Investigating the effect of customer education on customer satisfaction of nano foods in Iran

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Abstract
In the emphasis on knowledge as a key competitive factor in the global economy, corporations may be overlooking a major element – customer knowledge. Customer knowledge management (CKM) creates new knowledge sharing platforms and processes between companies and their customers. Customer education is one of the best ways of customer knowledge management. Despite companies' growing interest for customer education and the recent awareness in marketing literature of this concept, research on customer education remains relatively scarce. In this research a model which details the relationships between customer education and customer satisfaction was proposed and validated for Nano food product. The existence of two mediating variables was unveiled: product usage and product-usage related knowledge and skills. The experimental fieldwork was conducted in partnership with Nano food companies and their customers. In this research, clear evidence has been provided that customer education positively impacts on customer satisfaction and that specific mechanisms explain such effects.
Keywords: Customer knowledge management, Customer education, Customer satisfaction, Product usage, Product usage related knowledge and skills, Nano technology, Nano foods

1. Introduction

In the present post- industrial society, knowledge has become a key resource of the economy. Increasing demands of customers concerning quality and innovativeness of products and services put companies under pressure. At the same time, threats from worldwide competitors force them to reduce the price of products and services. In these circumstances' companies should be redesign their business process. In that economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. Indeed, knowledge is the most important strategic resource and the ability to acquire and develop it, share it and apply it can lead to sustainable competitive advantages. In recent years, as companies begin to develop competence in managing internal knowledge and applying it towards achieving organizational goals, they are setting their sights on new source of knowledge that are not necessarily found within the boundaries of the firm.This knowledge is called customer knowledge. It is the superior knowledge that enables organizations to exploit and develop resources, as well as, enhance their fundamental ability to compete. The processing of customer knowledge is involved in a customer relationship management (CRM) business process with the aim of retaining customers. Customer relationship management (CRM) is a term that refers to practices, strategies and technologies that companies use to manage and analyze customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships with customers, assisting in customer retention and driving sales growth. Nowadays, researchers propose that knowledge-enable CRM or customer knowledge management (CKM) is the way to succeed. Customer knowledge management (CKM) creates new knowledge sharing platforms and processes between companies and their customers .This leads to higher levels of customer satisfaction. Customer Knowledge Management goal to obtain the knowledge of the customers' various needs and their experiences in purchasing, using or maintaining products. This information is usually essential for predicting market development trend, identifying the new market opportunity, improving product or service and determining organization's goal. Companies by customer education can achieve CKM goals. Most studies suggest that customer education keeps customers more satisfied with their product and that satisfaction with a product increases when the intensity of customer education increases.

Particularly companies that produce and sell new products for example Nano food products will be addressed in this research by customer education can satisfy their customers and thus will lead to more sales and profits.

In this paper we investigate customer knowledge management specially customer education and its effect on customer satisfaction of nano foods in Iran.

2. Review of Literature

Nowadays, companies are looking for the knowledge of their customers. Customer knowledge is the main source that enables the companies to reveal the opportunities available for further growth and enhance their competitive advantages in the market. Customer knowledge has increasingly been

recognized within marketing as a significant resource that Can be managed to support research and development (Gibbert et al.2002),to improve innovation, to facilitate sensing emerging market opportunities and to support the management of long term customer Relationships (Darroch & Mcnaughton,2003).Companies should be able to use customer knowledge for organizational purposes.One of the best tools and processes used by companies to capture, store,organize,access and analyze knowledge of customers is customer knowledge management. Rowley (2002) suggests that customer knowledge management is concerned with the management and exploitation of customer knowledge. According to Paquette the process that a firm employs to manage the identification, acquisition and internal utilization of customer knowledge are collectively referred to as Customer Knowledge Management (CKM). It is within these processes that an organization and its customers collectively work together to combine their existing knowledge to create new knowledge. Accordingly, Gibbert et al. (2002) states that CKM is the strategic process by which companies emancipate their customers from passive recipients of products and services, to empowerment as knowledge partners. CKM gives an emphasis on customers as partners in the knowledge creation process. Customers co-create knowledge with an organization in order to create value for both parties by sharing knowledge residing within customers in order to create better products.One of the most effective ways of customer knowledge management is customer education.Because through customer education we can easily communicate with our customers.And since education is a two-way process, with the help of it,we can give our customers information about products and services,and use their feedback to innovate in products and services.Therefore,customer education can be used to manage customer knowledge.

Meer (1984) has pointed out that "The term customer education refers to any purposeful, sustained and organized learning activity that is designed to impart attitudes, knowledge or skills to customers or potential customers by a business or industry. It can range from self-instructional material for a particular product to a formal course related to a product or service." Companies sponsor the educational activities (Meer, 1984; Noel et al., 1990; Honebein, 1997). These programs target potential or current customers of the company (Meer, 1984, Hennig-Thurau, 2000). Increased customer satisfaction and loyalty are the expected outcomes of customer education (Bonfanti and Brunetti,2014). The objectives of customer education seem threefold. One objective is to provide customers with product usage related knowledge and skills. The other objective is to influence product usage. Finally, the last objective is to keep customer satisfied and loyal to their product.Customer education is more influential in products that are innovative,such as nanofoods.Nanofood as defined by the Nanoforum is that any food substance created by use of nanotechnological techniques in any part of the food chain- cultivation,production,processing and packaging- not just in food itself. Nanotechnology was invented by Prof. Norio Taniguchi at the university of Tokyo in 1971.The original definition of NanoTechnology is the production technology to get the extra high accuracy and ultra-fine dimensions,i.e. the preciseness and fineness on the order of 1nm(nanometer),10^{-9} meter in in length. Nanotechnology is the manipulation or self-assembly of individual atoms, molecules, or molecular clusters into structures to create materials and devices with new or vastly different properties.During the recent years, the indicators of nanotechnology growth in Iran have denoted a

high rise and many industries including the food industry use nanotechnology to produce their products.In this research, some of the active nano food companies in Iran have partnered with us .For example we can point to the Nano Pooyesh Yekta, a knowledge-based company.

3. Conceptual model and hypotheses

In this section,at first conceptual model will be presented and then the research hypotheses will be formulated. However, the definition of the different variables included in the research model and hypotheses is represented in advance. Table 1 summarizes the definitions concluded from the review of literature.

Table 1. Variables and their operationalization in the empirical study

Variable	Operationalization of the variable in the study
Customer education	**Customer education**: the general effort of company-sponsored, product-usage related education perceived by customers.
Product usage related knowledge and skills	**Level of product usage related knowledge and skills**: the amount of product-usage related knowledge and skills that customers possess
Product usage	**Product usage**: the way consumers actually use a particular product. Three distinct dimensions will be measured: Dimension 1: *Usage frequency*: how often the product is used, regardless of the product functions used, or the different applications for which the product is used Dimension 2: *Usage situation*: the different applications for which a product is used, and the different situations in which a product is used regardless of either usage frequency or usage function Dimension 3: *Usage functions*: the extent to which the product features/functions are utilized by consumers, regardless of how often the product is used
Customer satisfaction with the product	**Customer satisfaction** :a summary psychological state resulting from a product usage experience

3.1 Conceptual model
In this study we examined the impact of customer education on customer satisfaction and for this purpose we used two mediating variables: Product usage related knowledge and skills and product usage.Therefore,the conceptual model is presented below.
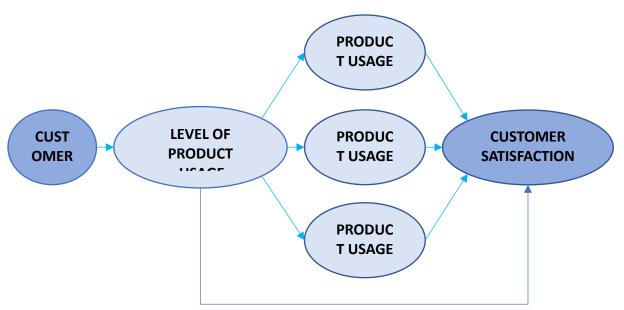
Figure 1.Conceptual model of the research

3.2 Research hypotheses

H1: Customer education has a significant effect on customer satisfaction with the product.

This research aims to define the concept of customer education and to understand and measure the impact of customer education on customer satisfaction. The decision to investigate customer satisfaction as the ultimate outcome of customer education has been purposefully taken. Satisfaction has been demonstrated to be a key indicator of future company performance. Many studies have established that customer satisfaction is an antecedent of customer loyalty and company profit(Mittal and Anderson, 2000; Fornell et al., 2006). Thus, understanding the impact of customer education on customer satisfaction is a first step towards analysing the impact of customer education on company performance. The choice of satisfaction is also justified by existing literature on customer education. Satisfaction is an evaluative judgment following a consumption experience (Oliver, 1981; Westbrook, 1987; Oliver, 1997). Most studies suggest that customer education keeps customers more satisfied with their product and that satisfaction with a product increases when the intensity of customer education increases (Shih and Venkatesh, 2004;Bonfanti and Brunetti, 2014; Suh et al. 2015).

H2: Customer education has a significant effect on level of product usage - related knowledge and skills.

No specific measure has been performed in previous research to determine the nature and intensity of relationships between customer education and the level of product usage related knowledge and skills.

But some studies have provided closed evidence of these relationships even though they do not deal directly with customer education. Indeed, most of these research studies focus on one particular aspect of customer education, such as product instructions or training activities:

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- Jones et al. (2003) empirically demonstrated that customers gain product related skills from a good level of understanding of product instructions.

- Mittal and Shawney (2001) also provided empirical evidence that training sessions positively impact the acquisition of consumption-oriented skills.

- Wood and Lynch (2002) showed that new product information and usage instructions positively impact the level of knowledge of this new product.

Despite the specificity of these works, it can be inferred from previous research that providing customers with product usage-focused education will help them to acquire consumption oriented knowledge and skills.

H3 : Level of product usage related knowledge and skills has a significant effect on product usage frequency.

Mittal and Sawhney (2001) showed that the initial learning experience has a positive impact on the usage rate of electronic information products and services (usage rate depicts frequency of usage in their study).

The authors empirically explain that the increase in usage frequency is dependent on both content learning (nature of information contained in the product or service) and on process learning (explaining how to use the product). Another assumption proposed by Aubert (2007), is that customer usage frequency increases providing that customers understand the value of usage. Since very few empirical surveys have depicted the relationships between the level of product usage related knowledge and skills and usage frequency, it is suggested to replicate this measure.

H4: : Level of product usage related knowledge and skills has a significant effect on product usage situation

Shih and Venkatesh (2004), show that external communication (including help-lines, online chat groups or third-parties) and exposure to specialized magazines, have a positive impact on variety of use ("intense use" or "non-specialized use"). In their study, variety is mainly related to usage situations (they analyse the activities covered by computer use). Through external communication sources, consumers acquire knowledge, discover, try and adopt new usage situations for the product. Similarly, Ram and Jung (1991) suggest that the scope of product usage can be increased by heightening consumer awareness through customer education initiatives such as seminars or brochures. From the aforementioned works, it can be arguably suggested that the level of product usage related knowledge and skills will have a positive impact on the usage situation. The more customers are explained the different usage situations of the product, the more they may acquire knowledge and skills that allow them to vary these usage situations.

H5: Level of Product usage related knowledge and skills has a significant effect on Product usage function.

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Jones et al. (2003) have empirically demonstrated that usage instruction manuals provide consumers with knowledge and skills that allow them to experience fewer problems related to usage. Ram and Jung (1990) postulate that tools such as user-friendly manuals allow consumers to learn about product features and functions. Hennig-thurau (2000) suggests that the acquisition of consumption-related knowledge helps the customer to understand and discover the specificities of a product. Thompson et al. (2005), Aubert (2007), explain that difficulties in apprehending and understanding the multiple features of a product can decrease usage function. It can be inferred from this research that education may help customers to better discover and understand the features of products.

H6 : Product usage frequency has a significant effect on customer satisfaction with the product

H7 : Product usage situation has a significant effect on customer satisfaction with the product.

H8: Product usage function has a significant effect on customer satisfaction with the product.

Existing research has established positive relationships between product usage and customer satisfaction with the product. Bolton and Lemon (1999) and Downing (1999) empirically established that usage and satisfaction are highly correlated. Similarly, Bitner et al. (1997) showed that the level of customer participation in the service process (customer usage of the service) has a significant impact on satisfaction.

Even though these general relationships have been established, there is a need to more precisely understand the respective impact of the three dimensions of product usage (usage frequency, usage situation and usage function) on consumer satisfaction with the product.

Very few measures have been taken to this effect, but relations are visibly contingent:
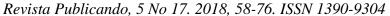
- Shih and Venkatesh (2004) established that relationships between usage and

satisfaction are clear in extreme situations (low rate - low variety or high rate-high variety) but are more difficult to define in other cases (low rate-high variety or high rate-low variety).

-Ram and Jung (1991) determined that dimensions of usage which affect satisfaction vary across products. For example, they established that for cameras and personal computers, usage situation strongly influences satisfaction. Satisfaction is a judgment about a product or service feature, or about the product or service itself(Oliver, 1997). So, a high rate of product usage, a high usage situation and a high usage function can help consumers to better appreciate the performance of the product or to have more realistic expectations about the product (Jones et al., 2003; Aubert ,2007). Consequently, with regard to the expectation-disconfirmation paradigm, a high level of perceived product performance or realistic expectations may lead to a higher level of satisfaction.

H9: Level of product usage - related knowledge and skills has a significant effect on customer satisfaction
with the product.

A few studies have sought to verify that the more customers are skilled and knowledgeable about the usage of a product, the more they are satisfied with this product.

- Jones et al. (2003) and Aubert (2007) empirically established that customer understanding of usage instructions has a positive impact on customer satisfaction.

- Hennig-Thurau (2000), Bonfanti & Brunetti(2014), and Suh et al. (2015) showed that an increase in customer skills increases customer satisfaction with the product and the product-related perception of quality.

The authors suggest (without testing this hypothesis) that the customer's more awareness of being able to use additional features could have a positive effect on his/her satisfaction with the product.

4.Methodology

4.1 Purpose of the research

The main purpose of the research is to investigate the effect of customer education on customer satisfaction of nanofoods in Iran.

4.2 Sampling

The statistical population consists of individuals or units with a common goal. Usually in any research, the society under investigation is a statistical society that researcher wants to analyze the variables of its units.Statistical population of the research includes customers of nanofood companies In Iran. In this study, Cochran Formula is used to calculate the sample size. Sample size is 384 people and sample population is selected by stratified random sampling method.

$$n = \frac{Z^2 P(1-P)}{d^2}$$

n : sample size

Z : normal variable value of standard units that is calculated 1.96 with 95% confidence level

P : the estimated proportion of an attribute that is present in the population . if not available , it should be 0.5 . In this case, the variance reaches its maximum.

q : the percentage of the people who do not have that attribute (q=1-P).

d : acceptable error

4.3 Data collection

Data collecting and its methods are the most important parts during the research process. Certainly, there are various tools to collect data and each researcher according to the research type and the necessity selects one of these methods; review the researches, questionnaire, interviews and observations. The questionnaire is used to explain about respondent's view.In this research,a surveying study, a questionnaire tool was used to collect information. We used Cronbach Alpha method to test the questionnaire at the final stage and also we used the confirmation of honorable supervisors and experts. The questionnaire is designed by using Likert scale with 5 choices.

Table 2.Calculating the reliability of the questionnaire variables

Cronbach Alpha	variable	Row
0.784	CUSTOMER EDUCATION	1
0.796	CUSTOMER SATISFACTION WITH THE PRODUCT	2
0.784	LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS	3
0.813	PRODUCT USAGE FREQUENCY	4
0.824	PRODUCT USAGE SITUATION	5
0.775	PRODUCT USAGE FUNCTION	7
0.806	Total	

Since the amount of calculated Cronbach Alpha coefficient on this way for all of the variables of the questionnaire was more than 0.7, therefore the questionnaire has an appropriate validity and reliability.

5. Data analysis and results

This section according to the research goal and along the statistical assumption is available in three parts. In the first part, descriptive findings, the information about research variables is described. In the second part, statistical assumption, we try to test the research hypothesis and finally in the third part, the summary of finding, we summarize the results of the statistical hypothesis.

5.1 Descriptive findings of the research variables

In descriptive method, we try to explain about the research data by presenting tables and using descriptive statistic tools such as central indicators and dispersion. This act will help to clarify the issue. In this type of analysis, collected data was classified and summarized by using descriptive statistic indexes.

5.1.1 Characteristics of the respondents

Statistical population of the present study includes are the customers of some nanofood companies in Iran.

In this part, after collecting the data, we try to describe respondents or active customers of nanofood companies from different aspects. We study the distribution of the statistical sample, about their variables, such as worik experience and education of respondents. In this section, one of the characteristics of respondents is presented.

●**Level of the education**

As you see in the table 3, most of the respondents had bachelor's degree. The frequency of respondent's education is provided in the table below:

Table3. The frequency table of the education level

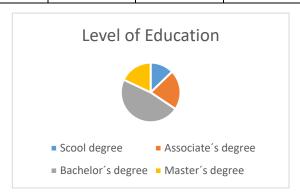| Cumulative percent	Percent	Frequency	Level of education
12.76	12.76	49	School degree
34.37	21.61	83	Associate's degree
82.02	47.65	183	Bachelor's degree
100	17.98	69	Master's degree and higher
	100	384	Total

Figure2. Frequency chart of education level

5.1.2 Descriptive statistics of the research variables

The following table provides a descriptive statistic of the research variables.

Table4. Descriptive statistics of all the research variables

Kurtosis	Skewness	Standard deviation	Average	statistic / Variable
1.776	1.334	0.197	3.02	CUSTOMER EDUCATION
1.519	1.382	0.153	3.19	CUSTOMER SATISFACTION WITH THE PRODUCT
2.106	1.290	0.121	3.04	LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS
1.665	1.409	0.175	3.11	PRODUCT USAGE FREQUENCY
2.217	1.374	0.125	2.69	PRODUCT USAGE SITUATION
1.549	1.265	0.103	3.24	PRODUCT USAGE FUNCTION

According to this table, the highest average is for product usage function and the lowest average related to product usage situation. The highest standard deviation is for customer education and the lowest standard deviation related to product usage function.

5.2 Normality test of the variables

In this study we use Kolmogrov-Smirnov test to analyze the normality of the variables. In fact, this test is to analyze the normality of data distribution about a quantitative variable. In this study, doing this master work have been possible by using the SPSS software. To examine the normality claim of the particular variable, we use the following:

H0 : The distribution of the selected variable is normal

H1 : The distribution of the selected variable is not normal

According to the output of SPSS software, we can understand the normality distribution of the selected variable. If the level of significance is more than 0.05, the null hypothesis will be accepted and the claim 'normality of the selected variable' will be confirmed. Here is the result of the normality test of variables:

Table 5.Test of variable normality

Level of significance	Z Kolmogrov-Smirnov	variable
0.691	1.712	CUSTOMER EDUCATION
0.299	1.869	CUSTOMER SATISFACTION WITH THE PRODUCT
0.138	1.739	LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS
0.642	1.741	PRODUCT USAGE FREQUENCY
0.098	1.892	PRODUCT USAGE SITUATION
0.443	1.924	PRODUCT USAGE FUNCTION

As you see, since the level of significance in all the variables is more than 0.05,therefore the research variables are distributed normally.

5.3 Structural equation modeling and partial least square method

The partial least square method consists of a structural component like all structural equation modeling methods, that shows the relations between hidden variables and a measurement

component, and also describes how the hidden variables and their components are associated. In Structural Equation Modeling it is necessary to test the model.This model includes measurement models for each latent variable.Measurement model represents the
factor loads of observed variables for each latent variable The common fitting indicators in measuring models for the latent variables of this research are presented in the following table. All of the operations for analyzing data are done using the Smart PLS software.As can be seen the main fitting indicators of all latent variables are in the proper and acceptable range.

Table 6. Fitting indicators of measuring models for latent variables

Fitting Indicators								Latent Variable
AGFI	GFI	RFI	IFI	CFI	NFI	RMSEA	X2/df	
0.94	0.9	0.91	0.95	0.95	0.91	0.08	1.24	**CUSTOMER EDUCATION**
0.98	0.99	0.97	1.00	1.00	0.99	0.04	2.06	**LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS**
0.95	0.99	0.98	1.00	1.00	1.00	0.037	1.56	**PRODUCT USAGE FREQUENCY**
0.96	0.98	1.00	1.00	1.00	1.00	0.02	1.24	**PRODUCT USAGE SITUATION**
0.92	0.97	0.97	1.00	1.00	0.99	0.008	1.35	**PRODUCT USAGE FUNCTION**
0.94	0.98	0.94	0.97	0.97	0.97	0.048	1.68	**CUSTOMER SATISFACTION WITH THE PRODUCT**
More than 0.9	More than 0.9	More than 0.9	More than 0.9	More than 0.9	More than 0.9	Less than 0.08	Between 1 To 5	**Acceptable Values**

After testing the measurement models, now it is necessary to present structural model that shows relationship between the latent variables in this research.By using the structural model we can examine the research hypothesis.
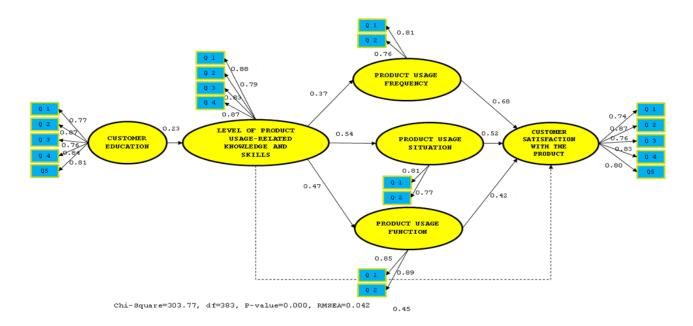
Figure 3. Structural equaton model in the case of estimating the path coefficients of the conceptual model of research
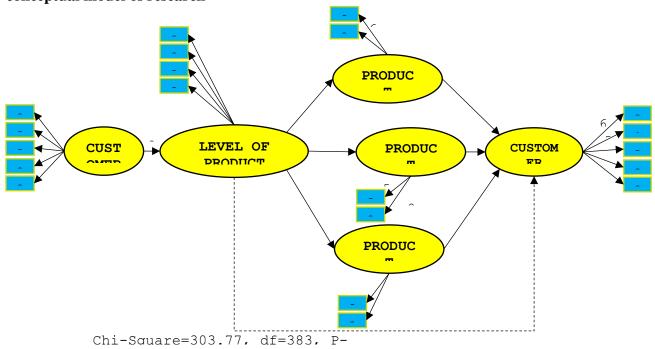

Figure 4. Structural equaton model in the case of significance of the coefficients (t value) of the conceptual model of research

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The results of the factor analysis outlined above show that all the indices related to the Variables have acceptable t values and the factor loads.So,for research variables,are Considered appropriate indicators.

5.4 Correlation test

In this research we analyze the correlation between the variables before the hypothesis. As it was found before, the data distribution is normal. So, the Pearson correlation coefficient is used to analyze the correlation between variables. Table 7 is the result of this analysis:

Table7. The Pearson correlation test of the research variables

PRODUCT USAGE FUNCTION	PRODUCT USAGE SITUATION	PRODUCT USAGE FREQUENCY	LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS	CUSTOMER SATISFACTION WITH THE PRODUCT	CUSTOMER EDUCATION	variable
.793 sig. (.032)	.764 sig. (.004)	.703 sig. (.000)	.091 sig. (.071)	.327 sig. (.036)	1	CUSTOMER EDUCATION
.547 sig. (.042)	.307 sig. (.000)	.694 sig. (.001)	.204 sig. (.047)	1		CUSTOMER SATISFACTION WITH THE PRODUCT
.426 sig. (.010)	.512 sig. (.002)	.324 sig. (.078)	1			LEVEL OF PRODUCT USAGE-RELATED KNOWLEDGE AND SKILLS
.163 sig. (.188)	.009 sig. (.176)	1				PRODUCT USAGE FREQUENCY
.276 sig. (.068)	1					PRODUCT USAGE SITUATION
1						PRODUCT USAGE FUNCTION

According to the table of Pearson correlation test, the variables; customer education and Customer satisfaction with the product have a direct significant correlation with number of times and product usage function . And also customer education has a direct significant correlation with Customer satisfaction with the product.

5.5 Hypothesis test

The first hypothesis of the research analyzes the effect of customer education on customer satisfaction with the product.

H0: Customer education does not have a significant effect on customer satisfaction with the product. H0: $\beta = 0$

H1: Customer education has a significant effect on customer satisfaction with the product. H1: $\beta \neq 0$

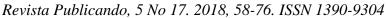The estimated coefficients of regression equation are shown in table below;

Table8. The result of the multivariate regression

Significant level	Statistic t	coefficient	Variable title	symbol	Variable type
–	–	–	CUSTOMER SATISFACTION WITH THE PRODUCT	Y	Dependent variable
0.000	2.665	1.870	Alpha	α	constant
0.043	2.768	0.923*	CUSTOMER EDUCATION	Independent variable	
0.003	2.995	0.994*	PRODUCT USAGE FREQUENCY	Mediator variables	
0.000	2.815	0.684*	PRODUCT USAGE SITUATION		
0.013	2.887	1.946*	PRODUCT USAGE FUNCTION		
–	–	1.863	Durbin-Watson		
0.000	–	1.084	Statistic f		
–	–	0.767	Correlation coefficient	R	
–	–	0.589	Determination coefficient	R Square	
–	–	0.582	Adjusted Determination coefficient	Adjusted R Square	

*level of significance is 0.05

As the table shows, since the level of significance and control is less than 0.05 (p-value<5%) and the correlation coefficient is positive, product usage frequency ‹product usage situation ‹product usage function and customer education have direct significant effect on Customer satisfaction with the product.
The coefficients of variables show that the effect of product usage function on Customer satisfaction with the product is more than other variables. According to the statistic f, fitted

regression pattern is significant and according to this determination coefficient, these variables explain 58.9% of customer satisfaction with the product changes. Also, since Durbin-Watson statistic is between 1.5 to 2.5, therefore we can say there is
no autocorrelation problem between the variables. The positive coefficient of customer education(0.923) is the result of direct effect of customer education to use the product on customer satisfaction with the product so that with 1 unit increase in customer education we have 0.923 Increase in customer satisfaction with the product.
Therefore, due to the analysis on confirmation of research first hypothesis, we can say Customer education has a direct significant effect on customer satisfaction with the product in using the product.

Hypothesis 2

Customer education has a direct positive effect on level of product usage-related knowledge and skills.

H0: Customer education does not have a positive effect on level of product usage-related knowledge and skills.

H1: Customer education has a positive effect on level of product usage-related knowledge and skills.

Table9. The result of hypothesis 2

Test result	Test statistic t	β Effect size	Hypothesis title
H0 is rejected and considered hypothesis is confirmed	3.89	0.23	CUSTOMER EDUCATION has a direct positive LEVEL OF PRODUCT USAGE- effect on RELATED KNOWLEDGE AND SKILLS.

Based on table 9 computing results, path coefficient customer education effect on level of product usage-related knowledge and skills was 0.23 and the amount of test statistic on this effect was 3.89. Given that this amount is greater than threshold value 1.96, so the null hypothesis will be rejected with 95% confidence.
Other hypotheses were also tested and verified.

6. Conclusions and recommendations
Based on the obtained research results, the following conclusions were made:
1.A new direction of scientific and technological progress of the 21st century in the world is the nano-technological triumphal march. Nano-technology creates substances with new functional characteristics within 1-100 nanometer sizes and by controlling and improvement of these new

characteristics expands the fields of application of nano-substances. Products developed by nano-substances are more affordable, durable and attractive and have the possibility of multi-profile applications, may contribute to the creation of new generation products with new promising solutions /diagnostic equipment, medicine, fuel, instruments, nano-food/.

2.In the Islamic Republic of Iran, public perceptions regarding to nano-science achievements and scientific researches are in initial stages. Through our investigations corresponding solution has been given to this issue "Does the customer education affect over their satisfaction level towards nano-food products?". As a result of investigating the options, it was clear that between customer education and their satisfaction regarding nano-food products, exists a significant positive connection.

3.In the Islamic Republic of Iran, active organizations of nano-food production are still beginners, do not have affordable information about their products and services and customer education sector, which provides the opportunity not only in establishing close relations with customers, but ensures sustainable profitability as well.

4.Customer teaching opens new perspectives for the organizations, in a sense that by analyzing their customers' taste and preferences closely, the organizations are able to understand better their needs and changing demands and respond on time, which promotes the development of innovations by the organizations and leads to the creation of products with new and improved characteristics.

Based on research results and conclusions reached, the following recommendations were made:

1.The government and organizations should inform people about nanotechnology and its applications sepcially nanofoods and its benefits by media advertising,newspapers and etc.

2. Establishing Customer knowledge Management system specially customer education Department in nanofood companies to educate customers about how to use their products That caues to increse customer satisfaction that it leads to improve Their selling and profits.

3. Nanofoods are the best for exporters because they can preserve food materials include fruits,vegetables,meats and etc from decay for a long time.

4. Farmers can use nanofoods to improve their products for examples by using nano mucks They can produce more and more and these mucks arent harmful so its very useful for Agricultural industry.

5. The refrigerator manufacturers can use nanofood filter by puting this filter in the refrigerator that causes keeping food materials in the refrigerator for a long time.

6. We recommand Customer Knowldege Management system is established in different industries and other methods of CKM can be investigated.

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