

## **Influence of Bottled Water Packaging Attributes on Consumers' Purchase Decision: Case study in Addis Ababa**

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### **Abstract**

*The purpose of this study was to identify the influence of bottled water packaging attributes on consumers' purchase decision. The research focused in Addis Ababa (Ethiopia). The study used color, graphic design, size, printed information and shape of packaging as independent variables and consumers' purchase decision as a dependent variable. This empirical research was conducted using survey through a set of questionnaire with 5-point likert scale and open-ended items. The questionnaire was distributed to 200 respondents and the responses from 96.5% of the respondents were analyzed using descriptive and inferential statistics such as mean, correlation and multiple regression. The findings of the study show that color, graphic design, size and shape of packaging significantly influence consumers' purchase decision for bottled water. Printed information on the package has no significant influence on consumers' purchase decision. Therefore, manufacturers of bottled drink water should give attention to packaging attributes and be innovative to win consumers' attention. Using attractive and easily understandable printed information may increase its influence on purchase decision.*

**Key words:** packaging, bottled water, purchase decision

## **Introduction**

Consumer decision identifies at least two types of decision making (Haugteued, Herr and Kerdes, 2008). The first involves deliberative decision making with the classic five stages: problem recognition, information search, alternative evaluation, purchase decision and post-purchase behavior. When consumers have limited processing resources, they may pass directly from problem recognition to purchase decision to the post-purchase phase, using affective feeling to direct their choice process. The second type of decision making is affective/experiential. This involves intuitive, automatic, associative, and fast decisions.

A straightforward and literal definition of packaging<sup>1</sup> is “all products made of any materials of any nature to be used for the containment, protection, handling, delivery and preservation of goods from the producer to the user or consumer. Many products use packaging to create a distinctive brand image and identity (Belch and Belch, 2003). Packaging includes all the activities of designing and producing the container for a product. Packages might have up to three layers. Cool Water cologne comes in a bottle (primary package), in a cardboard box (secondary package), and in a corrugated box (shipping package) containing six dozen bottles in cardboard boxes. The package is the buyer’s first encounter with the product. A good package draws the consumer in and encourages product choice (Kotler& Keller, 2012).

Packaging is not a single thing; it is rather a combination of different attributes. Consumers subconsciously assign their preferred color, shape and basic material(s) used in the containers. Deliya & Parmar (2012) identified

<sup>1</sup>Package and packaging for this study are synonymies

color, background, image, packaging materials, font size, design of wrapper, printed information and innovation as attributes consumers attach to packaging. On the other hand, Kuvykaite, Dovaliene and Navickiene(2009) classify the packaging attributes in to two. These are verbal and visual packaging attributes. Verbal packaging attribute consists of product information, producer, country-of-origin, and brand. Visual packaging attributes have graphic, color, size, form, and material as attributes.

Changes in ways of life also explain this boost of bottled water sales. Increasing urbanization and causing tap water quality to decline can explain this situation. In particular, natural mineral water cannot be treated nor add any element (Ferrier, 2001). Purified water is surface or underground water that has been treated in order to be suitable for human consumption. It differs from tap water only through the way it is distributed (in bottles rather than through pipes) and its price (Ferrier, 2001).

### **Statement of the Problem**

Buying process starts long before the act of purchase and continues afterwards (Kotler, 1999). This indicates that consumers need time and information to reach final decision. On the other hand, marketers use packaging for protection and communication purposes. According to Dobason (2012), the obvious benefit of packaging is the protection of goods to be sold. While protecting goods in transportation, packaging also keeps the freshness of products and enhances the life of perishable food items. These two benefits are mostly concerned with the logistic function of packaging. Other benefits of packaging to consumers arise from convenience associated with storage and shelving of long-life food items and associated hygiene and safety benefits.

Different researchers tried to explain the packaging attributes in different ways. However, the influence of those attributes is not well studied. Even if some research pieces were conducted in this area, the majority of them focused on the packaging of food items. According to Ethiopian Business Development Services Network (EBDSN) (2013), Manufacturing is now at an early stage of development and currently accounts for about 7 per cent of the GDP and 5.3% of employment. It covers about 145 state-owned and 643 private manufacturing industries of all sizes. Following the government actions to enhance industrialization, different local and foreign investors have started producing and selling bottled water in different parts of Ethiopia. Different bottled drink water manufactures are established around Addis Ababa and other different cities of the country, such as Mekelle, and Dire Dawa.

The number of users of bottled water seems to increase from time to time. Middle income people enjoying such product are increasing. According to Deliya & Parmar (2012), in a competitive environment, the role of packaging 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 behaviour, increasing market share and reducing promotional costs. Package attracts consumers' attention to a particular brand, enhances its image, and influences consumers' perceptions about product. Also, package imparts unique value to products as a tool for differentiation i.e. it helps consumers to choose the product from wide range of similar products and stimulates consumers' buying behavior. Thus, packaging plays an important role in marketing communications and could

be treated as one of the most important factors influencing consumers' purchase decision.

Therefore, this research stands to investigate the influence of those packaging attributes such as color, shape, size, printed information and design on consumers' purchase decision. The paper does not focus on the general packaging, but the specific packaging attributes of bottled water and their influence on consumers' purchase decision. So, the study intends to identify the influence of packaging attributes on the consumers' purchase decision. Accordingly, the study attempts to find answers to the following research questions.

**Q1:** Does the packaging color of bottled water affect consumers' purchase decision?

**Q2:** Does the packaging size of bottled water influence consumers' purchase decision?

**Q3:** Does the graphic design of packaging influence the consumers' purchasing decision?

**Q4:** Does the shape of bottled water influence the purchase decision of consumers?

**Q5:** Does the printed information influence the consumers' purchase decision for bottled water?

### **Objectives of the Study**

The general objective of the study is to examine the influence of packaging attributes on consumers' purchase decision for bottled water. The specific objectives of the study are:

To identify the relationship between packaging attributes and consumers' purchase decision of bottled drink water.

To investigate which packaging attributes of bottled water are more influential for the purchase decision of consumers.

To identify multiple effect of packaging attributes on consumers' purchase decision.

To see the contribution of each attribute of packaging on consumers' purchase decision.

## **Review of Related Literature**

### **Consumer Behavior**

According to Kotler, et al. (1999), normally the amount of consumer search activity increases as the consumer moves from decisions that involve limited problem solving to those that involve extensive problem solving. Consumer behavior reflects the totality of consumers' decisions with respect to the acquisition, consumption, and disposition of goods, services, activities, experiences, people, and ideas by (human) decision-making units (Hoyer & MacInnis, 2010).

### **Consumers' Purchase Decision Process**

Much of the effort that goes into a purchase decision occurs at the stage in which a choice must be made from the available alternatives. After all, modern consumer society abounds with choices. In some cases, there may be literally hundreds of different brands or different variations of the same brand (Solomon, Bamossy, Askegaard, & Hogg, 2006).

We believe that consumer behavior analysis must play an important role in the decision to standardize or adapt marketing strategies. All consumers will differ to some extent in what they buy, why they buy, who makes the purchase decision, how they buy, when they buy and where they buy. Some

of these differences may be explained at the lifestyle level and less so on the national level and some are very obviously related to national or regional differences. Since some purchase decisions are more important than others, the amount of effort we put into each one differs (Solomon, et al, 2006).

The consumer typically passes through five stages: problem recognition, information search, evaluation of alternatives, purchase decision, and post purchase behavior. Clearly, the buying process starts long before the actual purchase and has consequences long afterward. Consumers don't always pass through all five stages—they may skip or reverse some (Kotler & Keller, 2012).

### **Packaging**

Many companies view packaging as an important way to communicate with consumers and create an impression of the brand in their minds. In other instances, packaging can extend the brand by offering new use (Belch & Belch, 2003). Deliya&Parmar (2012) also define packaging as an extrinsic element of the product. Packaging is the container for the product. According to Agariya, Johari, Sharma, Chandraul, & Singh (2012), support this idea and define packaging as a container for a product- encompassing the physical appearance of the container and including the design, color, shape, labeling and material used.

Packaging includes the activities of designing and producing container for a product. The container is called the package, and it might include up to three levels of material (Kotler, 2002). Packaging involves designing and producing the container or wrapper for a product. Labeling printed information appearing on or with the package is also part of packaging. The

package is the buyer's first encounter with the product and is capable of turning the buyer on or off (Kotler and Keller, 2006).

### **Packaging Attributes**

The core elements of a product are its shape, quality, color, quantity, packaging, price, brand name differentiation, etc. (Khan, 2006). On the other hand, Brands are important symbols, often using more than one sign system to create meaning; the brand name, the logo, the color and the design of the packaging all contribute (Blythe, 2005).

### **Color**

Colors are rich in symbolic value and cultural meanings. For example, the display of red, white and blue evokes feelings of patriotism for both British and French people. Such powerful cultural meanings make color a central aspect of many marketing strategies. Color choices are made with regard to packaging, advertising, and even shop fittings (Solomon, 2006).

Colors also have different meanings in different cultures. For example, in Egypt, the country's national color of green is considered unacceptable for packaging because religious leaders once wore it. In Japan, black and white are colors of mourning and should not be used on a product's package. Similarly, purple is unacceptable in Hispanic nations because it is associated with death (Burnett, 2008). Keillor, (2007) says this about the use of color. If it is a consumer product, it should stand out on the shelf. If all of the competitors are dark blue, your label should be red and white. It is hard to go wrong with light and bright. Different and appealing are an absolute must.



According to Ambrose and Harris (2011), color is an essential part of branding and establishing the brand statement. Color decisions have to take into account the colors used by competitors and whether the aim is to fit in or stand out. The power of color is important for brand recognition as consumers often use it as a short cut when purchasing products; they often look for a familiar red and yellow bottle, for example, rather than read the labels of products on the shelf. It is for this reason that ‘me-too’ brands often feature labels in similar colors to the market leader in order to benefit from such familiar associations.

The effective use of color in packaging design can be a highly involved decision due to the various connotations, associations and messages that colors can send out. Color meanings are wide and varied and perhaps most significantly culturally dependent. Certain packaging colors refer to particular tastes or qualities, with pink and red indicating sweetness for example, while white and blue suggest purity and refinement. The color green typically refers to mint flavoring or organic produce, while to attract attention to ‘new’ or ‘improved’ products or formulas, designers frequently use red and yellow.

### **Graphic Design**

Each of these routes has its own advantages. Typography is essentially descriptive; that is, you can easily explain to someone what the product is, or what its core values are. Photography is often used in an inspirational way, to convey a sense of ambition, or to show the detail and quality of a product. Meanwhile, illustration can allow the unimaginable to be imagined. In reality, one or more of these approaches is normally employed in a design scheme, and the boundaries between these disciplines can often be blurred

or crossed. Typography is often treated as image, being manipulated and altered to create graphic effect. Illustration and photography can also merge; overt manipulation can be used to make the real (a photograph, for instance) appear hyper real or fantastical in its outcome. The size and style of the lettering on a product or in an ad can attract attention and support brand recognition and image. The distinctive Wendy's script, for instance, is eye-catching and instantly identified with the name of the hamburger chain (Hoyer & MacInnis, 2010).

### **Size**

The amount of consumption can sometimes be increased through packaging or product design. Larger package sizes have been shown to increase the amount of product that consumers use at one time. The usage of "impulse" consumption products such as soft drinks and snacks increases when the product is made more available.

Increasing frequency of use, on the other hand, involves identifying additional opportunities to use the brand in the same basic way or identifying completely new and different ways to use the brand. In some cases, the product may be seen as useful only in certain places and at certain times, especially if it has strong brand associations to particular usage situations or user types (Kotler and Keller, 2006).

Size attracts attention. When choosing among competing products, consumers tend to buy products in packages that appear to be taller than others; even the ratio of the dimensions of rectangular products or packages can subtly affect consumer preferences. Moreover, consumers perceive that packages in eye-catching shapes contain more of a product (Hoyer & MacInnis, 2010).

### **Printed Information**

One function of packaging is to act as a surface upon which to apply the text and images of a design. The information to be communicated via packaging is a mixture of statutory information, such as weights and measures; general information, such as ingredients contained within a given product; and information that consumers are increasingly demanding, such as details about the recycled content and recyclability of the packaging, as well as about the ethical credentials of a brand (Ambrose and Harris, 2011).

Deciding on the order of importance, or hierarchy, of product or brand information that will need to be displayed on a product's packaging enables it to be presented or revealed as needed. Too much information presented in the same style or size can be hard to access or digest as the eye struggles to find an entry point. People typically look to the largest image or type first and use this as an entry point, before moving on to information set in increasingly smaller type sizes (Ambrose and Harris, 2011).

All the information on the packaging of a branded grocery item would represent in excess of 100 bits of information. Researchers have shown that, at most, the mind can simultaneously process seven bits of information (Baker, 2003).

### **Shape**

Packaging design can be perceived as a more ruthless design sector than others, as ultimately it has to result in generating sales and making money for the client, which is what they crucially expect to result from the design and is often their main purpose for producing a product. Packaging design has to quite literally deliver the goods, or a product is highly likely to fail

(Ambrose and Harris (2011). The main driver when designing packaging for solo products is relatively simple, in that you are designing something that has to stand out from other products in the segment of the market within which it will be positioned and next to which it will be physically displayed (Ambrose and Harris, 2011).

How simplicity in packaging design can help a brand to stand out among its competitors. Simplicity can involve reducing copy and highlighting only specific product features or values, or making a cleaner design with fewer graphic devices in order to streamline the communication. Creating minimalist designs of white space and sparse typography can also be perceived of as both cheap and generic, however. ‘There is danger in taking the call for white space a bit too literally,’ assert Young and Asher. Therefore, it is important to balance the use of background space with the strong use of color and/or dynamic visuals. Creating designs that have simplicity can be achieved by focusing on specific elements, as in the examples outlined below (Ambrose and Harris, 2011).

### **The Role of Packaging in Marketing**

Making the right decisions is not always easy. Marketing managers must make major decisions such as what features to design into a new product, what prices to offer consumers’, where to sell products, and how much to spend on advertising or sales. They must also make more detailed decisions such as the exact wording or color for new packaging (Kotler and Keller, 2006).

Consumers look beyond the reality of the product and its ingredients. The product’s quality, branding, packaging, and even the company standing behind it all contribute to consumers’ perceptions. In an effective IMC

program, advertising, branding, and packaging are all designed to portray the product as more than just a bundle of attributes. All are coordinated to present an image or positioning of the product that extends well beyond its physical attributes (Belch & Belch, 2003).

Many companies view the package as an important way to communicate with consumers and create an impression of the brand in their minds. In other instances, packages can extend the brand by offering new uses. Design factors such as size, shape, color, and lettering all contribute to the appeal of a package and can be as important as a commercial in determining what goes from the store shelf to the consumers' shopping cart. Many products use packaging to create a distinctive brand image and identity. Packaging can also serve more functional purposes (Belch & Belch, 2003). Once the core product has been indicated, the tangible product becomes important. This tangibility is reflected primarily in its quality level, features, brand name, styling, and packaging (Burnett, 2008).

Physical products require packaging to protect them from damage and to present both the product and its brand attractively to a target group of consumers. Packaging provides a surface upon which to communicate information about the product and the brand and, as such, it is an essential element of product branding. Through the use of text, images and other communication devices, packaging can articulate the attributes and benefits of a product to consumers. Packaging is often the first point of contact that a consumer has with a brand, so it is hugely important that it initially draws their attention and also quickly conveys the messages that both present and support the brand. Communicating a brand message extends beyond the information and visual content of packaging.

The physical materials used for packaging products also importantly contribute to the overall brand statement projected. A brand cannot be positioned as a high quality or luxury product if its packaging is fragile and low quality. There has to be a direct correlation between the packaging's physical attributes and the messages that the brand seeks to project (Ambrose and Harris, 2011).

In some cases the package design has been made expensive to copy, requiring re-tooling for unusual pack shapes, or expensive printing processes. 'Me-too' packaging has become particularly common among supermarket own-brand versions of popular products, and there has been some debate about the ethics of this (Blythe, 2005).

According to Blythe (2005) Packaging of the product is equally part of the product, since the packaging can itself convey benefits. The main purpose of packaging is to protect the contents from the outside environment and vice versa, but packaging also carries out the following functions:

- ◆◆◆ Informs consumers.

- Meets legal information requirements.

- ◆◆◆ Sometimes aids the use of the product (e.g. ring pulls on drinks cans make it easier to open the can).

## **Research Methods**

### **Research Design**

This is empirical research. According to Marezyk, Dematteo, and Frestinger (2005), empirical research involving human participants is most commonly found in the social and behavioral sciences. Mainly, this research stands to address the influence of packaging attributes of bottled drink water on

consumer purchase decision. The research is descriptive and explanatory. The reason why the researcher chose descriptive type of research is to identify and clearly describe the packaging attributes of bottled drink water and explanatory to explain briefly the influence of packaging attributes on consumers' purchase decision.

The study was conducted using survey, more specifically, Cross-sectional field survey. The independent and dependent variables were measured at the same point.

### **Sample and Sampling Techniques**

This research focused on the influence of packaging attributes on consumers' purchase decision in Addis Ababa. This indicates that the participants of the research were mainly individual consumers. As a result, the units of analysis for this research were individuals. On the other hand, the sample frame of this research is individual consumers drinking bottled water in Addis Ababa.

The sampling method for the research was non-probability convenience sampling. Even if the total population of the study is unknown, 200 respondents were selected for the survey. The respondents for the questionnaire were 15 years old and above, because the researcher believed that individuals start to exercise their freedom of making purchase decisions at this age. Both male and female respondents took part in the data collection process.

### Source of Data Collection

The study used primary data obtained through the questionnaire. Before using the questionnaire to collect data, it was piloted in order to check its reliability.

**Table 1. Reliability Statistics**

Variables	Cronbach's Alpha	No of Items
Independent variable	0.903	39
Dependent variable	0.730	5

Source: Pilot study result

### Data Collection Procedures

The procedures of data collection from the respondents were that, first, individual respondents were asked whether they were buyers of bottled water or not. Then, those who confirmed that they used bottled water were requested to fill in the questionnaire.

The places of data collection for this research were different cafeterias and supermarkets. Permissions were received from the owners or managers of the cafeterias and supermarkets first. Then, the questionnaires were distributed to respondents.

### Method of Data Analysis

Basically this is an empirical research which states some hypothesis for the purpose of answering the main problem. For the demographic part of the research, the data were analyzed by using descriptive method such as tabulation and percentage. For the second part of the research analysis, the data were analyzed by using descriptive, correlation and multiple regression



in order to see their relationship and the influence of those packaging attributes on consumers' purchase decision. In order to test the hypothesis multiple regression was used. In addition to this, correlation descriptive statistics was used to show the relationship between the dependent and independent variables.

## Results

The survey was carried out in different cafeterias and supermarkets in Addis Ababa. Out of the distributed questionnaire, 96.5% (193) of the respondents filled in the questionnaire properly. These were used for data analysis and interpretation. The remaining 3.5 % (7) of the questionnaire was not filled out properly, thus was disregarded.

**Table 2: Packaging attributes**

Item	N	Minimum	Maximum	Mean	Std. Deviation
Color	193	1	5	2.58	.968
Design	193	1	5	3.30	.843
Size	193	2	5	3.41	.662
Information	193	1	5	3.66	.851
Shape	193	1	5	3.19	.919

Source: Questionnaire 2013

As indicated in the above table, the number of observations of the variable is 193. The 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 the maximum value is 5. The Mean value is 2.58 with standard deviation of 0.968.

On the design of packaging, the mean value is 3.30 while the value of standard deviation is 0.843. Mean value provides the idea about the central tendency of the values of a variable. Number of observations of the variable is 193. On the other hand, the size of packaging values deviates by 0.662, which means that the mean value varies by +0.662 or -0.662. The mean value is 3.41. Number of observations of each variable is 193.

In the same table, the mean value of printed information is 3.66 while the value of standard deviation is 0.851 and the mean value of shape of packaging is 3.19 while the value of standard deviation is 0.919. Mean value provides the idea about the central tendency of the values of a variable. Number of observations of each variable is 193.

### Correlation Analysis

**Table 3: Correlations between Packaging Color and Consumers' Purchase Decision**

		Color	Consumers' Purchase Decision
Color	Pearson Correlation	1	.408 <sup>**</sup>
	Sig. (2-tailed)		.000
	N	193	193
Consumers' Purchase Decision	Pearson Correlation	.408 <sup>**</sup>	1
	Sig. (2-tailed)	.000	
	N	193	193

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

Source: Questionnaire 2013

Table 3 presents the table of correlations where the two variables - consumers' purchase decision and package color - are positively correlated ( $r = .408$ ,  $p = .000$ ). There is moderate relation between these two variables, which is still significant. So, we can say that the more attractive the package color, the higher the consumers' decision power toward buying the item. Consumers like colored packaging. It implies that using attractive colors in packaging we can grab consumers' attention.

**Table 4: Correlations between Graphics Design and Consumers' Purchase Decision**

		Design	Consumers' Purchase Decision
Design	Pearson Correlation	1	.524**
	Sig. (2-tailed)		.000
	N	193	193
Consumers' Purchase Decision	Pearson Correlation	.524**	1
	Sig. (2-tailed)	.000	
	N	193	193

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

Source: Questionnaire 2013

Table 4 shows a correlation in which the two variables - consumers' purchase decision and design of packing - are positively correlated ( $r = .524$ ,  $p = .000$ ). There is moderate relation between these two variables, which is significant. It means that the customers' purchase decisions are influenced

by packaging design of bottled water. This result is useful for marketers so that they create good packaging design, which attracts customers to buy more bottled drink water.

**Table 5: Correlations between Size of Packaging and Consumers' Purchase Decision**

		size	Consumers' Purchase Decision
Size	Pearson Correlation	1	.433 <sup>**</sup>
	Sig. (2-tailed)		.000
	N	193	193
Consumers' Purchase Decision	Pearson Correlation	.433 <sup>**</sup>	1
	Sig. (2-tailed)	.000	
	N	193	193

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

Source: Questionnaire 2013

As indicated in Table 5, the two variables i.e. packaging size and customer purchase decision are positively correlated ( $r = .433$ ,  $p = .000$ ). There is moderate relation between these two variables, which is significant. The result is clear. The consumer evaluates the product on the basis of its packaging size. They prefer to buy small size bottle than big one. If it is small, it is easy to hold from one place to another.

**Table 6: Correlations between Printed Information on Package and Consumers' Purchase Decision**

		Information	Consumers' Purchase Decision
Information	Pearson Correlation	1	**
	Sig. (2-tailed)		.283
	N	193	193
Consumers' Purchase Decision	Pearson Correlation	.283**	1
	Sig. (2-tailed)	.000	
	N	193	193

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

Source: Questionnaire 2013

According to Table 6, consumers' purchase decision and printed information on packaging positively correlate ( $r = .283$ ,  $p = .000$ ). There is weak relation between these two variables, which is not significant. The result shows that the printed information on packaging of bottled water is not that much liked by consumers. Consumers do not seem to use the information which is written on the package of bottled drink water for the purpose of purchase decision making.

**Table 7: Correlations between packaging shape and consumers' purchase decision**

		shape	Consumers' Purchase Decision
Shape	Pearson Correlation	1	.577 <sup>**</sup>
	Sig. (2-tailed)		.000
	N	193	193
Consumers' Purchase Decision	Pearson Correlation	.577 <sup>**</sup>	1
	Sig. (2-tailed)	.000	
	N	193	193

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

Source: Questionnaire 2013

As shown in Table 7, consumers' purchase decision and shape of bottled water package positively correlate ( $r = .577$ ,  $p = .000$ ). There is moderate relation between these two variables, which is significant. The result clearly indicates that the good and attractive shapes of bottled drink water influence the consumers' purchase decision. Therefore, marketers should give attention to the shape of bottled water.

### Regression Analysis

**Table 8 Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.692 <sup>a</sup>	.479	.465	.615

a. Predictors: (Constant), shape, information, color, size, design

b. Dependent Variable: Consumers' Purchase Decision

Source: Questionnaire 2013

In Table 8 above, the  $R$ , which represents the multiple correlation coefficients between predictor and outcome, is 0.692.  $R$  square indicates us 47.9% of the dependent variable (customers purchase decision) can be predicted from independent variables. Adjusted  $R$  square indicate the loss of predictive power or shrinkage (the difference between the values is  $0.692 - 0.479 = 0.213$  about 21.3%). Whereas  $R^2$  tell us how much of the variance in dependent variable is accounted by the regression model from the sample, the adjusted value tell us how much variance in dependent variable would be accounted for if the model had been derived from the population from which the sample was taken.

**Table 9: ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	64.292	5	12.858	33.967	.000 <sup>a</sup>
Residual	70.033	185	.379		
Total	134.325	190			

a. Predictors: (Constant), shape, information, color, size, design

b. Dependent Variable: Consumers' Purchase Decision

Source: Questionnaire 2013

The significance level in Table 9 shows that the combination of variables significantly predicts the dependent variable. This table clearly states the predictors and the dependent variable. ANOVA tests show whether the model is significantly better at predicting the outcome than using the Mean. The F-ratio represents the ratio of the improvements in prediction that

results from using predictor which fit the model. As indicated in the table above, F is 33.967, which is significant at  $P < 0.001$  (because the value in the column labeled sig. is less than 0.001). This result tells us that there is less than a 0.1% chance that an F-ratio becomes larger. Therefore, we can say that the regression model result is significantly better in predicting consumers' purchase decision than the mean value of consumers' purchase decision.

**Table 10: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-.036	.274			.896		
Color	.139	.054	.160	2.570	.011	.727	1.376
Design	.181	.070	.182	2.575	.011	.566	1.766
Size	.175	.082	.138	2.145	.033	.686	1.458
Information	.080	.058	.081	1.381	.169	.820	1.219
Shape	.370	.054	.406	6.884	.000	.812	1.232

a. Dependent Variable: Consumers' Purchase Decision

Source: Questionnaire 2013

Table 10 clearly shows that packaging color, design, size and shape have significant effect on consumers' purchase decision. However, printed information on packaging has no significant impact on consumers' purchase decision.

The specified regression equation takes the following form.

$$Y = P_0 + p_1 (PC) + P_2 (PD) + P_3 (PS) + P_4 (PPI) + P_5 (PS)$$

Where

**Packaging color = PC, Packaging Design = PD, Packaging Size = PS, Packaging Printed Information = PPI and Packaging Shape = PSH**



So, the equation comes as

$$\text{Consumer Purchase Decision} = -0.036 + 0.139 (\text{PC}) + 0.181 (\text{PD}) + 0.175 (\text{PS}) + 0.08 (\text{PPI}) + 0.370 (\text{PSH})$$

The significance levels of packing color, graphic design, size, printed information and shape are .011, .011, .033, .169 and .000, respectively. This test shows that the coefficients of the predictor are statistically significant at less than five percent level of significance. Therefore, we will reject the  $H_0$  and accept  $H_1$  for the hypotheses **1, 2, 3, and 5**. However, hypothesis **4** shows that the predictor is not statistically significant at less than five percent level of significance.

The B- values tell us about the relationship between consumers' purchase decision and each predictor. If the value is positive we can tell that there is positive relationship between the predictor and the outcome whereas a negative coefficient represents negative relationship. For these data, all the five predictors have positive B- value, which indicates positive relationship. However, printed information of packaging has weak relationship with consumers' purchase decision and the significance level of this variable is 0.169, which is greater than 5% confidence interval. Therefore, the alternative hypothesis for this variable is not accepted as color, size, design and shape of packaging for bottled drink water increase the consumers' purchase decision.

Each of these beta values has an associated standard error that indicates to what extent these values would vary across different samples, and these standard errors are used to determine whether or not the B-value differs significantly from zero.

The B- values and their significance are important statistics to look at. The standardized beta value tells us the number of standard deviations that the outcome will change as a result of one standard deviation change in the predictor. The standard deviation units are directly comparable; therefore, they provide better insight into the importance of a predictor in the model. The standardized beta value for shape is 0.406. This indicates that this variable has a relatively strong degree of importance for consumers' purchase decision than the others. The standardized beta value for color, design and size are 0.160, 0.182 and 0.138, respectively. This indicates that these three variables have a comparable degree of importance in the model.

## **Discussion and Implication**

### **Color of Packaging**

The finding shows that the color of the package has significant influence on consumers' purchase decision. The color of the package positively correlates with consumers' purchase decision. In 2012, Deliya and Parmar conducted research on the role of packaging on consumers' buying behavior. The result of their study indicates that the color of the packaging has a positive and significant relationship with consumers' buying behavior. Using attractive colors on the packaging can grasp the consumers' attention. When manufacturers use colors they try to use attractive color on the pictures, labels and caps of the package.

### **Design of Packaging**

The findings of this study show that the packaging design of bottled water significantly influences the consumers' purchase decision. Baik, Suk, Suh, and Kim (2011) also analyzed the relative importance of each visual element of

packaging. They found out that it was statistically significant that consumers were most affected by “Typography”. This suggests that the change of the typography can achieve better effect on consumers. Deliya and Parmar(2012) also show that consumers’ buying behavior and design of wrapper have positive and significant relationship. This means that using attractive design for package positively influences the consumers’ buying behavior.

The design of the product has the potential to influence the consumers’ purchase decision. Therefore, companies apply creativity on the packaging design based up on the interest of consumers. The creativity of the packaging design may be reflected on the pictures on the package, some graphic and font style of brand name and on other printed information.

### **Size of Packaging**

The finding of the study shows that packaging size<sup>2</sup> positively influences consumers’ purchase decision. The amount of consumption can sometimes be increased through packaging or product design. Big packaging size influence customers to consume more, but they are not willing to hold it when they are move from one place to another. They want it to consume at a time when their need is raise. The usage of "impulse" consumption products such as soft drinks and snacks increases when the product is abundantly available (Kotler and Keller, 2006). The finding of Agoriya (2012) shows that the size of package has significant impact on consumers’ buying behavior and the relationship is positive. Significant linear relationship exists between consumers’ interest for a package and size of package, which indicates that the consumers’ purchase decision and packaging size are positively correlated. Their finding is similar with the finding of this study.

<sup>2</sup> The size does not indicate the big bottled water like 20 lite that customer’s purchase for their home consumption.

The customers prefer to purchase small size bottle than big one because, they can finish it at a time their need is rise. They don't want to hold it for another time.

### **Printed Information of Packaging**

Previous study of Deliya and Parmar (2012) shows that printed information has significant relationship with consumers' buying behavior. Their study indicates that printed information on a package is positively and significantly related with consumers' buying behaviors. In 2007, Silayoi and Speece conducted a study on the importance of packaging attributes and found out that precise product information has a positive utility while the vague presentation of information had a negative utility. This indicates that consumers value the product information on food labels, and the result conforms to prior studies from other countries. The result also suggests that consumers evaluate product quality using concrete information, not purely by the image.

However, when we see the finding of this paper, Consumers want to see the printed information on the package, but not significantly use it for decision making purpose. Therefore, to get the benefits of printed information companies should encouraging consumers' to read printed information of bottled water. In addition to this, using local languages to make information more clear for the customer and offer the information in good and understandable way.

### **Shape of Packaging**

From other attributes, shape of packaging is the most influential attribute in consumers' purchase decision. Consumers' give high attention to the shape of the package when they purchase bottled water. In 2004, Silayoi and

Speece conducted research on packaging and purchase decisions. Their finding shows that package shapes help to make products more appealing.

According to Sioutis (2011), the finding of the study on effects of package design on consumer expectations of food product healthiness shows that the “shape” attribute is the only one that differs significantly. Consumers prefer square/ box shape for the cereals while they prefer curvy/round shape for the juices. This highlights the fact that “shape” acts as a super attribute.

If the companies work hard on the shape of the package, they can easily influence the consumers’ purchase decision. The shape may be circle for all products. Nonetheless, they can do different things to increase the attractiveness of the shape in the eyes of consumers.

The finding of this research shows that all attributes, except printed information have significant influence on customers purchasing decision. Vivid and attractive colors of bottled water influence customer purchase decision. In addition to this, graphics design also influence customers when they make purchase decision of bottled waters. The size of bottled water has relation with customer purchasing activity. Companies influence customers by producing different size of products. However, the majority of customers prefer to buy small size bottled than big one. The shape of the bottled water influence customers purchase like other attributes of packaging. On the other hand, printed information is not significantly influence customers purchase decision. Even if the need to see the information on the package they are not read and use for decision. These kinds of information show some his for companies which sell their product for Addis Ababa market to consider those attributes while they perform their marketing activities.

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