Decoding willingness of Indian consumers to pay a premium on green products

Mohd Danish Kirmani
Department of Management, Al-Barkaat Institute of Management Studies, Aligarh, India, and
Mohammed Naved Khan
Department of Business Administration, Aligarh Muslim University, Aligarh, India

Abstract

Purpose – The purpose of this paper is to identify the relevant antecedents of willingness of Indian consumers to pay a premium for green products and empirically validate the relationship between these antecedents and willingness to pay (WTP).

Design/methodology/approach – Data were generated from 515 students enrolled in various educational institutions approved by the All India Council for Technical Education and located in New Delhi and National Capital Region region of India. A combination of researcher-controlled and systematic sampling techniques was employed for the purpose of identifying the sample. Structural equation modelling was used to analyse the data using AMOS 20.0.

Findings – The study revealed that attitude towards green products (ATGP) has a significant and positive influence on WTP. Additionally, collectivism and environmental concern emerged as predictors of ATGP.

Practical implications – Marketing practitioners are expected to get deeper insights into reasons that contribute to the formation of positive attitude among Indian consumers towards green products. This understanding may greatly assist proactive marketers in developing appropriate strategies to increase the propensity of WTP a premium for such products.

Originality/value – The study is pioneering in the sense that the construct WTP for green products had relatively been less explored in the Indian context. The construct WTP is important for Indian consuming class which is dominated by middle and lower middle income groups for whom spending extra from their regular expenditure is a critical and sensitive issue.

Keywords Willingness to pay, India, Environmental concern, Attitude towards green products

Paper type Research paper

Introduction

The successive reports by various global agencies indicate a shift in the focus of policy makers towards sustainable development (Ihlen and Roper, 2014; Holden et al., 2017). The policy makers are increasingly encouraged to deploy resources for the present generation in such a manner that it does not affect the future life quality of this planet. They are particularly concerned about the declining quality of natural environment and rampant issues such as global warming, air pollution, waste generation, natural disasters, etc. (World Resources Report, 2010; World Bank Report, 2012; IPCC, 2014).

Researchers worldwide have linked prevailing environmental damage with non-sustainable production practices employed by business firms (Windrum et al., 2009; Huang and Rust, 2011). According to estimates, the cost of environmental damage as a result of reckless actions of some of the global business firms comes to around US$4.7 trillion annually (Fellow, 2013). Consequently, there is growing pressure on businesses to reinvent their existing processes and embrace green philosophy in their operations (Duc and Do Ba, 2017). Most of the firms have reacted positively to such pressures and are offering green products which are energy efficient and less physical resource intensive during their entire life cycle (Wasik, 1996; Ramayah et al., 2010; Kotler, 2011; Massawe and Geiser, 2012). These green
products are less polluting, biodegradable, non-toxic and recyclable (Chen and Chai, 2010; Lin and Chang, 2012; Pedro et al., 2013; Kirmani and Khan, 2016a). In fact, a green product is a subset of sustainable products that are considered to be designed to foster a fine balance between environmental protection and economic prosperity (Maxwell and Van der Vorst, 2003).

Green products are generally costlier and available at a premium in the market (Polonsky and Rosenberger, 2001; Ottman, 2008; Griskevicious et al., 2010; Zhao and Zhong, 2015). Higher prices are often a hurdle in green purchases by consumers and contribute in attitude-behaviour gap (Young et al., 2010; Wheeler et al., 2013; Steg et al., 2014). Defra (2008) and Hughner et al. (2007) indicated that positive green purchase attitude of consumers may not translate into actual purchases on account of price premiums. Willingness to pay (WTP) is a premium considered as a strong predictor of actual green purchasing behaviour (Moser, 2015). WTP can be defined as a construct used by researchers to measure eagerness of consumers to pay a premium for the purchase of green products (Laroche et al., 2001; Cheah and Phau, 2011). Researchers posit that the key to bridge the attitude-behaviour gap in the context of green products is increasing the propensity of consumer WTP for green products (Thogersen, 2000; Windrum et al., 2009). Researchers such as Webster (1975) and Tsen et al. (2006) have suggested that values and attitudes can explain “greenness” in consumers and considered as predictors of consumer WTP. Cheah and Phau (2011), in their study on Australian consumers, also observed that positive environmental orientations influence consumers towards WTP for green products.

Previous studies have suggested that precisely planned and well-targeted marketing strategies can influence consumers to spend “extra” for the purchase of green products (Coddington, 1990; Bowman, 2007). Coddington (1990), in his study, observed that more than 50 per cent respondents were willing to pay a premium of around 40 per cent for the purchase of green products. Bowman (2007), on the other hand, observed that 50 per cent of respondents were willing to spend up to 10 per cent “extra” on green product purchasing.

Rapid transformation of India into a high resource intensive economy, and that too in largely uncontrolled manner, has resulted in colossal damage to the natural environment (Widmer et al., 2005; Narain, 2015). The country is currently grappling with serious environmental issues encompassing air pollution, burgeoning e-waste, water pollution, land degradation, growing health hazards and other issues (Auffhammer et al., 2012; Joshi, 2016). According to “Environmental Performance Index (2014)”, a report jointly published by the University of Yale, University of Columbia and World Economic Forum, the air quality in India is the worst in the world. This report ranks India at 155 (out of 178) in terms of overall environmental performance and at 174 in terms of air quality. It is in this backdrop that researchers like Saxena and Khandelwal (2010) anticipate that future belongs to those business firms in India that effectively and efficiently address the challenge of natural environment.

The recently reported heightened environmental concerns (ECs) among Indian consumers (Manaktola and Jauhari, 2007; Nittala, 2014; Chaudhuri, 2014) support the observations of Saxena and Khandelwal (2010). Manaktola and Jauhari (2007), in their study on the Indian hotel industry, observed that patrons preferred to avail services from players that had embraced green philosophy in their business operations. Similarly, Nittala (2014) also hinted that Indian consumers are sensitive to prevailing environmental challenges and thereby are ready to “adjust” their purchasing behaviour in favour of environment. Chaudhuri (2014), in his study on the consumers of eastern Indian city of Kolkata, had observed heightened awareness among consumers about green products. In their study on young Indian consumers, Yadav and Pathak (2016) observed that consumers were aware of the environmental issues and factored environmental conservation while making purchase decisions. Similarly, Mahapatra (2013) and Tait et al. (2016) delineated that there is increasing willingness among Indian consumers to purchase green products.
However, despite increase in ECs and awareness of green products among Indian consumers, a report prepared in 2014 by Green Purchasing Network of India (2014) revealed that the growth of green product market in India was slow on account of low demand. This report suggested that the high cost associated with green consumption is often the deterrent in green purchase decisions of Indian consumers. Indian consuming class is dominated by middle and lower middle income groups for whom spending “extra” money on green purchases is a critical and sensitive issue (Census, 2011; Lu et al., 2016). This necessitates marketers to have a deeper understanding of factors that can stimulate and sensitize Indians vis-à-vis environment and encourage them to even spend “extra” on green purchases. In recent studies, the researchers have attempted to explore these underlying factors (Khare, 2014; Punyatoya, 2014; Kumar and Ghodeswar, 2015). Khare (2014) suggested that informative and normative interpersonal influence (IPI) are significant predictors of green purchase decisions of Indian consumers. Punyatoya (2014) and Kumar and Ghodeswar (2015) have also examined various dimensions of green purchases of Indian consumers. But, despite these sincere efforts of earlier researchers, still there is dearth of literature on factors affecting WTP for green products, and thus there is a pressing need to identify such factors for Indian consumers. Thus, the present study attempts to identify the relevant antecedents of willingness of Indian consumers to pay a premium for green products and empirically validate the relationship between these antecedents and WTP. It is expected that a better understanding of these factors would greatly help green marketers in dovetailing their strategies.

Literature review and conceptual development

Relationship between attitude towards green products (ATGP) and WTP

Attitude represents predisposition to act positively or negatively towards specific objects related to and situations confronted by an individual (Allport, 1935; Blackwell et al., 2006; Moser, 2015). It should be noted that attitude is different from intention and behaviour. While intention is an indicator of readiness of an individual to perform a certain action, behaviour is the actual transition of intention of an individual into his/her action or practice (Ajzen and Fishbein, 1969, 1980; Bagozzi, 1981; Ajzen, 1991; Eagly and Chaiken, 1993; Hassan, 2014; Yadav and Pathak, 2016). In line with the definition of attitude, ATGP reflects the consumer predisposition to act favourably or unfavourably towards green products (Chen and Chai, 2010; Zhao et al., 2014; Tang et al., 2014; Kirmani and Khan, 2016a, b).

For better understanding of the relationship of ATGP with WTP, the two theories, i.e. the theory of reasoned action (TRA) and the theory of planned behaviour (TPB), are important. These theories suggest that an individual’s behaviour is determined by his intention to perform the behaviour which, in turn, is a function of his attitude towards the behaviour (Ajzen and Fishbein, 1969; Ajzen and Fishbein, 1980; Ajzen, 1991). The findings of Chan (2001), in essence, support the TRA and the TPB, and posit that the relationship of green purchase attitude and actual purchase of green products is mediated by green purchase intention of consumers. Varshneya et al. (2017) too observed that positive attitude leads to stronger intention to purchase the green products. More specifically, Yadav and Pathak (2016) suggested that intentions of young consumers to purchase green products are predicted by their ATGP. The observations of these researchers suggest that positive ATGP can significantly contribute to their willingness to purchase green products even at a premium. This is supported by previous studies in different parts of the globe (McCarty and Shrum, 1994; Roberts and Bacon, 1997; Meneses and Palacio, 2006). More recently, Cheah and Phau (2011), while examining green preferences in Australia, observed that consumers with favourable attitude towards environment were more inclined to pay a premium for green products. Tang and Lam (2017) investigated the linkage of ATGP and WTP among Generation Y consumers in China. They noted that
positive ATGP can result in WTP. Hence, the above arguments support the framing of the following hypothesis for Indian consumers:

\( H1. \) ATGP significantly and positively affects WTP.

**Antecedents of ATGP**

In the earlier studies on consumer ATGP, it has been observed that green purchase decisions of consumers are influenced by a combination of contextual factors and individual factors (Lee, 2010). Previous researchers have explored the influence of contextual factor such as collectivism in combination with individual factors (such as IPI and EC) on consumer green purchase attitude. For example, Cheah and Phau (2011) examined linkage of collectivism and IPI on ATGP. Kim and Choi (2005) investigated relationship of collectivism and EC on green purchase decisions of consumers. Recently, Wang (2014) has also probed the influence of collectivism and social norms on intent to purchase green.

**Collectivism.** Collectivism is the conviction that focusses on interdependence, in-group harmony, family security, group-oriented goals, social hierarchies, cooperation and a low level of competition (Hofstede, 1980; Triandis, 1993). In fact, welfare of society and preference to group goals over personal benefits are the two elements of collectivism that make this construct worthy of interest to researchers in the domain of green marketing (McCarty and Shrum, 1994; Laroche *et al.*, 2001; Gundlach *et al.*, 2006; Cho *et al.*, 2012). Moreover, the construct collectivism is important for Indian consumers as the Indian society is a collectivist society where individuals are expected to subordinate their interest to conform to larger societal goals (Kumar *et al.*, 2017).

Triandis (1993) and McCarty and Shrum (1994) examined the construct collectivism comprehensively and suggested that the consumers high on collectivism are more inclined towards the environment. This is supported by Leonidou *et al.* (2010) in their observation that collectivism plays a crucial role in formation of environmental attitudes among consumers. In a detailed analysis of the linkage of collectivism and environmental attitude, Cho *et al.* (2012) indicated that horizontal collectivism and Confucian collectivism are positively related to the environmental attitude. The linkage of collectivism with green purchase decisions of consumers was specifically examined by researchers such as Laroche *et al.* (2001), Cheah and Phau (2011) and Akehurst *et al.* (2012) who posited that consumers high on collectivism are more likely to involve in green purchases. In a recent study, Nguyen *et al.* (2017) also suggested that collectivism beliefs of consumers facilitate their green purchase behaviour by enhancing their environmental attitudes. Thus, it can be presumed that consumers driven by collectivism values are positively oriented towards green products. Therefore, the following hypothesis was framed for Indian consumers:

\( H2. \) Collectivism significantly and positively affects ATGP.

**EC.** EC can be defined as the degree of consumer worry focussing on threats to environment and highlights their sensitivity to issues related to environment (Hassan, 2014). For ecologically sensitive individuals, a slight variation in the natural state of environment can stimulate them to actively participate in environmental conservation programmes (Kim and Choi, 2005; Hassan, 2014). In the present scenario of massive damage to the natural environment, the individuals are expected to be more concerned for environment and thereby, more responsive to the green initiatives. Thus, it is expected that consumers high on EC will change their consumption patterns in favour of the environment (Kim and Choi, 2005; Kilbourne and Pickett, 2008; Lee, 2008; Awad, 2011; Tang *et al.*, 2014; Muralidharan and Xue, 2016).

Kim and Choi (2005) examined the linkage of EC with green purchase behaviour of consumers and suggested that consumers who possess strong EC are interested in
consumption of green products. Kilbourne and Pickett (2008) also posited that a rise in EC makes consumers environment-friendly and inspires them to shift their consumption patterns in favour of environment. Studies by Awad (2011) and Tang et al. (2014) also support the positive linkage between EC and green purchases. According to these researchers, EC is an important predictor of consumer ATGP. Recently, Muralidharan and Xue (2016) also posited that EC directly influences green purchase decisions of consumers. Thus, the above arguments support the framing of the following hypothesis for Indian consumers:

**H3.** EC significantly and positively affects ATGP.

_IPI_. IPI refers to the influence of relevant others such as friends, family members, teachers, opinion leaders, etc., on behaviour of an individual (Bandura, 1986; Cheah and Phau, 2011; Hasan et al., 2012; Iravani et al., 2012; Khare, 2014). According to Delre et al. (2010), IPI involves modelling, instructions and social persuasions to convey product information and activate emotional reactions. In this regard, Singh et al. (2003) suggested that consumers rely on referrals and word-of-mouth communication while making their product purchases. Due to this, previous researchers have widely investigated IPI in the context of consumer purchases, particularly in the context of green products (Lee, 2008; Baretls and Hoogendam, 2011; Bertrandias and Gambier, 2014; Khare, 2014; Persaud and Schillo, 2017).

For instance, Lee (2008, 2010) posited that peer network might suggest, cultivate, circulate and reinforce a norm of environmental behaviour among consumers. This is supported in a very interesting observation by Baretls and Hoogendam (2011) that consumers connected with environmentally conscious individuals are more inclined towards green purchases. Additionally, Bertrandias and Gambier (2014) suggested that the presence of environmentally conscious friends and relatives may dissuade consumers from purchasing ecologically unfriendly products. Khare (2014), in their in-depth analysis of IPI and green purchase decision linkage, indicated that normative and informational susceptibility has a positive bearing on the ecologically conscious consumer behaviour. More recently, Persaud and Schillo (2017) indicated that IPI plays a vital role in influencing consumer ATGP.

According to Sweeney et al. (2014), pro-environmental behaviour in collectivist societies are more dominant as an effect of word-of-mouth communication. Hence, in a collectivism society like India, it is expected that environmental actions of individuals are manifested by social norms (Hofstede, 1980; Kumar et al., 2017). Supporting this, Muralidharan et al. (2015) indicated that family and peers play an important role for young Indian consumers in influencing their green purchasing decisions. Therefore, a positive linkage between IPI and ATGP was presumed in the present study, and the following hypothesis was framed for empirical testing in the Indian context:

**H4.** IPI significantly and positively affects ATGP.

Drawing upon the discussion, the researchers propose a comprehensive conceptual model presented in Figure 1. The proposed model attempts to highlight the relationship between dimensions such as collectivism, EC and IPI with ATGP, as also ATGP with WTP.

**Methodology**

**Research instrument**

A close-ended structured questionnaire was employed to generate data. Items in the questionnaire were based on a five-point Likert scale. In order to check for question wording, ease of understanding and eliminate other inconsistencies in the pilot instrument, it was distributed to subject experts from a renowned university funded by the Federal Government.
and located in the northern region of India. Based on their feedback, certain scale items were rephrased so as to make them more relevant in the Indian context (Table I). For the purpose of scale refinement and determining dimensionality of each construct, a pilot survey was done on 50 students enrolled in the same university. The exploratory factor analysis (EFA) procedure was employed on pilot data. A high value of KMO (0.811) and a significant value of Bartlett’s test of sphericity, i.e. BTS (< 0.005), indicated that the sample was adequate for employing EFA (Hair et al., 2010; Malhotra and Dash, 2011).

After EFA, those items which had factor loadings (less than 0.4) on the intended factors were dropped from the original scales (Hinkin, 1995; Malhotra and Dash, 2011). Some of these items were cross-loaded on other factors but their addition on those factors was not theoretically justified. In the final structure obtained after EFA, one item from the four-item scale for collectivism was dropped. The new three-item scale retains two items from the study by Cheah and Phau (2011) scale and one from Laroche et al.’s (2001) scale.

In case of IPI, the original six-item scale from the study by Cheah and Phau (2011) refined to a new three-item scale. Similarly for EC, the original seven-item scale by Bamberg (2003) got reduced to a three-item scale. The dropping of items is in line with the observations of earlier researchers that when scales adapted for different cultures, they may behave differently (Hui and Triandis, 1989; Hanges et al., 2004; Khan et al., 2012). For ATGP, two items adapted from the study by Paco et al. (2010) had poor loadings and hence, the refined scale retain only the four items adapted from the study by Iravani et al. (2012).

In case of the scale for measuring WTP, no item was dropped from the original three-item scale by Cheah and Phau (2011).

Sample
Data were generated from a researcher-controlled sample of graduate and post-graduate students enrolled in educational institutions located in and around the national capital of India (New Delhi) – popularly known as National Capital Region (NCR). The selection of such student samples finds support in observations by Lu et al. (2016) and also in the report published by Central Statistics Office (2017) of the Government of India. According to them, India is a nation with around 35 per cent of the population comprised of youth (15-35 years) who are expected to shape the future consumption story in India. Researchers such as Segebarth et al. (2016) and Kumar et al. (2017) have also suggested that young students carry forward their sustainable consumption patterns into the future. Additionally, the students are expected to have some knowledge of environmental issues (Kumar et al., 2017).

This is important as Vermeir and Verbeke (2006) have suggested that it is difficult for uneducated consumers to understand and properly answer questions on environmental sustainability. Due to the arguments outlined above, young student samples have been the
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Scale items</th>
<th>Source</th>
<th>Loadings</th>
<th>After EFA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Collectivism (Cronbach’s (\alpha = 0.828))</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>I like to be a cooperative participant in my group activities (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>2.</td>
<td>I like to work hard for the accomplishment of goals of my group (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>0.871</td>
<td>Retained</td>
</tr>
<tr>
<td>3.</td>
<td>I like to help others in the time of need (rephrased) (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>0.875</td>
<td>Retained</td>
</tr>
<tr>
<td>4.</td>
<td>I like to maintain warm relationships with others (rephrased)</td>
<td>Laroche et al. (2001)</td>
<td>0.843</td>
<td>Retained</td>
</tr>
<tr>
<td></td>
<td>Interpersonal influence (Cronbach’s (\alpha = 0.922))</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>It is important that others like the products and brands that I buy (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>0.900</td>
<td>Retained</td>
</tr>
<tr>
<td>6.</td>
<td>I like to know what brands and products make a good impression on others</td>
<td>Cheah and Phau (2011)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>7.</td>
<td>To make sure I buy the right product or brand, I often observe what others are buying and using (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>0.942</td>
<td>Retained</td>
</tr>
<tr>
<td>8.</td>
<td>I achieve a sense of belonging by purchasing the same products and brands that others buy (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>9.</td>
<td>If I have little experience with a product, I often ask my friends about the product (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>10.</td>
<td>I often consult other people to help choose the best alternative available from a product class (rephrased)</td>
<td>Cheah and Phau (2011)</td>
<td>0.907</td>
<td>Retained</td>
</tr>
<tr>
<td></td>
<td>Environmental concern (Cronbach’s (\alpha = 0.826))</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>11.</td>
<td>The major part of the population does not act in an environmentally conscious way</td>
<td>Bamberg (2003)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>12.</td>
<td>Limits of economic growth have been crossed or will be reached very soon</td>
<td>Bamberg (2003)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>13.</td>
<td>Environmental protection measures should be carried out even if it costs jobs</td>
<td>Bamberg (2003)</td>
<td>0.867</td>
<td>Retained</td>
</tr>
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<td>14.</td>
<td>We should be concerned about the environmental conditions under which our children may have to live (rephrased)</td>
<td>Bamberg (2003)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
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<td>15.</td>
<td>Newspaper articles or TV reports concerning environmental problems make me angry</td>
<td>Bamberg (2003)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
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<td>16.</td>
<td>If we continue as before, we are approaching an environmental disaster (rephrased)</td>
<td>Bamberg (2003)</td>
<td>0.875</td>
<td>Retained</td>
</tr>
<tr>
<td>17.</td>
<td>For the benefit of the environment, we should be ready to restrict our momentary style of living</td>
<td>Bamberg (2003)</td>
<td>0.843</td>
<td>Retained</td>
</tr>
<tr>
<td></td>
<td>Attitude towards green products (Cronbach’s (\alpha = 0.839))</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>18.</td>
<td>I feel good about buying products which are less damaging to the environment (rephrased)</td>
<td>Iravani et al. (2012)</td>
<td>0.802</td>
<td>Retained</td>
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<tr>
<td>19.</td>
<td>I am willing to make a special effort to buy products which are made from recycled materials</td>
<td>Iravani et al. (2012)</td>
<td>0.845</td>
<td>Retained</td>
</tr>
<tr>
<td>20.</td>
<td>I will prefer environment friendly products over non-environment friendly products in case the product quality is similar (rephrased)</td>
<td>Iravani et al. (2012)</td>
<td>0.844</td>
<td>Retained</td>
</tr>
<tr>
<td>21.</td>
<td>I am willing to make a special effort to buy household chemicals such as detergents and cleansing solutions that are environment friendly (rephrased)</td>
<td>Iravani et al. (2012)</td>
<td>0.795</td>
<td>Retained</td>
</tr>
<tr>
<td>22.</td>
<td>Products labelled as “environmentally safe” or “ecological” are just to attract and sell (rephrased)</td>
<td>Paco et al. (2010)</td>
<td>&lt; 0.40</td>
<td>Not retained</td>
</tr>
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</table>

Table I. Exploratory factor analysis
preferred group in previous studies on green products (Bamberg, 2003; Lee, 2008; Awad, 2011; Cho et al., 2012; Kirmani and Khan, 2016a, b; Uddin and Khan, 2016).

Data were generated from NCR for two reasons. First, New Delhi is one of the most polluted cities in the world (Chauhan, 2015) and hence, the residents of NCR are expected to be more receptive to the green initiatives. This is evident from vigorous participation of NCR residents in the green initiatives such as “Clean India Campaign” by the Federal Government of India and Odd-Even vehicle policy of State Government of Delhi (Press Trust of India, 2016; Arora, 2017). The Odd-Even traffic rationing initiative entailed that automobiles with odd and even registration numbers were allowed on roads of the national capital on odd and even dates, respectively, with the primary objective of minimising air pollution caused by vehicle exhaust.

Second, NCR, with superior road, rail and air connectivity with different parts of India, is an educational hub. It is the preferred destination for employers also. The institutes located in this region naturally attract students from various states of the country with diverse ethnic, social and religious backgrounds. Thus, these students are expected to represent cultural diversity of the country (Khan et al., 2012) and hence, marketers consider NCR critical from the point of view of creating sustainable market in India (Joshi and Rahman, 2017).

For the purpose of identifying the sample, a combination of systematic and researcher-controlled sampling were employed (Gravetter and Forzano, 2003; Malhotra and Dash, 2011). A list of 371 technical educational institutions approved by the All India Council for Technical Education (AICTE) and located in NCR region was generated. AICTE is the statutory body and a national-level council for technical education under the Ministry of Human Resource Development of the Federal Government of India. It is responsible for maintaining quality of technical education in India and hence, the students enroled in AICTE-approved educational institutions were expected to possess the threshold level of understanding to satisfactorily provide feedback to questionnaire employed for the present study.

Researchers decided to collect data from at least 10 per cent of total number of institutes that were in the list. Hence, it was decided to approach 50 institutes. Based on the suggestions of Malhotra and Dash (2011), systematic sampling was employed wherein \( k \) was calculated as 7 (\( k = \text{total number of institutes/number of institutes to be selected} \)). The first institute was selected randomly, and then every \( k \)th institute in the list was selected. When approached, only 28 institutes gave their consent for the purpose of data collection.

Data were generated from 600 student respondents enroled in these 28 institutions. As 85 responses were incomplete in various respects, they did not qualify to be a part of the final analysis. Thus, the final analysis was performed on 515 responses which is considered

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<tr>
<td>23.</td>
<td>Most of the environmental claims made by the marketers are confusing (rephrased)</td>
<td>Paco et al. (2010)</td>
<td>0.40</td>
<td>Not retained</td>
</tr>
<tr>
<td>24.</td>
<td>It is acceptable to pay 10% extra for environmentally friendly products (rephrased)</td>
<td>Laroche et al. (2001), Cheah and Phau (2011)</td>
<td>0.881</td>
<td>Retained</td>
</tr>
<tr>
<td>25.</td>
<td>I would pay 10% more taxes to pay for an environmental cleanup programme (rephrased)</td>
<td>Laroche et al. (2001), Cheah and Phau (2011)</td>
<td>0.914</td>
<td>Retained</td>
</tr>
<tr>
<td>26.</td>
<td>If buying eco-friendly products results in an additional monthly expenditure of about 10%, I am ready to bear it (rephrased)</td>
<td>Laroche et al. (2001), Cheah and Phau (2011)</td>
<td>0.923</td>
<td>Retained</td>
</tr>
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Notes: KMO = 0.811; BTS = 0.000; variance = 77.53 per cent

Source: Prepared by the researchers
to be adequate for employing statistical tools such as EFA and structural equation modelling (SEM) (Hair et al., 2010; Wolf et al., 2013). The data so generated were analysed and interpreted using the statistical software SPSS 20.0 and AMOS 20.0.

**Data analysis and results**

The data generated were analysed with the help of the SEM procedure. The model fit indices for measurement model were within acceptable range (CMIN/df = 1.990; GFI = 0.958; AGFI = 0.939; CFI = 0.975; RMSEA = 0.044). Factor loadings for each item (observed variables) were reasonably high and thereby, the validated measurement model retained all the items in their respective latent construct. Table II shows that all the constructs had acceptable values for composite reliability (AVE > 0.7), and adequate convergent and discriminant validity (AVE > 0.5; square root of AVE > inter-construct correlations).

Findings related to structural model can be observed in Figure 2. The model fit indices (CMIN/df = 1.969; GFI = 0.958; AGFI = 0.940; CFI = 0.974; RMSEA = 0.043) for structural model were also within acceptable range. The results of structural model indicate that collectivism (sig < 0.05; β = 0.364) and EC (sig < 0.05; β = 0.314) were significant predictors of consumer ATGP. The relationship between IPI and ATGP was not found to be significant (sig > 0.05; β = 0.014). The findings also suggest a significant and positive relationship between consumer ATGP and WTP for green products (sig < 0.05; β = 0.579). Thus, the hypotheses H1, H2 and H3 were supported while hypothesis H4 was not supported.

<table>
<thead>
<tr>
<th>CR</th>
<th>AVE</th>
<th>MSV</th>
<th>ASV</th>
<th>Collect</th>
<th>WTP</th>
<th>ATGP</th>
<th>EnvConcern</th>
<th>IPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect</td>
<td>0.830</td>
<td>0.619</td>
<td>0.217</td>
<td>0.113</td>
<td>0.787</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTP</td>
<td>0.797</td>
<td>0.568</td>
<td>0.328</td>
<td>0.131</td>
<td>0.288</td>
<td>0.753</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATGP</td>
<td>0.841</td>
<td>0.570</td>
<td>0.328</td>
<td>0.183</td>
<td>0.466</td>
<td>0.573</td>
<td>0.755</td>
<td></td>
</tr>
<tr>
<td>EnvConcern</td>
<td>0.828</td>
<td>0.616</td>
<td>0.183</td>
<td>0.103</td>
<td>0.341</td>
<td>0.330</td>
<td>0.428</td>
<td>0.785</td>
</tr>
<tr>
<td>IPI</td>
<td>0.886</td>
<td>0.722</td>
<td>0.035</td>
<td>0.012</td>
<td>0.187</td>
<td>0.073</td>
<td>0.070</td>
<td>0.063</td>
</tr>
</tbody>
</table>

**Note:** Values in italics have to be greater than all other values in the respective columns for satisfactory discriminant validity

**Source:** Prepared by the researchers

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**Figure 2.** Structural model

**Table II.** Validity analysis

Source: Prepared by the researchers
Discussion and implications

Present study presents an innovative synthesis of both existing and new elements that can assist academic researchers and marketing practitioners in decoding the factors that influence willingness of Indian consumers to pay a premium for the purchase of green products. The study is pioneering in the sense that the construct WTP for green products had relatively been less explored in the Indian context. In this context, this study significantly contributes in the understanding of the complex relationships among the study variables such as collectivism, EC, ATGP and WTP. Another important contribution of the study is refinement of scales for more efficiently measuring constructs such as collectivism, EC, ATGP and WTP in the Indian context. Academic researchers from the domain of green marketing as well as practitioners can employ these scales to efficiently measure green preferences of Indian consumers.

Study findings established collectivism as significant predictor of attitude of Indian consumers towards green products (ATGP) which is in line with observations of earlier studies (Sinha and Tripathi, 1994; Ghosh, 2012). Researchers had suggested that the Indian society is still bound by feeling of love and togetherness, and Indian consumers are more at comfort with collectivism values in order to achieve their goals. Green marketers ought to focus on societal welfare, security and warm relations while promoting their products in India. The promotional messages should stress that green consumption helps in improving the environment and thus benefits the society. This would help marketers in effectively promoting green products, especially in the initial stages of product launch when consumers may exhibit contrary decision-making patterns.

Further, the study observation associating heightened EC among Indian consumers with positive ATGP supports the notion that rise in EC among consumers is succeeded by the desire to live green (Laroche et al., 2001; Bamberg, 2003; Kilbourne and Pickett, 2008; Cheah and Phau, 2011; Tang et al., 2014; Kirmani and Khan, 2016a). This implies that the higher concern for environment sensitises consumers towards the environment-related issues and instils in them the desire to embrace green initiatives. This has important implications for marketers as they can use environment-related emotions to leverage the positive linkage between EC and ATGP. In this regard, the findings of present study support the observations of Shrivastava (1995) that in order to expand the demand base for green products, marketers need to address the ecological concerns of Indian consumers.

With regard to linkage of ATGP and WTP, the scale items provide useful insights. For instance, items such as “I am willing to make special efforts for products which are made from recycled materials” and “I am willing to make special efforts to buy household chemicals such as detergents and cleansing solutions that are environment friendly” suggest that consumers with positive ATGP are more likely to make extra efforts for the purchase of green products. Also, empirically, study findings validate the linkage of consumer ATGP with WTP. In line with the observations of Cheah and Phau (2011), the present study suggests that positive orientation towards green products can be transformed into WTP a premium for such offerings. It can thus be posited that ATGP needs to be appropriately addressed by dovetailing marketing strategies in the context of green products in India.

Based on the study findings, two strategies can be suggested for marketing of green products in India. The first strategy can be named as “Aggressive Greening Strategy” that focusses on leveraging the positive linkage between ATGP and WTP. It basically would target consumers who currently hold positive ATGP. Since it has already been established in the present study that consumers holding positive ATGP may be more inclined to pay a premium for the purchase of green products, marketers need to highlight their claim of being green backed by evidence. They may do so by aggressively promoting their offerings while educating the target audience of environment-friendly features in their solutions.
As a part of this strategy, marketers may use eco-friendly packaging and labelling to highlight green features and design (Cheah and Phau, 2011).

The second strategy, which can be named as “Mild Greening Strategy”, is primarily derived from the study finding that the constructs collectivism and EC are predictors of positive ATGP. This strategy targets consumers currently not holding positive ATGP and attempts to associate the use of green products with environmental conservation and societal well-being. A fine blend of positive and negative emotional appeals can be used to leverage on collectivism values and EC. Lee (2008, 2009) also supported the use of emotional and “green” appeals in promotion of sustainable products. The importance of emotional appeals in marketing of green products has also been supported by Kumar and Ghodeswar (2015) wherein they posited that emotional needs can influence purchasing decisions of Indian consumers. Lee (2009) suggested appeals such as “there is something we can do”, “our every effort counts”, “we can make a difference to our environment” and “save the world together” to communicate positive environmental messages to the consumers. The mild greening strategy may thus inculcate feeling of empathy towards environment which may eventually lead to formation of positive ATGP.

Limitations and future research directions
The present study was based on the premise that spending “extra” for the purchase of green products is a crucial decision for Indian consumers and hence, in order to promote green products in India, marketers need to be aware of the intricacies involved in green decision-making process of Indian consumers. In this regard, information from educated and environmentally aware student sample can assist marketers in the initial stages of product launch. But, for deeper diffusion in the semi-urban or rural India, the marketers may have to dovetail their strategies depending upon variations in consumer characteristics. Thus, there is a scope for future researchers to replicate the present study model in semi-urban and/or rural India to map the differences. In the Indian context, rural consumers are crucial as they comprise around 70 per cent of the total population and have lately been indulging in significant purchases (Census, 2011; Lu et al., 2016). Future researchers can undertake studies wherein they validate the findings of the present study with those based on data generated from rural consumers. Future researchers can also undertake a fresh study to map the WTP for green products for consumers belonging to occupational groups other than students. Other demographic variables such as age, gender, education and income may also play a key role in preferences towards green product among Indian consumers. Thus, green researchers in India should explore the role of such demographic variables in influencing WTP for green products. This additional information may be useful in capturing green preferences of culturally diverse Indian population and contribute to better understanding, leading to deeper penetration of green products.

Further, researchers in the present study have mapped consumer WTP in the context of a premium of 10 per cent. The consumer response may vary if marketers charge a higher premium. Thus, there is a need to replicate the study model with respect to different premiums (15 or 20 per cent). Previous researchers have indicated that the consumption of green products is also affected by quality of product and perceived consumer effectiveness (Laroche et al., 2001; Cheah and Phau, 2011). Thus, the future researchers can take these factors into consideration while examining green product preferences of consumers. In fact, the use of these factors as moderators in the context of ATGP and WTP would add deeper insights. In addition, the future researchers can add a new variable to the present study model, i.e. actual green behaviour, and investigate the relationship between ATGP and actual green behaviour with WTP as a mediating variable. Furthermore, the present study has been carried out in the context of green products in general. Researchers
interested in deeper understanding of green preferences of Indian consumers may have to examine specific product categories such as automobiles, organic foods, organic clothes, hotels, etc.

The twin aggressive and mild greening marketing strategies proposed in the present study can immensely help green marketers in their attempts to target Indian consumers. However, the effectiveness of these strategies is yet to be evaluated. Thus, the point of culmination of the present study could be the point of commencement for future researchers in that they may undertake fresh studies to validate the effectiveness of these suggested twin marketing strategies. It should also be noted that present study adopted a cross-sectional design in generating data, but to capture the subtle shifts over a period of time in consumer preferences, a longitudinal study design may be adopted by future researchers.

References


**Corresponding author**
Mohd Danish Kirmani can be contacted at: kirmani87@gmail.com