Packaging Factors Determining Consumer Buying Decision

Md. Abdullah, Abul Kalam, and S.M. Akterujjaman

***Abstract*—** Packaging is a wraping of product that holds the information regarding product and the manufacturer of a product. Package becomes an ultimate selling proposition stimulating impulsive buying behavior, increasing market share and reducing promotional costs. The objective of the study is to find influential factors of packing on consumer buying decision. The present study is to analysis the importance of packaging on consumer buying decision in Bangladesh perspective. There are total 150 respondents were selected based on the convenience as well as judgment sampling techniques for selecting the respondent. We used the correlation, regression equation and ANOVA for analyzing the data. Seven key factors were considered as independent variables and consumer buying decision as a dependent variable for the study. These factors have massive correlation to the consumer purchase decision. Color of packaging and front style of packaging has perfect positive correlation to the consumer buying decision. Nice background of packaging, handling and transport facility of packaging and available information on packaging has the high degree of positive correlation with the consumer buying decision. Attractiveness of packaging and printed information on packaging has the low degree of positive correlation with the consumer buying decision.

***Keywords*—** ANOVA, Consumer Buying Decision, Correlation, Packaging, Regression

I. Introduction

PACKAGING is an important influencing factor to the consumer buying decision. It has great impact to the success of the company in the heavy competitive environment. The role of packaging has changed due to increasing self-service and changing consumers' lifestyle in the competitive business environment. Packaging is a rapping of product that holds the information regarding product and the manufacturer of a product. Package becomes an ultimate selling proposition stimulating impulsive buying behavior, increasing market share and reducing promotional costs. Packaging attracts consumer's attention to particular brand, enhances its image, and influences consumer's perceptions about product (Rundh 2005).

It works as a tool for differentiation that helps consumers to choose the product from wide range of similar products,

Md. Abdullah is an Assistant Professor in the Department of Marketing, Comilla University, Comilla, Bangladesh, Email: mabdullahru@yahoo.com
Abul Kalam is an Assistant Professor in the Department of Marketing, Hajee Mohammad Danesh Science and Technology University, Dinajpur, Bangladesh
S.M. Akterujjaman is an Assistant Professor in the Department of Business Administration, BGMEA University of Fashion and Technology, Dhaka, Bangladesh

stimulates customers buying behavior (Wells, Farley & Armstrong, 2007).Packaging is defined in the regulations as "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. The way any product is packaged and looks on the store shelf plays a big part in whether or not shoppers will be interested in buying it. If the packaging looks drab and boring, shoppers will overlook the product on the shelf and pick up something else. (Leonor Crossley-1995).

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. The role of packaging has evolved from the traditional function of protecting the product against dirt, damage, theft, mishandling, and deterioration. This functional role is a requirement of all packages (Ben Paul B. Gutierrez 2001). In the modern era, packaging is also utilized as a marketing tool to promote the product, to increase visibility of the product on the shelf, and to provide information to the customer (O'Shaughnessy 1995). In spite of packaging use as a growing marketing tool, marketers still view packaging as a container. Known marketing guru, Philip Kotler (2000, p. 418) defined packaging as all activities of designing and producing the container for a product. 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. In this study seven most importance factors related with the packaging such as packing color, background, quality of packing, front wrapper design, printed information and packing information are justified to calculate the relationship with the consumer purchase decision. It calculates the nature of relationship between the consumer purchase decision and these factors of packaging. Some factors show the highly perfect correlation and some are showed the high degree of positive correlation and some are low degree of positive correlation.

II. Literature Review

Katharina Sammer and Rolf Wüstenhagen (2005) conducted a study on The Influence of Eco-Labeling on Consumer Behavior It reports on the results of a survey involving a total of 300 choice-based conjoint interviews conducted in Switzerland in spring 2004. Choice-based conjoint analysis (also known as Discrete Choice) has been applied to reveal the relative importance of various products attributes for consumers. The EU Energy label is used for the two product categories in our survey, light bulbs and

washing machines, and we investigate the relative importance of this eco-label compared to other product features (like brand name) in consumers' purchasing decisions.

Gergely Szolnoki Roland Herrmann and Dieter Hoffmann (2010) conducted a study on Origin, Grape Variety or Packaging? Analyzing the Buying Decision for Wine with a Conjoint Experiment. The purpose of this paper is to analyze the influence of the identification and the packaging of bottled wines on the consumer decision. A case study is conducted in order to quantify the weight of determinants of wine purchase such as origin and variety, i.e. the identification factor, bottle shape, bottle colors and label style (elements of packaging).

Bed Nath Sharma (2008) conducted a study on 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. Product identification is not possible without brand name. Protection of product is also equally important to provide quality product for consumer satisfaction. Information regarding the product such as: ingredients, guidelines to use, price, produced and expiry date etc. are also concerned subject of the potential buyer

Mahdia Farrukh Sial et al. (2011) pointed out on his a study on the "Impact of Labeling and Packaging on Buying Behavior of Young Consumers with Mediating Role of Brand Image? The study is intended to measure the impact of packaging and labeling on consumer buying behavior. Further it also investigates the mediation of brand image for the relationship of packaging and labeling with consumer buying behavior. Results revealed that packaging is positively associated with consumer buying behavior. Further it is found that brand image mediates the relationship of packaging and consumer buying behavior only.

Ben Paul B. Gutierrez (2001) conducted a study on communicating to the consumer through packaging design. This paper focuses on the communication function rather than the traditional protection function of packaging. It provides a comprehensive packaging design overview to the design consultant and product manager. It discusses the package design research tools, classified into ocular and verbal tests, necessary to clearly understand consumer needs and wants. Consequently, the paper elaborates on the elements of a good package design, explores some design issues, and provides illustrations.

Rita Kuvykaite (2009) 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

Rita Kuvykaite1, Aistė Dovaliene2, Laura Navickiene3 (2009) 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. 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.

III. IMPORTANCE OF THE STUDY

Now it is the age of heavy competition. Many well equipped competitors are available in market. They are ready to fight in all arena of their marketing strategy. Due to this massive competition, marketers do not compete only focusing their product but also focusing their advertising. The ultimate result showed the weakness competition in advertising and bearing heavy promotion cost by the customers. Some times government has forbidden advertising for the particular product like cigarette in Bangladesh. In these circumstances researchers thought to study in this field. In this study, emphasis on the importance of packaging on the consumer purchasing decision and how do they related with the consumer buying decision. This paper is also instructed to consider the perfect elements of the packaging. It gives the guidelines to the marketers to rank the elements of packaging and what factors of packaging mostly influence to the consumer buying decision. So, it is the blessing for the marketers for surviving in competition and controlling the promotion cost for the product or service. One side it will help to win the competition to the marketers another side consumer will be able to purchase the product comparably in low price. So, this paper will benefit to the marketers as well as to the customer both.

IV. OBJECTIVE OF THE STUDY

The main objective of the study is to know the importance of packing on consumer buying decision. With this main objective we also consider some specific objectives. These are as follows:
 1. To know the factors of packaging influence the consumer for taking the purchase decision.
 2. To calculate and justify the relationship between consumer buying decision and attributes of packaging.

V. METHODOLOGY

In performing any applied research a clear and specific methodology has to be followed where methodology is a set of methods used in a particular area of research (M. Nuruzzaman 2011). The present study is to analysis the importance of packaging on consumer buying decision in Bangladesh perspective. In this research a set of methods such as sample size, sample selection procedure, process of data collection, interpreting and analyzing data, other relevant activities and combination of rules and techniques have been used. Both primary and secondary data were used for conducting the study. Data have been collecting in such a way so that it can generate a perfect result.

A. Sample Size

Only the customers who are directly involved for purchasing the product considered as a respondent for conducting the study. There are total 150 respondents where 22 business man, 72 service holder, 27 unemployed, and 29 Ms students were interviewed for collecting the primary data.

B. Sample Selection Procedure

Basically the industrial product required special packaging for offering the product is considered as a base of packaging. On the basis of age, educational level and our experience we considered only the rational customers for conducting our research. For this we used the convenience as well as judgment sampling techniques for selecting the respondent. We considered 29 Ms students who are directly influenced to the purchase decision of their family as respondents.

C. Statistical Tools

Basically we used the correlation, regression equation and anova for analyzing the data. Seven key factors were considered as independent variables and consumer buying decision as a dependent variable for the study. SPSS software and other materials were used for calculating the data and generating result accordingly.

VI. RESULT AND DISCUSSION

A. Relationship between consumer buying decision and attributes of packaging

TABLE I

NATURE OF RELATION BETWEEN CONSUMER BUYING DECISION AND ATTRACTIVENESS OF PACKAGING

Correlations

		Consumer Decision Making	Attractiveness of Packaging
Consumer Decision Making	Pearson Correlation	1	.413
	Sig. (2-tailed)	.	.000
	N	150	150
Attractiveness of Packaging	Pearson Correlation	.413	1
	Sig. (2-tailed)	.000	.
	N	150	150

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

Table-I represents the nature of correlations between consumer decision making and attractiveness of packaging. Where two variables – buying decision and attractiveness of packaging– are positively correlated (r= .413, p = .000). There is a low degree of positive correlation between these two variables which is significant. We will accept H1 and reject H0. So, we can say that the attractive packaging color can attract consumer.

TABLE II

NATURE OF RELATION BETWEEN CONSUMER BUYING DECISION AND COLOR OF PACKAGING

Correlations

		Consumer Decision Making	Color of Packaging
Consumer Decision Making	Pearson Correlation	1	.960
	Sig. (2-tailed)	.	.000
	N	150	150
Color of Packaging	Pearson Correlation	.960	1
	Sig. (2-tailed)	.000	.
	N	150	150

Table-II represents the nature of correlations between consumer buying decision and color of packaging. Where two variables – buying decision and color of Packing are positively correlated (r= .960, p = .000). There is a perfect positive correlation between these two variables which is significant. We will accept H$_1$ and reject H$_0$. It means that the customer can adopt product on the behalf of its color of packaging.

TABLE III

NATURE OF RELATIONSHIP BETWEEN CONSUMER BUYING DECISION AND NICE BACKGROUND OF PACKAGING

Correlations

		Consumer Decision Making	Nice Background of Packaging
Consumer Decision Making	Pearson Correlation	1	.660
	Sig. (2-tailed)		.000
	N	150	150
Nice Background of Packaging	Pearson Correlation	.660	1
	Sig. (2-tailed)	.000	
	N	150	150

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

Table-III represents the nature of correlation between consumer buying decision and nice background of packaging. Where two variables buying decision and nice background of Packing are positively correlated (r= .660, p = .000). There is a high degree of positive correlation between these two variables which is significant. So, H$_1$ is accepted and H$_0$ is rejected.

TABLE IV

NATURE OF RELATIONSHIP BETWEEN CONSUMER BUYING DECISION AND FRONT STYLE OF PACKAGING

Correlations

		Consumer Decision Making	Front Style of Packaging
Consumer Decision Making	Pearson Correlation	1	.820
	Sig. (2-tailed)	.	.000
	N	150	150
Front Style of Packaging	Pearson Correlation	.820	1
	Sig. (2-tailed)	.000	.
	N	150	150

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

Table-4 represents the nature of correlation between consumer buying decision and front style of packaging. Where two variables buying decision and Font Style of

packaging are positively correlated (r= .820, p = .000). There is a perfect positive correlation between these two variables which is significant. So, H_1 is accepted and H_0 is rejected. The result identifies that the font styles are also influenced to the consumer buying decision.

TABLE V
NATURE OF RELATIONSHIP BETWEEN CONSUMER BUYING DECISION AND PRINTED INFORMATION OF PACKAGING

Correlations

		Consumer Decision Making	Printed Information in Packaging
Consumer Decision Making	Pearson Correlation	1	.450
	Sig. (2-tailed)	.	.300
	N	150	150
Printed Information in Packaging	Pearson Correlation	.450	1
	Sig. (2-tailed)	.300	.
	N	150	150

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

Table-5 represents the nature of correlation between consumer buying decision and printed information of packaging. Where two variables buying decision and printed information of packaging are positively correlated (r= .450, p = .300). There is a low degree of positive correlation between these two variables which is significant. So, H_1 is accepted and H_0 is rejected.

TABLE VI
NATURE OF RELATIONSHIP BETWEEN CONSUMER BUYING DECISION AND HANDLING AND TRANSPORT FACILITY OF PACKAGING

Correlations

		Consumer Decision Making	Handling and Transport Facility of Packaging
Consumer Decision Making	Pearson Correlation	1	.650
	Sig. (2-tailed)	.	.043
	N	150	150
Handling and Transport Facility of Packaging	Pearson Correlation	.650	1
	Sig. (2-tailed)	.043	.
	N	150	150

* Correlation is significant at the 0.05 level (2-tailed).

Table-VI represents the nature of correlation between consumer buying decision and handling and transport facility of packaging. Where two variables buying decision and handling and transport facility of packaging positively correlated (r= .650, p = .043). There is a high degree of positive correlation between these two variables which is significant. So, H_1 is accepted and H_0 is rejected.

TABLE VII
NATURE OF RELATIONSHIP BETWEEN CONSUMER BUYING DECISION AND AVAILABLE OF INFORMATION ON PACKAGING

Correlations

		Consumer Decision Making	Available of Information on Packaging
Consumer Decision Making	Pearson Correlation	1	.620
	Sig. (2-tailed)	.	.049
	N	150	150
Available of Information on Packaging	Pearson Correlation	.620	1
	Sig. (2-tailed)	.049	.
	N	150	150

Table-VII represents the nature of correlation between consumer buying decision and available of information on packaging. Where two variables buying decision and available of information on packaging positively correlated (r= .620, p = .049). There is a high degree of positive correlation between these two variables which is significant. So, H_1 is accepted and H_0 is rejected.

TABLE VIII
JUSTIFICATION OF RESULT

Variables	Correlation (r)	P.E.r*	Actual Result
Attractiveness of Packaging	0.413	0.045679	r > P.E.r*
Color of Packaging	0.960	0.004318	r > P.E.r*
Nice Background of Packaging	0.660	0.031083	r > P.E.r*
Front Style of Packaging	0.820	0.018042	r > P.E.r*
Printed Information in Packaging	0.450	0.04392	r > P.E.r*
Handling and Transport Facility of Packaging	0.650	0.031804	r > P.E.r*
Available Information on Packaging	0.620	0.033903	r > P.E.r*

P.E.r* = Probable Error of Coefficient of Correlation

TABLE IX
REGRESSION ANALYSIS

MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729[a]	.531	.507	.646

In above table the R is multiple correlation coefficient, its value is 0.752. While Adjusted R Square shows the ratio of interdependence. Value of adjusted R square is 0.602 which is multiply by 100. It that means 60.20% of the variance in the dependent variable can be predicted from Independent variable.

TABLE X
ANOVA

ANOVA[b]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	50.682	7	12.255	28.161	.000[a]
Residual	90.439	142	.617		
Total	141.121	149			

The significant level in ANOVA table shows that the combination of variables significantly predicts the dependant variable.

TABLE XI
COEFFICIENT
Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	.285	.195		.826	.000
Attractiveness of Packaging	.435	.085	.239	3.250	.003
Color of Packaging	.295	.870	.272	2.962	.000
Nice Background of Packaging	.096	.085	.065	.885	.002
Front Style of Packaging	.352	.125	.354	2.120	.004
Printed Information on Packaging	.054	.084	.064	.320	.003
Handling and Transport Facility of Packaging	.174	.120	.152	.793	.004
Available of Information on Packaging	.175	.095	.182	2.354	.000

VII. CONCLUSION AND RECOMMENDATIONS

Consumer does not purchase the product basically s/he purchases the satisfaction. Satisfaction depends on the various factors where packaging is one of them. Packaging consists of different elements. There are seven important elements are considered to conduct the study. These are attractiveness of packaging, color of packaging, nice background of packaging, front style of packaging, printed information on packaging, handling and transport facility of packaging and available information on packaging. These factors have massive correlation to the consumer purchase decision. Color of packaging and front style of packaging has perfect positive correlation to the consumer buying decision. Nice background of packaging, handling and transport facility of packaging and available information on packaging has the high degree of positive correlation with the consumer buying decision. Attractiveness of packaging and printed information on packaging has the low degree of positive correlation with the

consumer buying decision. The ultimate success of the company depends on the expected sales of a product or service. The expected sales of a product or service also depend on the perfect packaging of that product or service. Again the accuracy of packaging depends on the right decisions regarding the selection of packaging elements. Since the packaging elements have great impact on the accuracy of packaging as well as on the consumer buying decision, so, the marketers of Bangladesh should considered these factors to offer their product or services and develop their marketing strategy accordingly.

REFERENCES

[1] Ben Paul B. Gutierrez (2001) communicating to the consumer through packaging design. Discussion Paper No. 0001, http://cba.upd.edu.ph/DP/0101_gutierrez.pdf
[2] Bloch, P. H. (1995), seeking the ideal form: product design and consumer Response, journal of marketing, Columbia 59(July), 16-29.
[3] Gupta SP and Gupta MP (2006). Business Statistics. Fourteenth Enlarged Edition Sultan Chand & Sons P. 206 and 211
[4] Kotler, P. (2003) Marketing management, 9th ed. Upper Saddle River: Prentice-Hall.
[5] Lunardo R and Guerinet R (2007), the influence of label on wine consumption: its effects on young consumers' perception of authenticity and purchasing behavior, 105th EAAE Seminar "International Marketing and International Trade of Quality Food Products" Bologna, Italy March 8-10, 2007.
[6] Louw A and Kimber M (2006), the power of packaging, United States of America, pp 186-216
[7] Rita K, Dovaliene A and L Navickiene (2009), impact of package elements on consumer purchase, decision. Journal of Economics & Management, UK: 2009. 14. PP 441-447
[8] Sammer K and Wüstenhagen R 2005. The Influence of Eco-Labeling on Consumer Behavior – Results of a Discrete Choice Analysis. Journal of Business Strategy & the Environment, Switzerland. 5: 1-28
[9] Selame, E., J. Selame, and G.S. Kolligian (1982). *Packaging Power: Corporate Identity and Product Recognition*, American Management Association, New York, 86-88.
[10] Sharma B.N (2008), new consumer products branding, packaging and labeling in Nepal, The Journal of Nepalese business studies, Vol. V No. 1 P.16-23
[11] Sial MF, Gulzar A, Riaz NA, and Nawaz B (2011). Impact of Labeling and Packaging on Buying Behavior of Young Consumers with Mediating Role of Brand Image. Interdisciplinary Journal of Contemporary Research in Business. Islamabad. Vol 3 No 8. Page 1012-1029
[12] Szolnoki G Herrmann R and Hoffmann D 2010. Origin, Grape Variety or Packaging? Analyzing the Buying Decision for Wine with a Conjoint Experiment. American Association of Economics. 2: 1-17
[13] Thøgersen J (1999), the ethical consumer moral norms and packaging choice. Journal of consumer policy Kluwer Academic Publishers. Printed in the Netherlands. Volume 22, Number 4 (1999), 439-460, DOI: 10.1023/A:1006225711603
[14] Underwood, R. L., Klein, N. M., & Burke, R. R. (2001). Packaging communication: attentional effects of product imagery. Journal of Product & Brand Management, Volume 10, Number 7, 2001, pp. 403-422(20)
[15] Wells, L. E., Farley, H., & Armstrong, G. A. (2007). The importance of packaging design for own-label food brands. International Journal of Retail & Distribution Management, 35 (9), 677-690.