column belonged to the final code and the scholar's interpretation.

The purpose of the quantitative phase was to determine the impact and importance of the studied variables in the smart customer experience model. An exploratory factor analysis technique was used, and the first-order confirmatory factor analysis model of the components was also fitted. Due to the normal distribution of the observed variables (response items), the raw data were converted to the normal distribution, and then the model was fitted. LISREL software was performed to turn the raw data into a normal distribution. ATLAS.ti software in phase one and LISREL software in phase two was used for data analysis.

## Results

The general status of the interviews conducted in phase I are presented in Table 1.

Table 1. Demographic characteristics of the interviewees in Phase 1

| Variable | Sub-groups | No | % |
|---|---|---|---|
| Gender | Male | 10 | 62.5 |
| | Female | 6 | 37.5 |
| Educations | Bachelor's | 7 | 43.75 |
| | Master's | 6 | 37.5 |
| | PhD | 3 | 18.75 |

Phase I (Qualitative research): 302 categories were extracted through open coding of smart customer experience in both the input and output senses. The alignment of the categories and themes extracted in the next steps was confirmed in two categories, and in the relationship between the concepts at the axial coding level, two categories were identified. In the selective coding stage for both product categories, eight themes were identified. These results are presented in the appendix. Interviews were conducted in the winter of 2020. Depending on the present time of each participant, the interviews were conducted at different times of the day, and each lasted on average 30 to 35 minutes. Given the qualitative findings, the input variables (customer knowledge, perceived quality, sales promotion, and store environment) have a positive effect on the output's variables (word of mouth, customer satisfaction, and brand equity) in creating a smart customer experience in Tehran.

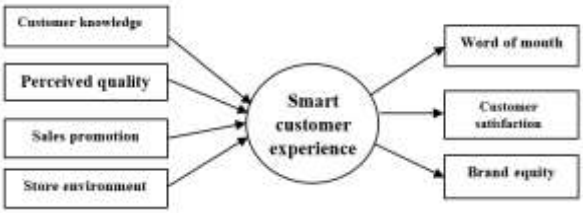


Figure 1. Conceptual suggested model Phase II (Quantitative Research)

The demographic information of Phase II in Table 2 shows that out of 298 questionnaires collected in Tehran, 82.1% of respondents were men. The average age of the respondents was 30 years.

Table 2. Demographic information of the participants in phase II

| Variable | Sub-groups | No | % |
|---|---|---|---|
| Gender | Male | 203 | 82.1 |
| | Female | 95 | 12.9 |
| Employment | Employed | 208 | 69.80 |
| | Unemployed | 90 | 30.20 |
| Educations | High school | 42 | 14.09 |
| | Diploma/Associate | 146 | 49.00 |
| | Bachelor's | 90 | 30.20 |
| | Master's | 16 | 5.36 |
| | PhD | 2 | 0.68 |
| | Theological | 2 | 0.68 |

Due to the importance of each of the indicators (questions) of the scale, to analyze the descriptive information related to the whole sample, after identifying the number of samples in each variable, mean statistics, standard deviation, minimum and maximum scores in the table are reported. According to the descriptive information obtained in Table 3 of each of the measurement scales, the relationships between the variables are calculated in the form of the correlation matrix and covariance in Table 4-8 in the data analysis section Table3.

According to the model findings, the items of each component of the smart customer experience had a positive factor load greater than 0.40m, and the calculated t value was more than 1.96, which supports the items' validity in measuring the components.

Since the entire model's input and output variables were obtained by a systematic method, the questionnaire questions were also taken from reliable international sources at Emerald, Elsevier, and Springer sites. Table 4 lists the sources of each question and item and Cronbach's alpha.

According to Table 5, the data of the matrix diameter and above it, and covariance and sub-diameter show the matrix of the correlation between the latent (endogenous and exogenous) variables. Scattered values are common between latent variables (covariance). The correlation matrix (data below the matrix diameter) manifests significant positive relationships among the latent endogenous and exogenous variables.

Table 3: Descriptive indicators of the sample

| Research Variables | Number | Mean Score | SD | Minimum | Maximum |
|---|---|---|---|---|---|
| Customer knowledge | 265 | 11/32 | 2/12 | 3 | 15 |
| Perceptual quality | 258 | 9/90 | 2/70 | 3 | 15 |
| Sales promotion | 262 | 10/13 | 2/61 | 3 | 15 |
| Environment | 261 | 8/98 | 2/37 | 3 | 15 |
| Word of mouth | 258 | 15/04 | 3/07 | 7 | 20 |
| Customer satisfaction | 257 | 13/96 | 3/52 | 4 | 20 |
| Brand equity | 259 | 15/02 | 3/19 | 4 | 20 |

Table 4. Variables, items, source of questions, and Cronbach's alpha test

| Variable | Items | Source | Cronbach's alpha |
|---|---|---|---|
| Customer satisfaction | 1,2,3 | Kumar et al., | 0.81 |
| Word of mouth | 4,5,6,7 | Kumar et al., | 0.82 |
| Brand equity | 8,9,10,11 | Jamshidi et al., | 0.79 |
| Sales promotion | 12,13,14,1,5,16 | Pantano et al., | 0.92 |
| Perceived value | 17,18,19 | Kumar et al., | 0.87 |
| Store environment | 32,33,34 | Casaló et al., | 0.83 |
| Customer knowledge | 20,21,22,23 | Jamshidi et al., | 0.87 |
| Perceived quality | 24,25,26,27,28,29,30 | Kumar et al., | 0.938 |

Table 5. Correlation matrix and covariance of the latent variables

| Latent variable | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Customer satisfaction | 4.71 | 3.18 | 3.49 | 1.49 | 4.90 | 2.69 | 3.56 | 4.59 |
| Word of mouth | **0.539 | 7.39 | 4.83 | 1.90 | 5.56 | 3.23 | 3.65 | 4.83 |
| Brand equity | **0.590 | **0.670 | 6.88 | 2.13 | 5.44 | 3.08 | 3.94 | 2.15 |
| Sales promotion | **0.293 | **0.293 | **0.344 | 5.50 | 2.35 | 2.68 | 1.85 | 3.49 |
| Perceived value | **0.617 | **0.578 | **0.567 | **0.284 | 12.64 | 5.50 | 6.98 | 4.41 |
| Store environment | **0.402 | **0.385 | **0.357 | **0.354 | **0.504 | 9.46 | 24.6 | 6.91 |
| Customer knowledge | **0.495 | **0.407 | **0.459 | **0.254 | **0.623 | **0.642 | 10.04 | 5.93 |
| Perceived quality | **0.439 | **0.419 | **0.678 | **0.578 | **0.678 | **0.478 | **0.578 | 9.85 |

P<0.05**

According to Table 6, (quantitative results), when the sample group size was 75 to 200 individuals, the chi-square value is reasonable for fitness. But for models with larger n, the chi-square is almost always statistically significant.

Chi-square is also affected by the correlations' values in the model; the higher these correlations, the weaker the fit, and other dimensions have been developed to fit the models. As a result, the chi-square of 261.90 indicates a reasonable fit.

Regarding the significance of $X^2$ size, the freedom degree is considered as a concept that measures $X^2$ magnitude. Root Mean Square Error of Approximation (RMSEA), which is reported as a decimal, is based on a non-central parameter.

If $X^2$ is less than the freedom degree, the root mean square error of approximation (RMSEA) is zero. This index is 0.05 or less for good models. Models RMSEA $\geq$ 0.10 have poor fitness. The confidence interval can be calculated for this index. Ideally, the lower limit of the confidence interval should be close to zero, and the upper limit should not be too large. The square root means square residual (RMSR) is a measure of the mean of the residuals and can only be interpreted about the size of variance and covariance. Typically, the smaller the criterion, the better the fitness. Goodness-of-fit index (GFI) is affected by the sample size and can be large for poorly formulated models. The quantity of this index varies from 0 to 1. 1 refers to the complete fit between the data and template, and 0 refers to the lack of fit. This index also varies from 0 to 1, and values close to 1 manifest the model goodness of fit. Among the above indexes, the root means the square error of approximation is generally considered a desirable index, but there is no agreement on them. It is wise to list all of them (the most important ones) in the report.

Fitness scores are generally between 0-1. Coefficients above 0.90 are considered acceptable, although this is also optional, like the P = 0.05. Results are shown in Table 7.

Table 6. Indexes of goodness-of-fit for the model of measuring the variables

| Index | Accepted value | Acquired value | State |
|---|---|---|---|
| Chi-Square | Sig>0.05 | 0.000 | Rejected |
| [1]GFI | GFI>0/9 | 0.855 | Rejected |
| [2]AGFI | AGFI>0/8 | 0.818 | Accepted |
| [3]RMR | RMR<0.08 | 0.068 | Accepted |
| [4]TLI | 0.90<TLI<1 | 0.969 | Accepted |
| [5]NFI | 0.90<NFI<1 | 0.947 | Accepted |
| [6]CFI | 0.90<CFI<1 | 0.986 | Accepted |
| RFI | 0.90<RFI<1 | 0.924 | Accepted |
| [7]IFI | 0.90<IFI<1 | 0.987 | Accepted |
| [8]CMIN/DF | < 5 | 3.366 | Accepted |
| [9]RMSEA | <0.08 | 0.079 | Accepted |

[1] Goodness Fit Index
[2] Amendment Goodness Fit Index
[3] Root Mean Square Residual
[4] Tucker-Lewis Index
[5] Normalized Fit Index
[6] Comparative Fit Index
[7] Incremental Fit Index
[8] Chi-double statistics are Normalized
[9] Root Mean Square Error of Approximation (RMSEA).

Table 7. Assumptions and results of the quantitative analysis

| Hypothesis | Constructs' relationships | | Result | T - Value |
|---|---|---|---|---|
| First | Customer knowledge | Smart experience | Accepted | 0.01 |
| Second | Perceived quality | Smart experience | Accepted | 8.83 |
| Third | Sales promotion | Smart experience | Accepted | 5.08 |
| Fourth | Environment Store | Smart experience | Accepted | 6.02 |
| Fifth | Smart experience | Word of mouth | Accepted | 8.83 |
| Sixth | Smart experience | Customer satisfaction | Accepted | -0.87 |
| Seventh | Smart experience | Perceived quality | Rejected | -0.20 |
| Eighth | Smart experience | Brand equity | Accepted | 3.40 |

The results of analysis of variance showed that the coefficient of the exogenous variable of customer knowledge (0.83), with T, = 0.01, perceived quality (0.22), with T = 8.83, sales promotion policies (0.47) with T = 5.08 had a significant positive effect on the smart customer experience at the P <0. Bu the direct path coefficient of the exogenous variable of the store environment had an insignificant negative relation with customer smart experience (-0.05), T = -0.20 at P <0. It was also revealed that the coefficient path of the endogenous variable of the smart customer experience on customer satisfaction (0.52), with T = -0.87 and the path coefficient of the exogenous variable of the smart customer experience on brand equity (0.22), T = 5.08 at P <0.05 was positive and significant. While the path coefficient of the endogenous variable of the smart customer experience on word of mouth (0.50) with T = 8.83 P <0.05 was negative and insignificant.

## Discussion

By confirming the hypotheses of this research, a new model in the Iranian health products (native model) was designed in the form of two main variables. However, all participants believed that several variables, including customer knowledge, word of mouth, brand equity, sales promotion policies, perceived values, and customer satisfaction, were among the most important elements of the final research model (the indigenous model of smart customer experience in the shopping malls industry).

-According to the results of the present study, the coefficient of the exogenous variable of customer knowledge (0.83), with T = 0.01, perceived quality (0.22), with T = 8.83, sales promotion policies (47.0), with T = 5.08 on the smart customer experience was significant, In previous research, the variable of customers' smart experience in using services in shopping malls has been considered as one of the most important criteria in retail marketing in the executive and academic fields. Kumar et al., (8), Pantano (9), and Kim et al., (10), studied the effect of smart customer experience in providing products and services in shopping malls. Their variables were in line with those of this research, and similar outcomes were found.

- In this survey, the effect of customer experience on word of mouth (0.50), with T = 8.83 at P <0.05, was negative and insignificant. -The effect of word of mouth in creating a customer experience was also examined by Yoon & Park (11), Casaló et al., (12), and Wangenheim & Bayón (13). It was discovered that this variable was considered as an output in the customer experience of services/products and creates positive, smart experiences. In today's economy, companies must focus all their activities and capabilities on customer satisfaction and loyalty because customers are the only source of return on investment. The results of the research are consistent with the present study.

-According to the effect of smart customer experience on customer satisfaction (0.52), with T = -0.87 and on brand equity (0.22), with T = 0.08, was significant. Smart customer experience refers to sales promotion policies, customer value, and responding to customer interactions to meet or exceed customer expectations, which in turn increases customer satisfaction and his/her intention to re-purchase. It should be noted that it is important to create a positive, smart experience for customers who are knowledgeable and able to choose between competing companies that provide services with different levels from poor to excellent. Previous studies show that almost 80% of customers of shopping malls pay more for a product/service if they are sure, it will provide a better smart customer experience.

Therefore, the modern competitive market requires all organizations to be customer-oriented. Customer satisfaction with the purchase and loyalty matters for organizations, and organizations evaluate their success/failure bases on the percentage of their retained customers. The success of customer retention depends on customer satisfaction and greatly helps to measure the quality of a product/service. The buying satisfaction variable was investigated by Tseng (14), Robertson et al., (15), Borghini et al., (16), and Terblanche Nic (17), and a direct relationship between customer experience and customer satisfaction with the purchase was discovered. This finding was consistent with the results of the present study.

Perceived values directly affect in-store experiences. This finding was previously reported by Weitzl & Zniva (18), and Kumar et al., (8). In other words, the main components of perceived values (hedonistic and utilitarianism) have been effective in creating a positive, smart experience for consumers in shopping malls.

In addition, the positive effect of brand equity on smart customer experience and the in-store experience was also discovered. Kapferer (19), Jamshidi et al., (20), Jones et al., (21), Fitzsimons et al., (22), and Ofir & Simonson (23), achieved similar results. Brand equity is desirable behavioural responses that affect the customer mind and behaviour.

Brand equity summarizes all products, purchases, services, and consumer experiences when the consumer interacts with stores/shopping malls Wu et al., (24) reported that three elements related to customer knowledge (knowledge for the customer, customer knowledge, and knowledge for the customer) play a key role in creating value, especially for businesses based on intelligent information technology (24). This is in line with the current research on the importance of the brand in the proposed model.Also, by constantly referring to the research background and different models and experts' opinions in this study, it was found that the results of the main components of smart customer experience in Tehran shopping malls in the form of 4 variables include customer knowledge, sales promotion, perceived quality, and store environment, while the outputs of smart customer experiences in shopping malls are customer satisfaction, advertising, perceived value and brand equity, and perceived risk. Customer knowledge is vital for creating a positive/negative buying experience, especially for services, since as soon as the customer communicates with us, he/she reviews the use of smart technology, and if he/she reaches a positive result and a desirable level of satisfaction, he/she always evaluates this technology well and thinks about applying, introducing and creating value for himself/herself.

- while the direct path coefficient of the exogenous variable of the store environment on the smart customer experience (-0.05), with T = -0.20, was insignificant. Despite the rise of smart service environments, academic research in this domain is still insufficient. Intelligent technologies have great potential for

improving the service environment, but their success depends on a deep understanding of customers' perceptions and behaviours and their effects on customers' purchase decisions. Therefore, learning about moving from smart technologies to smart services and creating value for customers through it seems important (2).

On the other hand, many individuals have highly knowledgeable about using smartphones, shopping online, and sending emails, and they are eager to learn about new intelligent technologies. However, some older customers do not know how to work with intelligent technologies and believe that they are too old to learn these skills or take the risks of using them. Customer knowledge is a component of customer dynamics in smart retail environments (25).

Roy et al. examined factors and consequences of the smart customer experience in the retail environment with a multi-stage methodology and surveyed an innovative structure in retail. It was manifested that the smart customer experience directly increased satisfaction and reduced the perceived risk of smart retail technology. Customer satisfaction helped strengthen word of mouth behavioural attitudes, shopping effectiveness, and customer well-being. On the other hand, perceived risk reduced behavioural intentions, periodic goals, and purchasing effectiveness (4).

Buying decisions depend on several factors. In addition to the customer's age, his/her gender also greatly affects smart shopping decisions and actions in a mall. For example, according to the results of this study, quality information about a product is more important for men, and middle-income people and price-sensitive buyers think more about product quality. Since buyers/consumers have complicated features, their purchase ideas and habits can be better thought out if examined carefully. Advertising in shopping malls also heavily affects buyers' decisions. Various shopping promotion methods are used in advertising for shopping malls.

Customer smart experience regarding services provided in smartening of shopping is classified into the strengths and weaknesses of shopping malls. The participants mentioned what factors influenced the creation of inputs and outputs of smart customer experience regarding using the services of shopping malls; Matching these two factors may improve the chance of creating a positive and desirable smart experience in shopping malls in Tehran since the audience's desire for a more desirable mix of the two main variables is needed at the same time. As a result, the formation of a positive, smart experience with the desired inputs and outputs is present in all shopping malls when providing services.

***Suggestions***

Suggestions to academic researchers: Use the proposed model for other statistical communities in Tehran to improve more services/values to consumers to achieve higher satisfaction and value. Scholars who are professional consultants of shopping malls are also suggested to use the new tools and variables provided to solve the problems of the retail industry. Suggestion to the managers of shopping malls: The results of this research may bring about a favourable competitive advantage for managers; Therefore, the practical application of these results will lead to success in the market after the recession with the coronavirus. Customer training, before running a system directly related to the experience of using the service, may improve the customer satisfaction and brand equity of shopping malls.

***Conclusion***

The results of this study revealed that customer experience inputs in shopping malls were a combination of the four examined factors, and outputs of smart shopping malls experience consisted of three main factors, while input variables

(customer knowledge, perceived quality, sales promotion, and store environment) positively affected the outputs (word of mouth, customer satisfaction and brand equity) in creating a smart experience in shopping malls in Tehran. In most previous studies, only modelling based on conceptual aspects is attended, and input and output elements in the context of occurred experiences are not well examined. Therefore, seemingly, no research has comprehensively focused on output and input elements of smart experience in shopping mall services in a model.

### *Research Limitations*

- Time was wasted because the questionnaire was distributed in person among the respondents and information was collected.

-Take a long time to explain the purpose of the research to attract better participation of respondents.

### *Author's contribution*

Azadeh Rajabi and Hossein Vazifedust developed the study concept and design. Kambiz Heidarzadeh Hanzaee acquired the data. Karim Hamdi and Hossein Vazifedust analyzed and interpreted the data, and wrote the first draft of the manuscript. All authors contributed to the intellectual content, manuscript editing and read and approved the final manuscript.

### *Informed consent*

Questionaires were filled with the participans' satisfaction and written consent was obtained from the participants in this study.

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### *Conflict of interest*

The authors declare that they have no conflict of interests.

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