

Do altruistic and egoistic values influence consumers' attitudes and purchase intentions towards eco-friendly packaged products? An empirical investigation

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Abstract

Increasing demand for products with eco-friendly packaging is an example of the environmental consciousness of customers. That consciousness forces companies not only to develop eco-friendly products, but also motivates practitioners and academicians to understand the eco-friendly buying behaviour of the customer. Yet in current literature, there is little discussion available where researchers talk about the influencing relationship of altruistic and egoistic values of customers on their attitudes and purchase intentions towards eco-friendly packaged products. Therefore, this work aims to build a structural model to establish the relationship between egoistic and altruistic values on customers' attitudes and their intention to purchase products with eco-friendly packaging. With the help of a structured questionnaire, data from 227 young Indian customers was collected. An empirical investigation was carried out and the conceptual model was tested using Structural Equation Modelling (SEM). The analysis indicates that these values do influence purchase intention for products with eco-friendly packaging. However, altruistic value exerts greater influence than egoistic value. This research provides relevant findings about young consumers and their response to products with ecological packaging. These findings will assist marketers in reducing the environmental footprint caused by packaging materials, helping them to retain customers as a result. From the Asian perspective, the present research is among the early efforts towards understanding the significance of values (altruistic and egoistic) pertaining to products with ecological packaging.

Keywords: Eco-friendly packaging; Egoistic value; Altruistic value; Health concern; Environmental concern

1. Introduction

Grocery packaging material accounts for one-third of the total pollution from household consumption (Koenig et al., 2014); it is also a significant source of solid waste (Radwan et al., 2012). Today, consumers are inclined to contribute towards environmental protection by adopting sustainable consumption (Moser, 2015; Luthra et al., 2016). The packaging industry carries crucial significance to safeguard the environment and achieve sustainable

development (Martinho et al., 2015). Eco-friendly packaging is a recent innovation to accomplish a balance of ecological development and economic growth (Martinho et al., 2015). That is why organisations are taking various initiatives to minimize their packaging waste (Intel, 2018). For instance, Walmart aims to become 'packaging neutral' by 2025 by introducing initiatives to reduce, reuse and recycle (Walmart Inc., 2018). Coffee brands such as Starbucks and Costa are offering discounts to customers for using reusable cups and many pub and bar groups have stopped using plastic straws (The caterer, 2018). Many organisations are now also taking initiatives to educate consumers about green brands (Han and Yoon, 2015). However, Gustavo et al. (2018) indicate that organisations remain most concerned about economic gains while ensuring environmental benefits due to packaging redesigning. According to this research, organisations remain uncertain about consumer response towards packaging redesigning. Hence, the goal of sustainable packaging depends upon acceptability of such initiatives by consumers to quite a large extent (Adeyeye et al., 2017; Petersen and Brockhaus, 2017). Consequently, an understanding of consumer intention to purchase products with eco-friendly packaging becomes important.

Current literature specifies packaging material and shape as important attributes of a product (Rokka and Uusitalo, 2008; Chekima et al., 2016). Consumers prefer ecologically packaged products, whereas non-recyclable packaging negatively influences their attitudes towards usage of such products. The importance of human values are highlighted by researchers (Paco et al., 2013; Gatersleben et al., 2014; Stöckigt et al., 2018) but only a few studies have considered the influence of values on product evaluations (Bickart and Ruth, 2012). Egoistic values and altruistic values are the key determinants for demonstrating ethical behaviour (Yadav, 2016). Additionally, studies claim that these two values have a very high impact on the attitudes of consumers towards ethical buying (Gatersleben et al., 2014; Kessous et al., 2016; Yadav, 2016). However, personal benefits have received more attention than environmental consideration in the context of ethical consumption (Naess, 1990; Tsarenko et al., 2013; Yadav, 2016; Andersch et al., 2019). However, these two values are strikingly different from each other and are negatively correlated because 'concern for others' and 'concern for self' are diverse, both theoretically and practically (Stern et al., 1995; Shafer et al., 2007; Hansla et al., 2008). Hence, it is important to assess the effect of these values separately to develop a better understanding regarding determinants of acceptance of eco-friendly packaging among consumers. Consequently, this work addresses the following research question:

RQ. How are egoistic and altruistic values of customers associated with their attitudes and intentions to buy eco-friendly packaged products?

Yadav (2016) has examined the role of altruistic, egoistic values and attitude towards purchase intention of organic food. In a recent study Singh and Pandey (2018) suggested altruistic values as an important variable in influencing the acceptability of eco-friendly packaging among Indian consumers. But, to the best of our knowledge, no study has considered egoistic, altruistic values and attitudes together to explain the purchase intention of eco-friendly packaged products. This study investigates the relevance of values (altruistic and egoistic) towards purchase intention of eco-friendly packaged products in an Indian setting because of the following reasons:

- India is among the fastest growing economies and economic activities in India are likely to intensify further in order to maintain higher growth levels; therefore, sustainable business operations hold key relevance in the Indian context (Pattnaik and Reddy, 2010; Nandy et al., 2015).
- Carbon emissions of the Indian economy is expected to play a decisive role in managing global warming (The world bank, 2018)
- Generation of waste products in India is already at an alarming rate (Pattnaik and Reddy, 2010; Nandy et al., 2015). Moreover, the tremendous growth of the Indian logistics industry due to rapid growth in retail, manufacturing, e-commerce, FMCG and e-commerce is likely to further intensify waste generation in the Indian economy (Business standard, 2018).
- Increasing awareness of eco-friendly packaging among Indians (Prakash and Pathak, 2017; Kumar et al., 2018), coupled with a greater concern of consumers for environmental protection and sustainable development, is enabling organisations to adopt eco-friendly packaging solutions in a move towards sustainability in their business operations (Paul et al., 2016; Yadav and Pathak, 2017; Kumar et al., 2017; Kumar et al., 2018).
- Current literature embodies limited studies on eco-friendly packaging, especially in an Indian context (Yadav, 2016; Prakash and Pathak, 2017).

This research focuses on young Indian consumers as the population of consumers in this category in India is rising and their consciousness towards the environment is growing rapidly (Paul et al., 2016; Kumar et al., 2017; Prakash and Pathak, 2017; Kumar et al., 2018). Moreover, the disposable income of this group is increasing with their spending

demonstrating that they are among the early adopters of innovative products (Urpelainen and Yoon, 2015). Moreover, there is a dearth of studies on the issues of environmental issues and consumer research in the Indian context (Kumar et al., 2017; Jaiswal and Kant, 2018). Hence, this study contributes to existing literature in the following ways:

- The study contributes to the limited literature on sustainable consumption in the Indian context and analyses the impact of values (altruistic and egoistic) on purchase of ecologically packaged products by younger customers.
- The study's results provide important insights for marketers to develop strategies regarding packaging redesigning in order to understand the linkage between altruistic and egoistic values of customers, their attitudes and intentions towards buying ecologically packaged products.

The study is organised in 6 sections. Sections 2 and 3 contain a relevant literature review and development of a conceptual model. Section 4 describes the research methodology. Section 5 covers discussion and implications. The last section offers concluding remarks and future scope for research.

2. Literature review

The negative impact of rapid development industrialization on the environment has become a matter of concern worldwide. Now all types of organizations are forced to adopt sustainable practices in their methods of working. Consequently, organizations are turning to the use of eco-friendly packing or green packaging. This must be healthy and safe for individuals and communities and is required to be suitable in terms of performance and costs etc (Yadav (2016; Prakash and Pathak, 2017). Previous studies have tried to identify factors that are responsible for shifts in consumer behaviour (Paul et al., 2016; Prakash and Pathak, 2017; Kumar et al., 2018). Several researchers have attempted to explore the links among values, eco-friendly behaviour and behaviour-specific beliefs (Lopez and Cuervo-Arango, 2008; Geng et al., 2015; Moser, 2016). However, Schwartz (1992) classifies 56 values and proposes that these values may vary across different cultures and countries, yet the structure remains intact. Numerous studies have followed Schwartz's (1992) work and categorize values in two ways (Gatersleben et al., 2014; Torres, 2016). Firstly, progressivism versus traditionalism differentiates values that stress self-determination, such as independence from traditional and conventional values. Secondly, a self-inspirational value originated from an orientation that can be regarded as an egoistic value system. Past work has examined the role of self-

transcendent (altruistic) and a self-enhancement (egoistic) value in determining eco-friendly behaviour. However, there is a divergence between the self-gain (egoistic values) and extended gain of others (altruistic values). Altruistic values enable individuals to act for the welfare of others without any personal benefit (Yadav, 2016). On the other hand, egoistic values lead individuals to act in their own interest (De Groot et al., 2013; Yadav, 2016). Previous studies have not discussed the diverse nature of altruistic and egoistic values in the context of green behaviour (De Groot, 2008; Jaiswal and Kant, 2018). Yet some studies have indicated that people with strong altruistic values also have a strong ecological belief which in turn makes them exhibit pro-environmental behaviour (Kim, 2011; De Groot et al., 2013). On the contrary, another set of studies has found egoistic orientation to be a good predictor of customer purchase intention (Zagata, 2012; Lee et al., 2014). Therefore, the present study attempts to identify which value orientation among customers (altruistic or egoistic) leads them to buy eco-friendly packaged products in the setting of a developing nation like India.

3. Conceptual model development

3.1 Environmental Concerns (Altruistic value) and Eco-Friendly behaviour

In recent times, researchers have been increasingly focusing on environmental concern and how this has appeared to be an important determinant of consumer behaviour (Dunlap and Jones, 2002; Bamberg, 2003; Pickett-Baker and Ozaki, 2008; Yadav, 2016). A number of studies find environmental concern as a reflection of altruistic values. As per Heberlein (1972), altruistic motives or altruistic values are essential for shaping consumer behaviour towards the environmental. Environmental consciousness is growing among consumers driven by their altruistic values; this is reflected in their efforts to address environmental problems via green purchasing (Dunlap, 2002; Magnier and Schoorman, 2015; Kong et al., 2016; Birch et al., 2018; Zou et al., 2019). Additionally, consumer awareness is also increasing around the packaging material of products that are used on a regular basis and their impact on the environment (Wang et al., 2013; Koenig et al., 2014; Magnier and Schoorman, 2015; Kong et al., 2016). Therefore, we assume that the environmental concern of customers is a key factor that influences their purchase decisions on eco-friendly packaged products. Hence, this study hypothesizes that:

H1: Altruistic values of young Indian customers positively influence their attitudes towards products with eco-friendly packaging.

H2: Altruistic values of young Indian customers positively influence their intentions to purchase eco-friendly packaged products.

3.2 Health concern (Egoistic value) and Eco-Friendly behaviour

Current literature documents evidence to indicate that the health concerns of customers can influence their attitudes toward green products (Prakash and Pathak, 2017; Kumar, 2019). For instance, Zanolli and Naspetti (2002) suggest that health-conscious consumers are more prone to exhibit eco-friendly behaviour than others (Zanolli and Naspetti 2002; Rana and Paul, 2017). An egoistic value concept can be defined as a pro-self-concept that demonstrates a health concern for the individual or concern for their family. Benefits to self (egoistic values), such as good health and better quality of life, may motivate individuals to demonstrate environmentally friendly behaviour (Verma et al., 2019). Most consumers use organic or green products as they perceive that such products are beneficial to themselves. However, most of the previous studies regard health issues and safety concerns as key attention-grabbing factors while purchasing green products (Yadav, 2016; Prakash and Pathak, 2017). Current literature identifies health concerns of customers as determinant of their attitude toward green products (Nguyen et al., 2016; Prakash and Pathak, 2017). For instance, consumers who are very health-conscious are more prone to exhibit eco-friendly behaviour than others (Zanolli and Naspetti 2002). Therefore, we hypothesize that:

H3: Egoistic values of young Indian customers positively influence their attitudes towards products with eco-friendly packaging.

H4: Egoistic values of young Indian customers positively influence their intentions to purchase eco-friendly packaged products.

H5: The attitude of young Indian customers towards products with eco-friendly packaging positively influences their intentions to purchase such products.

In light of the above discussion, the following conceptual framework has been proposed (Refer to Fig. 1).

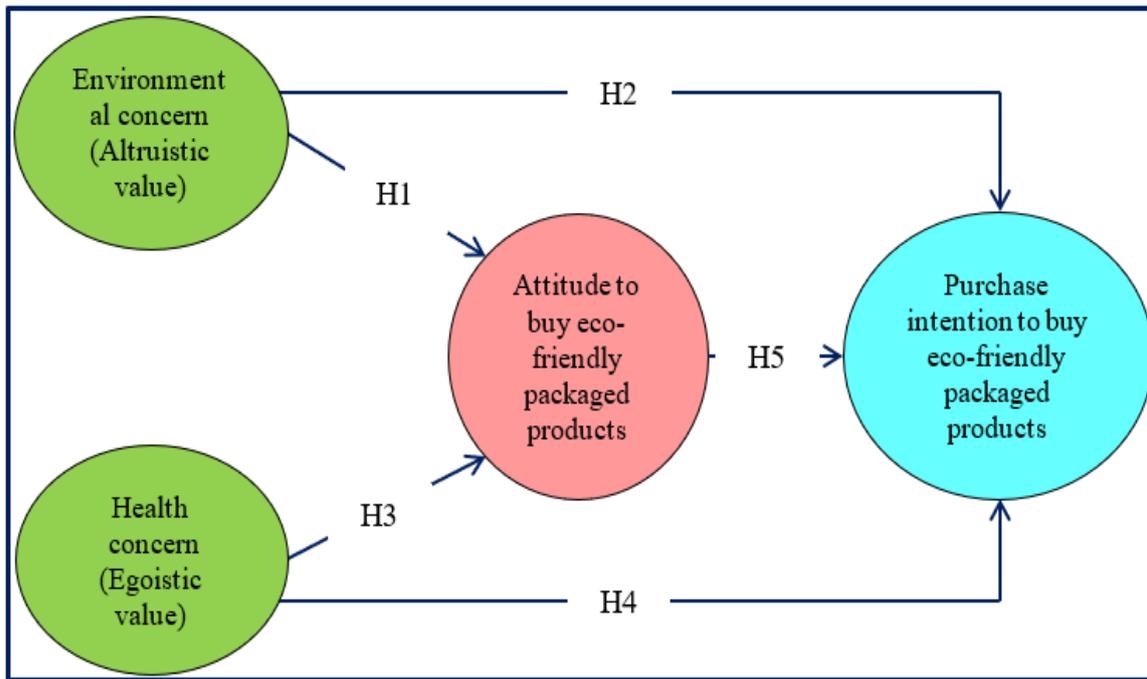


Figure 1. Hypothesised model

4. Solution methodology

4.1. Questionnaire design

A structured questionnaire has been designed to collect data. This questionnaire contains two sections. The first part is used to record demographic details. The second part contains statements to measure the constructs considered for the current study. Details of the constructs, items used to measure them and their sources are provided in the Appendix (Table 1). A five-point Likert scale is used as a measurement scale. Reversed scored statements were also used to ensure consistency throughout the scale. To avoid discrepancies and to ensure clarity, a pilot study was conducted with thirty-five respondents from industry and academia. The questionnaire to be used for data collection was finalised after relevant modifications based on suggestions received from respondents of the pilot study.

4.2 Sampling and data collection

We contacted potential respondents in furniture markets, parks, shopping malls, supermarkets and other recreational areas of the two most populated Indian cities, namely New Delhi and Mumbai, over a period of two months (May 2018 to June 2018). Data was also collected during weekends to ensure greater sample coverage. Approximately, 600 questionnaires were distributed among the selected respondents. After removing outliers and incomplete responses, data from 227 respondents (final sample) was collected and used for final analysis.

Our sample consists of 51% male and 49% female respondents from the age group of 18 to 35 years. In total 114 (50%) respondents are graduates, 71 are postgraduate (31.0%), 39 are under-graduates (17.0%) while 8 are Ph.D. students (3%). Our sample contains respondents from diverse occupational backgrounds (students: 68%, professionals: 21% and entrepreneurs: 11%). Table 2 presents respondents' details.

Table 2. Respondents' details

Age	18-22 35 (15%)	22-26 51 (23%)	27-30 101 (45%)	31- 35 40 (17%)
Gender	Male 118 (51%)	Female 109 (49%)		
Educational qualification	Up to Graduation 39 (17%)	Graduation 71 (30%)	Post-Graduation 114 (50%)	Ph.D. 8 (3%)
Occupation	Students 154 (68%)	Service 48 (21%)	Self employed 25 (11%)	

5. Analysis

The theoretical framework of the current work was evaluated with the help of SPSS version 21 with AMOS. [Anderson and Gibberson \(1988\)](#) two steps model of SEM was used. At first, reliability and validity were calculated. The outcomes of CFA indicate good-of-fit (GOF) to the data. Table 3 shows the tabulation of obtained and recommended values.

Table 3. Model fit values

Fit Indices	Recommended values	Obtained values
χ^2	NA	134.585
χ^2/df	>1 and <5	1.607
GFI	≥ 0.90	0.913
CFI	≥ 0.90	0.942
IFI	≥ 0.90	0.942
NFI	≥ 0.90	0.939
TLI	≥ 0.90	0.937
RMSEA	≤ 0.80	0.049

Ref. ([Bagozzi and Yi, 1998](#))

Cronbach alpha values for the items range from 0.79 to 0.89, lying above the suggested value of 0.7; this indicates internal consistency for all items ([Tenenhaus et al., 2005](#); [Hair et al., 2008](#)). With the help of the three components, factor loading, CR and AVE, the convergent validity was measured. Factor loadings range from 0.77 to 0.94, above the suggested level of 0.6 ([Hair et al., 2008](#)). CR values for all constructs range from 0.88 to 0.92, higher than the standard value of 0.6. The values of AVE for all the constructs lie in the range of 0.64 to 0.79, which also meets the acceptable limit of 0.5 ([Hair et al., 2008](#)) as shown in Table 4. The

above mentioned values signify sufficient validity and reliability of the theoretical model under study. Table 5 depicts the values of discriminant validity.

Table 4. Measurement model analysis

Constructs	Items	Factor loading	CR	SMC	Cronbach(α)	AVE
Attitude towards eco-friendly products	ATT1	0.92	0.907	0.846	0.87	0.764
	ATT2	0.89		0.792		
	ATT3	0.81		0.656		
Environmental concern	EC1	0.89	0.882	0.792	0.82	0.713
	EC2	0.87		0.756		
	EC3	0.77		0.592		
Health concern	HC1	0.88	0.844	0.774	0.79	0.644
	HC2	0.81		0.656		
	HC3	0.71		0.504		
Purchase intention towards eco-friendly products	PI1	0.94	0.920	0.883	0.89	0.793
	PI2	0.88		0.774		
	PI3	0.85		0.722		

Table 5. Details of discriminant validity

	ATT	EC	HC	PI
ATT	.764			
EC	.426**	.713		
HC	.217**	.198**	.644	
PI	.403**	.378**	.271**	.793

**Correlation is significant at the 0.05 level.

4.1 Analysis of hypothesised model

GOF statistics of the model (presented in Table 3) have been used. As shown in Table 3, multiple measures indicate that the proposed model reasonably fits to the data ($\chi^2 = 155.574$, $\chi^2/df = 1.878$, GFI = 0.921, NFI = 0.954, TLI = 0.962, CFI = 0.982, IFI = 0.982). However, RMSEA value (0.053) is below the recommended benchmark of 0.08.

Analysis of the proposed model (presented in Table 6) indicates that altruistic values of young Indian customers positively influence their attitudes ($\beta = 0.568$, $p < 0.05$, $t = 8.483$) and purchase intentions ($\beta = 0.366$, $p < 0.05$, $t = 3.905$) towards eco-friendly packaged products; hence, these results support hypotheses H1 and H2. Egoistic values are also found to have a positive influence on attitude ($\beta = 0.125$, $p < 0.05$, $t = 2.321$) and purchase intention ($\beta = 0.224$, $p < 0.05$, $t = 3.685$) of young customers towards eco-friendly packaged products. Consequently, hypotheses H3 and H4 are accepted. However, the analysis indicates a stronger

influence of altruistic value over egoistic values on attitude and purchase intention of young Indian customers for the given category of products. Our analysis also supports hypothesis H5, that association between attitude and purchase intention of young Indian customers towards eco-friendly packaged products is positive and significant ($\beta = 0.385, p < 0.05, t = 5.274$).

Table 6. Results of hypothesised model

Hypothesis	Path	Estimate	Critical Ratio (t-value)	p-value	Results
H1	Altruistic value -> Attitude towards eco-friendly products	0.568**	8.483	0.020	Accepted
H2	Altruistic value -> Purchase intention towards eco-friendly products	0.366**	3.905	0.013	Accepted
H3	Egoistic value -> Attitude towards eco-friendly products	0.125**	2.321	0.021	Accepted
H4	Egoistic value -> Purchase intention towards eco-friendly products	0.224**	3.685	0.016	Accepted
H5	Attitude -> Purchase intention towards eco-friendly products	0.385**	5.274	0.010	Accepted

** indicates the values are significant at $p < 0.05$.

5. Theoretical and practical contributions

The current study attempts to analyse the impact of values (altruistic and egoistic) on the attitude of young Indian customers to predict their intention to purchase products with green packaging. The results of structural model testing show that these values impact customers' attitude and purchase intention towards products with eco-friendly packaging, significantly and positively. [Smith and Paladino \(2010\)](#) declared altruistic values to be irrelevant; whereas, findings of the current study converge with the findings of studies conducted by [Yadav \(2016\)](#) and [Yadav and Pathak \(2016\)](#). These studies focused upon green products but the current work also considers the dimension of green product, namely '*eco-friendly packaging*'.

The results of the current analysis indicate that altruistic values play a more dominating role than egoistic values in driving consumer attitude and purchase intention towards eco-friendly packaged products. Whereas, previous studies, ([Magnusson et al., 2003](#); [Yadav, 2016](#))

observed egoistic values as more critical than altruistic values to influence consumer buying decisions of organic food. Food products are expected to impact on individuals' health in a bigger way than the packaging material of products used in everyday life. Therefore, health concerns may become dominant in the context of food products. The evaluation of eco-friendly packaged products might be influenced more by environmental concerns (Martinho et al., 2015; Radhakrishnan, 2016; Birch et al., 2018).

Our findings suggest both these values (altruistic and egoistic) lead to a positive impact on consumers' attitude towards eco-friendly packaged goods. This finding indicates that young Indians perceive green packaging as beneficial not only for the environment but also to generate health benefits for them. Positive attitudes of consumers are also observed to lead to a stronger purchase intention for products with green packaging (Jaiswal and Kant, 2018).

Findings of the current research offer various important managerial and policy implications as detailed below.

- As discussed in the introduction section, packaging material for groceries accounts for one-third of the total pollution from household consumption; this is also a significant source of solid waste. Therefore, waste management is a key concern that must be tackled; eco-friendly packaging is one way to address the issue of mounting waste.
- Results of the current study establish the role of values (egoistic and altruistic) in understanding the young Indian consumer response towards green packaging; this will assist marketers to develop strategies regarding packaging redesigning
- Being selfish (egoistic values) as well as selfless (altruistic values) has a positive influence on purchase intention of environmentally wrapped goods. This indicates a higher level of acceptability for green packaging. Therefore, policy makers may consider proposing and implementing a framework to motivate and support organisations to redesign packaging in order to move towards sustainability. Moreover, at organisational level, adopting green packaging can be among the initial steps towards offering green products.
- Marketers can highlight the environmental and health benefits associated with eco-friendly packaging in order to positively influence the attitudes and purchasing intentions of young consumers towards products offered.
- Promotional strategies for products/brands with eco-friendly packaging are required to put more emphasis on communicating the environmental benefits of their products

(eco-friendly packaging); this will appeal to the altruistic values of young consumers and motivate them to buy appropriate products.

- Managers can use ecological packaging as a product feature to position and differentiate their brands from competitors.

6. Concluding remarks and future research directions

The current work aims to analyse the association of egoistic and altruistic values and purchase intention of young consumers towards eco-friendly packaged products. The findings indicate a positive relationship between values (egoistic and altruistic) and attitude; values (egoistic and altruistic) and purchase intention and attitude of Indian customers for products with green packaging. The current study also finds that altruistic motives (environmental concern) are more significant than egoistic motives (health concern) for influencing the attitude of young customers in favour of eco-friendly packaged products.

This study offers several important implications for marketers due to increasing environmental and health concerns of the Indian population. Marketers and managers should formulate strategies and plans regarding eco-friendly packaging by considering the buying behaviour of customers concerning their ecological worries (altruistic values). Advertising and promotional campaigns associated with green packaged products can be planned with an altruistic appeal. Eco-friendly packaging and associated benefits should be used to differentiate the brands from competitors' brands.

This paper carries a set of limits that can be tackled before conducting future research in this area. The current study does not measure the actual purchasing behaviour of customers in the given context and hence does not address the issue of "value-action gap." Future work can also be enhanced by testing these variables for eco-friendly packaging in different product categories. Moreover, the study concentrates on eco-friendly packaging only and not on the other dimensions of a green product. Researchers can take into account other factors to analyse the eco-friendly behaviour of Indian consumers. Future studies can also focus on measuring the pro-environmental behaviour of Indian consumers. The present study is conducted on a sample drawn from two metro cities (New Delhi and Mumbai) of India. However, a nation-wide study can be conducted to extend the current work by increasing the sample size.

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Appendix A

Table 1. Items for measurement

Variables	Sources
Attitude	
I would prefer to buy products that use biodegradable material in packaging (ATT1)	Han and Yoon (2015)
I would wish to buy those products that are picked up and recycled for other use (ATT2)	
I would buy biodegradable products even if they belong to a less well-known company (ATT3)	
Environmental concern	
I make additional efforts to purchase plastic and paper products that are made from recycled material (EC1)	Koenig-Lewis et al. (2014)
I have shifted to other products due to ecological concerns (EC2)	
When I have need to choose between two equal products, I buy the one which is less harmful for other people and the environment (EC3).	
Mankind was created to rule over the rest of nature (EC4)	
Health concern	
I choose food carefully to ensure good health (HC1).	Tarkinen and Sundqvist (2005)
I always consider health benefits of a product while making a purchase (HC2).	
I consider myself as a health-conscious consumer (HC3)	
Purchase Intention	
I would buy products with eco-friendly packaging in near future (PI1)	Wee et al. (2014)
I plan to buy eco-friendly packaged products on a regular basis (PI2).	
I intend to buy products with eco-friendly packaging due to my environmental concerns (PI3)	