Research Article

Investigating the Effect of Product Packaging Design on Attracting Customers About Cosmetic Products with Conjoint Analysis Method

Nima Asadian[a], Davood Jafari [a,*], Loabat Parvizi [a]

[a] *Department of Industrial Engineering, Parand Branch, Islamic Azad University, Parand, Iran*

Abstract

The present research is based on the design of packaging based on the golden ratio technique and its effect on attracting cosmetic and cosmetic products customers using conjoint analysis. The sample size of this study was 385 women over 18 years old in Tehran. Data were collected by interview and questionnaire. The results of this study showed that the golden ratio has a significant effect on the attractiveness of packaging and the increasing intention to buy customers, as well as the level of education people, have on the choice of packages that have a golden ratio in them is very effective. They have a direct relationship with each other. Also, features of geometric shape, color and writing language are influential in choosing the package and intention to buy customers.

1. Introduction

In an increasingly competitive market, packaging is one of the most essential factors in making a purchase decision. Packaging is an essential source of information about sales, from the customer's perspective its overall features can underscore the quality and uniqueness of the product and then influence the purchase decision. Therefore, packaging becomes an essential part of your sales strategy from the manufacturers' perspective and provides the ultimate opportunity to persuade potential buyers before choosing a brand (Luceri, 2020). At the same time, all activities should be scheduled to bring maximum gains (Mgbemena, 2020).

Manufacturing factories have been focusing on positioning to strengthen their competitiveness in domestic and foreign markets. To product's positioning in the market, the customer's perception of the product should be analyzed because it can influence the company's production strategy (Ampuero, 2006). To stabilize the product position in the market, the customer's perception of the product must be analyzed; it can influence a company's production strategy (Luceri, 2020).

The saturation of the market, increasing competition, changing tastes and customer needs has made Iranian companies face different challenges to consumers. In such circumstances, Companies can overcome these challenges and ensure their survival through the correct use of facilities such as the design and development of new products, high quality and economical products and suitable packaging. Now is the time for experts and marketers to pay particular attention to the importance of packaging and its impact on buyers' decisions, thereby

enhancing corporate profitability and reassessing their attitudes (Zarei, 2019).

The main focus of marketing research is on the impact of the visual and verbal elements of packaging on the product selection process. Visual elements include color, shape, material, size, and graphics, and verbal features include ingredients, nutritional value, and producer country. Many studies have shown that both visual and verbal elements can have a powerful impact on consumers' responses to a product and influence their purchase decision (Luceri, 2020).

Packaging is also an essential factor in a customer's purchase decision because the customer interacts with the product when making a store decision. The way that the product content is perceived using packaging influences the selection and is the key to success for a cosmetics marketing strategy (Silayoi, 2007).

Packaging and labeling serve as a source of customer expectations. Because in today's stores for consumer goods, fewer retailers influence the purchasing process and customers rely more on their information or the information they receive from the packaging (Deliza, 2003).

Since customer buying depends on the degree of satisfaction that meets customer expectations, if the decision is not made before entering the store, it is essential the customer must establish a relationship with the product, mainly through product packaging. The concept of customer experience primarily dealt with customer rational decision-making. Then, it covered factors, which pay attention to customer behavioral aspect (Abadi, 2021).

Given the importance of packaging in a customer's final decision, the need to understand consumer behavior is not

*Corresponding author Email address: Djafari5071@yahoo.com

hidden. A review of past studies on the packaging shows that traditional analysis focuses only on the intrinsic characteristics of the product, which is by no means responsive to the current highly competitive market, At the same time, the exterior features of the product also consumer behavior has a direct impact and gives managers the ability to predict marketing decisions such as packaging modification better.

1.1. Topic importance and research necessity

With the ever-expanding cosmetic industry in the country and around the world, as well as the intense competition of each of the companies to reach the target market and satisfy potential customers and to provide different brands with diverse properties of cosmetics as a representative role; the goods are identified. Statistics show that 70% of consumers of consumer goods make instant purchases and have no choice in advance. Packaging is one of the factors that have an essential role to play in the immediate purchase (Silayoi, 2007).

Packaging is known to be one of the factors affecting product positioning in the customer's mind for various reasons. The first reason is that with the rising cost of advertising and the inability of companies to pay for it, the manufacturer seeks to communicate with the customer when purchasing, which is the main way of packaging it. Second, buying cosmetics is made directly in the store (Ampuero, 2006). Many customers are confused by consumer testing and are faced with inconsistencies in their expectations and are uncertain about the next choice (Lange, 2000).

Expectations of packaging contents can change the reaction to the product. In addition, the relationship between expectations and actual product performance is crucial. In marketing, creating positive expectations attracts customers, which is desirable (Tuorila, 1998). Marketing relies directly on visual communications such as packaging that informs the customer and persuades them to buy. In instant purchases, oral communication is the most influential factor in purchasing decisions, but cosmetics the packaging plays the role of a seller (McNeal, 2003). It is also said that the dominant feeling when shopping is vision (Rebollar, 2012). For many reasons, the expectations created by packaging have a huge impact on the customer's perception of the product. Therefore, the R&D unit must have a strong link between the two concepts to benefit the customer. Marketing should not only focus on what the customer is looking for but also what the customer is expecting from the packaging and the R&D department should strive to produce the desired product. Given expectations, customers will certainly be more satisfied with the product (Ares, 2010).

On the other hand, there are many packaging and design of packaging problems in our country, some of which are the most important is the lack of culture and belief in beautiful design packaging, outdated packaging

machines, high printing costs, and high design costs. Packaging Due to the importation of most of its raw materials, the weakness of the education system is the training of experts in the field and the lack of hygiene principles in packaging.

As the strategic importance of packaging design increases, the importance of applied research to optimize packaging design and decision-making becomes more apparent. Therefore, as people pay attention to product packaging, this research identifies the priorities of packaging features and their impact on customer expectations.

1.2. Hypotheses

1. There is a relationship between packaging color and customer purchase decision.
2. There is a relationship between the geometric shape of the packaging and the customer purchase decisions.
3. There is a relationship between the written language and customer purchase decisions.
4. There is a relationship between image and customer buying decision.
5. The golden ratio affects the attractiveness of the packaging.

1.3. Research area

This research is in the field of packaging design of cosmetic products. That examines the impact of different packaging features on customers' purchase intention. The time-domain of this research is from June-July of 2017 to February of 2018 and the spatial scope of this research was related to Tehran. The sample size was 385 women over 18 years old. Respondents in terms of age were divided into four categories: 18-28 years, 29-39 years, 40 to 50 years and 51 years and above.

2. Theoretical Background of the Research

Ares and Deliza examined the packaging dimensions of products and how they were selected by customers based on their age and sex and based on three categories of food products. The results showed a high correlation between packaging dimensions and food product selection. In another study, using two open-label and associative vocabulary techniques, the researcher identified the key features of milk dessert packaging and believed that identifying these features would help design packaging consistent with customer needs and expectations have. The results of this study emphasize the importance of the shape and color of packaging in the first place and the taste and brand in the following categories. The results of the two techniques were similar. The shape and composition of the packaging as well as the label design were essential. Customers pay close attention to mandatory information such as expiration date, brand and

compounds on the label. These results help the market to produce attractive packaging (Ares, 2010).

G. Ares et al. investigated the impact of customers' desire to buy desserts using conjoint analysis and clustering techniques based on five factors. Factors include dessert type, brand, packaging shape, packaging color and shape on the packaging label. Clustering has been used to categorize customers according to their choices, and conjoint analysis has been investigated to determine the most influential factor in customer acquisition desire. The results of this study showed that three customer groups were identified. For all three groups the color of the packaging and shape on the packaging label had the most influence on the customers' desire to buy. These three groups are of high, medium, and small importance to the order of purchase. Therefore, their research hypotheses 1) the effect of packaging features on the desire to purchase and 2) the effectiveness of customer-oriented shopping in product acceptance, were proven (Ares, 2010).

In a study reviewed by R. Rebollar et al., "Deciding while choosing a gum pack". Also, the effects of packaging design variables on customer expectations of product characteristics in the desire to buy and the impact of the shape and color of the packaging on the desire to purchase and the customer's sensory and empirical expectations of the gum have been studied. In this study, ninedifferent colour packages and formats were selected for the research, and the obtained data from customer scores were analysed by the multidimensional scaling technique. The study results showed that the most effective factor in the tendency to buy chewing gum is the packaging colours that are preferred to warm colors (Rebollar, 2012).

In a study, Cristian Pantus et al. used a combination of conjoint analysis methods of analyzed and measurement of psychological physiology, and 107 patients were studied. Emotions were measured by technology developed and presented by Realeyes. The results showed that by combining essentials visual effects in the packaging and measurement of facial mental states and psychological physiology with the EEG device, positive emotions of shoppers can be predicted more accurately and faster than ever (Pentus, 2014).

Mmari (2015) conducted a study in the Dodoma metropolitan area. Data were collected using a semi-structured questionnaire with a sample size of 300 consumers of food factory products. The results showed that packaging plays a key role in the purchase decision and customer preferences and the environmental aspect is essentials for customers (Mmari, 2015).

Through Questionnaire Karlous Velasco studied 305 participants in the visual elements in Experiment 1, and in Experiment 2, 301 individuals were assessed for willingness to pay. The results showed a complex relationship between the desire to pay and the visual aesthetic elements. But given the research's focus on aesthetic preference, while acknowledging its importance in prioritizing customer acquisition, it has emphasized

using new tools rather than questionnaires to evaluate visual aesthetics in product packaging (Velasco, 2015).

Riaze Shamsa conducted a study with a sample size of 200 female respondents using a questionnaire. All respondents were educated and used a lot of cosmetics. The results showed that packaging design is a very influential marketing tool that is essentials in attracting customers and promoting products and appealing package design has a straight relationship with an increase in women's cosmetics and appealing packages will be preferred (Riaz, 2015).

Orse Gaston conducted a study to compare the symmetry-based analysis of selection and selection to study the effect of three variables on the label design of two popular ready-made foods: yogurt and sponge cake and children's reactions to it. A total of 238 children from grades 1-6 in elementary school (Uruguay) participated in the study. This approach showed that the use of cartoon characters and high nutritional value have a positive effect on attracting and affecting children. The use of choice-based symmetry analysis techniques for children is also more understandable than the score-based symmetry analysis techniques (Ares, 2016).

Erburty conducted a research using conjoint analysis and the CUB model. A total of 23 cards were drawn by mixing images and descriptions. Two versions of the conjoint analysis were developed with the questionnaire. After using the conjoint analysis estimation method and prioritizing the data set, the results showed that the packaging properties were the most appropriate, and the results showed that the environmental biodegradability of the packaging made the customer feel good and therefore attracted them (Arboretti, 2016).

Nørgaard & Giacalone examined the impact of packaging design on consumers' perceptions of newcarrot quality and, in a combined analytical approach, 251 Danish customers evaluated the quality and expected price of 9 packaging images including packaging type (plastic bag, plastic box, paper). Cardboard) and label color (blue, brown, grey). The results showed that the type of packaging was the main factor affecting customer perception. In particular, box packages convey higher value and quality to the customer than plastic bags. In addition, transparent packaging, which allows the customer to inspect the products, was cited as the most important aspect, and natural and local were ranked second and third respectively (Nørgaard, 2018).

Zareei D. et al. in their study design and development of the model of the effect of packaging on purchasing decision of canned products with an emphasis on job subcultures in Hormozgan from Dec of 2015 to Nov of 2016. The results obtained from the study show that two identified indices including functional (informational) and visual (aesthetics) features could be effective factors on purchasing decision of consumers. Finally, the study has suggested considering the two indices to improve decision-making effectiveness among job subcultures (Zarei, 2019).

Considering the background of studies, Packaging influences consumers' purchasing decisions, the packaging was studied by various methods. use of the golden ratio as a an essential feature and its evaluation by the conjoint analysis method; it has not been studied so far, so the present study was compiled to investigate the effect of product packaging design on attracting customers to cosmetic products with conjoint analysis method.

3. Research Methodology

Considering the purpose aspect of the current study, it is included in applied researches and this research is a descriptive-correlational one of the solidarity type.

3.1. Methods of data collection

In this study, conjoint analysis method was used to test the research hypotheses and to determine the relative importance of the features presented in the proposed research model. Conjoint analysis questionnaire is the main data collection tool in the current research. In this method, the structure of consumer preferences is estimated based on the overall consumer preferences, based on combinations of different levels of features. The proposed research model consists of five features of color, image, geometric shape, writing language and the golden ratio. Using the standard format of the conjoint analysis Questionnaire (Rao, 2014), the operational questions of the conjoint analysis Questionnaire were designed with the help of spss22 software so that after identifying their features and levels, they enter the code with the code to calculate profiles needed to calculate the part value or utility. After designing the profiles, the corresponding codes were translated back to Farsi-defined terms, then according to the score in the conjoint analysis technique, respondents were asked to rank each profile according to their characteristics and their attractiveness ranging from 1 (highest) to 9 (lowest). Desirability) prioritize. The statistical population of this study is the buyers and consumers of cosmetics products for women (18 years and older) in Tehran. For statistical sample selection, since no accurate data on the number of statistical populations is available, the statistical population is considered unlimited and a simple random method is used to determine the sample size.

The statistical sample, 384 were obtained. In this study, 420 questionnaires were filled with beauty salons, cosmetics stores and pharmacies as well as 35 questionnaires. Irregular or incomplete answers were given to the questions, and 385 complete questionnaires were analysed. To determine the validity of the conjoint analyzed Questionnaire in this study, after developing a conjoint analysis Questionnaire for psychodrama and increasing its validity, the experts' suggestions in the field of cosmetic products were applied and discussed. The questionnaire was also tested on a small group in which

individuals were asked to answer several questions and then asked to express their mind about the characteristics. Thus, the ability of questions to identify customer preferences among features was tested simultaneously.

3.2. Data analysis methods

Data analysis is done through SPSS software and its results are obtained as partial values for each level. Like the regression coefficients, the utility score provides a quantitative measure of the choice for each of the levels of model properties. Here, more value means more preference. All utility scores are expressed in a unified form to allow the analysis to be aggregated to achieve total utility or total preference for the combination of the levels of a factor (Abedian, 2021).

After collecting the questionnaires, the data are entered into the SPSS software, which is a way of answering the questions by prioritizing each profile and using a discrete measurement scale. First, the mean and standard deviation of the utility score of each of the proposed model's attribute levels are then plotted against each level of independent variables to determine the extent to which each of the levels of an attribute's ability to influence it, and finally the degree of respondents' choice. Each of the attribute levels specified in the conceptual research model is calculated. In order to verify the results of the conjoint analysis, other tests such as the Kolimogorov-Smirnov test for determination of normal distribution, one sample test for intermediate determination and T-test, One Way Anova test are performed for analyzing one-way variance.

4. Results

In this section, the utility Estimate of each level of independent variables is tested. Using the obtained utility Estimate, can be tested the research hypotheses and answer the research question. First, determine the average utility Estimate of each proposed model's feature levels. Then the utility Estimate of each level of the research variables is plotted to evaluate the effectiveness of each levels of a feature. In the following, calculated the percentage of influence features relative to each other, and finally will be calculated the relative influence of the features group.

4.1. Desirability score of each level of features

The provided research model is examined based on the respondents' scores on various hypothetical profiles in the research questionnaire. The mean and standard deviation of the desirability score for the different feature levels are presented in the following table. A review of the average desirability scores shows that all levels of model features have a significant relationship with customers' purchase decisions. Considering the average desirability score of each level of a feature in the model, it can be concluded

that the level of the feature and the influence of the feature itself on the customer's purchase decision as some dependent variables.

Table 1. Minor values of the levels of utilities

Independent variables	Levels of independent variables	Mean of Utility Estimate	Std. Error
Image	full face	.404	.663
	Eye	-.832	.663
	profile	.429	.663
Diagram	Cubic	.656	.497
	Cylinder	-.656	.497
Color	pink	-588	.663
	White	.520	.663
	Blue	.068	.663
writing language	Persian and English	-.194	.663
	Persian	-767	.633
	English	.962	.633

4.1.1. the relative importance of model features and answers to the main research question

According to the main question of this research, "Which packings are more appealing and more likely to influence purchase intentions," and since determining how effective the features will help cosmetic manufacturers prioritize these features, thus we discuss the results of the conjoint analysis regarding the relative importance of model features. The following table respectively shows the relative importance of the features of the research model. By examining the relative importance of the features, it can be concluded that there is a significant difference among the features of the research model.

Table 2. Average relative importance value

Feature	Average relative importance percentage
Diagram	35.503
Image	22.210
writing language	21.953
Color	20.334

In the present study, the highest relative importance is 35.503% which is related to the geometric shape feature, the cubic geometric shape has reached a higher score than cylindrical shapes, and as it is seen, the golden ratio has played a formidable role even in selecting the packing shape. Next up is the 22.210% image feature, which outperforms the other three, with profile, which again shows the remarkable effect of the golden ratio on the charm. Written has a relative importance of 21.953% of which English language scores more than others. The lowest relative importance was related to the color specificity of 20.334%, which was higher in white than other colors.

4.1.2. Description of the main variables
Table 3 describes the status (mean and Frequency percentage) of all 9 packages. Using the percentages of frequency and mean statistics, the status of the packages as described. The scores range for each package from 1 to 9, which is because respondents prioritized packages from 1 to 9. the Medium amount of priorities is 5.

Table 3. Frequency percentage and average packages

Variable	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8	Priority 9	Average
Packaging1	3	15	13	11	2	3	23	18	12	5.54
Packaging2	3	4	5	10	15	24	10	8	22	6.11
Packaging3	4	6	8	15	17	12	14	13	11	5.60
Packaging4	5	5	7	10	15	23	10	14	10	5.66
Packaging5	2	13	8	14	4	2	11	16	31	6.21
Packaging6	16	18	15	10	18	11	7	3	1	3.78
Packaging7	9	11	16	14	19	17	6	6	2	4.35
Packaging8	57	13	12	5	7	4	1	1	0	2.15
Packaging9	2	15	15	10	3	3	18	22	12	5.60

Examination of average packages shows that the highest priority among packages is related to packages 8, 2.15. After package 8, package 6 and package 7 is respectively averaging 3.78 and 4.35.
The results show that the last priority among the packages is Package 5, which are 6.21 on average. Packages 2 and 4 have an average of 6.11 and 5.66, respectively, which is a low priority compared to other packages.

4.1.3. Packages Ratings (Friedman Test)

Friedman test was used to rank the packages. With this test we are going to rank all 9 packages by position. The Friedman test is suitable for intra-group designs (dependent samples). The results of Friedman test are presented in Tables 4 and 5.

Table 4. Results of Friedman test to investigate differences in packing rank

Statistical indicators	Statistics value
Sample size	385
Chi-square value	730.70
Degrees of freedom	8
Significance level	< 0.001

According to the results it can be stated that concerning the Chi-square value of 730.70 (df = 8) it is substantial because the level of significance is less than 0.05. It should be said (P> 0.05) that there is a significant difference between the 9 packages examined and the rank and quantity of these packages vary.

Table 5. Results of Friedman test for ranking the entire packaging

Rating	Dimensions	Average rating
1	Packaging 8	2.15
2	Packaging 6	3.77

3	Packaging 7	4.35
4	Packaging 1	5.54
5	Packaging 3	5.60
6	Packaging 9	5.60
7	Packaging 4	5.66
8	Packaging 2	6.11
9	Packaging 5	6.22

4.1.4. Comparison of Golden and Non-Golden Ratio Scores (Correlated T-Test)

Correlation t-test was used to compare the scores of individuals in the selection of golden and non-golden ratios. The results are presented in Table 6. The t-test is used to measure the statistical significance of the differences between the means of two sets of scores.

Table 6. Correlated t-test to comparing individuals' scores in the golden and non-golden ratios

Packaging	Average	Averages difference	Degrees of freedom	t Value	significance level
Golden Ratio	3.82	-1.77	384	-24.70	$P<0.001$
Non-golden ratio	5.59				

The way to calculate the scores is to compare the scores of the people in the packages with the golden ratio and the average of the people in the packages with the golden ratio. Non-odds ratios were calculated and two sets of scores were compared with the t-test.

The results showed a substantial difference between the scores of individuals in the selection of golden and non-golden ratios ($P < 0.05$). The average value of packages with a golden ratio is 3.82, which indicates a more favorable score and higher priority for these packages. The average for non-golden packages is 5.59. There is a mean difference of 1.77 points between the two sets. Overall it can be said that golden ratio packages have a higher priority and importance.

5. Conclusion

In this section, we summarize the analyses performed on each attribute and its attributes as a whole.

5.1. Geometric shape attribute

Minor values associated with the geometric shape attribute showed that customers were more attracted to the geometric shape of the cubic geometry than the geometric shape of the cylinder, indicating a significant effect of the golden ratio on the dimensions and shape of the package. The above results are consistent with the findings (Feyz and Salahsour, 2010) and also confirm the second hypothesis that there is a significant relationship between the geometric shape of the packaging and customer purchase decision making.

5.2. Image feature

Minor values associated with the image feature indicate that the first preference and priority of the image characteristic from the customer's perspective is the profile image, which is more attractive than other images. There is also a golden aspect to the placement of the image in the packaging and the way it is photographed, which adds to the beauty and appeal of the image. According to the partial table of values of the levels of the independent image profile variables as a whole, it is identified as the first priority and the most important packaging feature to increase customers' intention to buy this product. The full-face image and especially the eye image, respectively, are of the utmost importance in the next order. Therefore, the fourth hypothesis is confirmed that there is a significant relationship between packaging image and customer purchase decision.

5.3. written language feature

Minor values related to the written language feature showed that English in packaging is more important from the customer's point of view, as shown in the graph; English is the top priority for product customers. Their packaging information is written in English, making them mentally better quality and exportable, and the packaging in Persian is less desirable. According to the combined chart of Farsi and English and Farsi, they are ranked next in order. The above results are consistent with the findings (Seyed Mahmoud Mahmoudi, 2010). Therefore, the third hypothesis is confirmed that there is a significant relationship between the written language of the packaging and the purchase decision of customers.

5.4. Color feature

Minor values related to the color properties showed that white was the most preferred and most preferred color for customers, considering that the product was used in cleaning and hygiene. The white colour also indicates cleanliness and the cleanliness of the product, which confirms the accuracy of the test. The blue and pink ranks, respectively, are the most essentials priorities. The above results are consistent with the findings (Mojtaba Givi, 2016). Therefore, the first hypothesis is confirmed that there is a significant relationship between packaging color and customer purchase decision.

5.5. Packages Ratings (Friedman Test)

Friedman test was used to rank the packages. According to the results of the cubic packages, 8 packages are the best and the highest packages, with an average rating of 2.15. Packages 6 and 7 are in the second and third ranks, respectively and the average ratings are 3.77 and 4.35, respectively.

Also the results of geometrical comparisons of the packages showed that in the one-size-fits-one package, the golden ratio in the image was the best choice compared to the other two packages. . The results of this test also confirm the validity of the fifth hypothesis that the golden ratio is effective in packaging attractiveness.

5.6. Comparison of Golden and Non-Golden Ratio Scores (Correlated T-Test)

Correlated t-test was used to compare the scores of individuals in the golden and non-golden ratios. The results showed a significant difference between the scores of individuals in the golden and non-golden ratios (P <0.05). The average value of packages with a golden ratio is 3.82, which indicates a more favorable score and higher priority. The average for non-golden packages is 5.59. There is a mean difference of 1.77 points between the two sets. Overall, it can be said that golden ratios have higher priority and importance. Therefore, the results of this test are in line with research results (Grace and Kingship, 2010) and the fifth hypothesis that golden ratios are attractive in packaging. Effective, approved.

6. Management Achievements and Future Suggestions

Customers and even retaining existing customers, many companies are concerned that due to the extreme competitive pressures, companies and organizations use other ways of promoting sales and marketing. To convince and even force consumers to buy the product they want from other brands. Depending on the type of their business, these companies use different methods such as excellent quality, reasonable price, good customer service, etc. to satisfy customers. One of the ways companies use this is to use attractive, high-quality packaging, in many cases manufacturing plants spend excessive costs on packaging products, but on customer buying behavior in the packaging design doesn't pay much attention. This inaccuracy and consequential attention is due to the expectation of seeing the packaging for the customer who will be hesitant to buy if it is inconsistent with the reality of the product. As a result, the present research offers manufacturers of these industry suggestions for improving the quality of their products and packaging:

1- It is recommended to use the golden ratio not only in the design of geometric shapes, labels, images, etc., but also in the design of the products themselves, so that the charm and beauty of the whole product will be doubled. It will have a significant impact on attracting customers and selling it.

2- It is recommended to use the image in the design of the packaging and even use the product as much as possible.

3. It is recommended that in the design of packaging labels and insertion of written information is sure to use English or a combination of both English and Persian.

4- It is suggested that colors should be used in the design of packaging depending on the type of product and their application to convey the type of product usage to customers.

It is suggested that the design of products and packages consider the type of target market and accordingly market their products and packages to the competitive market.

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