

## Original Research Article

# A MULTISTAGE SAMPLING CASE STUDY IN INDIA OF FOOD PACKAGING ON BUYERS' BEHAVIOR

### ABSTRACT

Due to increasing self-service and changing consumers' lifestyles, interest in packaging as a tool of sales promotion and stimulator of impulsive buying is growing. The basic purpose of this paper was to find out how different elements of packaging influence buyer behaviour at different stages of purchasing. Varanasi district (Uttar Pradesh) was selected for the study purposively. The Results showed that all the packaging elements are highly important to consumers' depending on their demographics and these factors can highly influence their purchasing decision.

Keywords: Packaging, food products, buying behaviour, eco-friendly packaging

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### INTRODUCTION

Packaging is one of the most important factors in purchase decisions made at the point of sale. Packaging is also a key food product attribute perceived by consumers. There is no escaping the fact that packaging performs marketing function, even if a company does not explicitly recognize the marketing aspects of packaging. In addition with the move to self-service retail formats, packaging increases its key characteristic as the salesman on the shelf at the point of sale. The critical importance of packaging design is growing in such competitive market conditions, as the package becomes a primary vehicle for communication and branding. Packaging as defined by the Packaging Institute International is the enclosure of products, items or packages in a wrapped pouch, bag, box, cup, tray, can, tube, bottle or other container form to perform one or more of the following functions: containment, protection, preservation, communication, utility and performance. It may otherwise be defined as a socio-scientific discipline which operates in a society to ensure delivery of goods to the ultimate consumer of those goods in the best condition intended for their use. New packaging systems and materials and environmental concerns are some innovation in packaging sector

32 Proper packaging plays a crucial role in increasing the shelf life of the products. Food  
33 products specifically require protection from light and oxygen to prevent oxidation during  
34 storage. Innovations in packaging have become the order of the day and are used as a  
35 strategic marketing tool to launch, re-launch, reposition, and increase demand for its products  
36 and services (Alam, 2007; Olga and Natalia, 2006). Interest in the development of sustainable  
37 packaging has increased in recent years, with several programs and initiatives having been  
38 instigated to improve the sustainability of packaging (Martinhoa et al, 2016). The package is  
39 a critical factor in the decision-making process because it communicates to consumers. The  
40 package design must ensure that consumer response is favourable. However, several  
41 conflicting trends in consumer decision making have made the food design challenging.  
42 Some consumers are paying more attention to label information, as they become more  
43 concerned about health and nutrition issues. Others have focused attention to the eco-  
44 friendliness of packaging. In the household consumption, groceries account for a substantial  
45 share, and up to one-third of the environmental impact is mainly due to packaging materials  
46 (Koenig-Lewis et al., 2014). This trend seems to be catching in India, which is generating  
47 waste products at a rather alarming rate, much faster than the natural degradation process and  
48 is using resources at a speed that exceeds the rate at which these materials are being replaced  
49 (Pattnaik and Reddy, 2010; Nandy et al., 2015). However, Indian consumers are more  
50 conscious of their environmental impact than consumers from Brazil, China, Australia,  
51 Russia, Canada, America and Germany (Prakash and Pathak, 2015). Most of the Indian  
52 consumers have a positive attitude towards eco-friendly packaged product and are ready to  
53 pay premiums for it. However, packaging sector should always add some new features to  
54 make packaging more sustainable. It has to increase the likelihood of consumers to choose  
55 sustainable packaging during product purchase. In the developing countries like India the  
56 packaging sectors should always pay attention to the environmental awareness among  
57 consumers and try to increase the level of pro-environmental behaviour of consumers who  
58 currently have low levels of such behaviour. The proposed study was conducted to study how  
59 packaging elements that influence consumers' behaviour during the different stages of  
60 purchase decision.

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## 62 **METHODOLOGY**

63 Varanasi district was purposively selected for the study purpose. Multistage sampling  
64 technique was used and the sample size for the study was 100. The research design was

65 exploratory-cum-descriptive. The study was exploratory in nature as few studies have been  
66 conducted in the area of prevalent packaging strategies with respect to food products  
67 especially in non-metro areas.

68 Also, an attempt had been made using descriptive statistics to see the relationship  
69 between the prevalent packaging strategies implemented by the marketers and the consumers'  
70 buying behaviour. The primary data has been collected with the help of a pre-structured  
71 schedule to gather the primary information of the respondents regarding demographic  
72 information, significance of packaging, consumers' perception about packaging strategies  
73 and impact of packaging strategies on purchase decision of consumers. The attitude of buyers  
74 was measured on the Likert scale.

## 75 RESULTS AND DISCUSSION

### 76 1.1. Consumers' preference of packaging elements based on demographic factors

77 The majority of the respondents belonged to age group of 20-30 years (40%), followed by 30-  
78 40 years (30%), 40-50 years (20%) and least were from 50 years and above (10%).

79 The mainstreams of respondents were post graduates i.e. 38%. 11% of the  
80 respondents were below graduation, 32% were graduates and 19% per cent were Ph.D. Since  
81 the study was conducted in BHU campus, most of the respondents were post graduates and  
82 only 11% of respondents were educated below bachelor's level.

83 Accordingly, 20 percent of respondents earned Rs. 1 lakh whereas majority of  
84 respondents earned between 25,000 - 1 lakh. Only 10 percent of respondents earn less than  
85 Rs. 25,000.

86 Table 1 shows preference for packaging elements based on age. These elements were  
87 packaging colour, quality, design, Labelling & Information.

88 **Table 1. Preference for packaging elements based on 'Age' Factor**

Packaging Elements	Age Group (n=100)			
	20-30	30-40	40-50	50 & above
Packing colour	17(42.5%)	4 (13.3%)	2 (10%)	0
Quality Packing	4 (10%)	10 (33.3%)	5 (25%)	3 (30%)
Wrapper design & Innovation	12 (30%)	7 (23.4%)	3 (15%)	2 (20)
Labelling & Information	7 (17.5%)	9 (30%)	10 (50%)	5 (50%)

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90 The perusal of the table 1 shows that in the age group of 20-30 years majority i.e.  
 91 42.5% prefer packing colour (yellow, red, blue attract more) of the products. People  
 92 belonging to age groups of 30-40 years prefer quality packaging which would help in storage  
 93 of the food product for a long time i.e. 33.3% of the respondents. And respondents in the age  
 94 groups of 40-50 years and above prefer the information of the product printed on the package  
 95 regarding price, expiry date, date of manufacturing i.e. 50% of the respondents.

96 **Table 2. Preference of packaging elements based on 'Education' Factor**

Packaging Elements	Educational Qualification (n=100)			
	Below Graduation	Graduation	Post-Graduation	PhD
Packing colour	2 (18.2%)	2 (6.25%)	3 (7.9%)	5 (26.3%)
Quality Packing	4 (36.4%)	10 (31.25%)	10 (26.3%)	2 (10.5%)
Wrapper design and Innovation	3 (27.3%)	5 (15.625%)	5 (13.16%)	5 (26.3%)
Labelling & Information	2 (18.2%)	15 (46.9%)	20 (52.6%)	7 (36.8%)
<b>TOTAL</b>	11	32	38	19

97 Table 2 shows that respondents below graduation level i.e. 36.4% prefer packing  
 98 quality for various food products. For products such as milk and juices, tetra pack is more  
 99 preferable. People who are graduates and above prefer labelling & information about the  
 100 products. For these people the labelling of the package, information about the product, its  
 101 composition etc, matters the most.

102 **Table 3. Preference of packaging elements based on 'Income' Factor**

Packaging Elements	Income Group (n=100)				
	Below 25,000	25,000-50,000	50,000-75,000	75,000-1,00,000	Above 1,00,000
Packing colour	0	3 (15%)	8 (26.6%)	2 (10%)	3 (15%)
Quality Packing	3 (30%)	5 (25%)	7 (23.4%)	8 (40%)	8 (40%)
Wrapper design and Innovation	2 (20%)	5 (25%)	5 (16.7%)	5 (25%)	4 (20%)
Labelling and Information	5 (50%)	7 (35%)	15 (50%)	5 (25%)	5 (25%)

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Table 3 shows that respondents having income up to Rs 75,000 prefer the labelling on the package and product information. People having income above Rs 75,000 and above majorly prefer the package quality of food products. This showed that people with higher income are inclined towards the quality and appearance of the package as compared to people with less income. People with low salary and income prefer packaging and product information.

## 1.2 Influence of packaging elements on consumers' buying behaviour during the different stages of purchase decision

The questionnaire was developed based on visual and informational elements of food products packaging including five items of size, shape, colour, technology and information and these were rated on five-point scales from *very important to no response at all* at each end. Based on the questions, respondents were asked how these items of packaging would influence their different activities of purchase decision.

**Table 4. Importance (%) of packaging elements during pre-purchase stage**

S. No.	Degree of Importance	Packaging Elements	
	Particulars	Informational (%)	visual (%)
1.	'Very important'	35	20
2.	Fairly important	25	27
3.	Indifferent	20	15
4.	Not so important	10	20
5.	'Not at all important'	4	13
6.	No response	6	5

The perusal of the Table 4 revealed that informational elements of a food package are the most important elements at the pre-purchase stage when evaluating different alternatives. It appears that food product buyers pay attention to packaging elements when they feel the need for a specific product.

**Table 5. Importance of packaging elements during purchase stage**

S.No.	Degree of importance	Packaging Elements
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	<b>Particulars</b>	<b>Informational (%)</b>	<b>Visual (%)</b>
1.	Very important	35	19
2.	Fairly important	20	34
3.	Indifferent	22	26
4.	Not so important	14	13
5.	Not at all important	4	8
6.	No response	5	0

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125 The perusal of Table 5 indicates that packaging with reliance on information and  
126 visual elements plays the most important role in consumer purchase decision at this stage in  
127 comparison with the other stages. The food product buyers mostly pay attention to  
128 information written on food package when they are going to make their purchase decision.

129 **Table 6. Importance of packaging elements during post-purchase stage**

<b>S. No.</b>	<b>Packaging Elements</b>		
	<b>Degree of importance</b>	<b>Informational (%)</b>	<b>Visual (%)</b>
1.	Very important	20	10
2.	Fairly important	30	15
3.	Indifferent	22	36
4.	Not so important	17	15
5.	Not at all important	8	18
6.	No response	3	6

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131 The perusal of Table 6 indicates that both the packaging elements influence their  
132 future decision. As after purchasing a product, the package has two key roles in consumers'  
133 satisfaction or dissatisfaction. In addition, when consumers use the products they compare all  
134 the information written on the package with the actual product.

135 The overall evaluation of the above criteria and in particular, the high values of both  
136 informational and visual elements of packaging suggests that consumers' are mostly  
137 concerned with essential properties and informational characteristics of product and pay  
138 considerably less attention to visual dimensions of the product such as packaging colour,  
139 shape & size. Properly delivered information on packaging generates strong impact on the  
140 consumers' buying behaviour. However, graphics and colour are relatively important.

### 1.3 Consumers' perception about prevalent packaging strategies of food products followed by the marketers

The consumer perception about packaging strategies has been measured on the basis of five statements ranging from strongly agree (SA) to strongly disagree (SD) on following 6 parameters: **sachet packaging; communication & display factors, eco-friendly factors, convenient & reusable factor, innovative & attractive packaging factors and finally value for money.**

Results are presented in Table 7 through Table 13.

**Table 7. Consumers' perception about 'Sachet' Packaging Strategy**

	Statements	SA	A	N	D	SD
I	Sachets are easy to handle/use	78	20	0	2	0
II	Sachet motivates a consumer to try various products	60	25	5	4	6
III	Using sachets leads to less wastage of product	15	20	8	32	25
IV	Use of sachet(very small packets) is increasing	20	28	5	25	22
V	Usage of sachet is increasing because of its affordable/low price.	19	18	11	27	25

From above Table it can be inferred that majority of respondents *strongly agree* with reference to statements I & II, whereas III maximum people have *disagreed* for statement 5, majority of respondents *agree* for statement IV and for statement V a large no. of people *strongly disagree*. Overall, it could be inferred that people are favourable towards sachet packing as they are easy to handle and use and also costs less.

**Table 8. Consumers' perception about 'Eco-friendly' Packaging Strategy**

S. No.	Statements	SA	A	N	D	SD
I	You prefer eco-friendly packaging	70	20	10	0	0
II	You prefer eco-friendly packaging even if you have to pay little extra	34	20	8	20	18
III	Packaging is creating more waste material	55	32	5	5	3
IV	It is creating more pollution in the environment	62	25	3	8	2

158 From above Table it could be inferred that majority of respondents *strongly*  
159 *agree* with reference to statements I & II but equal no. of people i.e.20 *agree* as well as  
160 *disagree* for statement II, for statement III & IV maximum people *strongly agree* when  
161 environment and pollution issues are present.

162 **Table 9. Consumers' perception about 'Value for Money' packaging strategy**

S. No.	Statements	SA	A	N	D	SD
I	You prefer refill pack as its original packaging can be reused.	7	10	10	50	23
II	You prefer refill pack as it costs less	4	5	2	80	9
III	You buy a product because of the reusability of its package.	5	2	3	75	15
IV	You will purchase a product because of its value pack (big pack for less price)	40	34	1	19	6

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164 From above Table, it could be inferred that majority respondents *disagree* with  
165 reference to statements I, II& III and for statement IV maximum respondents *agree* when  
166 value pack is considered as value pack gives extra amount within the same price.

167 **Table 10. Consumers' perception of 'Attractive and Innovative' Packaging Strategy**

S. No.	Statements	SA	A	N	D	SD
I	The use of very innovative and different kind of packaging is increasing.	35	40	8	10	7
II	Today, a consumer has more choices in terms of packaging options.	31	38	7	14	10
III	You buy a product (which you do not require) only because of its very attractive or different packaging.	21	23	4	30	22
IV	You will pay higher for good/attractive packaging	19	23	5	25	28
V	It enhances impulse purchase (purchasing Without thinking)	20	37	15	11	17

From above Table it could be concluded that majority respondents *strongly agree* with reference to statements I, II & V, majority people *disagree* with reference to statement III and with reference to statement IV maximum respondents *strongly disagree*.

**Table 11. Consumers' perception about 'Convenient & Reusable' Packaging Strategy**

	Statements	SA	A	N	D	SD
I	You will buy a product because its packing makes the product usage more convenient.	25	62	3	6	4
II	After consumption of the product the packaging is used for decoration/storage purpose.	10	15	5	34	36

From above Table it could be inferred that majority of respondents *agree* with reference to statement I which states that people are inclined towards the packaging which is more convenient to use. And maximum people *strongly disagree* with reference to statement II. But they are not willing to pay an extra price for convenience.

**Table 12. Consumers' perception about 'Communication and Display' Packaging Strategy**

S.No.	Statements	SA	A	N	D	SD
I	More attractive packaging image is displayed in the main areas of the shops.	50	23	5	10	12
II	Good packaging is taken as symbol of better quality product.	70	19	2	6	3
III	These days more information is written on the package.	79	17	2	2	0

From the Table 12 it could be inferred that majority of respondents *strongly agree* with reference to the statement I, II & III.

**Table 13. Importance of various factors used for packaging strategy**

S.No.	Factors	Importance (%)
1.	Communication and Display	5

2.	Convenient & Reusable	16
3.	Attractive and Innovative	12
4.	Value for Money	27
5.	Sachet packing	18
6.	Eco-friendly packing	22

This perusal of table 13 indicates the various factors used by marketers for their packaging strategy in order of their importance as perceived by the consumers' is as follows – value for money (27%) eco-friendly packaging (22%), sachet packing (18%), convenience & reusability (16%), attractive & innovative packing(12%) and least is communication & display(5%).

## **SUMMARY AND CONCLUSION**

After the analysis and observations made regarding the significance of packaging, consumers' perception about prevalent packaging strategies and impact of packaging strategies on the purchase decision, the major deficiencies which have been identified are less packaging options to choose from, communication problems, limited eco-friendly packaging, low availability of economical packaging, misleading packaging etc.

The suggestions proposed to fill the gaps present in the market and bring about necessary improvements and in the packaging strategies are in-depth research before launching the product, the packaging should communicate effectively, focus on ethical packaging, increase in eco-friendly packaging, and more availability of economical packaging and lastly packaging should be designed to perform promotional role.

Gone are the days, when packaging was considered just a container or an outer covering, it has multiple roles to play now. As the consumer perceptions are changing, the marketers will have to provide them more user- friendly, eco-friendly, economical and innovative packaging options. The customers are becoming more aware and demanding so more packaging options have to be explored. The different packaging strategies have an impact on the purchase decision of the consumers. More effective the packaging strategies followed by the marketers, more is the market share of the product. Any package innovation that provides product security, integrity and ensures the product is uncontaminated is a winner. It is

imperative that it fulfils a consumer need for product trust. The marketers will have to move one step ahead of the customers' requirements. The biggest challenge before them is to maintain a balance between providing customers packaging options which satisfy them and taking care of the environment at a reasonable price.

The following cross sectional study is done with only few samples as the matter of prospect is very integrative in nature and need more time to avail. So in this particular study few sample sources are taken to ensure the following objective.

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