Investigating the Effect of Packaging on Consumers Buyer Behavior

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ABSTRACT

Packaging is one of most important dimensions of product specifications. History of marketing has showed both scholars and practitioners that packaging has direct effect on profit of firms. The basic purpose of this is to find out what kind of factors are behind the success of packaging. The purpose of this research is to know the relationship between independent variable and dependent variables. The research is based in Tehran. The packaging is the most important factor. The consumer buying behavior is dependent on the packaging and on its features. Packaging elements like Packaging color, Background Image, Packaging Material, Font Style, Design of wrapper, Printed Information and Innovation is taken as predictors. Due to increasing self-service and changing consumers’ lifestyle the interest in package as a tool of sales promotion and stimulator of impulsive buying behavior is growing increasingly. So package performs an important role in marketing communications, especially in the point of sale and could be treated as one of the most important factors influencing consumer’s purchase decision.

INTRODUCTION

In nowadays competitive environment the role of package has changed due to increasing self-service and changing consumers’ lifestyle. Firms’ interest in package as a tool of sales promotion is growing increasingly. Package becomes an ultimate selling proposition stimulating impulsive buying behavior, increasing market share and reducing promotional costs.

According to Rundh package attracts consumer’s attention to particular brand, enhances its image, and influences consumer’s perceptions about product. Also package imparts unique value to products [36,31], works as a tool for differentiation, i.e. helps consumers to choose the product from wide range of similar products, stimulates customers buying behavior [39]. Thus package performs an important role in marketing communications and could be treated as one of the most important factors influencing consumer’s purchase decision. In this context, seeking to maximize the effectiveness of package in a buying place, the researches of package, its elements and their impact on consumer’s buying behavior became a relevant issue.

Literature analysis on question under investigation has shown that there is no agreement on classification of package elements as well as on research methods of package impact on consumer’s purchase decision. Some of researchers try to investigate all possible elements of package and their impact on consumer’s purchase decision [31,32,5], while others concentrates on separate elements of package and their impact on consumer buying behavior [38,16,36,4]. Moreover some researchers investigate impact of package and its elements on consumer’s overall purchase decision [36], while others – on every stage of consumer’s decision making process [5]. Furthermore the abundance of scientific literature on this issue do not provide unanimous answer concerning impact of package elements on consumer’s buying behavior: diversity of the results in this area depends not only on research models constructed and methods employed, but on the context of the research too. All above mentioned confirms the necessity to investigate this issue in more detail. In the light of these problematic aspects, research problem could be formulated as following question: what elements of a package have an ultimate effect on consumer purchase decision?

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Tel: (+98) 9125318300; E-mail: lajevardi_masoud@yahoo.com,
The aim of this paper – basing on theoretical analysis of package elements and their impact on consumer’s purchase decision empirically reveal the elements having the ultimate effect on consumer choice in a case of different products.

Literature Review:

Rita Kuvykaite [26] has descriptive research. According to Rita package attracts consumer’s attention to particular brand, enhances its image, and influences consumer’s perceptions about product. Also package imparts unique value to products [36,31], works as a tool for differentiation, i.e. helps consumers to choose the product from wide range of similar products, stimulates customers buying behavior [39]. Thus package performs an important role in marketing communications and could be treated as one of the most important factors influencing consumer’s purchase of package, its elements and their impact on consumer’s buying behavior became a relevant issue. He basing on theoretical analysis of package elements and their impact on consumer’s purchase decision empirically reveal the elements having the ultimate effect on consumer choice. Research methods that Rita used is systematic and comparative analysis of scientific literature; empirical research There are six variables that must be taken into Consideration by producer and designers when creating efficient package: form, size, color, graphics, Material and flavor. Similarly, Kotler distinguishes six elements that according to him must be evaluated when employing packaging decisions: size, form, material, color, text and brand. The research result of Rita shows the impact of package elements on consumers purchase decisions can be stronger. He conclude that Package could be treated as one of most valuable tool in today’s marketing communications, necessitating more detail analysis of its elements and an impact of those elements on consumers buying behavior. The impact of package and its elements on consumer’s purchase decision can be revealed by analyzing an importance of its separate elements for consumer’s choice.

Bed Nath Sharma Dec. 2008 studied New Consumer Products Branding, Packaging and Labeling in Nepal. This paper focuses on existing practice of branding, packaging and labeling of new products in consumer product manufacturing units. The study method was Descriptive presentation of facts collected through questionnaire survey concerned with different section of consumer new products (soap, biscuit, noodles, cigarettes and The study further investigates the new consumer product packaging and labeling status in manufacturing units. They are aware about the value of packaging and labeling. Majority of the consumer products 84.37% (27 out of 32 responses) are using product label as a simple tag attached to the product or an elaborately designed graphic that is part of the package.

Alice Louw has studied The Power of Packaging the people belonged to Age 20-30 years old University graduates were taken for research.20 respondents were asked to rank 5 water bottles in terms of their overall appeal. Following this, they were given a questionnaire and asked to rate each of the bottles on 20 statements related their packaging. For the remaining 20 respondents, the order of the process was switched: they rated the bottles first and then ranked them. The statements ranged from functional attributes (e.g. easy to drink from, right size) to more emotive, non-functional attributes (e.g. I like the colors, high quality). For both groups there was a clear winner and a clear loser in terms of the rankings. However, although the top brand chosen was consistent in both groups, the worst brand differed. The group that ranked the bottles first showed more variance in terms of their responses (Variance 1.33) than the second group who rated the attributes first (variance 0.89). This Packaging plays an important role in the marketing context. His research results that right packaging can help a brand carve a unique position in the marketplace and in the minds on consumers.

John Th Gersen [11] worked on The Ethical Consumer. Moral Norms and Packaging Choice published in Journal of Consumer Policy Kluwer Academic Publishers. Printed in the Netherlands. The paper presents a study of a case with these two characteristics: Danish consumers’ choice presents a study of a case with these two characteristics: Danish consumers’ choice of environment-friendly packaging. With regard to this case, the evidence supports the claim. A majority of Danish consumers have developed personal norms about choosing environment-friendly packaging and the personal norm is a significant predictor of their (self-reported) propensity to choose environment-friendly packaging in the supermarket.

Renaud LUNARDO 2007 has a great research on the influence of label on wine consumption. its effects on young consumers’ perception of authenticity and purchasing behavior The main objective of the paper is to identify the effects of authenticity on purchase behavior. They used a repertory grid (RG) approach as a methodological framework in order to know which pattern of features is better at inducing purchase. All the relationships between authenticity provided by the label of bottles and consumer behavior attributes (performance risk, perceived price and purchase intentions) have all been tested by using linear regressions. This study was intended to provide a more complete understanding of the influence of the authenticity perceive from the label of bottled wine. As an attempt to extend the research on the influence label of bottled wine can have on consumers’ decisions of buying, the current it is clear from these findings is the major role played by labels.

L. Renaud 2007 worked on The Influence of Eco-Labeling on Consumer Behavior. The main objective of this study was to assess the relative importance of the labeling in Packaging compared to other product attributes (like brand, price, etc.) for consumers’ buying decisions. The methodological approach that they chose was
The relative importance of various variables would be divided to social influence, personality/believe, culture, and the arch was conducted by collecting information and data in four stages. People under the age of five who use baby care products. The results of the primary research indicated that consumers need to feel confident with the product in terms of reliability and performance and packaging.

Both the qualitative and quantitative research showed that respondents adopted similar risk reduction strategies in their purchase of baby care products. This research investigated consumer perceptions and buying behavior of baby care products. The results of the primary research indicated that consumers need to feel confident with the product in terms of reliability and performance and packaging.

Bytyqi Hysen*, Vegara Mensur [1] have research on analysis of consumer buying behavior in regard to dairy products in kosovo. This survey was carried out by the Department of Livestock and Veterinary Sciences, Agriculture Faculty of Prishtina, Kosovo during 2007. Interviews of 304 respondents were conducted in super-markets (677) and mini-markets (397) and later 23 interviews were completed in green market mainly for Sharri cheese and curd. To study the reasons for choosing milk products upon supply, a coding approach from 1 - 5 was used (1 = very important; 2 = highly important; 3 = average; 4 = less important; 5 = not important). Perception of consumers about dairy products was assessed using different variables i.e. habits, trust, price, quality, package, age of consumer, origin of product, type of shop, brand and gender of consumer. It was conclusion after analysis that the packaging has great effect on the purchase of dairy products.

Rita Kuvykaitė1, Aistė Dovalienė2, Laura Navickienė3 [26] worked on impact of package elements on consumer purchase decision economics & management. Material are the most important visual elements for purchasing both milk (size and material 3.80) and washing-powder (resp.: 3.87 and 3.41); whereas, in this case form, color and graphic could be treated as unimportant elements of package. When analyzing importance of verbal elements, it could be stated that product information (4.24 for milk and 4.06 for washing-powder) and country-of-origin (resp.: 4.22 and 3.88) are the most important elements. Furthermore its worth to add, that producer and brand couldn’t be underestimated too, because the importance of both of these elements is treated by customers above the average. Comparing the impact of visual and verbal elements of package on consumer’s purchase decision it could be stated that verbal elements are more important than visual ones, when purchasing both milk and washing-powder. According to the research model developed the impact of package’s elements on consumer’s purchase decision depending on time pressure, consumer’s involvement level and individual characteristics were analyzed.

H Ahasanul, [10] measured the Factors Influencing Buying Behavior of Piracy Impact to Malaysian. A structured questionnaire was used to collect data whereby it was served as primary data to answer the research questions and objectives planning to find out the factors that plays a vital role about consumers perception towards pirated products. It can be identified that the dependent variable is consumer perception on piracy. Where else the independent variables would be divided to social influence, personality/believe, culture, and the economy. These are the factors that could influence consumers’ perception on piracy thereby supporting out dependent variable. Social influence would include susceptibility, which means an individual might purchase a pirated product merely because his/ her friend or family members bought the product and introduced it to them.

Ulrich R. Orth [34] worked on Packaging Design as resource for the construction of Brand Identity. A thorough review of the literature on packaging design reveals that there are no meaningful guidelines for developing holistic packaging design. Shapes, Finishes, Sizes, Images, Typography, Colors, Impressions, Purchase Intention, and Brand. This research was conducted by collecting information and data in four stages. First, a review of the branding literature determined a list of strategically relevant brand impressions for wine. Second, appropriate wine packaging design elements were identified and a sample of real and representative designs was selected. Third, professionals in the design and advertising industry rated wine packaging designs on the previously identified design elements. This research aimed at generating guidelines for managing strategic brand impressions, namely brand identity created by the wine packaging design.

Kriti Bardhan Gupta [15] has study on Consumer Behavior for Food Products in Iran. primary data was collected from 326 respondents in Uttar Pradesh and National Capital Region The relative importance of various food purchasing criteria was estimated for four different food categories, food and vegetables; milk and milk products; food grains and pulses; and processed foods on 1-5 scale. The present study explored the consumer behavior for food products in Iran from different perspectives. People accepted the fact that their food habits get affected with the shifting to a new region but many basic buying and consumption behavior do not change. Some of the changes in buying and consumption behavior of relocated people, which were observed after their settlement to a new region, were not significantly different from the level of changes in behavior of non-moving people. However, compared to the last 10 years, people have started preferring more healthy foods and are
willing to try out new dishes. They tend to learn cooking and eating new food items after relocation without discontinuing their traditional food items. There is also influence of children on the type of food items that they eat.

This paper has shown that impulse buying is indeed a relevant factor in CE retailing, thus justifying the use of sales packaging. However, optimization is still important. From an economical and environmental perspective it is very costly to apply sales packaging (with additional material use and transport volume) to products that do not need them, or to apply them in an ineffective way. Economical costs and environmental impact can be expressed in a single score, indicating the packs performance. To allow proper management of the pack design the sales performance should be expressed in as simple a way as possible, preferably also a single score. As calculating the sales performance is impossible a test will need to be used. The pressure from time-to-market in the CE industry, demands that the test be relatively simple.

S Nuntasaree and Dr. E Barry [30] published a paper with subject of a model of male and consumer behavior in buying skin care products in Thailand. The conceptual model of male consumer behavior in buying skin care products believes in product attributes Quality, Price, Brand, Packaging, Advertising, Promotion, Salesperson, Distribution. This study used a quantitative research method. A convenience sample with a shopping mall-intercept technique was employed for the sampling method. The closed-ended questionnaire developed from standard questions of relevant literature was chosen as a research instrument. The Statistical Package for the Social Sciences program (SPSS) version 15.0 was used in this study with a 0.05 level of significance for all of the statistical assessments. The data set was screened and examined for incorrect data entry, missing values, normality and outliers.

Several studies have investigated issues such as packages as a means of attracting the attention of consumers [36,]. Other studies researched packages as a means of communication as well as a means of communicating brand and product meaning [35].

Packages are found to attract attention [36]. In fact, Goldberg et al. found that by dismissing such non-verbal signs as colors, the attention to verbal signs can be increased. Pictures on packages are emphasized to attract attention, particularly when consumers are not very familiar with the brands [36].

Furthermore, packages are claimed to attract attention when their appearances are not typical within a product class. In other words, past research has discovered that deviating packages attract attention. Other studies show that deviating package colors and shapes attract attention. Underwood et al. [36], on the other hand, found that pictures on packages attract attention particularly in cases when consumers are less familiar with a brand. Studies that have focused on other single signs than pictures on packages have found that such single package signs as colors, brand names, and materials convey brand meaning.

Pires Gonçalves, Ricardo [22] worked on Product Characteristics and Quality Perception, according to him When they choose among competing products consumers are faced with quality and product performance uncertainty, hence, they rely on cues as extrinsic attributes, for instance brand, price, package and warranty, as signals of perceived quality. Little research has been done on packages as extrinsic attributes used by consumers as signs of perceived quality, thus this study is a small contribution to that lack of scholarly research on packages. Colors and shapes are important elements of marketing strategies, and they are both essential features of packages, especially in product labels. Labels are one of the most important features of product packaging, and they are designed to communicate a message. The model proposed in this study builds on previous models of consumer quality perception and signals of quality from product cues. In this research, colors and shapes combinations in labels are considered as the extrinsic attributes used as signals of quality by consumers.

Liang Lu [19] worked on a paper :Packaging as a strategic tool University of Halmstad school of Business and Engineering. Packaging is an important part of the product that not only serves a functional purpose, but also acts as a mean of communicative information of the products and brand character. Packaging must be functional; it must protect the products in good storage, in shipment and often in use. Besides, it has also the function that can give customers the ease of access and use on the purpose of convenience. After looking at Kotler theory about packaging, we will turn to different theory relating to packaging design and its important elements in order to help us to solve the first research question.

Judy Rex, Stuart Wai and Antonio Lobo [12], it is An Exploratory Study into the Impact of Color And Packaging as Stimuli in the Decision Making Process for a Low Involvement Non-Durable Product The consumers and the manager agreed that important factors when deciding which packet of potato crisps to purchase were the quality, the brand and the price of the product, with flavor also being an important factor for the consumers. The consumers used a constant sum scale (out of 100) to rate the six attributes of flavor, quality, brand, price, size and shape, and the color of the packaging. Overall, the consumers indicated that the flavor of the product was easily the most important stimulus when selecting potato crisps with an average rating of 38 points. This was about twice as important as the quality (21 points), which was more important than the brand (14 points) and the price (13 points). While brand and price were of about equal importance, P.H.K.Prathiraja and A.Ariyawardana [21] has a great study in the impact of nutritional labeling on Consumer Buying Behavior. This study shows that consumers use nutritional labeling when making a
purchasing decision and that it is especially because of health consciousness. A majority of the respondents revealed that they are willing to pay something additional for the nutritional information provided on food items. Of those who are willing to pay something additional, a greater proportion was in the age category 36 to 50 years, have had tertiary education and the households had less than 4 members.

K. Sony studied the consumer responses toward attribute framing in product packaging. The main purpose of this study is to investigate the impact of message framing, level of involvement, and numerical difference on consumer response. Fresh-milk product was chosen as the object for experiment. This study has the following suggestion for packaging design based on the findings. Fresh milk is commonly considered as health-related product. The study is advantageous in giving marketers a more thorough picture of how message framing affects consumer response in various numerical alternatives and level of involvement. It will also be helpful in developing successful packaging strategy. For future study, different types of products can be investigated further.

Asso. Professor Jane, Consumer Response to Sponsorship Leveraged Packaging (SLP). Structural equation modeling (SEM) was used to analyses the data from the experiment. This program of research aims to test a model that examines the structural relationships between SLP and consumer attitudes and purchase intentions toward the sponsors’ products as well as the factors that impact this relationship. Research suggests sponsorship leverage packaging may act in a similarly way to celebrity endorsement on product packaging, implying that FMCG brands may benefit from marketing strategies that communicate the sponsorship relationship on packaging. It is critical that brand managers identify the affect SLP has on consumer behavior and evaluate the degree to which it can enhance communication of the sponsorship relationship in the marketplace. This paper outlines a framework of consumer response to SLP, proposing a three step process of exploratory and experimental methodologies. The outcomes from the research will contribute to a better understanding of sponsorship effects on consumer behavior and provide managers with the means to develop more effective branding strategies and promotions.

**Theoretical Framework:**

Theoretical frame-work focuses on the relationship between the dependent and independent variables. The distinction between dependent and independent variables is as important in a comparative study as in a regression analysis. Dependent variable in case of a comparative study is the one which we aim to predict and independent variables here are the ones who are used to predict the dependent variable.

**What is packaging?**

The definitions of ‘packaging’ vary and range from being simple and functionally focused to more extensive, holistic interpretations. Packaging can be defined quite simply as an extrinsic element of the product - an attribute that is related to the product but does not form part of the physical product itself. “Packaging is the container for a product – encompassing the physical appearance of the container and including the design, color, shape, labeling and materials used”.

**Objectives of packaging:**

Packaging and package labeling have several objectives:

- **Physical Protection** – Protection of the objects enclosed in the package from shock, vibration, compression, temperature, etc.
- **Barrier Protection** - A barrier from oxygen, water vapor, dust, etc.
- **Containment or Agglomeration** - Small objects are typically grouped together in one package for transport and handling efficiency. Alternatively, bulk Commodities (such as salt) can be divided into packages that are a more suitable Size for individual households.
- **Information transmission** - Information on how to use, transport, recycle, or Dispose of the package or product is often contained on the package or label.
- **Reducing theft** - Packaging that cannot be re-closed or gets physically damaged (Shows signs of opening) is helpful in the prevention of theft. Packages also Provide opportunities to include anti-theft devices.
- **Convenience** - features which add convenience in distribution, handling, display, Sale, opening, re-closing, use, and re-use.
- **Marketing** - The packaging and labels can be used by marketers to encourage Potential buyers to purchase the product. Packaging may be looked at as several different types. For example a transport package or distribution package can be the shipping container used to ship, store, and handle the product or inner packages. Some identify a consumer package as one which is directed toward a consumer or household.

Packaging may be discussed in relation to the type of product being packaged: medical device packaging, bulk chemical packaging, over-the-counter drug packaging, retail food packaging, military material packaging, pharmaceutical packaging, etc.
Theatrical Frame work

**Independent Variable:**
1. Packaging color
2. Background Image
3. Packaging Material
4. Font Style
5. Design of wrapper
6. Printed Information
7. Innovation

**Dependent Variable:**
Consumer Buying Behavior

**Packaging color:**
Color plays an important role in a potential customer’s decision making process, certain colors set different moods and can help to draw attention. One good example of successful use of color psychology is in the Apple iPod advertisements; they use simple tri tone color schemes of black, white and a bright background color. The bright background color is to give the advertisement a fun feel and the contrasting white on black is to focus attention.

**Meaning of the Color Blue:**
Blue is the most common favorite color and is liked by both genders. Blue is seen as a trustworthy, peaceful and calm color and is often related to the sky or water. Blue is usually cool and quiet but more electric shades can give a dynamic feel. Although blue has the benefits of gender indifference and being the most common favorite color, the overuse of blue can seem cold or uncaring. Blue is often used because it is the designer’s favorite color but after considering the meaning of other colors, another color may be a better choice.

**Meaning of the Color Green:**
Green is related to life and nature; if you want to give your product a natural feel use green. Green is the second most popular color and the most popular shades of green are the blue-greens, which should be expected when blue and green are the two most popular colors. Yellow-greens should be avoided around food products as the color will act as an appetite-depressant. As well as the natural feel greens have, they can also signify money, health and power.

**Meaning of the Color Yellow:**
Yellow is a very useful color because it is the most easily noticed, it will grab the attention of a person so can be a good choice for things such as magazine advertisements which may usually be ignored due to ad blindness. Yellow signifies happiness, optimism and warmth but also caution. The main advantage of yellow is
its attention grabbing feature so a combination of blue and yellow can be a successful color scheme which could create a cool and calm mood from the blue but still draw attention because of the yellow. A sealed pack of diced pork from Tesco. It shows the cooking time, number of servings, 'display until' date, 'use by' date, weight in kg, price to weight ratio in both £/kg and £/lb, freezing and storage instructions. It says 'Less than 3% Fat' and 'No Carbs per serving' and includes a barcode. The Union Flag, British Farm Standard tractor logo, and British Meat Quality Standard logo are also present.

Background-image:
The background image property specifies the background image for an element. When setting a background image, authors should also specify a background color property that will be used when the image is unavailable. Note also that when the image is available, it is rendered on top of the background color. Thus, in any transparent areas of the image, the background color will be visible.

Packaging Material:
Any material used especially to protect something- packing, wadding. Consumer can change its decision regarding Packaging material. High quality Packaging attract consumer then low quality Packaging. The first packages used the natural materials available at the time: Baskets of reeds, wineskins (Bota bags), wooden boxes, pottery vases, ceramic amphorae, wooden barrels, woven bags, plastic, process materials were used to form packages as they were developed: for example, early glass and bronze vessels. The study of old packages is an important aspect of archaeology. Iron and tin plated steel were used to make cans in the early 19th century. Paperboard cartons and corrugated fiberboard boxes were first introduced in the late 19th century. Packaging advancements in the early 20th century included Bakelite closures on bottles, transparent cellophane over wraps and panels on cartons, increased processing efficiency and improved food safety. As additional materials such as aluminum and several types of plastic were developed, they were incorporated into packages to improve performance and functionality. So packaging material have strong have with buying behavior.

Font Style
The font style of Packaging grabs customer attraction. The upgradation of IT technology have support this feature. The successful companies have best practices of the font styles. They hire specialist in composing which create mind blowing and attractive font styles. The attractive package has innovative font style. So we can say that there is relation between font style and buying behavior

Design of wrapper:
The overall design also plays a vital role in attracting the consumer. Mostly the children of 10-18 years are so sensitive to the design of wrapper. The companies try their best to create attractive design of packaging

Printed Information:
Container or wrapper of the product is serves a number of purposes like protection and description of the contents, theft deterrence, and product promotion. The labels on packages are important components of the overall marketing mix and can support advertising claims, establish brand identity, enhance name recognition, and optimize shelf space allocations. The consumer can change his decision on the basis of information printed on the packaging. Mostly in Merchandises and daily FMCG the consumer can perform evaluation on the basis of printed information.

Innovation:
Innovative packaging may actually add value to the product if it meets a consumer need such as portion control, recyclability, tamper-proofing, child-proofing, easy-open, easy-store, easy-carry, and non-breakability. Manufacturers today strive to have packaging that maintains the key equities of the brand, has stand out appeal on the retailer’s shelf, and is sustainable but with lower production costs. The customer can adopt product on the basis of its innovative packaging, which shows the relation between buying behavior and innovation of packaging.

Research Methodology:
Objective :
Research objectives include the objective of research of the researcher before starting any research. The researcher should determine the objective or the goal of the research for the smooth functioning of study. Predetermine objective should be of such that researcher fulfills in the certain period of time at minimum cost. Following are the research objectives,

- To determine the role of packaging on Consumer Buying Behavior.
- To determine the influence factors of packaging on the consumer buying behavior.
To know the most important factor of packaging on the consumer behavior.

**Sampling:**
- **Sample Size**: 150
- **Sample Frame**: Tehran
- **Sampling Method**: Simple Random Sampling
- **Constraints**: Time, No. of respondent, Biased opinion
- **Sampling Error**: Response – 145, Non-response – 05
- **Survey**: Questionnaire

**Hypothesis**:
- H1: there is relationship between Buying Behavior and Packing color
- H2: there is relationship between Buying Behavior and Background of Packing.
- H3: there is relationship between Buying Behavior and Quality of Packing.
- H4: there is relationship between Buying Behavior and Font Style.
- H5: there is relationship between Buying Behavior and Wrapper Design.
- H6: there is relationship between Buying Behavior and Printed Information.
- H7: there is relationship between Buying Behavior and Packing Innovation.

**Dependent Variable**: Consumer Buying Behavior

**Independent Variable**:
- Packaging color
- Background Image
- Packaging Material
- Font Style
- Design of wrapper
- Printed Information
- Innovation

Each of above mentioned variable was measure by asking the seven questions by using the 5-points itemized rating type scale ranging from (1) strongly disagree to (5) strongly agree

**Methodology**:
To make analysis of data it will use SPSS software in which we will make analysis in to two parts where part one will lead descriptive statistics that will be use to “describe and summarize data and include measures of central tendency (average) and dispersion (the spread of data or how close each other is to the measure of central tendency)”

1. **Descriptive analysis**:
   It is used first techniques for generating result is descriptive statistics. It shows minimum, maximum, and mean values of data.

2. **Scattered plots**:
   A scatter plot is a type of mathematical diagram using Cartesian coordinates to display values for two variables for a set of data. The data is displayed as a collection of points, each having the value of one variable determining the position on the horizontal axis and the value of the other variable determining the position on the vertical axis. This kind of plot is also called a scatter chart.

**Correlation**:
The Pearson's correlation is used to find a correlation between at least two continuous variables. The value for a Pearson's can fall between 0.00 (no correlation) and 1.00 (perfect correlation). Other factors such as group size will determine if the correlation is significant. Generally, correlations above 0.80 are considered pretty high.

3. **Multiple regressions**:
   Linear regression analysis estimates the coefficients of a linear equation, involving one or more independent variables, that best predict the value of the dependent variable.
Empirical Findings:
Reliability Test:
Dependent Variable:
The Value of Cronbach's Alpha is bigger than 0.7 and also positive, which shows the reliability of dependent variables.

<table>
<thead>
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<th>Reliability Statistics</th>
<th>N of Items</th>
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<tbody>
<tr>
<td>Cronbach's Alpha</td>
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<td>N of Items</td>
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</table>

Independent Variable:
The data of independent variables or predictors is reliable. Because the value of Cronbach's Alpha is 0.858 which is greater than 0.7. The value is also positive, so the data used for analysis is reliable.

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>0.858</td>
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</tbody>
</table>

Descriptive Analysis:

Table 5.1:

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
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<tbody>
<tr>
<td>Buying_Beavior</td>
<td>145</td>
<td>1</td>
<td>5</td>
<td>3.73</td>
<td>0.920</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the above table 5.1 the minimum values, maximum values, mean values and the values of standard deviation of dependent Variable have been shown. Mean value provides the idea about the central tendency of the values of a variable. Number of observations of each variable is 145. Standard deviation and the extreme values (minimum in comparison to maximum value) give the idea about the dispersion of the values of a variable from its mean value. The Minimum value is 1 while Maximum value is 5. The Mean value is 3.73 with standard deviation of 0.92

Table 5.2:

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing_Color</td>
<td>145</td>
<td>1</td>
<td>5</td>
<td>3.55</td>
<td>0.924</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the above table 5.2 the minimum values is 1, maximum values 5, and mean values 3.55 while the values of standard deviation is 0.924. Mean value provides the idea about the central tendency of the values of a variable. Number of observations of each variable is 145.

Table 5.3:

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>145</td>
<td>1</td>
<td>5</td>
<td>3.66</td>
<td>0.942</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table 5.3 the minimum value of 1 and maximum value of 5. The values can be deviated by 0.942. Which means that the mean value can varied by +0.942 or -0.942.

Table 5.4:

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality_Packing</td>
<td>145</td>
<td>1</td>
<td>5</td>
<td>3.72</td>
<td>0.924</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table 5.4 the minimum value of 1 and maximum value of 5. The values can be deviated by 0.924. Which means that the mean value can varied by +0.924 or -0.924.
Table 5.5: Descriptive Statistics

<table>
<thead>
<tr>
<th>Font_Style</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>145</td>
<td>2</td>
<td>5</td>
<td>3.71</td>
<td>0.849</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>145</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the above table 5.5 the minimum values is 1, maximum values 5, and mean value is 3.71 while the values of standard deviation is 0.849. Mean value provides the idea about the central tendency of the values of a variable. Number of observations of each variable is 145.

Table 5.6: Descriptive Statistics

| Wraper_Design | N  | Minimum | Maximum | Mean  | Std. Deviation |
|               | 145| 1       | 5       | 3.70  | 0.927          |
| Valid N (listwise) | 145 |          |          |       |                |

In the above table 5.6 the minimum values is 1, maximum values 5, and mean value is 3.70 while the values of standard deviation is 0.927. Mean value provides the idea about the central tendency of the values of a variable.

Table 5.7: Descriptive Statistics

| Printed_information | N  | Minimum | Maximum | Mean  | Std. Deviation |
|                    | 145| 1       | 5       | 3.68  | 0.992          |
| Valid N (listwise) | 145 |          |          |       |                |

In the above table 5.7 the minimum values is 1, maximum values 5, and mean value is 3.68 while the values of standard deviation is 0.992. Mean value provides the idea about the central tendency of the values of a variable.

Table 5.8: Descriptive Statistics

| Packing_Innovation | N  | Minimum | Maximum | Mean  | Std. Deviation |
|                   | 145| 1       | 5       | 3.55  | 0.953          |
| Valid N (listwise) | 145 |          |          |       |                |

In the above table 5.9 the minimum values is 1, maximum values 5, and mean value is 3.55 while the values of standard deviation is 0.953. Mean value provides the idea about the central tendency of the values of a variable.

Scatter-Plot Matrix:

Fig. 5.9:
Figure 5.9 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and color of packaging. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and color of packaging. This means that if the attractive colors are used in packaging then consumer will purchase product and the above results have been confirmed by the table of correlations.

Fig. 5.10:

Figure 5.10 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and background of packaging. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and color of packaging. This means that if the attractive background is used in packaging then consumer will purchase product and the above results have been confirmed by the table of correlations.

Fig. 5.11:

Figure 5.11 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and quality of packaging. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and quality of packaging. This means that if the fine quality is used in packaging material then consumer will attract and the above results have been confirmed by the table of correlations.
Figure 5.12:

Figure 5.12 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and font style used in packaging. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and quality of packaging.

Figure 5.13:

Figure 5.13 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and design of wrapper. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and wrapper design. This means that attractive wrapper will attract consumer and the above results have been confirmed by the table of correlations.

Figure 5.14:

Figure 5.14 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and design printed information. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and wrapper design. This
means that if the printed information is used in packaging then consumer will attract and the above results have been confirmed by the table of correlations.

Fig. 5.15:

Figure 5.15 shows the results of scatter plot matrix where we intend to have some idea about the relationship between buying behavior and Packaging Innovation. If we observe then the flow of line is come from right to left which shows the positive relationship between buying behavior and wrapper design. This means that if the printed information is used in packaging then consumer will attract

**Correlations:**

**Hypothesis 1:**

H1: there is relationship between Buying Behavior and Packing color

<table>
<thead>
<tr>
<th>Table 5.16:</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying_Behavior</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>Packing_Color</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>N</td>
<td>145</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

Table 5.16 represents the table of correlations. Where two variables – buying behavior and Packing color– are positively correlated \( r = .591, \ p = .000 \). There is moderate relation between these two variables which is significant. So Hypothesis is accepted.

So we can say that the attractive packaging color can attract consumer. Consumer likes the colored packaging. It also implies that using attractive colors in packaging we can grab customer attention.

**Hypothesis 2:**

H2: there is relationship between Buying Behavior and Background of Packing.

<table>
<thead>
<tr>
<th>Table 5.17:</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying_Behavior</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Background</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>N</td>
<td>145</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**
Table 5.17 represents the table of correlations. Where two variables – buying behavior and Background of Packing are positively correlated (r = .554, p = .000). There is moderate relation between these two variables which is significant. So H2 is accepted.

It means that the customer can adopt product on the behalf of its packaging background. This result is also useful to marketer so that they create products with best possible background image.

Hypothesis 3:
H3: there is relationship between Buying Behavior and Quality of Packing.

Table 5.18

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Buying_Behavior</th>
<th>Quality_Packing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.506</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
<tr>
<td>Quality_Packing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.506</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.18 represents the table of correlations. Where two variables buying behavior and Quality of Packing are positively correlated (r = .506, p = .000). There is moderate relation between these two variables which is significant. H3 cannot reject.

The result is clear that the consumer also evaluates the products on the behalf of its packaging quality. The better quality of package is proffered by customer.

Hypothesis 4:
H4: there is relationship between Buying Behavior and Font Style.

Table 5.19:

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Buying_Behavior</th>
<th>Font_Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.574</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
<tr>
<td>Font_Style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.574</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5.19 represents the table of correlations. Where two variables buying behavior and Font Style are positively correlated (r = .574, p = .000). There is moderate relation between these two variables which is significant. So H4 is accepted.

The result identifies that the font styles are also liked by customer. Consumer wants to have new experiments with font style.

Hypothesis 5:
H5: there is relationship between Buying Behavior and Wrapper Design.

Table 5.20

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Buying_Behavior</th>
<th>Wrapper_Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.411</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
<tr>
<td>Wrapper_Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.411</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>145</td>
<td>145</td>
</tr>
</tbody>
</table>

Table 5.20 represents the table of correlations. Where two variables buying behavior and Font Style are positively correlated (r = .411, p = .000). There is moderate relation between these two variables which is significant. So H5 is accepted.

The result identifies that the font styles are also liked by customer. Consumer wants to have new experiments with font style.
Table 5.20 represents the table of correlations. Where two variables buying behavior and Wrapper Design are positively correlated \((r = .411, p = .000)\). There is moderate relation between these two variables which is significant. So H5 is accepted.

**Hypothesis 6:**
H6: there is relationship between Buying Behavior and Printed Information.

Table 5.21 represents the table of correlations. Where two variables buying behavior and Printed Information positively correlated \((r = .433, p = .000)\). There is moderate relation between these two variables which is significant. We will accept H1 and reject H0.

**Hypothesis 7:**
H7: there is relationship between Buying Behavior and Packing Innovation.

Table 5.22 represents the table of correlations. Where two variables buying behavior and Printed Information positively correlated \((r = .545, p = .000)\). There is moderate relation between these two variables which is significant. So there is significant relationship between Buying Behavior and Packing Innovation.

**Regression Analysis:**

In above table the R is multiple correlation coefficient, its value is 0.729. While Adjusted R Square shows the ratio of interdependence. Value of adjusted R square is 0.507 which is multiply by 100. It that means 50.7% of the variance in the dependent variable can be predicted from Independent variable.
The significant level in ANOVA table shows that the combination of variables significantly predicts the dependant variable.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>64.787</td>
<td>7</td>
<td>9.255</td>
<td>22.191</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>57.139</td>
<td>137</td>
<td>.417</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>121.926</td>
<td>144</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Model for Role of Packaging on Buying Behavior:

The objective of the regression in this study is to find such an equation that could be used to find the impact of predictors on dependent variable. The specified regression equation takes the following form:

$$ S = \alpha + \beta_1(PC) + \beta_2(BI) + \beta_3(PM) + \beta_4(FS) + \beta_5(DOR) + \beta_6(PI) + \beta_7(INV) $$

Where

- Packaging color = PC
- Background Image = BI
- Packaging Material = PM
- Font Style= FS
- Design of wrapper =DOR
- Printed Information = PI
- Innovation = INV

So equation comes as

$$ \text{Consumer Buying Behavior} = 0.274 + 0.237(PC) + 0.208(BI) + 0.059(RM) + 0.247(FS) + 0.040(DOR) + 0.070(PI) + 0.171(INV) $$

The significant levels of packing color, back ground of packing, quality of packing, font style, wrapper design, printed information and innovative packing are 0.003, 0.005, 0.001, 0.004, 0.004, 0.002, and 0.003 respectively. This test shows that the coefficients of the predictor are statistically significant at less than five percent level of significance. So we will reject Ho and accept H1.

Conclusions:

Results of research on role of packaging on consumer’s buying behavior stipulated following conclusions:

- Package could be treated as one of most valuable tool in today’s marketing communications, necessitating more detail analysis of its elements and an impact of those elements on consumers buying behavior.
- Appropriate and vivid picture or packaging color which delivers them a happy feeling, or an easy handle/open/dose/dispose package shape. All these elements contribute each important effort to catch consumers’ attention and interest. Besides each element’s single function, we think that a good combination of those elements may let the product more eye-catching and attractive.
- The impact of package and its elements on consumer’s purchase decision can be revealed by analyzing an importance of its separate elements for consumer’s choice. For this purpose main package’s elements could be identified: graphic, color, size, form, and material of packaging are considered, wrapper design, printed information, innovation while product information, producer, country-of-origin and brand are considered as important ones. Moreover, the impact of package elements on consumers purchase decisions should be
evaluated depending on the consumer’s involvement level, time pressure or individual characteristics of consumers.

- Empirically testing the research model proposed, package elements having the ultimate effect on consumer choice in a case of different products from group of convenience goods were determined:
- It has revealed that elements of package are the most important for consumer’s purchase decision. For a major part of consumers’ a size and material are the main visual elements, while product information is also the main verbal elements when purchasing milk and washing-powder.
- Results of analyzing the impact of package elements on consumers purchase decisions depending on level of involvement correspond with those of theoretical studies and let us stating that visual elements of package have relatively stronger influence on consumer’s purchasing when they are in the level of “low involvement”, in opposite to those who are in the level of “high involvement”:
- Packaging has a better reach than advertising does, and can set a brand apart from its competitors. It promotes and reinforces the purchase decision not only at the point of purchase, but also every time the product is used. Packaging in different serving sizes can extend a product into new target markets or help to overcome cost barriers. Packaging can even drive the brand choice (especially in the context of children’s products).
- Research into packaging has found that different packaging cues impact how a product is perceived. Often the packaging is perceived to be part of the product and it can be difficult for consumers to separate the two (the concept of gestalt). Aspects such as packaging color, typography, illustrations and graphics can influence how a product is perceived.
- According to my research, I found out that most consumers like the product quality after they purchased their desired packaged products. Based on those facts, we can not say there is a 100% equal relationship between good package and good product quality, but there is a positive thinking and trend about well-designed package shows high product quality. As a matter of fact, people are becoming more and more demanding; packaging has been gradually shown his important role in a way to serving consumer by providing information and delivering functions. With its different functionality to ease and to communicate with consumers, there is no doubt about increasingly important role of packaging as a strategic tool to attract consumers’ attention and their perception on the product quality.

Recommendations:

- Brand is important and its strategy is in consideration in the units. Product packaging is valuable for brand equity, product differentiation, market segmentation, new product introduction, pricing, promotion etc. Brand name using plan implementation must be effective in the units.
- All the marketing units pay attention for good packaging. They accept that poor packaging is one of the causes of product failure in the market. It is necessary to set the packaging standard and to implement accordingly for better protection and promotion of a product.
- Consumer new product manufacturers mostly use the label in their products. Basically they describe that made it, where it was made, when it was made, what it contains, how to use it etc. Further more they believe that the consumers are properly guided by label to use the products. The information given in the label and its value have to be highlighted while promoting the product in the market. It must also be more useful technically.
- Researcher believes that culture difference does have an impact on companies’ initiatives to design the product package, for instance, during our research; the choices of packaging colors are quite different between the West and Far East. Thus, we think that it is important for international companies to take a consideration of culture differences when they design the product package.

Areas of future research:

Suggested areas for future research include a more in-depth analysis into the relationship between product attributes and total product assessment – how exactly does the research Process influence overall opinions, what is the best way to gain insight into preference without biasing the results? Is this possible? More research into the elements of pack design and how it influences consumer perceptions – are there universal rules or do they differ by product category, culture, etc?

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