

# DOES PACKAGING INFLUENCE PURCHASE DECISIONS OF FOOD PRODUCTS? A STUDY OF YOUNG CONSUMERS OF INDIA

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## ABSTRACT

*Influence of packaging on the purchase decisions of young consumers was studied by administering a specially developed questionnaire to 300 young consumers. Consumers' perception about the importance and influence of packaging on purchase decision was studied on five points Likert's scale. To identify important attributes and delineate underlying dimensions Factor analysis was performed. It was found that the majority of young consumers attached importance to packaging and were willing to pay a premium price for packaged food products. Key functional attributes related to safety and convenience, utility, and economic and social costs were considered consequential while making purchase decisions. Results showed that non-vegetarian consumers are more concerned with environmental issues than vegetarian consumers. The study not only contributes to understanding the influence of packaging on the purchase of food products but also provides insight into consumers' preferences to the marketers of food products.*

**Keywords:** Marketing, Packaging, Food Products, Consumer behavior, Young consumers.

## INTRODUCTION

Food purchasing behavior of consumers in developing economies has significantly changed due to an increase in per capita disposable income, global interaction, quality of information and communication technologies, urbanization, education, change in lifestyle, family structure, and health awareness (KPMG, 2005; Pingali, 2006; Kaur & Singh, 2007; Kumar & Kapoor, 2015). The role of food as an essential contributor to health has been well acknowledged (Bowen & Hilliard, 2006; Yildimir et al., 2017) and realization of this fact has led to a major shift in dietary patterns of consumers (Kearney, 2010). These determinants have shaped food habits of consumers in India as well as at global level (Amarnath, 2011; Roy Chowdhury, 2012; Flegal et al., 2012; Duarte et al., 2013; Kumar & Anand, 2016). Consequently, the healthiness of food products and marketing activities that mainly present these products with healthier alternatives has become increasingly important attributes for consumers making purchase decisions (Huang & Lu, 2016; Laureti & Benedetti, 2018). India, a country of more than 1.2 billion consumers of food (Census, 2011) with expected spending up to the US \$ 1 trillion by the year 2021 (PwC, 2012), offers immense opportunity for the expansion of the concept of healthy eating.

The supermarket revolution in early and mid-1990s in developing and transition countries including India has increased the demand for packaged food (Reardon & Minten, 2011). Over the past 20 years, there has been an almost 300% rise in consumption of packaged food in developing countries such as India (Procter, 2007). Indian packaged food market is set to witness a quantum jump to \$50 billion from \$32 billion at present due to the increasing popularity of ready-to-eat items (TOI, 2015). When judging food solely from its appearance, consumers cannot infer about its intrinsic attributes and qualities (ingredients, taste, and nutrition). In such a situation, consumers tend to use extrinsic visual cues like, packaging, price and brand to infer intrinsic attributes and quality of the food and such inferred expectations can potentially influence purchase intention and ultimately influence consumer's choice (Underwood & Klein, 2002; Hurling & Shepherd, 2003; Sogn-Grundvag & Ostli, 2009; Mhurchu et al., 2018; Bakshi et al., 2019; Petljak et al., 2019). The use of quality label, trust-worthy sign giving information about not only the intrinsic qualities of a product or a service but also the economic and working conditions under which it was manufactured (Golan et al., 2000) and respect for health (Mathios & Ippolito, 1998; Yildimir et al., 2017) has become a standard feature for all food products. However, there are studies which also reveal that quality of processed food products is directly determined by intrinsic cues, with no influence of extrinsic cues (Olson, 1972; Chung et al., 2006).

In the present era of the supermarket revolution with the self-service retail system, consumers have many choices to purchase a food product among a large number of brands displayed on shelves. Under this marketing scenario, buying decisions are generally made inside the store, as consumers are not well aware of all the brands before going to the retail store. It has been estimated that more than 70 percent of customers' decisions to purchase a product is made at the point of sale (Connolly & Davidson, 1996; GfK, 2011). Many a time, these consumers buy products based on their immediate interests, thus showing a spontaneous or impulse buying behavior (Cahyorini & Rusfian, 2011). These consumers buy more for social and emotional satisfaction rather than economic reasoning (Hausman, 2000; Spence & Velasco, 2018), and getting pleasure and excitement (Verplanken et al., 2005). A study by Mhurchu et al. (2018) reported a significant association between label use by the customers and purchase of healthy products. Impulse buying is quite common in snack and ready to eat food products, which are low cost and frequently purchased products (Furst et al., 1996; Verplanken et al., 2005). Young people, who are very fond of snack and ready to eat food products, buy more on impulse as compared to older people (Liao et al., 2009).

Packaging displays and promotes products on the shelf by attracting the consumer's attention and the creation of a positive impression in a highly competitive market (Rundh, 2005). Labeling is a powerful quality signal and a direct aid to consumers in making purchase decisions because they can convey important information on the search, experience and credence attributes of the products (Dimra & Skuras, 2005). Packaging design has helped marketers to provide better opportunities for customer information and marketing communication at the store level (Underwood & Klein, 2002; Young, 2004). Congruent health communication, which integrates multisensory packaging design and informational cues, can decrease consumer skepticism towards health claims and by so doing encourages consumers to healthier food choice (Fenko, 2019) Packaging thus becomes crucial with the increasing level of self-service systems in most

retail branches. Despite the established importance of packaging, there is still limited understanding of how consumers perceive extrinsic attributes of packaging (Hollywood et al., 2013; Fernqvist et al., 2015). Further, despite the importance of the subject area of product marketing, packaging has generated little research interest among scholars from a management point-of-view (Rundh, 2005, Simmonds & Spence, 2019). Unfortunately, there are limited researches dealing with the perception and opinion of young consumers of emerging economies like India towards the packaging of food products and its related attributes. The present research fulfills this gap by understanding the consumers' preferences towards the packaging of food products.

### **Packaging and Purchase Decision**

The packaging is one motivation for food consumption (Chandon & Wansink, 2010) and it can whet a person's appetite (Vieira et al., 2015). Packaging can be considered as an integral part of the food products, and without packaging, one cannot manage the availability of foods across the spatial and time boundaries. The packaging is considered as one of the marketing tools (Sehrawat & Kundu, 2007; Shekhar & Ravendran, 2013). Review of literature on the packaging of food products underscores the multiple roles that packaging plays from logistics to marketing, from filler to end consumers. Packaging contributes to gaining a competitive advantage through its various functions. Researches have proven that besides contributing in product identification and evaluation of food products (Underwood & Klein, 2002; Chung et al., 2006), packaging is considered as necessary for product development and product marketing (Lofgren & Witell, 2005), useful tool of marketing communication (Silayoi & Speece, 2007; Limon et al., 2009), and strategic mean to develop retail brand equity (Sivan, 2000; Vazquez et al., 2002). Rundh (2013) concluded that packaging innovation has contributed to a revolution in distribution within the food sector (e.g., TetraPak), as well as the development of packages for meeting new customer demands (like takeaway food). Packaging and packaging design have, therefore, increasingly been seen as an effective way of differentiating product offerings from those of competitors (Rettie & Brewer, 2000). Shekhar & Ravendran (2013) found that chocolate packaging cues had a significant influence on the purchase pattern of young consumers of age between 11-27 years. Packaging has developed from a silent salesperson to a brand builder (Clement, 2007).

The purpose of the packaging can be divided into three groups (Prendergast & Pitt, 1996, Nancarrow et al., 1998; Rundh, 2005) namely, commercial functions (identification, communication, positioning, and distinction), physical functions (container, protection, practically, conservation of the contents and ease of transport), and social functions (reduces pollution, encourages recycling, etc.). So, the packaging is the vector of and represents material and technical elements (functional elements) together with nonmaterial symbolic elements (emotional elements) of the products (Binninger, 2015). Coles (2003) pointed out that packaging reflects product quality and brand values in order to avoid consumer disappointment. The packaging carries functions in both the logistics and marketing chains (Prendergast & Pitt, 1996) and between the consumer and the product (Olsson & Larsson, 2009). The packaging has not only the practical function of protecting the product (Yildirim et al., 2017), but it also has the fundamental function of disclosing the package's contents (Vieira et al., 2014) Generally, if a product does not support advertising, its packaging assumes this role and becomes its main

communication channel (Vieira et al., 2015). A study by Chandon & Wansink (2010) found that messages and themes on product packaging reach more to consumers than advertising and help differentiate a brand from its competitors.

Scholars have also conceptualized the influence of packaging on buying decisions of consumers, based on its physical components like colour (Madden et al., 2000, Mead & Richerson, 2017) image and pictures (Nancarrow, Wright, & Brace, 1998; Bone & France, 2001; Underwood et al., 2001; Simmonds & Spence, 2019), shape and size (Raghubir & Krishna, 1999; Prendergast & Marr, 1997), technology (McNeal & Ji, 2003; Silayoi & Speece, 2004, 2007), and material ((Noah, 1994; Suchard & Polonski, 1991). Cahyorini & Rusfian (2011) concluded that packaging design exerted a strong influence on impulsive buying of chocolate in South Jakarta. Silayoi & Speece (2007) also concluded that the design characteristics of the packaging of food products had become a key issue in determining consumer choices in various market segments.

Empirical studies have confirmed the positive relationship between perceived quality and price premium for certified packaged food products (Sethuraman, 2000; Netemeyer et al. 2004; Van Loo et al., 2011; Balogh et al., 2016). By increasing the perceived quality, a product can get a competitive edge over their competitors and can command more prices from the customers. Brand managers within the food industry seem to prioritize a quality image in their efforts to build a stronger brand image (Anselmsson et al., 2014; Davcik & Rundquist, 2012). A brand obtains a price premium when the sum that customers are willing to pay for similar products is higher than that from other relevant brands (Aaker, 1996). Researches have also found that many fresh food products when are sold unbranded, are primarily treated as commodities (Nijssen & van Trijp, 1998; Kumar & Kapoor, 2015) and central quality cues such as packaging and brands are often absent in this category (Lejdstrom & Teytaud, 2007).

### **NEED FOR THE STUDY**

The present research primarily focuses on studying youths' perception towards food packaging as youths are considered to be the members of generation Y who are in the transition period between parental supervision and more definitive independence, and they are on the verge of entering the workforce and becoming heads of households. People in generation Y enjoy eating but are not interested in cooking (Sloan, 2005; Richards et al., 2006), and thus depend more on packaged food. Young adults (17-30 years) are in the life stage of increased self-reliance and autonomy, and many of them are moving away from their homes and parents, becoming more independent for their food and beverages choices as well as for their purchase decisions (Hattersley et al., 2009). The young consumers demonstrate altogether a different shopping behavior (Bakewell & Mitchell, 2003), and buy based on hedonic experience (Verplanken et al., 2005). The Indian youth consumes packaged food regularly in the current time. Thus, an in-depth study of young consumers' perception of food packaging is required so that industries can incorporate findings in developing an appropriate marketing strategy.

A few studies have been conducted on the buying behavior of Indian consumers to understand their perception of the packaging of food products (Raghubir & Krishna, 1999; Shekhar & Raveendran, 2013) but all these studies have concentrated on physical attributes of packaging like color, image and pictures, shape and size, and material. It is where the present

study differs from the previous ones and has attempted to fill the gap in the literature. It has captured the influence of functional attributes of packaging on buying decisions of young Indian consumers for food products. Further, this study has focused on impulse buying of packaged food by the customers. Findings of this study will thus reflect the possible behavior of future and potential customers and will help food marketers in developing appropriate packaging strategies to market their products. The present study tries to answer the following research questions:

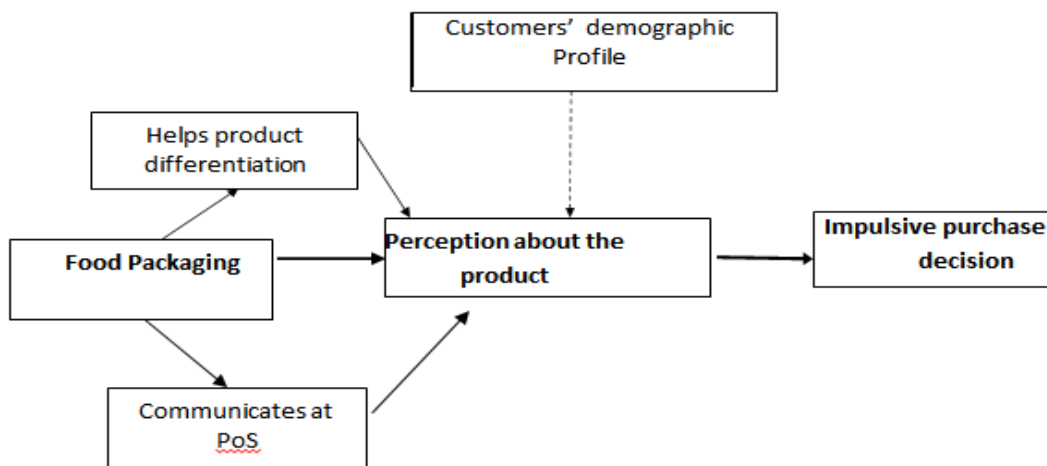
*RQ1: Do young consumers attach importance to food packaging in their purchase decisions?*

*RQ2: What are the primary functional attributes of packaging as preferred by the young consumers of food products?*

*RQ3: Do the demographic characteristics of consumers' influences their preferences for packaging attributes for food products?*

## METHODOLOGY

The present research uses "product and purchases involvement analysis" framework for defining the buying behavior of young Indian consumers for food products. The study has concentrated on snacks and ready to eat food products, which are low involvement products for young consumers, as these products are neither costly nor have very high uncertainty in using new brands. Simultaneously, young consumers exhibit low purchase involvement in buying such products, as they buy food products based on convenience. Thus, such food products fall under low product low purchase involvement matrix and indicate the impulse buying behavior of consumers. Based on the review of relevant literature, we propose a framework that has been used in the present research Figure 1.



**FIGURE 1**  
**INFLUENCE OF PACKING ON PURCHASE OF FOOD PRODUCTS**

As emphasized in the literature that packaging acts as a tool for communication for the consumers at the Point of Sale (PoS) (Sehrawat & kundu, 2007; Shekher & Ravindran, 2013), and it helps in product development and differentiation (Silayoi & Speece, 2004; Underwood et al., 2001). The literature suggests the occurrence of impulse buying in food retailing, where a variety

of products and brands are present on the shelves (Parboteeah, 2005). Based on the previous studies, we hypothesize that food packaging influences the purchase decisions of young consumers for snacks and ready to eat products. Taking cues from the study conducted by (Silayoi & Speece, 2007). We further propose that the perception of young consumers towards packaging may not be similar across their socio-economic demographic profile.

## DATA AND ANALYSIS

The study was undertaken during the year 2017 through questionnaire survey among 300 youths of age between 18 and 30 years, drawn from four conveniently selected academic institutions across the country. The initial part of the questionnaire sought information on the socio-demographic profile such as age, gender, education and family's monthly income of the respondents. The questionnaire had questions related to consumers' perception of the importance of food packaging using a 5 points Likert scale (1=not at all important and 5=extremely important). It also included questions seeking consumers' response to the food packaging attributes, and type of packaging. The consumers were specifically asked to give their response on "*how often the food packaging has influenced your choices of food purchase*"? Factor analysis was performed to delineate the underlying dimensions among a set of food packaging attributes. Analysis of variance (ANOVA) was conducted to find out the differences in response to the attributes of food packaging among the different groups of consumers based on their socio-economic profile. Finally, the influence of explanatory variables on the use of food packaging for the purchase decisions of the consumers were tested using logistic regression. For this purpose, the consumers' response to the question on "*does the food packaging influence your purchase choice of a food product?*" was used as a binary dependent variable. A set of socio-demographic factors of young consumers, like age, gender, education, monthly family income, food habit, and residence locality - was used as explanatory variables. We use a simple logistic model to estimate this relationship, where the mathematical form is given as:

$$Y_i = \text{Ln} \left[ \frac{p}{1-p} \right] = \beta_0 + \sum \beta_i Z_i + u_i$$

$Y_i$  is the perception of the consumer towards food packaging. It assumes a value of '1' if the consumer response to the question "*does the food packaging influence your purchase choice of a food product*" turns yes, and '0' if no. On the right side of the equation,  $p$  denotes the probability that a consumer is influenced by the food packaging in his/her buying decision.  $\beta^i$  refers to the regression coefficient to be estimated.  $Z_i$  denotes a vector containing socio-economic and demographic features of the respondent, and  $u_i$  is the error term which is assumed to be normally distributed with mean 0 and constant variance. We estimate the model following a maximum likelihood (ML) approach.

## FINDING AND DISCUSSION

The socio-economic profile of the consumers surveyed for the present study has been presented in Table 1. A majority (more than 62 percent) of the respondents were male, and about 98 percent of the respondents belonged to the age group of 20-30 years (average age being 25.27 years). In total, 32 percent of the sample respondents were from the upper middle class, having parents' monthly household income in the range of more than Rs. 40,000 to Rs.75, 000 (Rs. 65 =

1US\$) whereas 41% belonged to rich society (parents' monthly household income more than Rs. 75,000). In terms of food habit, 65 % of the respondents were either pure vegetarian or their food habit was dominated by vegetarian foods, whereas the remaining 35% were primarily non-vegetarian. It may be important to mention that this does not mean that the majority of respondents were strictly vegetarian. The consumers' profile indicates that the chosen sample was appropriate to understand the young consumers' attitude and preferences for food packaging both for vegetarian and non-vegetarian food products from the organized retail.

<b>Characteristics</b>		<b>Respondents</b>	
		<b>Number</b>	<b>%</b>
Gender	Male	232	62.5
	Female	139	37.5
Age Group	20 - 25 years	224	60.4
	26 -30 years	139	37.5
	>30 years	8	2.2
	Average age (years)	25.27	
Education	Graduate	245	66
	Post Graduate	116	31.3
	Doctorate	10	2.7
Food Habit	Vegetarian	243	65.4
	Non-Vegetarian	128	34.6
Monthly Household Income (Rupee)	< 25,000	43	11.6
	25,000 to 40,000	57	15.4
	> 40,000 to 75,000	119	32.1
	> 75,000	152	41

Note: 1\$= Rupee 65

The results indicate that the majority of young consumers (87%) attached importance to food packaging Table 2. There was significant variation among the consumers' response (t-statistics being 67.42, significant at 1 percent with a degree of freedom equals to 370). The influence of food packaging on consumers' preferences for food products as derived from Table 3, confirms that food packaging influences their food purchase choices. It is evident that about 90% of respondents felt that food packaging influenced their food purchase choices sometimes to always. These findings establish that food packaging has become a vital trigger to buy food products for young consumers while making their purchase decisions. It is in the line of findings of the studies from across the globe (Silayoi & Speece, 2007; Cahyorini & Rusfian, 2011). This, however, has significant implications for the Indian market as usually Indian customers have been considered price sensitive (Goswami & Mishra, 2009), and most of the food markets are still in traditional retail format (Grant Thornton, 2014). Contrary to traditional belief, the present study points out the increasing concern for food packaging in the food preferences of young Indian customers.

<b>Rating scale</b>	<b>Number</b>	<b>Percent</b>
Not important	9	02.4
Somewhat important	36	09.7
Important	88	23.7

Very important	149	40.2
Extremely important	89	24.0
Total	371	100

Note: Mean: 3.74, Mode: 4, SD: 1.008

Responses	Does packaging influences what food to buy?	
	Number	Percent
Never	8	02.2
Rarely	33	08.9
Sometimes	125	33.7
Often	162	43.7
Always	43	11.6
Total	371	100

The consumer's response to the type of packaging material shows that transparent packaging is preferred over a colored one Table 4. The results illustrate that the consumers do not compromise the preference of packaging type even though the brand is well established or retailer is credible. Thus brand loyalty or store loyalty cannot substitute the packaging. As discussed in the literature, although most of the Swedish consumers preferred unpackaged potatoes those who preferred packaged ones, preferred transparent packaging as it was easier to inspect the quality through the transparent materials (Fernqvist et al., 2015). In their study, Sehrawat & Kundu (2007) also found that transparency of package had more influence on buying decisions of Indian urban consumers. Packaging plays an important role to present the product before the consumers. Being an inseparable part of the product, packaging also conveys the product attributes to the consumers.

Packaging type	Consumer Response (%)					Descriptive Statistics		
	1	2	3	4	5	Mean	Mode	SD
Transparent	2.7	8.4	8.6	51.8	28.6	3.95	4	0.974
Colored	2.4	13.5	9.4	54.2	20.5	3.77	4	1.003
No preference if brand is well established	8.1	42.9	14.8	29.1	5.1	2.80	2	1.101
No preference if retailer is credible	15.4	43.4	13.5	19.9	7.8	2.69	2	1.972

1=strongly disagree.....5=strongly agree

The critical packaging attributes as perceived by the consumers in their descending order of importance (based on the mean score) have been given in Table 5. The results indicate that consumers strongly symbolized the quality of the product with that of a package. This finding is in the line as reported by (Underwood et al., 2001; Silayoi & Speece, 2004). Further, the young consumers believed in the role of packaging as ‘protection of product’ and enabling “*handling of the product more conveniently*” as the other two essential roles of food packaging. The consumers also reported strong agreement on ‘*preservation of products for a longer period*’ and ‘*making products attractive*’. These were other two significant functions consumers attributed to the packaging. These results are relevant as food products are perishable and are frequently purchased. On the other hand, about 90 percent of respondents confirmed that packaging adds to the cost of the products. The consumers were found concerned about environmental hazards arising from packaging materials as about 20 % were in the strong agreement with the view that non-degradable packaging wastes can be dangerous for the environment if used at large



scale. Fernqvist et al. (2015) had reported that consumers regarded plastic bad as affecting the quality and durability of potatoes, and associated packaging with increased cost. Lindh et al. (2012) reported that consumers tend to focus on material properties of packaging when it comes to ethical, environmental perspectives and the important role of product protection gets omitted.

Packaging Attributes	Consumer Response (%)					Descriptive Statistics		
	1	2	3	4	5	Mean	Mode	SD
Packaging ensures product quality	3.2	9.7	5.9	30.5	50.7	4.76	5	0.423
Packaging protects the product	2.4	1.1	1.9	48.2	46.4	4.35	4	0.789
Packaging makes product handling more convenient	1.6	1.1	4.6	52.6	40.2	4.29	4	0.746
Packaging makes ease in storage of product	1.3	3.2	6.2	50.1	39.1	4.22	4	0.809
Packaging makes the products attractive	1.6	4.0	10.8	50.7	32.9	4.09	4	0.859
Packaging adds to the cost of the product	1.3	3.8	5.4	67.9	21.6	4.05	4	0.736
Packaging extends the shelf-life of perishable goods	1.1	7.0	17.3	47.2	27.5	3.93	4	0.907
Packaging saves product wastage	3.5	16.7	42.6	20.7	16.7	3.52	3	1.064
Packaging waste materials are dangerous for environment	6.2	15.1	38.3	21.0	19.4	3.50	3	1.147

1=strongly disagree.....5=strongly agree

Analysis of variance (ANOVA) was conducted to find out the differences in responses on the above nine functional attributes of food packaging among the different groups of consumers based on their socio-economic profile. The results, as summarized in Table 6, indicate that the responses of male and female differ significantly on the handling and preservation attributes of food packaging. In both, the cases, the mean score of the female is higher than that of male. Consumers of all the age groups responded similarly to most of the food packaging attributes except the impact of packaging on protection and cost of the product. In this case, the mean score of these attributes is higher for younger consumers as compared to their older counterparts. The study could not find any significant difference among the response behavior of the consumers based on their education. There is a significant difference of opinion about the environmental hazards of packaging waste among vegetarian and non-vegetarian consumers. Based on the mean score, it can be concluded that non-vegetarian consumers are more concerned with environmental issues rather than vegetarian consumers. These results provide necessary cue that marketers can segment the young consumers based on their demographic profile to communicate the usefulness of packaging in food products

Packaging Attributes	Demographic Characteristics				
	Gender	Age	Education	Family Income	Food Habit
Packaging protects the product	0.207	0.003*	0.364	0.338	0.554
Packaging makes product	0.056**	0.441	0.564	0.892	0.520

handling more convenient					
Packaging makes ease in storage of product	0.048**	0.363	0.453	0.146	0.611
Packaging makes the products attractive	0.435	0.317	0.714	0.448	0.090
Packaging adds to the cost of the product	0.812	0.011*	0.674	0.603	0.470
Packaging ensures product quality	0.223	0.606	0.557	0.316	0.576
Packaging extends the shelf-life of perishable goods	0.746	0.649	0.435	0.053**	0.551
Packaging saves product wastage	0.114	0.377	0.161	0.041**	0.848
Packaging waste materials are dangerous for environment	0.265	0.103***	0.188	0.338	0.012*

\* Significant at 1 %; \*\* Significant at 5 %; \*\*\* Significant at 10 %

After understanding the consumers' response on various functional attributes of packaging, the study performed a factor analysis to reduce nine attributes into three sets of related attributes namely, Safety and convenience, Utility, and Economic and social costs using principal component analysis. The correlation matrix with KMO (0.765) and Bartlett's test of sphericity ( $p=0.00$ ) indicated that the input correlation matrix was suitable for factor analysis. The results indicate that these three attributes explained more than 55 percent of variance Table 7. The variance indicated by '*safety and convenience*' was about 30 percent, and it loaded high on packaging attributes like convenient product handling, protection, preservation, attractiveness, and quality. '*Utility*' explained 15 percent variation and was loaded on factors related to extending the shelf-life of perishable goods, and reducing the product wastage. The third factor, namely economic and social costs explained about 11 percent variation, primarily consisting of increased economic and environmental costs due to packaging. While the first two factors dealt about the benefits which consumers get because of packaging, the third one was related to the cost consumers have to bear to enjoy those benefits. In the past also, scholars had categorized benefits under categories like, commercial, physical, and social functions (Prendergast & Pitt, 1996; Nancarrow et al., 1998; Rundh, 2005), and having Interface between product and logistics systems and between consumers and the product (Olsson & Larsson, 2009).

Attributes	Components		
	Safety and convenience	Utility	Economic and social costs
Packaging makes product handling more convenient	0.781	0.075	-0.187
Packaging protects the product	0.735	0.049	-0.021
Packaging makes ease in storage of product	0.723	0.144	-0.138
Packaging makes the products attractive	0.653	-0.023	-0.129
Packaging ensures product quality	0.616	-0.128	-0.156
Packaging extends the shelf-life of perishable goods	0.317	0.612	0.466
Packaging saves product wastage	0.356	0.539	0.470
Packaging waste materials are	0.032	0.443	0.652

dangerous for environment			
Packaging adds to the cost of the product	0.018	0.069	0.342
Total variance explained (%)	29.76	15.05	10.81
Cumulative variance (%)	29.76	44.82	55.63

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

The influence of explanatory variables on the use of food packaging for purchase decisions among the consumers was tested using logistic regression Table 8. Among the demographic indicators of the consumers, the estimated coefficients for gender, age, food habit, and residence locality were found statistically significant; indicating that these factors are likely to influence the use of food packaging in making food purchase choices. For female and non-vegetarian consumers, food packaging is more likely to influence their food purchase decisions. The results suggest that consumers whose residence locality is dominated by affluent households are more than 1.5 times as likely to use food packaging in purchase decisions as consumers residing in the middle-class locality. The model is a reasonably good fit as approximately 58% of the observations are correctly predicted. The Chi-square test of the measure of the overall significance of the model is significant at the 10% level. The Log-likelihood ratio which measures the goodness of fit is 498.95, which is relatively low, implying that the model fit is perfect.

Effects of socio-demographic factors of the consumers on the usage of information on packaging and influence of the information have been widely studied. A majority of studies found that middle-aged or younger adults were more likely to use the nutritional information on packaging than older individuals (Loureiro et al., 2006; Drichoutis et al., 2007). Based on the systematic review of 120 articles, Campos et al. (2011) inferred that women used and trusted labels significantly more often than men. In the same article, authors also reported that individuals with lower income were less likely to use nutrition labels. Consumers with a higher level of education were found to be using labels more than those with a lower level of education (Satia et al., 2005; Vemula et al., 2014). The findings of this study are broadly in the line of that of previous research studies.

Variables	Dependent variables Often or always food packaging determines what food to buy=1, otherwise=0			
	$\beta$	S.E.	Sig	Exp ( $\beta$ )
Explanatory variables				
Constant	1.045*	0.748	0.052	4.046
GENDER (Male=1, Female=0)	-0.565*	0.227	0.013	0.568
AGE (years)	-0.053**	0.202	0.792	0.948
EDUCATION	0.124	0.228	0.587	1.132
FAMILY MONTHLY INCOME (up to Rs. 40,000 = 0, else = 1)	0.038	0.240	0.873	1.039
RESIDENCE LOCALITY (dominated by middle class = 0, dominated by rich people = 1)	0.420**	0.135	0.083	1.522
FOOD HABIT (vegetarian =1, non-vegetarian = 0)	-0.242**	0.124	0.079	0.785
Log-likelihood	498.95			

Cox and Snell R <sup>2</sup>	0.030			
Nagelkerke R <sup>2</sup>	0.041			
Chi-square (df=6)	11.257**			
Corrected Prediction (%)	58.5			

\*significant at the .05 level, \*\*significant at the .10 level

## CONCLUSION AND IMPLICATIONS

The present study has attempted to know how young consumers perceive functional attributes of packaging, and how food packaging influences their food purchase choices. The results indicate that the majority of young consumers attach importance to food packaging and are willing to pay a premium ranging from 11 to 30% of the price for packaged food products. This is contrary to the traditional belief that Indian consumers are price sensitive and retailers manage with razor thin margins. The results point out that the consumers, although attach different importance to one or other functional attribute of packaging, but not wholly ignoring any particular attribute.

The study highlights that the buying preference of young consumers is changing towards packaged food products, particularly after the emergence of organized food retailing. The key packaging attributes as perceived by the consumers are related to safety and convenience, utility, and economic and social costs. The environmental impact of packaging, an important aspect of consumers' product's perception, balances the influence of personal benefits such as convenience (Van Dam & Van Trijp, 1994). Our study also concludes that non-vegetarian consumers are more concerned with environmental issues rather than vegetarian consumers. The finding suggests that food processors and marketers while designing packaging strategies should focus more on safety and quality issues of the product followed by attractiveness and appearance and the environmental issues of packaging. It is in the line of the conclusions of Wang (2015) that perceived hedonic benefits of packaging are stronger than utilitarian benefits in predicting buying intentions of consumers. The findings of the study reflect the preferences of young consumers who are crucial today and will be more influential in the next few years. Industries dealing with packaging, marketing and communication strategies of food products should find the results of the study useful.

One important limitation of the study is that the sample was taken from educated respondents from selected academic institutions. The study results cannot be generalized for other young consumers, whether urban or rural. Therefore, to generalize the findings of the study in a more meaningful way, future research is required with a broader sample of young consumers drawn from different educational background and place of residence.

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