

Role of pro-environmental post-purchase behaviour in green consumer behaviour

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Abstract

Purpose – The purchase of green products is not the finale of green consumer behaviour but the environmental concern is crucial in post-purchase behaviour. Studies on pro-environmental purchase behaviour are abundant and but studies on environmental concern in use, evaluation and disposal are scarce. This paper aims to examine the pro-environmental factors influencing post-purchase behaviour and their impact on green consumer behaviour.

Design/methodology/approach – Data for this study was collected from the respondents with the help of a structured questionnaire. Data is analysed using factor analysis to examine the important factors influencing post-purchase variables and green consumer behaviour and the multiple regression to understand the contribution of post-purchase variables to green consumer behaviour.

Findings – Eco-conscious, risk and comfort in user behaviour, satisfaction and eco-appraisal in evaluation behaviour and eco-conscience, disposal challenges and eco-responsible in disposal behaviour are the vital factors. Eco-conscious and comfort in use, satisfaction in evaluation and eco-conscience, disposal challenges and eco-responsible behaviour in disposal are positively related to green consumer behaviour and risk in use and eco-appraisals in the evaluation are insignificant.

Originality/value – Considering the very limited studies on green post-purchase behaviour, this study provides insights into the pro-environmental post-purchase behaviour and its contribution to green consumer behaviour.

Keywords Evaluation, Use, Disposal, Green consumer behaviour, Post-purchase behaviour

Paper type Research paper

Introduction

Sustainability has become a hot topic because of rampant environmental degradation (Chua *et al.*, 2019; Quoquab *et al.*, 2019). In recent times, the ecological difficulties and their adverse



impact on society resulted in the movement of ecological improvement that supports green manufacturing and consumption, to reduce damage to the environment (Chuvieco *et al.*, 2018). Most companies and consumers face the challenges of conservation of resources and protecting the environment around the world as consumer behaviour is the source of a multitude of environmental issues (Naalchi Kashi, 2019). Each consumer's behaviour adds to the adverse impact on the natural environment (Stern, 2000).

The recent improvement in the quality of the environment during the lockdown, to curtail the spread of coronavirus (COVID 19), reiterates that human actions are the chief reason for environmental damage. Consumers are the major participants in green marketing and it is essential to examine the green consumption behaviour of the consumers (Paswan *et al.*, 2017). Humans are responsible to protect the earth by controlling their extensive use of natural resources (Julia *et al.*, 2016). Intending to reduce the damage to the environment, consumers have to move from the purchase of conventional products to green products (Quoquab *et al.*, 2019). Green consumer behaviour is the panacea to control the further degradation of the environment.

The concept of green consumption is in the nascent state and novel concept (Gupta and Acharya, 2019). It appeared as a central topic in marketing (Semprebon *et al.*, 2019) that includes reprocessing, taking care of water resources, carrying bags for shopping and buying and using green products (He *et al.*, 2016). Green consumer behaviour reflects reduced damage to the environment, declined use of natural resources during the product lifecycle. In conventional consumption, the focus is on immediate personal benefit, on the other hand, green consumption benefits the environment, society and other people (White *et al.*, 2019).

Green consumer behaviour can be explained as consumers' environmental concern in searching for, purchasing, using, evaluating and disposing of the products. The influence of environmental concern in using, evaluating and disposing of products on green consumption behaviour is worth investigating because consumers' involvement in green products does not end with the purchase. Consumer behaviour in using water, gas and power, evaluating the products' impact on the environment and disposing of the used products, for instance, electronic gadgets, is important to protect the environment. Most of the previous research on green behaviour focused much on the purchasing aspect of the product. Consumers' environmental consciousness is vital at various levels of decision-making, as all these stages decide their behaviour and satisfaction in the market. A better understanding of environmental friendliness of product use, evaluation and disposal could help to identify opportunities to reduce environmental impact at every stage. Hence, more research on environmental driven post-purchase behaviour is indispensable. Previous studies on pro-environmental post-purchase behaviour are scarce and this study is to fill this gap by examining the post-purchase behaviour variables and to explore environmental consciousness in post-purchase behaviour and its influence on green consumer behaviour.

Theoretical background and hypotheses

Use behaviour

Product use significantly influences green consumption to reduce environmental damage. For instance, energy-using home appliances influence the environment more whilst using them rather than the purchase itself or its disposal. Even the use of water, electricity, cars, heating system/Cooling system or electrical equipment and maintaining and repairing the products determines environmental impact during usage but not if the items are to be kept idle.

Exploration of green product usage is justified as a difference in the usage of the environment-friendly product and the conventional product is not established (Lin and Chang, 2012). Zhu *et al.* (2012) advocate that product usage habits cannot be modified and the inclination of using the greener product compared to the conventional products may be insistent. In the use

of green and conventional headphones, people using green headphones enjoyed more than the others that used conventional headphones (Tezer and Bodur, 2020). After using green products, consumers realized that green products are not inferior to conventional products.

The availability of reliable information about product performance increases the consumers' perception of green product efficacy and influences its use (Luchs *et al.*, 2010; Lin and Chang, 2012). Green products should be positioned as ecological and genuine that supports eco-friendly reasons by stimulating the correct usage of green products. In the absence of usage instructions on the product label, consumers use their previous usage experience to guide the present usage (Tversky and Kahneman, 1981). Zhu *et al.* (2012) contended that it is difficult to change the usage habits and the use of more quantity of green products is determined. Customers' intention to use green banking products is positively related to green product awareness, green product benefits, green perceived value and green product privacy and security but there is no impact on the green product image and green product trust (Shantha, 2019).

There are a few studies focused on the use and quantity of use of conventional versus green products. However, the environmental concern in use behaviour did not receive much attention. To fill this gap it is hypothesized as follows:

- H1.* Consumers' environmental concern in product use has a significant positive influence on green consumer behaviour.

Evaluation behaviour

After using the products, consumers evaluate them based on their experience with the product. During this phase, consumers may experience satisfaction or dissatisfaction. Satisfaction leads to more repurchase goals and brand loyalty, whereas dissatisfaction leads to a reduced purchase, no interest in buying, purchasing substitute brands, making complaints and adverse talking (Loudon and Bitta, 2002).

Generally, consumers perceive that green products are low in quality and high in price. They need the stimulation of social prestige drives to increase their desire for green products by paying premium prices and sacrificing their comfort (Griskevicius *et al.*, 2010). The green products' capability, efficacy and usefulness are less significant than reliability and genuineness whilst considering the prominence of the positive effects of green products on the environment and humanity (Aaker *et al.*, 2010). This implies that green products are lower in performance than conventional products.

Solid eco-labelling is important to make the green marketing programme more valuable. Teisl *et al.* (2009) found that the marketing programme of vehicles was weak on explaining emissions as an important issue of air quality, a reason why the consumers considered vehicles are of poor quality, yet highly-priced. Depending on their experience, whether direct experience from product usage or indirect experience from media and product reports, product evaluations can differ (Hamilton and Thompson, 2007). Consumer evaluation of green products is the least studied area in green consumer behaviour literature. Hence, the following hypothesis is formulated:

- H0.* Consumers' environmental concern in product evaluation has no influence on green consumer behaviour.

Disposal behaviour

In light of recent changes in the environment, it is becoming extremely difficult to ignore the importance of consumers' disposal activity. Jacoby *et al.* (1977) introduced, for the first time,

the concept of product disposal behaviour. Consumer discards the product, when it fails to satisfy his expectation or “utility of the product or package has been exhausted” (Paden and Stell, 2005). The leftovers must be removed from households either by trashing or recycling. Scott and Vigar-Ellis (2014) found that consumers exhibit limited knowledge of the benefits of environmentally friendly packaging and the difference between environmentally friendly and normal packaging. Moreover, the removal of such waste products from households improves consumers’ physiological well-being (Ha-Brookshire and Hodges, 2009). Many of the previous studies have established a close link between product disposal behaviour and buying new products (Cruz-Cárdenas *et al.*, 2016; Lang *et al.*, 2013; Ha-Brookshire and Hodges, 2009), which is important for the business. Product disposal plays a critical role, as consumers cannot get rid of used products (Raju, 1995) as they try to put the products to maximum use before finally disposing of them. Product recycling has a positive influence on willingness to buy new products (Nittala, 2014).

A key issue is the safe disposal of the used products. McDougall (1993) pointed out that the consumption activities of private households bring about 30% to 40% of environmental degradation. Disposal of products by selling gives supplementary earnings (Denegri-Knott and Molesworth, 2009) and consumers pay high importance to the resale value of the product (Raju, 1995).

Several studies have identified the relationship between the accessibility of information on recycling and disposal behaviour. Consumers with access to recycling information possibly involve in recycling (Domina and Koch, 2002). Information is essential but not the single reason to involve in green behaviour as several outside factors obstruct (Kennedy *et al.*, 2009).

Previous studies focused on product disposal behaviour and buying new products, disposal of products by selling and recycling and disposal behaviour. However, there is no study on disposal behaviour in India and this study fills that gap. Understanding consumer disposal of the product will help businesses and policymakers to design efficient systems to facilitate safe disposal, and thus help to maintain public safety and the environment. It becomes imperative, therefore, to explore the consumer’s product disposal behaviour. Based on the literature, it is hypothesized as:

- H2.* Consumers’ environmental concern in product disposal has a significant positive influence on green consumer behaviour.

Methods

Participants

The respondents are selected from Visakhapatnam City, Andhra Pradesh, India. The Greater Visakhapatnam City has 81 wards within its limits on 1st January 2018. Out of 81, 15 wards are Rural and 66 are Urban. A sample of 10 consumers from each urban ward is selected based on the quota sampling method. The total sample size is 660.

The sample represents younger people in the 18–35 years age group, women, graduates and postgraduates, employees and students with an income of <Rs25,000 to Rs.50,000 per month and married.

Data collection

The data were collected by self-administered questionnaires. The questionnaire was prepared by collecting statements from previous studies (Papista *et al.*, 2018; Kim, 2017; Mainardes *et al.*, 2017) and some statements were developed for this study. A pilot study was conducted and based on that the survey instrument was modified. The questionnaire

was also translated into the Telugu language (local language) as some of the respondents were not comfortable with English. The questionnaire consisted of 6 demographic questions, 3 general questions about the use of green products, 10 statements about the use of green products, 8 statements about evaluation and 12 statements about disposal. Demographic and general questions were categorical and post-purchase behaviour statements were measured on five point scale (1 strongly disagree to 5 strongly agree). The seven items, "There is a chance that the green products would not function as claimed", "There is a chance that I would lose money if they do not perform as expected", "The green products were risky in terms of how they would perform", "I cannot afford the time to get the information to fully evaluate them", "Comparing the benefits of my previously used conventional products with benefits of this green product takes too much time and effort" and "I always use disposable products I dispose of the products considering the environmental pollution", are reverse scaled.

Data analysis

Descriptive statistics were used for the analysis of general questions about the use of green products. Cronbach's alpha was used to estimate the reliability of the questionnaire. Factor analysis was used to identify the important factors influencing use, evaluation and disposal behaviour. To identify the underlying dimensions of post-purchase behaviour in a reduced form to use this information in terms of effects on green consumer behaviour, factor analysis was performed. Then multiple regression analysis was done to study the relationship between post-purchase factors and green consumer behaviour.

Results

To identify the consumer perception of who is responsible to promote the use of green products, they were asked to select from given responses as presented in [Table 1](#). The majority of the respondents (59.4%) felt companies, government and consumers are responsible to promote the use of green products. In total, 20.9% of the respondents consider that the government should encourage the use of green products whilst 6.1% and 13.6% of respondents felt companies and consumers are responsible to promote the use of green products, respectively.

Some consumers are self-motivated and some look for motivation from others to use green products. The source of inspiration to use green products is presented in [Table 2](#). A majority of the respondents (35.6%) are self-motivated to use green products, which shows a strong connection of the consumers towards the environment. In total, 23.5% and 12% of the respondents felt that colleagues and parents, respectively, were responsible for encouraging the use of green products. There is no response from nearly 10% of the respondents. It can be concluded that consumers' concern and awareness and encouragement of peers and parents are the main reasons driving consumers to use green products.

Table 1.
Responsibility to
promote the use of
green products

| S.No | Criteria | Frequency | (%) |
|------|-------------|-----------|-------|
| 1 | Companies | 40 | 6.1 |
| 2 | Government | 138 | 20.9 |
| 3 | Consumers | 90 | 13.6 |
| 4 | All of them | 392 | 59.4 |
| | Total | 660 | 100.0 |

Consumers consider the importance or purpose of using green products to initiate green consumption. This is shown in [Table 3](#). The majority of the respondents (49.2%) felt the impact of nature and health is important whilst using green products. In total, 20.5% of respondents opined that the impact of health is important whilst using green products whilst 12.6% and 12.7% of respondents consider the impact on nature and financial position, respectively, are equally important for using green products. A minute percentage (5%) of the respondents felt the impact on cleanliness as important for using green products.

Reliability

The subscales of the influence of environmental concern on post-purchase behaviour had high reliability and consistency. The reliability for items (10) in use variable has Cronbach's alpha value of 0.701, items (8) in evaluation have 0.706 and items (12) in disposal have 0.844 and overall 30 items have 0.842 and considered acceptable and reliable ([Hair et al., 2006](#)).

Result of factor analysis

The principal component analysis was conducted on variables of post-purchase behaviour, use (10 items), evaluation (8 items) and disposal (12 items) and green consumer behaviour (30) with varimax rotation. Factor analyses are conducted separately for these three post-purchase behaviour variables to know the important factors for each variable. The Kaiser-Meyer-Olkin test is used to examine the adequacy for the analysis and resulted in KMO for use 0.747, evaluation 0.805, disposal 0.796 and overall 0.835. These values indicate factor analysis is appropriate ([Hutcheson and Sofroniou, 1999](#)) and also indicate that sampling is adequate for the factor analysis. The obtained chi-square value is significant at the 0.000 level.

[Table 4](#) presents the result of the factor analysis of use variables. Three factors are generated and explained 68.54% of the variance in user behaviour. The first one explained 30.82% of the variance and is labelled as "Eco-conscious". Four items contribute to this factor. The factor loadings ranged from 0.865 to 0.759. The second factor explained 20.86 of

| S.No | Criteria | Frequency | (%) |
|------|-------------|-----------|-------|
| 1 | Self | 236 | 35.8 |
| 2 | Spouse | 34 | 5.2 |
| 3 | Children | 35 | 5.3 |
| 4 | Parents | 79 | 12.0 |
| 5 | Friends | 59 | 8.9 |
| 6 | Colleagues | 155 | 23.5 |
| 7 | No response | 62 | 9.4 |
| | Total | 660 | 100.0 |

Table 2.
Encouragement to
use green products

| S.No | Criteria | Frequency | (%) |
|------|------------------------------|-----------|-------|
| 1 | Impact on nature | 83 | 12.6 |
| 2 | Impact on health | 135 | 20.5 |
| 3 | Impact on nature and health | 325 | 49.2 |
| 4 | Impact on cleanliness | 33 | 5.0 |
| 5 | Impact on financial position | 84 | 12.7 |
| | Total | 660 | 100.0 |

Table 3.
Importance of using
green products

the variances and is labelled as “Risk”. The factor loadings ranged from 0.852 to 0.783. The third factor explained 16.85% of the variance and is labelled as “Comfort”. The factor loadings ranged from 0.887 to 0.688.

The result of the factor analysis of evaluation variables is presented in [Table 5](#). Two factors explained 69.17% variance and the first factor, “Eco-appraisal”, contributes 36.41% of the variance. The factor loadings ranged from 0.874 to 0.774. The second factor explains 32.76% and labelled as “Satisfaction”. The factor loadings ranged from 0.880 to 0.758

[Table 6](#) shows the result of the factor analysis of disposal and it generated three factors. The total variance explained in evaluation behaviour is 69.25%. The First factor explained 38.52% of the variance and is labelled as “Eco-conscience”. Five items contribute to this factor. The factor loadings ranged from 0.859 to 0.689. The second factor explained 16.05% of the variance and is labelled as “Eco-responsible”. The factor loadings ranged from 0.886 to 0.731. The third factor explained 14.67% of the variance and is labelled as “Disposal challenges”. The factor loadings ranged from 0.870 to 0.771.

Table 4.
Factors influencing
use behaviour

| Factor interpretation | Variance | Loading | Items |
|------------------------|----------|---------|--|
| Factor 1 eco-conscious | 30.82 | 0.865 | I try very hard to use less amount of water |
| | | 0.829 | I try very hard to use less amount of electricity |
| | | 0.812 | Whenever possible, I walk rather than use my car to minimize fuel usage |
| Factor 2 risk | 20.86 | 0.759 | I make every effort to reduce the use of plastic bags |
| | | 0.852 | There is a chance that the green products would not function as claimed |
| | | 0.827 | The green products were risky in terms of how they would perform |
| Factor 3 comfort | 16.85 | 0.783 | There is a chance that I would lose money if they do not perform as expected |
| | | 0.887 | I take my own cotton bags to shop |
| | | 0.856 | Green products are easy to use as compared to conventional products |
| | | 0.688 | Eco-friendly products help me to save money |

Table 5.
Factors influencing
evaluation behaviour

| Factor interpretation | Variance | Loading | Items |
|------------------------|----------|---------|---|
| Factor 1 eco-appraisal | 36.41 | 0.874 | Green products are superior to other products in performance and quality |
| | | 0.851 | Most of the environmental claims made on package labels and products are true |
| | | 0.839 | I cannot afford the time to get the information to fully evaluate them |
| | | 0.774 | Comparing the benefits of my previously used conventional products with the benefits of this green product takes too much time and effort |
| Factor 2 satisfaction | 32.76 | 0.880 | I was satisfied with most green products I bought |
| | | 0.866 | I am satisfied with the green products because they protect the environment |
| | | 0.785 | I can evaluate the environmental benefits of the products with confidence |
| | | 0.758 | The green products are good value for the money |

Table 6. Factors influencing disposal behaviour

| Factor interpretation | Variance | Loading | Items |
|------------------------------|----------|---------|---|
| Factor 1 eco-conscience | 38.52 | 0.859 | I usually give recyclable material to the scrap dealer |
| | | 0.814 | I know the importance of recycling |
| | | 0.792 | I always reuse plastic bags or cardboard |
| | | 0.780 | It is important to recycle and reuse things whenever possible |
| | | 0.689 | I know proper disposal of waste |
| Factor 2 eco-responsible | 16.05 | 0.886 | I always use disposable products |
| | | 0.840 | I use kitchen waste to make compost manure |
| | | 0.775 | I will pay more for my waste to be collected and treated |
| | | 0.731 | I dispose of the products considering the environmental pollution |
| Factor 3 disposal challenges | 14.67 | 0.870 | Face problem to dispose of the electronic waste |
| | | 0.845 | There is no proper garbage disposal system to dispose of the environmental hazardous products |
| | | 0.771 | Lack of organized disposal system encourages anti-environmental behaviour |

Table 7 shows the result of the factor analysis of green consumer behaviour. A total of eight factors are generated with a 69.68% variance in green consumer behaviour. The first factor explained 23.13% of the variance and is labelled as “Eco-conscience”. Five items contribute to this factor. The factor loadings ranged from 0.816 to 0.671. The second factor explained 10.14% of the variance and is labelled as “Eco-responsible”. The factor loadings ranged from 0.870 to 0.734. The third factor explained 7.37% of the variance and is labelled as “Eco-appraisal”. The factor loadings ranged from 0.873 to 0.761. The fourth factor explained 6.89% and labelled as “Eco-conscious”. The factor loadings ranged from 0.865 to 0.753. The fifth factor contributes 6.58% and named “Satisfaction” with factor loadings ranging from 0.832 to 0.771. The sixth factor contributes 5.62% and labelled as “Disposal challenges” with factor loadings from 0.861 to 0.741. The seventh factor explains 5.35% variance and named “Risk” with factor loadings ranged from 0.839 and 0.775. The eighth factor explained 4.60% variance and named “Comfort” with factor loadings from 0.847 to 0.704.

Result of multiple regression analysis

Regression analysis is used to know the influence of environmental concern in use, evaluation and disposal variables on green consumer behaviour. Table 8 presents the regression coefficients of the independent variables. The obtained R -value is 0.488. The results show the value of R^2 is 0.238 which implies that approximately 23.8% of the variation in overall green behaviour was explained by the post-purchase variables. The F value is 25.469 at a 0.000 level of significance. It indicates that the regression model in this study is fit and significant. There is no multi-collinearity problem, as the variance inflation factor is less than 5 (Malhotra, 1999).

Eco-conscience, eco-responsible, satisfaction, eco-conscious, disposal challenges and comfort have a positive coefficient and significantly ($p < 0.05$) influence green consumer behaviour. For cultivating pro-environmental consumer behaviour, it is vital to focus on these variables. However, the influence of eco-appraisal ($p = 0.498$) and risk ($p = 0.772$) on green consumer behaviour is insignificant.

This supports the $H1$ partially that consumer environmental concern in using green products has a significant positive relationship with green consumer behaviour as the risk is

| Factor Interpretation | Variance | Loadings | Items |
|------------------------------|----------|----------|---|
| Eco-conscience Factor 1 | 23.13 | 0.816 | I usually give recyclable material to the scrap dealers |
| | | 0.793 | I know the importance of recycling |
| | | 0.763 | I always reuse plastic bags or cardboard |
| | | 0.720 | It is important to recycle or reuse things whenever possible |
| Eco-responsible Factor 2 | 10.14 | 0.671 | I know proper disposal of the waste |
| | | 0.870 | I always use disposable products |
| | | 0.824 | I use kitchen waste to make compost manure. |
| | | 0.775 | I dispose of the products without considering the environmental pollution |
| Eco-appraisal Factor 3 | 7.37 | 0.734 | I will pay more for my waste to be collected and treated |
| | | 0.873 | Green products are superior to other products in performance and quality |
| | | 0.852 | Most of the environmental claims made on package labels and products are true |
| | | 0.835 | I cannot afford the time to get the information to fully evaluate them |
| Eco-conscious Factor 4 | 6.89 | 0.761 | Comparing the benefits of my previously used conventional products with the benefits of these green products takes too much time and effort |
| | | 0.832 | I try very hard to use less amount of water |
| | | 0.784 | Whenever possible, I walk rather than use my car to minimize fuel usage |
| Satisfaction Factor 5 | 6.58 | 0.772 | I try very hard to use less amount of electricity |
| | | 0.771 | I make every effort to reduce the use of plastic bags |
| | | 0.814 | I was satisfied with most green products I bought |
| Disposal challenges Factor 6 | 5.62 | 0.800 | I am satisfied with the green products because they protect the environment |
| | | 0.774 | I can evaluate the environmental benefits of the products with confidence |
| | | 0.737 | The green products are good value for money |
| Risk Factor 7 | 5.35 | 0.861 | Face problem to dispose of the electronic waste |
| | | 0.847 | There is no proper garbage disposal system to dispose of the environmental hazardous products |
| | | 0.741 | Lack of organized disposal system encourages anti-environmental hazardous products |
| Comfort Factor 8 | 4.60 | 0.839 | There is a chance that the green products would not function as claimed |
| | | 0.821 | The green products were risky in terms of how they would perform |
| | | 0.775 | There is a chance that I would lose money if they do not function as expected |
| | | 0.847 | I take my own cotton bags to the shop |
| | | 0.806 | Green products are easy to use as compared to conventional products |
| | | 0.704 | Eco-friendly products help me save money |

Table 7.
Factors influencing
green consumer
behaviour

insignificant. This shows that the risk does not influence overall green consumer behaviour. The *H0* is partially supported as satisfaction is positively related, but eco-appraisal is insignificant, to green consumer behaviour. Finally, environmental concern in disposal behaviour is positively related to green consumer behaviour and *H2* is accepted.

Table 8.

Result of multiple
regression analysis

| Model | Unstandardized coefficients | | Standardized coefficients Beta | <i>t</i> | Sig | Collinearity statistics | |
|---------------------|-----------------------------|------------|-----------------------------------|----------|-------|-------------------------|-------|
| | B | Std. Error | | | | Tolerance | VIF |
| (Constant) | 3.400 | 0.037 | | 92.728 | 0.000 | | |
| Eco-conscience | 0.316 | 0.037 | 0.294 | 8.608 | 0.000 | 1.000 | 1.000 |
| Eco-responsible | 0.245 | 0.037 | 0.229 | 6.690 | 0.000 | 1.000 | 1.000 |
| Eco-appraisal | 0.025 | 0.037 | 0.023 | 0.678 | 0.498 | 1.000 | 1.000 |
| Eco-conscious | 0.239 | 0.037 | 0.223 | 6.521 | 0.000 | 1.000 | 1.000 |
| Satisfaction | 0.141 | 0.037 | 0.131 | 3.832 | 0.000 | 1.000 | 1.000 |
| Disposal challenges | 0.114 | 0.037 | 0.107 | 3.119 | 0.002 | 1.000 | 1.000 |
| Risk | 0.013 | 0.037 | 0.012 | 0.356 | 0.772 | 1.000 | 1.000 |
| Comfort | 0.153 | 0.037 | 0.142 | 4.163 | 0.000 | 1.000 | 1.000 |

Notes: Adjusted $R^2 = 0.229$ for model; F value of ANOVA = 25.464; p -value < 0.000

Discussion

Previous studies have shown that processes involved from production to consumption i.e. use, evaluation and disposal lead to environmental pollution, cropland degradation, unnecessary waste, preventable waste (Jungbluth *et al.*, 2000). Inquest for sustainable development, encouraging changes in food chain production and trade practices (Tanner and Wölfing Kast, 2003) and changes in post-purchase behaviour is critical. Demand for green products is on the rise and to cash in this opportunity has prompted marketing managers to acquire information relating to pro-environmental behaviour. Previous researchers have focused mostly on purchase behaviour and some studies on disposal behaviour. Given the increasing environmental awareness of consumers and the marketers venturing into green marketing, it is the need of the hour to explore the relationship between green post-purchase behaviour and green consumer behaviour.

The hypotheses also supported the relationship between disposal behaviour and green consumer behaviour but the relationship between green consumer behaviour and use and evaluation behaviour is partially supported.

Although the government may hold a lead role (Izagirre-Olaizola *et al.*, 2015) or the government partnering with companies be also responsible (Singhal and Malik, 2018) or a third factor, namely, the various media which help companies and governments in disseminating environmental awareness (Nath, 2012). The government should take lead in promoting the use of green products and direct the companies and consumers with necessary incentives and regulation as the regulatory, normative and cognitive magnitudes of the corporate (institutional) environment exert significant and affirmative effects resulting in strong positive eco-attitudes of consumers (Martinez *et al.*, 2015). However, to achieve greater sustainability, companies, the government and consumers should all come together to promote the use of green products, as the future of sustainability lies in green products (Chakrabarty *et al.*, 2020).

Consumers are self-motivated. Encouragement of peers and parents is an encouraging driver in their use of green products. In a milieu in which the companies promote environmentally friendly products and the government creates an environmental scenario a majority of the consumers easily adapt to green consumption. They even go further as persuading peers, family members including elderly parents or children and citizenry in the society for consuming green products.

Nearly 50% of the respondents use green products to protect the environment and their health. This supports a previous finding that the health of children/family members and awareness of the benefits of eco-friendly products are the most influencing factors of purchase decisions (Arti and Akansha, 2013). Environmental benefits via health benefits should be emphasized in the advertisements so the consumers perceive and use green products to protect their health and environment.

Eco-conscious, risk and comfort are three factors that caused 68.54% variance in the user behaviour and 16.84% in green consumer behaviour. Eco-conscious explains 30.82% variance in user behaviour and 6.88% in green consumer behaviour and is significantly related to green consumer behaviour. Eco-conscious consumers use green products. Eco-consciousness has made consumers use less water and power (electricity), which, in turn, results in savings in water and electricity bills. Green marketers have to exploit this potential in their promotional efforts for popularizing the environmental friendliness of their products. They can also demonstrate the environmental damage as well as economic loss caused by the conventional product to the environment in their advertisement which may reinforce eco-conscious consumers to adopt green use behaviour. Recently due to government regulations some retailers are not providing plastic carry bags freely and this motivated consumers towards developing the environmentally-friendly habit of carrying bags. All the retailers should, as a general practice stop providing plastic carry bags to encourage green consumption behaviour. A disincentive in the form of levying a charge option in case a cotton bag were to be provided shall motivate consumers to bring and reuse their carry bags.

Risk is the most important factor that explains 20.86% variance in using green products and 5.34% in green consumer behaviour. Risk is a negative influencer that drives consumers away from using green products. When consumers are uncertain about the safety, promised quality or general performance and expected capability of green products, they become suspicious of the claims made by the marketers and are uninclined towards green purchase. Consumers try to avoid the product if they perceive risk from using a green product. Accessibility to reliable information reduces the risk perception of the consumers and increases the perception of the product performance and efficacy and influences its use (Luchs *et al.*, 2010; Lin and Chang, 2012). Green marketers need to provide reliable information about their product's performance to convince them of its assured and superior functioning so it increases green product use (Luchs *et al.*, 2010; Lin and Chang, 2012). Amazingly, the risk is weakly (insignificantly) associated with green consumer behaviour but contributes to user behaviour.

Consumers consider their comfort in using any product and green products are not an exception and it explains 16.85% variance in user behaviour and 4.59% in green consumer behaviour. Consumers' perception of green products' ease of use, as compared to conventional products, encourages them to use green products. The comfort aspect is akin to the user experience (with green products) which had a positive impact on green consumption (Tezer and Bodur, 2020). For first use, trustworthy certification shall enhance usefulness perception despite a quantity differential of environmentally friendly products *vis a vis* conventional product (Lin and Chang, 2012). Comfort has a positive significant influence on green consumer behaviour. Consumers avoid complexity in using the product. Always they purchase the products to make their lives easy and comfortable. They search for products that are simple and easy to use and save money. Consumers expect physical and monetary savings from their purchases. Green marketers have to evaluate their product in these aspects and communicate and convince the consumers to encourage green consumer behaviour.

Satisfaction and eco-appraisal are the important factors identified that describe 69.17% variance in environmental concern and 13.95% in green consumer behaviour. Satisfaction is the key factor explaining 32.76% and 6.5% variance in green product evaluation and green consumer behaviour, respectively. Satisfaction is positively related to green consumer behaviour. Consumers considered green products as a good value for the money they paid. They expressed satisfaction with most of the green products they used because they protect the environment. Satisfaction is the prime factor that motivates consumers to repurchase and green products are not an exception. Consumers evaluate the products by matching the performance with their expectations and based on that plan their future purchases. Green marketers have to focus on value to consumers whilst marketing and advertising. Free samples can be provided to the consumers to use and perceive the performance as an introductory promotional offer. They can evaluate the product with direct experience (Tezer and Bodur, 2020). Once consumers perceive the value of the green products, they will repurchase and continue their green consumption. On the other hand, if they are dissatisfied with a single green product that will influence their consumption of other green products and encourages reduced purchase, no interest in buying, purchasing substitute brands, making complaints and adverse talking (Loudon and Bitta, 2002). Consumers evaluate green product in terms of their impact on the environment. Whilst promoting their product marketers have to emphasize their product's impact on the environment. Green marketers have to consider these expectations of green consumers and try to meet them with their products.

Eco-appraisal is very important for the consumers to evaluate the environmental impact of the products they purchase and explaining 36.41% variance in evaluation behaviour and 7.37% in green consumer behaviour. Consumers cannot afford the time to get the information to fully evaluate green products; on the other hand, they look to the marketers to provide them with complete, precise and reliable information in shaping their behaviour towards a green product. Consumers believe the environmental claims made on package labels and products to be true. Hence, the marketers should always provide true and reliable information on the package and product labels. Surprisingly the relationship between eco-appraisal and green consumer behaviour was insignificant. As observed in earlier studies, several additional factors also influence green consumer behaviour over information (Kennedy *et al.*, 2009). Once consumers appraise themselves of the green products, satisfaction with their personal use influences their continued consumption behaviour. Consumers' satisfaction is more important to embrace green consumption than their appraisal as it transforms into continued approval if satisfied or rejection if dissatisfied.

Eco-conscience, eco-responsible and disposal challenges explain 69.25% of the variance in disposal behaviour and 38.89% in green consumer behaviour. Eco-conscience explains 38.52% variance in disposal behaviour and 23.13% in green consumer behaviour. Eco-conscience is positively related to green consumer behaviour. Consumers' environmental ethics and concern reflect in their awareness of the importance of recycling. They usually exchange the recyclable material of their accumulated wastes with the scrap dealer. They exchange materials such as paper, plastic and glass bottles, plastic bags and other metal products to the scrap dealer. This helps them to prevent damage to the environment in addition to providing monetary benefits to the scrap collectors and dealers (Denegri-Knott and Molesworth, 2009). Marketers should take affirmative initiatives for encouraging scrap recycling such as providing recycling information on the product label. Consumers are mostly inclined to reuse bags be it plastic or cardboard. Green marketers can sell their products in reusable packing/containers to avoid creating too much trash in the form of packing and forwarding. Overall, consumers exhibit environmental concern in waste disposal. A little more

effort by the marketer will improve their green consumption behaviour. If possible, marketers can exchange the old product of the consumer with their new product and this relieves consumers of a guilt feeling and encourages new product purchases.

“Eco-responsible” explains 16.05% and 10.14% variance in disposal behaviour and green consumer behaviour, respectively. It is positively related to green consumer behaviour. Consumers are eco-responsible and willing to pay more for the waste to be collected and treated, as in the case of previous findings (Griskevicius *et al.*, 2010). The consumers consider the lack of organized disposal systems as encouraging anti-environmental behaviour. Government has to establish an eco-disposal system and help the consumers with the safe disposal of household waste for which they are ready to pay more if it favours protection of the environment.

Disposal challenges play a critical role in explaining 14.67% variance in disposal behaviour and 5.61% in green consumer behaviour. It positively influences green consumer behaviour. Consumers cannot dispose of the garbage without support from the local government. Consumers may segregate the waste into recyclable, reusable; wet waste to make compost and trash that has to be disposed of. Unless the government provides an organized disposal system, consumers cannot proceed towards environment-friendly disposal. In India even though the government encourages the collection of dry waste and wet waste separately, in many cities it is not properly implemented. The result is that there is no proper garbage disposal system to handle environmentally hazardous products. In specific areas like electronic waste, consumers experience problems in waste disposal. It is the need of the hour to establish an organized disposal system to stimulate green disposal behaviour else these disposal challenges will become a barrier to green consumer behaviour.

Conclusions

The study provides a theoretical basis for emphasizing the importance of post-purchase behaviour in green consumer behaviour. Green marketers have to target eco-conscious consumers with low/no risk and comfortable products to encourage green use behaviour. Consumers evaluate the green products in terms of satisfaction, performance, value, environmental benefits and claims made on the package labels. Marketers should consider these aspects and provide trustworthy information to meet their appraisal needs and expectations. Marketers should acknowledge that parameters used by the customers to evaluate products change more frequently. They might also focus on financial incentives, which triggers instigating purchase and use of green products more frequently (Gallagher and Muehlegger, 2011). In addition to providing information about reuse and recycling, it is necessary to motivate them to adopt green post-purchase behaviour with environmental ethics and principles. Government has to provide an organized disposal system as the consumers are mostly eco-responsible and co-operate in disposing of the products without damaging the environment. As a part of this system, the government has to provide a proper disposal system to leverage the favourable disposition of the consumers to protect the environment. Apart from these findings, enablers such as working to improve literacy, spreading concerns, regulations and cultural practices will ultimately enhance consumers towards healthy post-purchase behaviour (Nath, 2013). However, appropriate care is taken to see consumers do not feel that the implementation of regulations limits their product choices and freedom of consumption. In future investigations, researchers are encouraged to explore additional factors influencing the green post-purchase behaviour and more studies have to be conducted on the relationship between post-purchase behaviour and green consumer behaviour in other societies and cultures and with changing times in the future.

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