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A Study on the Impact of Shape of Package of Cereals on Consumers' Buying Behavior and their Perception about the Product Liking

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Abstract: *Purpose:* The main aim of this paper is to find out how shape of food packages / boxes especially of cereals influence consumers' purchase behavior and consumers perception about product liking. *Design / Methodology / Approach:* Study was conducted in the selected cities of state of Gujarat to generate the data for the research. The impact of five different shaped packages/boxes of cereals was analyzed in the study. *Findings:* Results of the study revealed that majority of respondents are influenced by package shape. The findings revealed that among various shapes of packages of cereals. Most preferred package shape on various dimensions like product liking and purchase intention was curved shape box. Consumers have higher intention to purchase the curved shape cereal box. *Research Limitations:* The study sample size was not extensive and was limited to a small geographical area of selected cities of state of Gujarat. A more representative sample of the other cities of Gujarat region could be basis of future research. *Implications:* The findings of the study increase the understanding about the consumers' perceptions about the various types of packages of cereals and their influence on their buying behavior. They also highlight how various package shapes especially for cereals could be used for various products so as to differentiate the product from competitors and to attract consumers' attention. *Originality / Value:* The present paper focuses specifically on how each package shape of cereals affect consumer perceptions about product liking and thus contributes to a limited amount of existing literature on package shape usage and understanding.

Keywords: Packaged Food, Package shape, Consumer behavior, Food Packages, Cereals.

SECTION I

1.1. Introduction

The size of global processed food industry is estimated to be valued around at US \$ 3.6 trillion and accounts for three-fourth of the global food sales. Despite its large size, only 6% of processed foods are traded across borders compared to 16% of major bulk agricultural commodities. United States of America

(USA) is the single largest consumer of processed food and accounts for 31% of the global sales. Over 60% of total retail processed food sales in the world are accounted by U.S.A, European Union and Japan taken together. Japan is the largest food processing market in the Asian region, though India and China are catching up fast and are likely to grow more rapidly. The share of India in global Food processed industry stands at around 1.6%. The Ministry of Food Processing Industries has stated in its Vision 2015 that it aims to increase India's share from current level to 3% of world processed food trade.

1.2. Packaging and its importance for packaged food industry

The package is defined as a container which holds, protects and identifies the product throughout its distribution channel (Ampuero & Vila, 2006). It has been found from the recent research that approximately 73% of the products are sold on the self-service bases at the point of sale (Silayoi & Speece, 2007). This shows that important cues need to be provided to the consumers at the point of sale so that companies could differentiate their products from the competitors on one hand and could attract and persuade the consumers to buy their products on the other hand. Under these circumstances the packaging would be the most useful tool that may be available for attracting the consumers' attention. Hence, to take advantage of the situation companies often make innovative use of various packaging elements like shape, size, color, labels, position of visual and verbal elements etc. to differentiate their products from competitors and to attract consumers to their products.

1.3. Objectives of the study

The main objectives of the research study are as under:

- 1) To identify the package shape usually preferred by consumers while purchasing food products like cereals.
- 2) To evaluate how particular package shape influences the consumers' overall perception & overall attitude towards the product.

SECTION II

2.1. Literature Review

Food marketing to consumers is wide spread phenomenon. Various researches have been undertaken from time to time to analyze the success of various strategies that companies had already employed for selling their food products to consumers and for finding still new strategies that could be developed and employed so as to attract still more number of consumers. Some of the researches that served as source of inspiration for the current study are given below:-

- Research in the trade press suggests that a package's shape is a critical way for a brand to differentiate itself, because package design can affect consumers' purchase decisions (Sherwood, 1999). This has led many firms to focus on product and package shape, also small changes in packages shape can have a large influence on sales and profit (Prince, 1994). It is expected that using a shape that is perceived as healthy will lead respondents to rate the product as relatively more healthy, than with using a shape that is perceived as unhealthy.

- According to (Katz, et.al 2004) people associate a heavy, fat body with an unhealthy body and a thin, slim body with a healthy body. It is expected that package designs also can mimic human bodies that are associated with a healthy body and with an unhealthy body. Package designs that have a bigger height in comparison with their width and packages with an hourglass design are expected to be associated with a healthy body. Whereas it is expected that packages that have a bigger width in comparison with their height are associated with an unhealthy body.
- According to (Holmberg, 1983) product and package shape also has an influence on the perceived volume and heaviness of objects. Consumers use the height of the container or its elongation to simplify volume judgments (Raghubir & Krishna, 1999). A container's height predicted volume judgments better than or about as well as modals that included width of depth measurements. When containers are tall or elongated, they are perceived as having more of a product than containers that are shorter or squat in shape (Raghubir & Krishna, 1999). According to (Folkes and Matta, 2004) consumers overestimate the volume of an unusually shaped container, when compared to a more usual shape (when both are presented simultaneously). These results show that volume judgments are contaminated by the attention that an unusual container attracts (Folkes & Matta, 2004).

SECTION III

3.1. Research Methodology

- ❖ **Target Population:** Adult consumers of Selected cities of Gujarat namely Ahmedabad, Baroda, Rajkot, Jamnagar & Bhuj.
- ❖ **Design and Setting:** The study was undertaken in the selected cities of Gujarat
- ❖ **Type of Research:** Descriptive research. Since the aim of the study is to examine and analyze the perceptions, preferences and buying behavior of consumers of Ahmedabad, Baroda, Rajkot, Jamnagar & Bhuj especially with respect to different packaging shapes of cereals.
- ❖ **Research Hypothesis:** The hypothesis tested using the study are:-
 - **Consumers' perceptions of product liking do not differ significantly between different packaging shapes of Cereals.**
- ❖ **Sampling Plan**
 - Samples and their size:**
 - Consumers**

<i>Description of the Study</i>	<i>Name of City</i>	<i>Total no. Respondents selected for the study from each city</i>
Study Undertaken to analyze the impact of Package shape on Consumers Product liking and purchase Decision	Ahmedabad	240
	Baroda	72
	Rajkot	56
	Jamnagar	20
	Bhuj	12
	Total	400

- b) **Products selected for study:** Cereals.
- ii) **Sampling Method:** - The Quota sampling has been used. Here in the initial stage quota was decided on the basis of Population of each city and then samples were selected by Investigator as per his convenience from each city.
- ❖ **Sources of Data:** The research study employed both secondary and primary sources of data. The details are as under:-
 - a) **Primary sources of Data:** Personal Interview, Mall Intercept, Observation
 - b) **Secondary sources of Data:** Gujarat related websites, Leading Magazines and Newspapers, Company Reports, Research papers, books.

SECTION IV

4.1. Findings of the Study

The stimuli used for cereals were five different boxes of cereals of different shapes. They are shown in Figure 1. The respondents were exposed to one of the five conditions only.

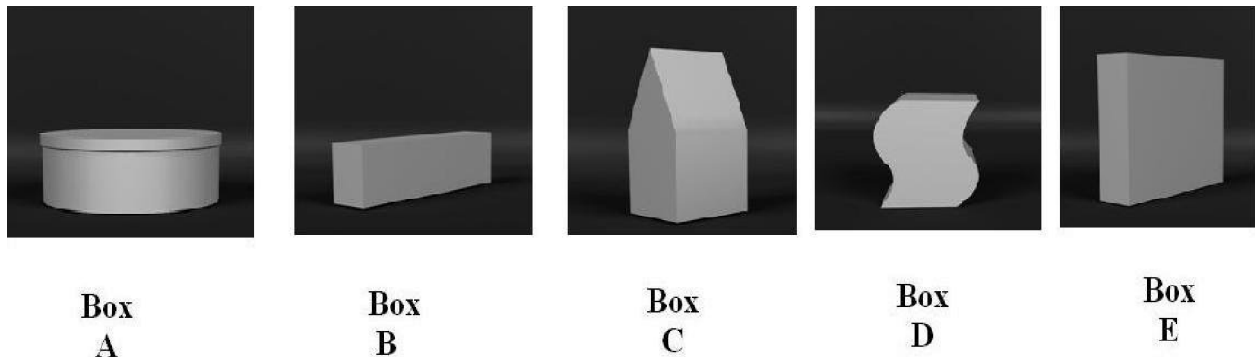


Figure 1: Boxes of Cereals of Different shapes

(Source: Developed by Investigator)

The first thing that was analyzed was consumer's product liking for boxes of cereals of different shapes. The corresponding Hypothesis are as under. Here H_0 stands for Null Hypothesis & H_a stands for alternate Hypothesis

H_0 : Consumers' perceptions of product liking do not differ significantly between different package shapes of Cereals.

H_a : Consumers' perceptions of product liking differ significantly between different package shapes of Cereals.

The data was analyzed using one way Anova (between the group) test. The following tables from Table 1 to 5

Table 1
Descriptive

<i>Mean</i>	<i>95% Confidence Interval for Mean</i>							
	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error</i>	<i>Lower Bound</i>	<i>Upper Bound</i>	<i>Minimum</i>	<i>Maximum</i>
ROUND SHAPED BOX	61	2.6519	1.19088	.15248	2.3469	2.9569	1.00	5.00
RECTANGULAR SHAPED BOX	62	2.6091	.71971	.09140	2.4264	2.7919	1.00	3.60
ANGULAR SHAPED BOX	64	2.9211	1.02514	.12814	2.6650	3.1771	1.00	5.00
CURVED SHAPED BOX	60	3.5991	1.09970	.14197	3.3150	3.8832	1.20	5.00
SQUARE SHAPED BOX	63	2.3930	1.12831	.14215	2.1088	2.6771	1.00	4.80
Total	310	2.8296	1.11795	.06350	2.7047	2.9546	1.00	5.00

Table 2
Test of Homogeneity of Variances

<i>Mean</i>	<i>Levene Statistic</i>			<i>Sig.</i>
	<i>df1</i>	<i>df2</i>		
1.293	4	305		.001

Table 3
ANOVA

<i>Mean</i>	<i>ANOVA</i>				
	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	53.018	4	13.254	12.133	.000
Within Groups	333.177	305	1.092		
Total	386.195	309			

Table 4
Robust Tests of Equality of Means

<i>Mean</i>	<i>Robust Tests of Equality of Means</i>			
	<i>Statistic^a</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
Welch	11.365	4	150.504	.000

a) Asymptotically F distributed.

Table 5
Multiple Comparisons

Mean

Games-Howell

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
ROUND SHAPED BOX	RECTANGULAR SHAPED BOX	.04277	.17777	.999	-.4513	.5368
	ANGULAR SHAPED BOX	-.26916	.19917	.660	-.8209	.2826
	CURVED SHAPED BOX	-.94723*	.20834	.000	-1.5244	-.3701
	SQUARE SHAPED BOX	.25895	.20846	.727	-.3183	.8362
RECTANGULAR SHAPED BOX	ROUND SHAPED BOX	-.04277	.17777	.999	-.5368	.4513
	ANGULAR SHAPED BOX	-.31193	.15740	.282	-.7483	.1244
	CURVED SHAPED BOX	-.99000*	.16885	.000	-1.4590	-.5210
	SQUARE SHAPED BOX	.21618	.16900	.705	-.2529	.6852
ANGULAR SHAPED BOX	ROUND SHAPED BOX	.26916	.19917	.660	-.2826	.8209
	RECTANGULAR SHAPED BOX	.31193	.15740	.282	-.1244	.7483
	CURVED SHAPED BOX	-.67807*	.19125	.005	-1.2078	-.1484
	SQUARE SHAPED BOX	.52811	.19138	.051	-.0017	1.0580
CURVED SHAPED BOX	ROUND SHAPED BOX	.94723*	.20834	.000	.3701	1.5244
	RECTANGULAR SHAPED BOX	.99000*	.16885	.000	.5210	1.4590
	ANGULAR SHAPED BOX	.67807*	.19125	.005	.1484	1.2078
	SQUARE SHAPED BOX	1.20618*	.20091	.000	.6498	1.7626
SQUARE SHAPED BOX	ROUND SHAPED BOX	-.25895	.20846	.727	-.8362	.3183
	RECTANGULAR SHAPED BOX	-.21618	.16900	.705	-.6852	.2529
	ANGULAR SHAPED BOX	-.52811	.19138	.051	-1.0580	.0017
	CURVED SHAPED BOX	-1.20618*	.20091	.000	-1.7626	-.6498

*. The mean difference is significant at the 0.05 level.

For analysis, first the assumptions were checked (1) The five groups were completely independent (2) The skewness & Kurtosis valued for each group were within acceptable values of ± 1 & indicated that data is normally distributed. (3) Homogeneity of variance is assessed by using Levene's test for equality of variance since the sig-value in the Table of Homogeneity of Variance was greater than 0.05 so the assumption was met.

The significance value in Anova Table is $p < 0.05$ i.e. $p = 0.00$ so null hypothesis is rejected and alternate hypothesis is accepted and there exists difference in consumers' liking perception for boxes of cereals of different shapes. Now to find where the difference exists, post hoc analysis is done using Games Howell test. The outcomes of T Games Howell test are shown in the above. Hence it can be concluded that

A one way between the groups of analysis of variance revealed that there was statistically significant difference in consumers' health related perceptions between the boxes of Cereals of different shapes. $F(4, 150.054) = 11.365$, $p < 0.05$. Post Hoc comparison using Games Howell test indicated that consumers liked Curved shaped box (3.05 ± 1.05) more as compared to Angular shaped box ($2.92 + 1.02$, $p = 0.005$), Round shaped box ($2.65 + 1.19$, $p = 0.000$), Square shaped box ($2.39 = 1.12$, $p = 0.000$) & Rectangular shaped box (2.69 ± 0.71 , $p = 0.000$).

4.2. Limitations of the study & Scope of Future Research

- Present research is carried out with cereals, but could also be performed with many other products. It is interesting to examine whether the main effects in this research also apply for other food products.
- In this research the products have no specific brand name, meaning that participants are not familiar with the brand. Main effect therefore will not automatically also hold true for product packages of well-known brands. Underwood, Klein, and Burke (2001) conducted a research where respondents were asked to make purchases in a simulated shopping environment. They examined to what extent a consumer is guided or not guided by the presence of photography in a package, and whether there is a difference between familiar and unfamiliar brands. The results show that brands which are less generally known than the national brands, are more dependent upon visual indications to attract attention. According to Underwood, Klein, and Burke (2001) the theory behind this is that in general consumers use more visual packaging features when they are not of hardly familiar with a brand. Therefore, it might be interesting for future research to examine if the same effects hold true for brands that are nationally known.
- Another starting point for future research is the fact that in this research product packages are displayed in the form of pictures, meaning that respondents did not have any real references. This might have biased the results, therefore making it interesting to carry out the same research, but instead of using images of the package, using actual packages. Respondents then can refer to an actual package, making it easier to make judgments about size, shape and color. Also all respondents will then see the exact same color, whereas displaying the images on respondents' computer screens may lead to perceived differences in package color.
- The study took place in Gujarat. Therefore findings can't be generalized to other cultures. According to Madden, Hewett, and Roth (2000) there are both similarities and dissimilarities in color references

and color meaning associations between different cultures. There also might be difference in what is perceived as healthy or unhealthy or there might be differences in associations with shapes, between different cultures. Therefore for future research it is important to include a cultural moderator to examine whether there are also differences in consumer's perceived healthfulness and overall product evaluation. In this research package shape is the package feature being manipulated, but for future research it might be interesting to manipulate other package features. For instance logo, font type and package material can be used as independent variables, to examine whether these can also affect the perceived healthfulness of a product.

4.3. Conclusion

The findings of the study revealed that in case of cereals the most preferred package shape that consumers liked was curved shaped box. The reason for such preference was that it was for the first time that such shape was presented to the consumers. This findings contradicts with the previous findings of (Arnheim,1974) indicating that rounded shaped packages are most preferred ones. The findings of the study increase the understanding about the consumers' perceptions about the various types of packages of cereals and their influence on their buying behavior. They also highlight how various package shapes especially for cereals could be used for various products so as to differentiate the product from competitors and to attract consumers.

4.4. Implications

The current research study indicated that packaging element like package shape plays an important role in differentiating the brand from its competitors & in establishing the unique position of the brand in the market place & in the minds of the consumers. The company's manufacturing & selling products like cereals if taken into consideration the findings of the present study & if implements them for their existing or upcoming products then it would have an advantage of developing the package that would will able to grab consumers' attention, stimulate the consumers to try or purchase that product & would encourage them for repeat purchases & thereby keep them loyal to the brand for long period of time.

The findings of the study are also useful to the organizations like Indian Institute of packaging which are engaged in developing new ideas & packages for various companies & consumers. From the consumer point of view, the findings highlight that if consumers purchase curved shaped box of cereals then they would keep liking them for long period time because since such shape is completely new in the market so it would generate long lasting impressions of liking in their mind and would give them feeling of selecting something new variety of cereals.

REFERENCES

- Ampuero, O., & Villa, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23, 100-112.
- Aslam, M. (2006). Are you selling the right colour? A cross cultural review of colour as a marketing cue. *Journal of Marketing Communications*, 12(1), 15-30.
- Barselou, L.W. (2008). Grounded Cognition. *Annual Review of Psychology*, 59, 617-645.
- Doyle, J. R., & Bottomley, P. A. (2006). The interactive effects of colors and products on perceptions of brand logo appropriateness. *Marketing Theory*, 6, 63-83.

- Elder, R., & Krishna, A. (2012). "The Visual Depiction Effect" in advertising: Facilitating embodied mental simulation through product orientation. *Journal of Consumer Research*, 38, 988-1003.
- Garber, L.L. (1995). The package appearance in choice. *Advances in Consumer Research*, 22, 653-661.
- Hekkert, P. (2006). Design aesthetics: Principles of pleasure in design. *Psychology Science*, 48(2), 157-172.
- Hutchings, J.B. (2003). *Expectations and the food industry: The impact of color and appearance*. New York: Kluwer Academic/Plenum Publishers.
- Jacoby, J., Chestnut, R., & Silberman, W. (1977). Consumer use and comprehension of nutrition information. *Journal of Consumer Research*, 4, 119-128.
- Kang, Y., Williams, L. E., Clark, M. S., Gray, J. R., & Bargh, J. A. (2010). Physical temperature effects on trust behavior: The role of insula. *Social Cognitive and Affective Neuroscience*, 6, 507-515.
- Katz, M.L., Gorden-Larsen, P., Bentley, M.E., Kelsey, K., Shields, K., & Ammerman, A. (2004). Does skinny mean healthy? Perceived ideal, current, and healthy body sizes among Ministry of Food Processing Industry (2013) *Annual Report 2012-13*.
- Ngo, M.K., Piqueras-Fiszman, B., & Spence, C. (2012). On the colour and shape of still and sparkling water: Insights from online and laboratory-based testing. *Food Quality and Preference*, 24, 260-268.
- Oakes, M.E., & Slotterback, C.S. (2001). Judgments of food healthfulness: Food name stereotypes in adults over 25. *Appetite*, 37, 1-8.
- Prince, G. W. (1994). The Contour: A Packaging Vision Seen Through Coke-Bottle Lenses. *Beverage World*, 1, 6.
- Rettie, R., & Brewer, C. (2000). The verbal and visual components of package design. *Journal of Product & Brand Management*, 9(1), 56-70.
- Dr. Solanki Sandip (2017). A Study on the Impact of Package Colour of Juices on Consumers' Perceptions and Purchase Decisions. *International Journal of Applied Business and Economic Research*, 15(5), 685-704.
- Dr. Sandip Solanki, Dr. Sheth Jaydeep and Ms. Bhagyashree H Sheth (2017). Cause Endorsement: A Conceptual Study on the Influence of Cause Endorsed Packaging on the Consumers Product Evaluation & Buying Behavior. *American International Journal of Research in Humanities, Arts and Social Sciences*, 17(1), 14-20, (Copernicus, Scirus, INSPEC, etc., Impact Factor 5.80, ISSN (Print): 2328-3734, ISSN (Online): 2328-3696).
- Dr. Solanki Sandip and Sheth Bhagyashree (2016). Effectiveness of Advertisements: A Study on Comparative Analysis of Celebrity Endorsed Advertisements verses Animated Character Endorsed Advertisements for the Same Product in influencing the Purchase Intention of Children. *Rupkatha Journal on Interdisciplinary Studies in Humanities*, VIII(1), 308-321.
- Schifferstein, H.N.J. (2009). The drinking experience; cup or content? *Food Quality and Preference*, 20, 268-276.
- Swientek, B. (2001). Uncanny developments. *Beverage Industry*, 92 (12), 39-39.
- Van Rompay, T. J. L., Hekkert, T., Saakes, D., & Russo, B. (2005). Grounding abstract object characteristics in embodied interactions. *Acta Psychologica*, 119, 315-351.
- Van Rompay, T. J. L., & Pruyn, A. T. H. (2011). When visual product features speak the same language: Effects of shape-typeface congruence on brand perception and price expectations. *Journal of Product Innovation Management*, 28, 599-610.
- Verbeke, W. (2005). Functional foods: Consumer willingness to compromise on taste for health? *Food Quality and Preference*, 17, 126-131.
- Wansink, B. (2006). *Mindless Eating: Why we eat more than we think*. Bantam-Dell: New York.