

A review on visual criteria of pure milk packaging for parents and their children (case study: Tehran, Iran)

Visual criteria
of pure milk
packaging

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Abstract

Purpose – The purpose of this paper is to compare and find the significance of aesthetic standards related to the packaging design of pure milk among two groups of parents and children in order to help the designers and marketers to identify these two groups of consumers well.

Design/methodology/approach – The results of questionnaire were used to get the required data. The selected samples were divided into two groups of 110 parents and children aged between seven and 14 years old who responded to the questions. The subjects were compared and evaluated within the convenience stores in the cosmopolitan city of Tehran based on four independent variables as the influential factors in packaging attractiveness. Data were analyzed through the statistical analysis software using the Independent *t*-test analysis.

Findings – The results of analysis showed that all the variables vary significantly among these two groups. Besides, the importance and priority of variables were determined for each group based on the mean score of each variable.

Originality/value – According to the results of this study, it could be concluded that the selection criteria and packaging attractiveness varies among children and parents, and the aesthetic factors of packaging could be used with different priorities for these two groups. And also at the end of research some practical recommendations are presented in order of importance based on parents' preferences.

Keywords Milk, Buying behaviour, Customer perception, Packaging design, Visual criteria

Paper type Research paper

1. Introduction

Milk as an important dietary regime for children has always been at the canon of parents' attention and its continuous consumption is of much necessity for children. But in comparison to flavored milk, pure milk (despite greater nutritional value) is being consumed less (Pelsmaeker *et al.*, 2013). Regarding this, the packaging of pure milk could be considered as an important factor for attracting the customers from the consumers' perspective (Azad and Hamdavi pour, 2012). On the other hand, many factors influence on consumers behavior which understanding them is of utmost importance to marketing managers (Esmailpoor, 2004).

Numerous factors effect on the consumers behavior and their relationship with product such as their occupation, educational level, demographic and economic factors and so on (the same author). Among the other factors that play a major role in



the consumers' shopping behavior is the way a product is introduced to them. Based on the above-mentioned reasons, packaging always plays a significant role affecting consumers through introducing products appropriately along with the other fundamental factors of packaging's application such as preservation, ease of use, product economization, more convenient storage (the same author).

Today, packaging serves no longer as a mere protection and preservation. But having great potential, it can substantially influence on customers. Important features such as the visual and functional factors could provide numerous merits to the packaging. These factors by themselves are comprised of visual factors that mostly refer to color, size and information presented on the packaging, the font style and written materials (letter writing) (Rahimnia *et al.*, 2012). Functional applications usually refer to the factors of physical interaction, material and ergonomics. The visual features play a significant role in the shopping process due to the roleplaying in their first direct interaction with consumers and its effect on their choosing mentality (Deng, 2009). In general, the relationship between the packaging and the consumers is created by many variables such as color, illustrations, design, shape, size, environmental considerations, etc. (Ampuero and Vila, 2006). Therefore, marketers and design companies have well understood that by minor alterations it could be possible to gain more profitability in products' selling process (Yang, 2004). The results of previous studies confirm that the visual features have more significant and influential role to play than functional features (Rahimnia *et al.*, 2012). Thus, this study attempts to investigate it in more details. In addition, a less commonly mentioned factor is the role of customers' age in choosing a product. Each of these visual and aesthetic factors could be applied differently on special packages intended to serve a particular age. In this study, attempts has been done to investigate the differences or indifferences between their (parents and their children's) preferences and choices toward pure milk packaging. This attempt was persuaded by dividing two groups of food consumers which were parents and their children. For this purpose, the research hypothesis has been formulated as the following in order to be examined in more details, which includes:

- H1.* There is a significant difference between the important aesthetic and visual standards of packaging design among the groups of parents and children.
- H2.* The importance of the aesthetic and visual standards of packaging design could be applied in different orders and priorities for the groups of parents and children.

Given the critical role of customers' behavior toward the packaging seen along with the important information presented above, this study seeks to compare and find the priorities in aesthetic standards of packaging among these two groups mainly in order to help the designers and marketers in identifying these two groups of customers.

With regard to the above mentioned information and the role of customers' behavior toward the packaging seen, and based on the theoretical framework and following the internal and external studies conducted to test the hypothesis, this study attempts to present the differences and preferences of packaging's aesthetic standards among these two group. These results could be of much contribution to direct the improvements provided to the packaging design of pure milk toward attracting the target groups' attraction and also help the marketers to understand these groups better. This research attempts to inform designers that two focus groups have different preferences in

packaging selection. Thus, regarding this different aesthetic preference among those two groups, this study hints on some crucial points for designers to consider while designing their new packaging. And based on their strategy toward design, they can adapt their product shape with aesthetic requirements of the focus groups.

2. Literature review of subject

Numerous studies have been conducted in the field of packaging and its main influential factors on customers, almost all of which has been conducted mainly on the role of standards and effects on consumers' behavior. For instance, Rettie and Brewe (2000) have studied the effect of actions, features and visual standards on packaging. Also, Silayoi and Speece (2007) have demonstrated the effect of packaging through their research on the importance of packaging and the consumers' behavior. In another important research, Azad *et al.* (2012) has demonstrated the role played by the characterization of children's food packaging and its impact on parents' purchase decision. In a study conducted on the major packaging standards in dairy products, Azad and Mohammadi (2013) revealed that the standards in various functions of the products' packaging are very important in dairy industry. Study in the field of packaging's role in customers' behavior is among the researches that has explored the analysis of customers' behavior in detail (Mitul and Bhavesh, 2012). Among these are: study on consumers' behavior (John, 2000, pp. 100-112), the role of labeling on the way of wine consumption (Renaud, 2007), packaging as a communicational tool (Lincoln, 1965), the effect of packaging on consumers' perception of product quality (Rigaux-Bricmont, 1982), the effect of packaging size on consumers' application (Wansink, 1996).

To obtain accurate information on various aspects of the subject, it is necessary to focus on the most important aspects of the research and to clarify the role of each in relation to the subject. Evaluation of these aspects helps the designers in implementation of the researches done to understand the packaging project well. Besides, it assists the author in gathering the background research. For this purpose, the definition of consumers' behavior and its position in packaging, the importance of packaging through the lenses of communication and the intensity of consumers' interaction are the fundamental issues which will be discussed and then the research theory and methodology applied in this study will be expressed.

2.1 Consumers' behavior

Consumers' behavior toward the selection and purchase of goods and services is considered as an important factor for large companies (Moschis and Moore, 1999) because it is used as an incentive to change either the marketing strategies or advertisements to market and place products' character. A consumer usually takes a three phases process to purchase particular goods or services which includes decision making process before, while and after the purchase. In another methodology, Kotler and Armstrong express the process of consumers' decision making for purchase in three phases and five steps which there are some steps for each of these three phases. The pre-purchase phase includes three steps of problem finding, information search, and options' evaluation. In the while-purchase phase, there is one step called purchase decision and in pro-purchase phase, there are two steps for consumption and evaluation and decision making for future purchase (Kotler and Armstrong, 2010). The basic question of professional marketers is that what is the reaction of consumers to the marketing efforts of a company? The answer to this question helps that company to surpass the competitors and gain competitive advantages for that company.

One of the difficulties with consumers' behavior investigation is the impulse buying behavior which is often based on an impulsive stimulus or strong motivation for the purchase. This is not possible to simply put the impulsive buying in the existing models of consumers' behavior for this type of purchase is inconsistent with rational choice models (Feyz and Salahshur, 2010). Thus, impulsive buying could be influenced by several factors which the most important of them are: the spread of large and chain stores, hedonistic gratification purposes, mental model control, following the fashion and low prices. In this regard, the results of various researchers are significantly noticeable and it was estimated that 72 percent of buying decisions are made at the purchase place (Laura *et al.*, 2002). According to Henley Research Center, 73 percent of buying decisions are made at the purchase place. Phillips and Bradshaw (1993) showed that unplanned purchases from supermarkets include over 51 percent of total purchases (Ampuero and Vila, 2006; Nancarrow *et al.*, 1998) the international institutions of advertisements showed that at the time of purchase, several factors could encourage impulsive purchase which among these factors are: psychological and marketing stimuli, seeing a product with different color schemes and beautifully designed pictures, or other promoter stimuli (Ampuero and Vila, 2006). Therefore, packaging as a factor that can potentially attract consumers has an important role to play in buying behavior.

One of the crucial factors discussed in this study is the role of age in consumers' behavior which creates different reactions toward packaging. This issue among the age of parents and children in more significantly presented through the consumption of a product such as pure milk. The possible differences and similarities of selection factors among these two groups could play a major role in designers' and marketers' decision makings on their design and marketing strategies, respectively.

2.2 Packaging through the lens of communication

Different definitions are presented on packaging considering it as the art and technology of product protection and preservation for storage, handling and control and display the information (Lee and Lye, 2003). But apparently, all these things have merely emphasized on the intrinsic and functional aspects of product and less on the role that packaging play in the mentality that consumers have of it. In general, the overall benefits of packaging could be in the form of physical protection, product handling and transportation, more successful marketing of a product, less commercial theft, and to understand different aspects of a product well (Mitul and Bhavesh, 2012). It has been indicated in a study that packaging acts as a seller on the shelves of a store through the characteristics such as logos, illustrations and the information that defines itself (Connolly and Davidson, 1996). Through this approach, the packaging functions have slightly changed and they have turned into an important criterion for the designers and marketers based on which they can study the users' feedbacks and use it as the creator of competitive market (Rundh, 2005). Regarding this, packaging could be designed more attentively and the important factors in the formation of it could be controlled more closely. These factors involved in packaging formation are: color quality, materials used, background illustration, written materials on the product, bulk packaging, printed information and innovation (Mitul and Bhavesh, 2012). The aesthetic factors in packaging (that mainly focusses on the gestalt side of the product) along with the analysis of consumers' behavior and knowledge about communication process play an important role in determining the theory and methodology in the study.

2.3 *The significance and intensity of consumers' communication*

Communication in different domains could be divided into different types, but a communication model is subject to several components that pose different questions of: who transfers something from which channel to whom and with what effect (Harold, 1948). According to this paper, those industrialists who want to communicate with their clients, first target the audience and choose their message based on those clients' expectations. This relationship has a great effect on the type of packaging design to show the identity and character of that organization and to convey the message to the consumers. Target audience might be in the state ready to purchase. A consumer passes these conditions behind to make a purchase. Six steps of the purchasing process are: awareness, knowledge, liking, preference, persuasion and purchase. Packaging as an influential factor on awareness and knowledge (which serve as the two arms in creating attachment and persuasion to the following steps of purchase) plays the key role in persuading consumers to purchase that product (Esmailpoor, 2004). A research conducted on the packaging's influence on consumers' buying behavior by Rebollar *et al.* (2012) shows the effect of packaging on the communication process with the customers.

2.4 *The conceptual model of the study*

When buying dairy products, a relationship usually emerges between the consumer and the product. This relationship is established as an interview and observation in percentage between two groups of parents and children. The intensity of relationship at the time of purchase could represent the significance of each packaging of milk among the groups under study. This model is a far better applicable way to identify the product by the consumers and therefore, to intensify the act of purchasing among the focus groups. To determine the intensity relationship in terms of product forms variety with the target groups and to know the presence of each group while shopping this product and revealing the shopping behavior, the method of Analytical Hierarchy Process was applied (Saaty, 1980). The importance and scoring was based on the interview and questionnaire applied among 30 families. This basic interview and questionnaire were divided into several parts. The communication in percentage among these groups is tabulated in Table I.

As it can be seen from the table, the percentage of product feature between the product and the target groups is higher among the mothers and their children than that of fathers. But given that, children children's decision impacts on purchase behavior (Azad and Hamdavipour, 2012), certainly children's decision is enforced on their parents. In addition, parents tend to have their children (who show little interest) consume milk. As shown in Table I, more milk intake was seen in tetrapack large and small packaging and in the other two groups of packaging, there were seen a

| Fathers (%) | Mothers (%) | Children (%) | Packaging type and material |
|-------------|-------------|--------------|-----------------------------|
| 17 | 53 | 30 | Tetra pack.large packaging |
| 11 | 29 | 60 | Tetra pack.small packaging |
| 36 | 51 | 13 | Prepack.free size |
| 35 | 54 | 11 | PET.free size |
| 46.75 | 46.7 | 28.5 | Total |

Source: The authors

Table I.
It shows the product attributes (%) based on form and material regarding the target groups under study

significantly less relationship with the product. On average, the percentage of purchase is high among the mothers as the more responsible group for feeding their children. The tabulated reports along with the evaluation results of influential aesthetic factors of packaging on these two groups could show the significance of each factor in any type of packaging and serve as a good guideline for designers and marketers to apply design improvements or marketing strategies.

Parents and their children are the subjects of this study. The selected parents have children with a range of 7-14 years old. Because the growth rate and the relationship with parents are very important in this age, this study attempts to investigate this group and its comparison with the parents' group. Using the product analysis method based on the methods developed, the product was visually analyzed and read (Bardzell, 2009). Figure 1 demonstrates the various parts of the visual variables in different packaging of pure milk. Then, the main aesthetic and visual factors were explained in terms of their visual effect on the users. After reviewing and discussing the criticism, four aesthetic factors of background color[1], logotype, illustration and product form[2] were selected to investigate their comparison and priority among the target groups (Figures 1 and 2 and Table II). These factors have been compared as the independent variables. In the following research model, based on the analysis and evaluation of factors, the new questionnaire has been designed. The new questionnaire was inspiring and thus, was adapted to pervious researches. It should be noted that this questionnaire is divided into the AHP part (The details of this questionnaire have been presented in Appendix 2).

3. Material and methods

3.1 Research methodologies

Depending on the nature of the subject matter and its objectives, the methodology applied here is to investigate the significant difference among the study groups. This study seeks to identify the effect and difference of the two consumers groups' behavior toward the packaging criteria based on the proposed model derived from previous studies and scientific theory. Besides, this study is a descriptive and inferential one with respect to research classification in terms of data collection, or in other words,

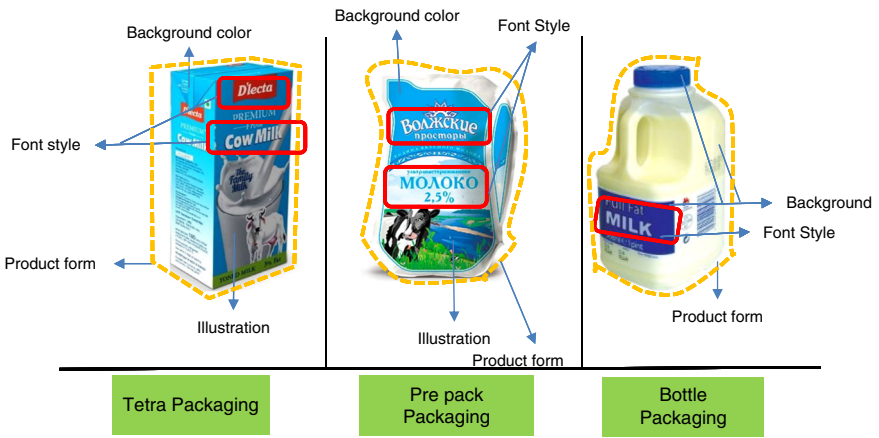
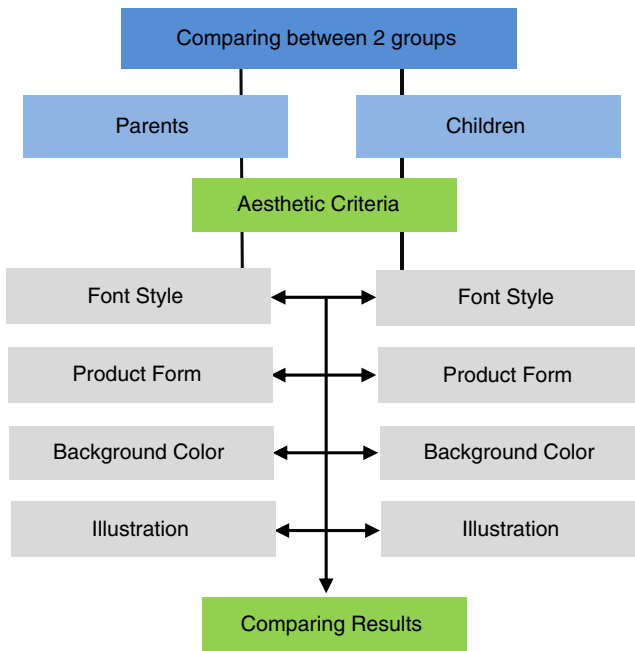


Figure 1.
Aesthetic factors
for evaluation

Source: The authors



Source: The authors

Figure 2.
Model of comparing
between groups
based on aesthetic
criteria

| Variables | Definition |
|------------------------|---|
| <i>Visual analysis</i> | |
| Font style | Logo, logotype and font used for information |
| Product form | Product's basic form or the Basic geometric lines |
| Background color | Background main color or color used for visual features |
| Illustration | Real and natural picture or abstract illustration |

Source: The authors

Table II.
Aesthetic factors
for evaluation

the research design. This study describes the sample characteristics and uses the statistical testing method to explain the differences in order to generalize these characteristics to the target population.

3.2 Questionnaire

To collect the required data and infer the results, questionnaire was used. The concepts presented in Vanhurley (2007) researches and Deng (2009) were used to design the items of this questionnaire which contains 16 questions that the overall reliability was calculated to be 82 percent. The validity of the mentioned questionnaire was assessed by the assistant professor, the experts, marketing managers and packaging designers and finally, their comments were included in the final version of the questionnaire. After all these amendments to the items and questions, the questionnaire was approved. The new questionnaire was based on newly received criteria and was adapted to pervious researches (The detail of this questionnaire has been presented in

the Appendix 2). This questionnaire was filled out by the parents and their children who do their shopping in the convenient stores in Tehran such as Refah, Shahrvand and hyper-market.

It has to be noted that, an educational psychologist helped to fill out the research questionnaire. The research questions were included in the questionnaire items. This process of answering was very helpful to receive the ideas and main opinions from their vision.

In the current study, the measurement scale is the Ordinal scale. The relative strength and weakness of the degree of adjective or its preferences is also measured. Therefore, the Likert scale was used in this study.

The descriptive statistics will be used to classify the data, calculate the mean and the standard deviation, draw the graphs, analyze and test the information. In order to analyze the hypothesis testing, the inferential and statistical method will be applied. The method used here is the Independent *t*-test.

3.3 Statistical population and sample

The target population in this study is the product consumers of Refah, Shahrvand, hyper-market convenience stores in located in six different places in Tehran. According to the statistics, the population of Tehran households was 2,830,000 (household) in 2011 (Torki, 2011). Naturally, all these households do not purchase from these convenient stores. In addition, the target population in this study is the children of 7-14 years old and their parents who either together or separately participate continuously in the shopping process and behavioral interaction to buy this product.

3.4 The sample size

Cochran's formula was used for this study. According to this formula, the sample size of 2,830,000 households is estimated to be up to 11,384. Since milk is not continuously consumed by Iranian households, and also the purpose of this study is to investigate the differences of packaging criteria among the parents and children of a family, specifying the number of the target population remains unknown but it is much evident that the number of individuals being analyzed in the population are reduced from the initially mentioned numbers. Accordingly, based on the former researches wherein the size of statistical samples were in the range of 100-150, the size of statistical sample within each group were identified 110 samples in each group and totally 220 individuals in each group.

3.5 Respondents and describing and inference of the research data

In this section, first a brief description of the demographic features and data of the respondents and its related charts re provided and then the data are explained using these tables (Table III).

The statistical results of descriptive and inferential analysis in SPSS software is presented in Table IV.

4. Result

4.1 Font style variable

It can be seen from the font style variable that this criteria is of less importance among children's group (18.1 = mean) in comparison to the parents' group (20.70 = mean). The mean difference between 2.60 condition and 95 percent assurance level were -03.02 and -3.18 for estimated difference of the population, respectively. The effect size was

large ($d = 16.1$). The Independent t -test showed that the difference between the conditions were significant: one range test, t -test statistics = 8.96, significance percentage = 0.000, degrees of freedom = 218.

Independent t -test showed that the difference between these two groups in this variable is significant. As a result, one of the indicators for the correctness of the first hypothesis was confirmed. In addition to that, each group could be influenced differently at the time of shopping. Accordingly, the second hypothesis is also confirmed.

4.2 Form variable

In the variable related to form, it can be seen that this criteria is more important in children's group (19.5 = mean) in comparison to the parents' group (18.63 = mean). The mean difference between 0.87 condition and 95 percent assurance level were between 1.35 and 0.38 for estimate difference for the population, respectively. The effect size was little ($d = 0.48$). Independent t -test showed that the difference between the conditions were not the same: (one range test, t -test statistics = 3.55, significance percentage = 0.000, degrees of freedom = 218).

| Children's age | | Parents' age | | Education | |
|----------------|------------|--------------|-----------------|-----------|-----------------|
| % | Age (year) | % | Age (year) | % | Education level |
| 17.3 | 7 | 5.5 | Younger than 25 | 10.9 | Under diploma |
| 28.2 | 8 | 28.2 | 33-26 | 41.8 | Diploma |
| 32.7 | 9 | 42.7 | 41-34 | 38.2 | BA |
| 14.6 | 10 | 20 | 49-42 | 9.1 | MA and higher |
| 7.3 | 11 | 3.6 | Older than 50 | 100 | Total |
| 100 | Sum | 100 | Sum | | |

Source: The authors

Table III.
Demographic data
of 2 target groups

| Groups | <i>n</i> | Mean | SD | SE mean |
|-------------------------|----------|---------|---------|---------|
| <i>Font Style</i> | | | | |
| Children | 110 | 1.18 | 2.28256 | 0.21763 |
| Parents | 110 | 20.7091 | 2.02890 | 0.19345 |
| <i>Product form</i> | | | | |
| Children | 110 | 19.5091 | 1.64091 | 0.15645 |
| Parents | 110 | 18.6364 | 1.98030 | 0.18881 |
| <i>Background color</i> | | | | |
| Children | 110 | 18.4091 | 1.85875 | 0.17723 |
| Parents | 110 | 16.5727 | 1.40418 | 0.13388 |
| <i>Illustration</i> | | | | |
| Children | 110 | 19.7182 | 1.63186 | 0.15559 |
| Parents | 110 | 15.8727 | 1.46588 | 0.13977 |

Source: The authors

Table IV.
Descriptive
statistical results
of the samples

Independent *t*-test showed that the difference between these two groups in this variable is significant. As a result, one of the indicators for the correctness of the first hypothesis was confirmed. In addition to that, each group could be influenced differently at the time of shopping. Accordingly, the second hypothesis is also confirmed.

4.3 Color variable

In the variable related to form, it can be seen that this criteria is more important in children's group (18.40 = mean) in comparison to the parents' group (16.57 = mean). The mean difference between 1.83 condition and 95 percent assurance level were between 1.39 and 2.27 for estimate difference for the population, respectively. The effect size was little ($d = 1.12$). Independent *t*-test showed that the difference between the conditions were not the same: one range test, *t*-test statistics = 8.26, significance percentage = 0.000, degrees of freedom = 218.

Independent *t*-test showed that the difference between these two groups in this variable is significant. As a result, one of the indicators for the correctness of the first hypothesis was confirmed. In addition to that, each group could be influenced differently at the time of shopping. Accordingly, the second hypothesis is also confirmed.

4.4 Illustration variable

In the variable related to form, it can be seen that this criteria is more important in children's group (19.57 = mean) in comparison to the parents' group (15.87 = mean). The mean difference between 3.7 condition and 95 percent assurance level were between 4.25 and 3.43 for estimate difference for the population, respectively. The effect size was little ($d = 2.40$). Independent *t*-test showed that the difference between the conditions were not the same: one range test, *t*-test statistics = 18.38, significance percentage = 0.000, degrees of freedom = 218.

Independent *t*-test showed that the difference between these two groups in this variable is significant. As a result, one of the indicators for the correctness of the first hypothesis was confirmed. In addition to that, each group could be influenced differently at the time of shopping. Accordingly, the second hypothesis is also confirmed.

5. Discussion

If we want to point out some reasons why the significant differences appear, these reasons could be classified in any of the variables and analyzed either separately or linked together. As the first reason, the degree of awareness and knowledge could be mentioned among both target groups compared to the material variable.

In the font style variable, the significance and main reasons could be separated from each other and analyzed differently in these two outlets. Regarding to the point that the mean in font style variable is high in comparison to the maximum scoring, thus, this variable could be considered as very important. In fact, the high score of this variable is a sign on its degree of importance and attention among the two groups. But, both the significant difference and the effect size are very high among these two groups. Brand awareness and the product history could be considered as an important factor involved in patents attention compared to children's (regarding significant difference among two groups) studies by Coulson (2000) found that the effect of knowledge on packaging as one of the visual features (which is associated with the font style and aesthetic perceptions) goes higher as the educational level

increases. Since, children are less affected by a brand name and non-physical characteristics of a given product (because of their age and more limited knowledge of reading). Noting to the fact that form is a factor referring to the aesthetic aspect of a product, hence this factor affects children more than parents. Higher score of this factor in children than parents is testament to the fact that children are more affected by this item for their particular aesthetic sensibility. Low significance difference in this factor also shows its importance in two study groups. Even the parents notice the overall appearance and form of the product purchased as a beautiful object at home and their living environment.

The color variable which its importance was highlighted earlier is also examined and shown to be highly significant in this project. This factor gained higher score among the group of children. Based on the mentioned aesthetic sensibility among children, it seems quiet natural that this factor is highly different among these two groups. The study results of Marshall *et al.* (2006) and Vanhurley (2007) indicated that the packaging color has different effects on the purchase of people with various ranges of age, which is consistent with the findings of this study. Another reason for this significant difference is children’s more attention to the signs identifying a product. This is for the reason that they refer to the prototypes and default colors in their minds because of their limited knowledge of reading. Following this discussion, illustration factors could be considered to be related to this argument. Besides, the significance different findings of illustration could be supplemental to the color factor findings. These factors (color and illustration) could be considered as a proof to confirm the findings. Hill and Tilley (2002) and Ghoshal *et al.* (2009) in their studies have proved that the effect of packaging design on food shopping which is consistent with our results and the differences have shown in illustration variable. Previous studies confirm that visual features paly more important role than functional features (Rahimnia *et al.*, 2012). Therefore, more attention is required to be paid to the visual features and strategies to improve the visual quality.

Then, the mean scores of the variables in each group could be expressed as the design priorities according to Table V. Given that the mean scores for each variable are determined by a particular score, it could be used as a basis for determining the priorities in packaging design process. This is in a way that the mean scores of variables are placed from the high score to the low one, in order of priority (Table V). These priorities are arranged in two groups with a different layout. As a result, the second hypothesis could be confirmed based on the results of mean scores and the priorities set in Table V.

6. Conclusion

In this study, the influential independent variables (e.g. logo, illustration, form and color) were investigated to attract and perceive the packaging through two groups of parents and children; and the significance difference value were determined among these groups using Independent *t*-test. The differences showed that the levels of product’s attractiveness could be adjusted differently based on each variable’s mean

| Children | Mean | Mean | Parents |
|-------------------------|-------|-------|-------------------------|
| Background illustration | 19.71 | 20.70 | Font style |
| Form | 19.50 | 18.36 | Form |
| Color | 18.40 | 16.57 | Color |
| Font style | 18.1 | 15.87 | Background illustration |

Table V.
The orders and preferences of each variable based on the mean scores of Likert scale

in two groups. Also, it was found that choosing priorities and packaging perception are done differently. This findings could be of great help to the marketers and designers to identify buying behavior and based on which the importance of each variable could be considered for each group differently, depending on the product. Based on this study, the designers can investigate the graphic and volumetric structure of products and help the marketers to adapt appropriate distribution and advertisement strategies.

6.1 *Applied research recommendations*

Based on the results obtained from the provided answers to the questionnaire and also the comments and emphasis of the participants in this study, practical recommendations are presented in Table II in order of importance based on children’s and parents’ preferences (Table VI).

| Administrators | Proposed actions | Proposed structures | Approaches |
|--|--|--|--|
| Product packaging designers Marketing -managers | The proportion of font size harmonious with the size of packaging Adjust the font color with the users’ taste and culture by colors such as blue and orange | 1. Choosing an appropriate font size 2. Font eligibility 3. Using gay font color | Emphasis on improving the aesthetic quality of font style |
| Product packaging designers Marketing managers | Use fantasy and childish forms in a way that it can get a good share of a shelf, in addition to the attractiveness | 1. More aesthetics and innovation in creating new form 2. Locating the packaging in the brighter part of store to separate it from other products 3. The harmony between form and product | Emphasis on improving the aesthetic quality of form |
| Product packaging designers Marketing managers | Packaging color should be harmonious with culture, product type and consumers’ age like, orange or pink color for children and blue for parents | 1. Using gay colors in both groups, like pure colors of Blue, Pink and orange 2. Harmony between color and culture like Putting packaging in together to make unique color and separate it from other ones | Emphasis on improving the aesthetic quality of color |
| Product packaging designers Marketing managers | The background illustration should be in harmony with the font on the packaging and it should be able to get a good share of shelf and market | 1. The harmony of background illustration and product like paying attention to visual elements’ composition 2. More attractiveness among each group particularly the children, like using cartoon illustration and funny characters | Emphasis on improving the aesthetic quality of background illustration |

Table VI. Strategies, structures, actions and administrators based on the results of this study which are related to the role of packaging criteria in consumers’ buying behavior (parents and children) in order of importance based on parents’ preferences

Notes

1. The overall color seen.
2. The overall beauty of the form seen.

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Appendix 1

Case processing summary

| | | <i>n</i> | % |
|-------|-----------------------|----------|-------|
| Cases | Valid | 110 | 97.3 |
| | Excluded ^a | 3 | 2.7 |
| | Total | 113 | 100.0 |

Note: ^aListwise deletion based on all variables in the procedure

Reliability statistics

| Cronbach's α | Cronbach's α based on standardized items | No. of Items |
|---------------------|---|--------------|
| 0.814 | 0.824 | 4 |

Item statistics

| | Mean | SD | <i>n</i> |
|--------------|---------|---------|----------|
| Color | 12.0455 | 3.89869 | 110 |
| Illustration | 12.4091 | 2.57117 | 110 |
| Logo | 18.6545 | 2.96906 | 110 |
| Form | 14.4273 | 2.68348 | 110 |

Summary item statistics

| | Mean | Minimum | Maximum | Range | Maximum/ minimum | Variance | No. of Items |
|------------|--------|---------|---------|-------|---------------------|----------|-----------------|
| Item means | 14.384 | 12.045 | 18.655 | 6.609 | 1.549 | 9.203 | 4 |

Scale statistics

| Mean | Variance | SD | <i>n</i> of Items |
|---------|----------|---------|-------------------|
| 57.5364 | 60.783 | 7.79635 | 4 |

Appendix 2. The questionnaire for evaluation of aesthetic criteria

This Questionnaire is interpreted from Persian to English language

A review on visual criteria of pure milk for parents and their children (case study: Tehran, Iran)

Parents

| | | | | | |
|-------------------------|-----------------|---------|-------|----------------|---------------|
| How old are you? | Younger than 25 | 26-33 | 34-41 | 42-49 | Older than 50 |
| Education? | Under diploma | Diploma | BA | M.A and higher | |

Children

| | | | | | |
|-------------------------|---|---|---|----|----|
| How old are you? | 7 | 8 | 9 | 10 | 11 |
| Education? | - | - | - | - | - |

| Question | 1 | 2 | 3 | 4 | 5 |
|--|----------|----------|----------|----------|----------|
| • When you are buying, do you prefer a simple background and simple illustration for the packaging? | | | | | |
| • Background Image included important information about the product | | | | | |
| • Illustration has important role to create attractiveness in packaging | | | | | |
| • The illustration on the cover of the product is an important role to create a beautiful product | | | | | |
| • At first glance, the logotype on packaging encourage and attract you to have it | | | | | |
| • Usually, I prefer the bold font style to light and thin font style | | | | | |
| • The beauty of logo type is important for me | | | | | |
| • How criteria will be measure when you are seeing a logo type? (Big, small, clear visibility and so on) | | | | | |
| • Usually, I prefer the curvature form to rigid form | | | | | |
| • Identify the level Importance of form and shape of packaging | | | | | |
| • Identify the beauty level of form packaging | | | | | |
| • Usually, I have been motivated, when the attractive form applied in packaging design | | | | | |
| • How much, the color background of packaging elicit me to attract product | | | | | |
| • The uniqueness of Color between a products in comparison with others leads to attractiveness | | | | | |
| • The color contrast (light and dark) leads to attractiveness | | | | | |
| • Colors with high purity have more influence on me | | | | | |

Attentions: to answer these questions, a psychologist or Specialist in Educational Sciences helped to children to answer. They explained and interpreted questions for them, and finally the their desire answer and score is recorded on Questionnaire

Appendix 3Visual criteria
of pure milk
packaging

| | Levene's test for equality of variances | | <i>t</i> -Test for equality of means | |
|-----------------------------|---|-------|--------------------------------------|---------|
| | <i>F</i> | Sig. | <i>T</i> | DF |
| <i>Font style</i> | | | | |
| Equal variances assumed | 1.053 | 0.306 | -8.960 | 218 |
| Equal variances not assumed | | | -8.960 | 215.043 |
| <i>Product form</i> | | | | |
| Equal variances assumed | 0.005 | 0.946 | 3.559 | 218 |
| Equal variances not assumed | | | 3.559 | 210.724 |
| <i>Background color</i> | | | | |
| Equal variances assumed | 1.317 | 0.252 | 8.268 | 218 |
| Equal variances not assumed | | | 8.268 | 202.846 |
| <i>Illustration</i> | | | | |
| Equal variances assumed | 5.368 | 0.021 | 18.386 | 218 |
| Equal variances not assumed | | | 18.386 | 215.539 |

Source: The authors

99**Table A1.**
Results of inferential
data of Independent
t-test by Statistical
Analysis Software**Corresponding author**Mohsen Rasouli Valajoozi can be contacted at: rasouli.mohsen@ut.ac.ir

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