A study of the Impact of Green Marketing on Consumer Purchasing Patterns and Decision Making in Telangana, India

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Abstract

The purpose of this study is to investigate the impact of Green Marketing on Consumer Purchasing Patterns and Decision Making in India. The study was concentrated particularly on the Telangana State in India. The research was used a quantitative approach with survey as the research instrument. The survey included basic socio-demographic questions followed by questions on consumers' environmental beliefs and their environmental behaviour. The results were then analysed using descriptive, regression analysis and correlations from SPSS. The significant findings show that intensity of green packaging and green branding, importance of green products and premium green pricing have a significantly positive impact on consumer behaviour leading to green purchases. Associations between place of residence and some of the environmental belief factors were found. Correlations were found between eco-labelling, green branding and green pricing and the environmental behaviour of consumers.

Keywords: Green marketing, consumer purchase patterns, developing nations, India, strategies of green marketing, consumer beliefs, environmental behaviour

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1. Introduction

Green marketing is on the rise and a rather new area acknowledged for research. There is not one universal definition of green marketing and the definition generally varies according to the researcher's viewpoint. Dahlstorm (2011) and Ottman (2011) have characterized green marketing as an integration of ecological concerns into marketing aspects including production, distribution and logistics, promotion and packaging along with marketing communications. Green marketing associates with identifying the consumer needs and satisfying those needs in valuable and sustainable manner (Peattie, 1995). For this research, the definition adopted states that green marketing can also be used as a strategy that points the consumers towards the benefits of environmentally friendly products to influence their purchasing patterns (Harrison, 1993). Green marketing helps in brand differentiation of companies that in turn focuses on the environmentally aware consumers willing to buy green products (Chan, 2004). It can be inferred from various literature that green marketing basically bridges the communication between environmentally conscious firms and consumers, in turn strengthening their relationship. A green consumer, as stated by Elkington (1994), is indulgent in using environmentally friendly products including the ones using green manufacturing and production methods and the ones that are against animal cruelty and so on. Such green consumers are compelling companies to differentiate themselves by going green and consequently making a new market segment adding to the economies of different nations globally (Juwaheer et al., 2012).

Empirical researches have recognised that issues regarding sustainability, awareness about environmental issues and green brands are becoming a focal point in developed and developing nations, with added consciousness from the government and population in general. Studies have been conducted on green buying behaviour and attitudes of the different population and it was noted that green marketing was gaining prominence in developing nations (Khare, 2014). In the context of developing countries, studies concluded that green consumption was becoming popular and different elements that influenced green consumptions include, awareness and knowledge about green products, trust in eco-labels and brands, consumers' concern towards environment's degradation and their altruistic values, consumers were also found to be more socially integrated and have a cosmopolitan approach and favourable attitude towards green products (Mosafa, 2009, Rahbar and Wahid, 2011 and Juwaheer et al., 2012). India was appraised as a relatively new segment for further research in green marketing in contrast to the other developing nations (Khare, 2014).

Due to the increasing recognition of green marketing especially in emerging nations, the key focus of this study is to investigate the impact of green marketing on consumer purchasing patterns and decision making in Telangana, India.

1.2 Context and Rationale

To make the market segment for green products more conventional, it is essential to research the factors that persuade green behaviour in consumers leading to green purchases. A consumer's

decision-making process is influenced by numerous factors, most importantly, a consumer's awareness and knowledge about green products dictates the decision-making (Carlson et al., 1993). Various other studies have been pursued on green marketing and the strategies used for communication in order to influence the consumer purchase behaviour. It is observed that a correlation exists between consumers' environmental beliefs and their confidence on the performance of green products (Pickett-Baker and Ozaki, 2008). Researches state that consumers' values/beliefs and their behaviour are the driving factors that shape their perceptions of environmentally friendly products, and that this is guided by means effective marketing (Pickett-Baker and Ozaki, 2008). It was also identified that Indian consumers were affected by green brands and price, which influenced their behaviour (Khare et al., 2013). Khare (2014) affirmed that there is an upsurge in eco-awareness in urban consumers, but there is still a need for extending and multiplying the same among more number of people. As per the reviewed literature it was observed that eco-labelling encroaches on the consumer purchasing patterns of green products. Researchers have also found that brands can also influence consumer behaviour towards ecological product consumption (Pickett-Baker and Ozaki, 2008). There are contradictory studies in terms of the effect of green advertisements on consumers, based on various research papers. Juwaheer et al. (2012), also put forward that consumers have started becoming more conscious about being eco-friendly, this has furthermore resulted in demand for such eco-friendly products, and this in turn is offering companies a chance to exploit the need and create a new market segment.

The literature suggests that consumer is the biggest stakeholder and hence there is a need for more research around the consumer. Several studies revealed that consumers are now well informed about ecological benefits and issues, thus leading to their growing environment concerns.

1.3 Research aim and objectives

There is a lot of published literature in the area of green marketing and consumer behaviour, although the consumer purchasing patterns influenced by different green marketing strategies for developing countries is yet to be discovered in detail (Juwaheer et al., 2012). Therefore, to bridge this literature gap, taking up the current research may lead to consumer perceptions and comprehensions that would be of interest. It would be interesting to look at socio-demographics to see if there are any associations with respect to consumers' beliefs.

There are different factors under consumer beliefs that may act as drivers of green behaviour (Juwaheer et al., 2012). A questionnaire based on the same factors has been adopted for this research.

This study aims to investigate the impact of green marketing on consumer purchasing patterns and decision making in India. In particular, this research is concentrated on the Telangana state in India.

Sub-Objective 1: To investigate the direction and strength of the relationship between the six distinct environmental belief factors and environmental behaviour, while controlling for key socio-demographic factors.

Sub-Objective 2: To investigate significant associations between the environmental behaviour, the six environmental belief factors and key socio-demographic variables including gender, age, education and place of residence

Sub-Objective 3: To analyse the correlations between environmental belief factors (eco-labelling, green branding and packaging, environmental advertisements, green pricing, embedding an eco-image, environmental concerns and beliefs) and the environmental behaviour of consumers

1.4 Outline of the research

Chapter 1 provides a background of the research

Chapter 2 will highlight the existing literature in the area of green marketing further pointing to the research aim and objectives.

Chapter 3 will focus on the research methodology that will be used to investigate the research aim and objectives.

Chapter 4 will included all the analysis of the research objectives followed by stating the results and findings.

Chapter 5 will emphasize the findings leading to a discussion, implications and suggestions for future research.

Chapter 6 will conclude the research paper.

2. Literature Review

2.1 Introduction

Green marketing is becoming a popular research area and many theories have been proposed in the context of green marketing and consumer behaviour. This chapter will focus on the key literature that has been studied surrounding the research topic. The key aspects of green marketing, green consumer behaviour and consumer responsiveness on eco labelling, green advertising and green branding will be explained primarily based on the impact of green marketing on consumer purchase patterns in India.

2.2 Green Marketing

The definition of green marketing has evolved considerably since its origination in the 1970. One of the earliest definitions of Green Marketing includes the aspects of marketing activities, both positive and negative, studying the depletion of energy and non-energy sources, pollution and so on (Henoin, 1972). The most recent definition of green marketing has completely progressed in terms of its variables. It states that green marketing involves the marketing strategies used to achieve a firm's financial as well as strategic goals while reducing its negative impact on the environment (Leonidou et al., 2013). Dahlstorm (2011) and Ottman (2011) have characterized green marketing as an integration of ecological concerns into marketing aspects including production, distribution and logistics, promotion and packaging along with marketing communications. On the other hand, Prakash (2002) regards green marketing as an environmentally considered strategy that consists of disclosing information to consumers at different levels like industry, firm and product level. Welford (2000) and Peattie (1995) describe green marketing as a management process of identifying, anticipating and satisfying the consumers' needs and wants while being sustainable as well as profitable. Despite the growing body of literature focusing on green marketing, a universal definition remains elusive with many heterogeneous definitions remaining in use, depending on the researcher's perspective. For the purpose of this study, the researcher will focus on the definition advocated by Harrison (1993), which defines green marketing as a marketing strategy involved in pointing consumers at the benefits of green products in a way that it influences consumer purchase decisions.

2.2.1 Green Consumer

In order to understand the concept of green marketing, it is necessary to understand a green consumer. Elkington (1994) defines a green consumer as an individual who indulges in avoiding the use of products that endanger the environment due to their manufacturing or disposing methods, or products that involve animal cruelty or products that are obtained from threatened species. Numerous green marketing research papers, which are based on consumer behaviour, include factors that impact green purchase, different consumer segments in green marketing, consumer's decision based on their willingness to pay and consumer profiling (Peattie, 2001). In line with the same, in a study conducted by Laroche (2001), it was identified that most green consumers are very likely to be educated young

adults, who spend money on both green and non-green products in anticipation that they work just as efficiently and effectively (Laroche et al., 2001). From the findings of another recent study, it was observed that the knowledge consumers have about environmentally friendly products is one of the contributing factors that influence their decisions to purchase green products (Khare et al., 2013). These studies show that different consumers have different approaches and drivers for green purchase.

Ottman (1993) and Peattie (2001), classify green consumer needs in four categories including having knowledge and information, preserving their choice of lifestyle, desires to be substantive and the desire to control. These needs are classified in a way that they are met by what the market has to offer. To understand how people are motivated in their decisions to achieve their needs, Maslow's Hierarchy of needs includes motivational needs at different hierarchical levels in a pyramid. They can be classified as, physiological, safety, love and belongingness, esteem and self-actualization needs (Maslow, 1943 and 1954).

Figure 1: Maslow's Hierarchy of needs

Maslow's Hierarchy of needs can be integrated with green consumer needs, therefore suggesting that, green consumers buy green products to contribute to a safe environment while adding to their good health. This meets their physiological and safety needs. At further levels, certain green consumers meet their love and belongingness need by giving it back to the environment, hence creating belongingness to a community that loves the environment. This in turn can lead to high esteem and self-actualization.

On the basis of this theory, in a research on choosing the right green marketing strategy, conducted by Ginsberg and Bloom (2004), the findings suggest that green consumers, who have decided to purchase green products, are more likely to not compromise on the quality of the product as long as the product influences the consumers' self-interest and at the same time promoting its environmental benefits. Okada and Mais (2010), also suggest that green consumers are more likely to overlook the cost as long as the product aids their convenience. On the other hand, based on a study about consumer's willingness to pay, it can be argued that, consumers would be reluctant to pay extra unless they have

satisfactory information about green products (Michaud and Llerena, 2011). The key findings here suggest contradictory views, therefore it can be interesting to learn more about the patterns that influence consumers' decision making to buy green products.

2.2.2 Need for Green Marketing

The literature in the area of green marketing abundantly consists of studies examining the need for green marketing particularly inclining upon the consumer requirements and environmental considerations. Stafford (2003) and Ottman et al. (2006), through their researches have acutely concluded that as the concern regarding the environment is growing globally and continually, green marketing has gained more popularity. Overtime, numerous researchers have stimulated further investigations on environmental issues and conservation with regard to marketplaces across the globe (Mintel, 2006). In 2006, the green industry was projected at 200 billion dollars (Gupta and Ogden, 2009). In a report from 2011 on 'Green marketing: A Global Strategic Business Report', it was ascertained that by the year 2017, the green marketing industry would have a market worth $3.5 trillion (Global Industry Analysts Inc., 2011). The report further suggests that awareness about ecological issues amongst government, firms and consumers is the primary reason for the huge potential market. McKinsey (2007), conducted a survey in which it was found that 87% of men and women, from different developing nations like Brazil, India, China and developed nations like, Canada, UK, France and the US have inclined themselves in decreasing their negative impact on the ecosystem (McKinsey, 2007). This shows that there is an increase in environmental awareness, therefore supporting the rise in the market share of green industries.

Later in 2011, after examining the literature in marketing, operations and management, researchers pointed opportunities for investigation in various fields like green processes, green performance, green associations, green performance and green consumers (Cronin et al., 2011). According to D'Souza et al, (2006), as the number of green consumers is accelerating, firms are trying to understand consumers' purchase intention when it comes to green products. This shows that, there is a need to further explore the area of consumer purchase patterns of green products.

2.3 Green buying behaviour

It is essential to analyse green buying behaviour of green consumers in order to identify the factors that are driving the consumer purchase patterns, including the intention of purchase and actual purchase behaviour of green products. Grob (1995) defines behaviour in environmental context as actions that have a direct effect on the ecosystem. There are multiple green practices that are gaining momentum. Some of them include recycling, saving paper and electricity, avoiding the use of aerosols, encouraging the use of biodegradable products, use of organic food and so on (Gilg et al., 2005). Consumer demand in terms of green movement is gradually sloping upwards (Han et al., 2010). The reason for this shift towards green purchases could be a result of consumers' realization of the impact their behaviour has on the environment.

Carlson et al. (1993) point that a consumer's decision-making process is influenced by numerous factors, most importantly, a consumer's awareness and knowledge about green products dictates the decision-making. Various other studies have been pursued on green marketing and the strategies used for communication in order to influence the consumer purchase behaviour. Pickett-Baker and Ozaki (2008) observed that a correlation exists between consumers' environmental beliefs and their confidence on the performance of green products. There was no linear relationship between consumers' environmental behaviour and their environmental beliefs.

In studies carried out by Straughan and Roberts (1999), it was concluded that pro-environment and eco-friendly attitude might be influenced by personal factors as well as peer viewpoint. Ajzen's Theory of Planned Behaviour (TPB), validates that, the intention of buying is influenced by beliefs that shape attitudes to behaviour (Ajzen, 1991). In a study by Mathur et al (2008) where TPB is used, the consumption behaviour was compared between 2nd and 3rd generation Indians living in the USA and India. The Indians living in America were found to be extremely influenced by the green values and the green culture there and it was observed that this was more evident on the Indian youth compared to the other consumption groups. In the context of developing countries, studies based on countries like Egypt, Malaysia, Singapore and Mauritius, it was found that green consumption was becoming popular and different elements that influenced green consumptions include, awareness and knowledge about green products, trust in eco-labels and brands, consumers' concern towards environment's degradation and their altruistic values, consumers were also found to be more socially integrated and have a cosmopolitan approach and favourable attitude towards green products (Mostafa, 2009, Rahbar and Wahid, 2011 and Juwaheer et al., 2012). In a research on consumers in Ghana, a low level of ecological awareness was found which, directly impacted the green purchase decision of Ghanaian consumers. Another factor that influenced green purchases was price (Braimah and Tweneboah-Koduah, 2011). On the other hand, when the Ajzen's Theory of Planned Behavior (TPB) was applied to a study on consumers from developed countries like UK and Greece, in order to examine the different factors that influence their intention to purchase green products, the results were completely different for both UK and Greece. In UK, it was found that the consumers were more inclined towards social norms and acceptance from society. And thus, social norms were directly proportional to purchase intentions of consumers. On the contrary, in Greece, consumers were not influenced by social norms but believed in control. They felt that their knowledge and awareness about green products has an impact on the ecological behaviour (Kalafatis et al., 1999). On the basis of these studies, it can be observed that Ajzen's theory of planned behaviour is well suited to know the intention behind consumer purchase of green products. However, Mangnusson et al. (2003) validate that TPB is less suitable to explain ethical behaviour because the consumer affective element that influences consumer ethical behaviour is not accounted for in TPB.

Although, there are theories that support that behaviours are influenced by attitudes of individuals, in the case of green consumerism, researchers are still debating the ability to predict attitude. According to Mainieri et al., (1997), the correlation amid consumers' green behaviour and their attitude was found to be low. Tracy and Oskamp (1984), also suggest the same where as Spruyt et al. (2007), proposed

that the prediction of an individual consumer's behaviour is dependent on the individual's attitude. Therefore, the measure of attitudes to predict consumer behaviour should be concentrated on specific categories like purchasing of environmentally friendly products (Wulf and Schronder, 2003). Young et al. (2010) suggested that there is an "attitude-behaviour" gap in translating consumers' ecological concerns into behaviour. Green purchases are not necessarily led by consumers' interest in being ecologically safe (Young et al., 2010).

Based on studies about consumer's behavioural patterns, it was concluded that a green consumer is likely to be a confused consumer (Crane, 2000 and Davis, 1993). From the findings in different developing nations, it was observed that consumers' awareness, knowledge, environmental concerns and so on are the drivers behind their green purchases. However, in the case of India, contradictory views have been presented by different researchers. In a paper by Singh and Pandey (2012), it was noted that the Indian consumers were showing an increased interest in green products, and if the consumers are well informed about the price, quality and features, performance and other benefits of different green products through green marketing, it will lead to a sharp increase in the use of such products. According to their research, Singh and Pandey (2010), found that the consumers in India, however, lack awareness of other green products including recyclable products, organic food and so on; hence, there is a need of building green products and brand awareness (Singh and Pandey, 2012). On the contrary, a study by Mishra and Sharma (2010) showed that, Ayurveda and herbal products have been popular in India for many decades. These products were considered important as they consisted natural elements and medicinal aids. Indian consumers have been relying on these products and using them over many years (Mishra and Sharma, 2010). Indian consumers trust that both Ayurveda as well as herbal products do not have any side effects, thus, encouraging them to use these products at home for beauty benefits (Mishra and Sharma, 2010). Globalization has influenced consumption patterns which has in turn altered the lifestyles of consumers. Taking into account the evidence from the literature, further investigation on the Indian consumer segment by identifying the relationship between consumer belief and behaviour may lead to interesting insights.

2.4 Consumer Responsiveness and Eco-labelling

Eco-labelling is a key factor that will be incorporated in this research paper. Eco-labelling impinges on the purchasing patterns of green products. An eco-label recognizes the complete environmental preference of a product or service inside a product classification with respect to its life cycle (Global Ecolabelling Network, 2004). Organizations could use Eco labels as a proof to illustrate to their consumers that they have used environmentally profound production as well as distribution methods (Bruce and Laroiya, 2007). Eco labelling is supported by "perspective criteria as well as standardization of principles" for products that are eco-friendly, thus differentiating the product from others to ensure consumers of its standards (Boström and Klintman, 2008, p.28). The producers of eco labelling schemes are most likely to be licensed through independent third parties (state or private agency) who inspect whether or not the producers are complying by the labelling standards (Boström and Klintman, 2008, p.28). Cherion and Jacob (2012) state that there are over 30 eco-labelling methods currently and

Germany was the first nation to introduce eco-labelling scheme called Blue Anger.

Eco-labels carry major significance in improving market shares by demonstrating affirmative social and ecological impact (Michalko, 2010). Such eco labels are called “winners”. Eco labels that determine little or no impact despite being popular amongst consumers are called “green washers”. Eco labels that demonstrate positive ecological results with less market recognition are called “wallflowers”. Eco labels that have no significance in either dimension are called “weeds” (Purohit, 2012).

Eco-labelling might be an important factor in convincing consumers to buy green products. Eco-labelling can influence consumers to pay a premium price by showing additional benefits of the products such as quality, ecologically safe, non-hazardous, more efficient and so on (Renfro, 2010). In a Malaysian research including 526 respondents, Rashid (2009) pointed that consumers have a positive outlook and reaction to green purchases and green marketing as a result of their awareness of eco-labels. Another study by Kuhn (1999), supports the findings from Rashid (2009). According to Kuhn (1999), the market share of a company that uses ecological manufacturing methods and sustainable marketing strategies can be improved by promoting their eco-friendly activities using eco labels. On the contrary, Leire and Thidell (2005) identified that consumers’ green purchases are not driven by their eco label awareness. They used a framework developed by the US-EPA to measure the effectiveness of eco-labelling. As a result, it was found that consumers acknowledge eco-labels but they don’t necessarily buy those products or that they don’t necessarily follow the information they specify in the survey (Leire and Thidell, 2005). Lyer (1999) has informed that consumers’ lack trust when eco labels are concerned. Cherian and Jocob (2012) suggest that the reason behind this consumer distrust is not understood to its full potential. The perception that is understood suggests that eco labels attract consumers by explaining the product’s environmental impact (Cherion and Jacob, 2012).

These conflicting views by various researchers point to a literature gap and hence further investigation is required to understand the consumer responsiveness towards eco-labels. Empirical research has suggested a need in investigating the different ways, which will have a direct impact on intentions behind consumers’ green purchase with the use of eco labels (D’Souza et al., 2006). Sammer and Wüstenhagen (2006), also suggest that it is necessary to explore the direct impact of eco-labelling on consumer’s ecological attitude and decision-making. The current research will explore this interesting area using a validated questionnaire that has been underutilized in the literature to date in an interesting population within a developing country.

2.5 Green Branding

Researchers who studied concepts of brands and their effect on consumers’ attitude and consumers’ behaviour, have offered various internal and perceptual factors leading to purchase behaviour by influencing consumers’ attitudes. There are three perceptual factors identified in “Managing Brand Equity”, namely, Brand awareness, associations and quality perception (Aaker, 1991). Banytė & Gadeikienė (2008) believe that in the recent past, Green Marketing is coming to light as an instrument

contributing to sustainable development and adding value to the brand image. Marketing of products that are eco-friendly is not commercially feasible to infiltrate the marketplace if there is lack of communication of the brand attributes (Meffert and Kirchgeorg, 1993).

One of the most significant elements of green branding strategies is green positioning which can further be classified into functional or emotional. Elements that are classified as emotional are considered more important compared to functional elements of branding and green positioning of products (Meffert and Kirchgeorg, 1993). According to Sarkar (2012), when green positioning is used in terms of a corporate strategy, it can be based on different emotional brand benefits such as selflessness associated with emotion of well-being, benefits including auto-expression that are a result of using socially recognizable green brands and nature related benefits (Sarkar, 2012, p. 47). Green positioning has a positive influence on brand attitudes, proposing that the green product purchases are a result of communication of effective branding with the marketplace (Hartmann et al., 2005). Brands can influence consumer behaviour towards ecological product consumption (Pickett-Baker and Ozaki, 2008). One of the important factors for a firm to gain competitive advantage in its marketplace is packaging of consumer products (Barber, 2005). A low-key investment in packaging can lead to accelerating brand sales in comparison to advertising and promotion of products (Barber, 2010). For example, Dell uses green branding of their eco-friendly products using “Go Green with Dell” as their branding strategy. They also use packaging that is eco-friendly. Apart from this, Dell focuses on efficient and green innovations. On the other hand, certain companies use green marketing as their tool for popularity, which induces lack of trust in consumers in terms of green initiatives. This arises doubts in consumers about the credibility of firms green activities (Raska and Shaw, 2012).

Kinner and Taylor (1973) investigated green brand issues using a quantitative analysis with 500 respondents. Their findings showed that buyers’ ecological concerns had an apparent effect on their perception of the brand. Later in 2005, on application of the experimental design method, Patrick et al. (2005), found a positive effect on the brand because of consumers’ perception of green brand positioning. Similar researches were carried out in other nations and it was found that consumers have a negative perception of eco-friendly products. They believe there is a marked trade off among the functional brand performance and environmental effects. It was also found that emotional brand benefits act as a vital encouraging factor for green purchases by influencing consumer behaviour (Cherain and Jacob, 2012). The literature on green branding demonstrates that there is an effect of green branding on consumers’ perception, but in order to explore if this perception has an effect on green purchases, there is a need for further analysis.

2.6 Green Advertising

Green advertisements first incepted in late 1960s as a result of concerns brought up by consumer activism, public and scientific communities and others about firms using anti-environmental practices (Easterling et al., 1996). Over the years, green advertising decreased because of false claims via advertisements, exaggeration in the advertisement content and it was found that consumers’ were

perplexed about the terminologies used (Polonsky et al., 1997). Yin and Ma (2009) state that green advertising caught momentum again in 2000s, with developments in international legislations, global support, renewed interest among consumers and so on, therefore starting the sustainable age (Belz and Peattie, 2009). Green advertisements refer to adverts including sustainability of the environment, eco-friendly content, substance targeting needs and desires of green consumers and other stakeholders (Zinkhan and Carlson, 1995).

Lutz (1985) interprets that, advertising is one of the vital factors contributing to consumers' attitude and consumer responsiveness to any products or services. Baldwin (1993) suggested that green advertisements contribute in translating consumer's perceived value of green products into purchases. However, contrary to this, in a research by Chase and Smith (1992), it was found that only about 70% of the respondents were influenced with green messages from advertising and eco-labelling. The same study further reported that more than 50% of the respondents didn't pay enough attention to green messages from the advertisements because of its exploited use, making these advertisements less credible (Chase and Smith, 1992). Chan (2004), points that the core reasons for less credibility observed in terms of green advertisements may be as follows:

a. The country that is advertising the green product does appear as eco-friendly
b. The manufacturer of the product does not appear eco-friendly
c. The asserted eco-friendly nature of the product does not meet consumers' experience with the product

Pooley and O'Connor (2000), report that providing consumers with ecological information might not inspire positive green attitude in them. However, emotional content in green advertisements might attract consumers' attention to them (Hawkins et al., 1998). These studies indicate a need for further investigation about the impact of green advertisements on consumer purchases.

2.7 Conclusion

Green Marketing is rising in its popularity and becoming a widespread research area. Green Marketing had been prevalently researched in developed countries for decades but is only drawing interest from developing nations in the recent past. The literature suggests that consumer is the biggest stakeholder and hence there is a need for more research around the consumer. Several studies revealed that consumers are now well informed about ecological benefits and issues, thus leading to their growing environment concerns. However, different researches suggest that even though consumers are more environmentally concerned, they do not necessarily indulge in using green products. This has been contradicted by other studies and a significant gap is found between consumers' concern for environment and their green purchases, thus encouraging further investigation.

Various studies show that there is more environmental awareness in the developed nations, but in the recent times, there has been an inclination in awareness in the developing nations as well, India being

one such nation. However, it fails to acknowledge whether this awareness is leading to an increase in the use of sustainable and green products. There have been conflicting results about consumers' green attitude and their behaviour as a consequence.

Evidence suggests that green packaging, branding and eco-labelling have positive impact on consumers leading to increased green purchases in some cases, and unaffected green purchases in others. The results for such researches have varied for different nations, demographics and so on. Evidence from the literature review point that in the developed countries, green marketing has been extensively researched while in the developing countries, there appears to be a lack of research in this area. Studies suggest consumers from developing nations have been showing greater interest in eco-friendly activities and green products. It is therefore appropriate to undertake the analysis of the impact of green marketing on the consumer purchase patterns and decision making in a developing nation where green consumers are rapidly emerging. Furthermore, this research will emphasize on the key tenants of green consumers purchasing patterns in Telangana, India. These include investigating if there is a correlation between consumers' green attitude and their green behaviour and the impact of green packaging, branding and eco-labelling on green purchases. All of these factors have a significant impact on green consumer purchase patterns as highlighted in the literature. For the purpose of this research, a questionnaire that has been applied to another developing nation (Mauritus) by Juwaheer et al., (2012) will be utilized. The main focus of this questionnaire is on characteristics like effectiveness of eco-labelling in green products identification, intensity of green packaging and branding on green consumers, green advertisements and consumption patterns, importance of green products and premium green pricing, embedding an eco-image and environmental concerns and beliefs which will facilitate the researcher in examining the unique relationship between consumers' environmental beliefs and their environmental behaviour, therefore leading to interesting insights about the research area.

3. Research Methodology

3.1 Introduction

This chapter will summarize the method and approaches adopted for this research. It will include the research aims and objectives, the research philosophy, the research design and approach, the research strategy, the research instrument used in this study. It will also provide justification for the method used for the study and provide details about the research tool that is used, the survey design, the sample selection, ethical considerations, and analysis of the data along with the limitations of the approach. This research is based on the research framework proposed by Saunders et al. (2009), called the research onion giving the research an organized structure and procedure.

3.2 Research Aim and Objectives

The overall research aim for this study is to investigate the impact of Green Marketing on Consumer Purchasing Patterns and Decision Making in Telangana, India. The sub objectives of this research are:

Sub-Objective 1: To investigate the direction and strength of the relationship between the six distinct environmental belief factors and environmental behaviour, while controlling for key socio-demographic factors.

- Hypothesis 1(a): There is a positive relationship between eco-labelling and environmental behaviour of consumers
- Hypothesis 1(b): There is a positive relationship between green branding and packaging and the environmental behaviour of consumers
- Hypothesis 1(c): There is a positive relationship between green advertising and the environmental behaviour of consumers
- Hypothesis 1(d): There is a positive relationship between green pricing and the environmental behaviour of consumers
- Hypothesis 1(e): There is a positive relationship between embedding and eco-image and the environmental behaviour of consumers
- Hypothesis 1(f): There is a positive relationship between environmental concerns and beliefs and the environmental behaviour of consumers

Sub-Objective 2: To investigate significant associations between the environmental behaviour, the six environmental belief factors and key socio-demographic variables including gender, age, education and place of residence

Sub-Objective 3: To analyse the correlations between environmental belief factors (eco-labelling, green branding and packaging, environmental advertisements, green pricing, embedding an eco-image, environmental concerns and beliefs) and the environmental behaviour of consumers

- In all cases the null hypothesis was that there is no correlation between environmental belief factors and the environmental behaviour of consumers
- The alternative hypotheses states that there is a positive correlation between each environmental belief factors and the environmental behaviour of consumers.

3.3 Research Philosophy

Research philosophy consists of important assumptions in the researcher's viewpoint underpinning the research strategy and approach. According to Saunders et al., (2009), Research philosophy 'relates to the development of knowledge and the nature of knowledge' (p. 107). There are two ways in which research philosophy can be reflected, namely Ontology and Epistemology. Both Ontology and Epistemology influence the research process differently to enhance the understanding of the technique to approach the study. Ontology focuses on the nature of reality containing attributes of objectivism, subjectivism and constructionism (Saunders et al., 2009). According to Quinlan (2011), Epistemology focuses on conventional knowledge and the process it is obtained from in any research area. Epistemology involves attributes like positivism, interpretivism and realism (Saunders et al., 2009).

This research uses the philosophy of positivism. The primary aim of this research is to analyse the impact of Green marketing on consumer purchasing patterns in India. To investigate this, existing theory, as mentioned in the literature review, is being used to build the hypothesis. When using the posivitism philosophy, the researcher works with an 'observable social reality' (Remenyi et al., 1998, p. 32). According to Saunders et al. (2009) an existing theory is used to develop new hypothesis and research strategy that is further tested and confirmed, which in turn develops the theory. According to Gill and Johnson (2002), it is more likely for a research using the philosophy of positivism to use a more structured methodology to ease replication. They are likelier to emphasize on quantitative data for statistical analysis (Saunders et al., 2009). The researcher concentrates on applied functional research so that different perspectives can be integrated to interpret the data.

3.4 Research Approach

There are two types of research approaches involving Inductive approach and Deductive approach. In the case of an inductive approach data is accumulated and analysing this data contributes in developing a theory as a result. However, one limitation in this case is, if the researcher does not have sufficient knowledge of the research area, it might be difficult to build a hypothesis. In case of a deductive approach, according to Robson (2002), a hypothesis is developed and tested using the research strategy. This happens in five stages involving developing a hypothesis, operationalizing it by indicating the variables and concepts to be measured, testing it and investigating the outcome therefore leading to modification of existing theory (Saunders et al., 2009). It can be suggested that deduction might lead to alternative theories that are within the structured design limits, deduction also helps in determining

causal relationships or correlations between variables using quantitative data (Saunders et al., 2009). It can also be observed that deduction is connected to the philosophy of positivism.

3.5 Research Design and Strategy

Research design used to examine the research strategy in order to obtain suitable results (Cameron and Price, 2009). When studies explain if there is a causal relationship between variables, it is known as explanatory research. Such research may include statistical analysis of quantitative data in a way that relationships between variables may be rationalized (Saunders et al., 2009). In this research, the relationship between Green marketing and consumer purchase patterns is investigated. Hence, this research is an explanatory research.

Data research can be done using two different methods that involve qualitative and quantitative analysis. The data can be analysed using a mono method where in a single technique is used for data collection and analysis where as in multiple methods, data can be collected and analysed using more than one technique. In qualitative data analysis, non-numerical data like perspective, beliefs, stories, and video clips and so on, are used (Quinlan, 2011). Qualitative usually involves data collection in the form of interviews, which is analysed by categorizing it furthermore (Saunders et al., 2009). In contrast to qualitative data, quantitative data is numeric data that uses statistics, graphs and charts to analyse the data. Quantitative data analysis usually involves a deductive approach using philosophy of positivism (Saunders et al., 2009).

For this study, qualitative research would be the ideal alternate consideration as it aids better understanding of perspectives of people and how the perspectives are formed depending on culture, social and physical environments (Maxwell, 2013). However, one of the biggest limitations of this method would be the limited sample size. According to the literature mentioned in the previous chapter, most studies justify the use of quantitative analysis for studies related to green marketing and consumer behaviour, as perspectives of a larger sample will be taken into account.

Rationale for quantitative analysis:

This research involves quantitative analysis using the mono method where in the data is collected using a survey. Quantitative data analysis usually involves several methods like experimental strategy, Survey, Case study and so on (Saunders et al., 2009). Quantitative analysis was considered rather suitable for this research for the following reasons

(a) The relationship between green marketing and consumer purchase patterns could be better explained by means of using different hypothesis.
(b) Another reason is the large sample and time constraints made qualitative analysis not as suitable.
(c) This method allowed all respondents to answer the same set of questions rather quickly in comparison to qualitative analysis.
(d) Lastly, as the research was based in India, conducting an online survey was more fitting.

A survey is more commonly associated with the deductive approach. Surveys often in the form of questionnaires helps in large amount of data collection, which helps in easy comparison, as the data is very standardized. Usually, analysis of such quantitative data can be done with the help of descriptive and inferential statistics (Saunders et al., 2009).

An electronically managed, self-administered questionnaire is used as a part of this research for the purpose of data collection. In order to investigate the research aim and objectives, this research uses modern, reliable and valid scales as part of the statistical measures. This research uses the survey method as most of the previous studies as discussed in the literature review have used the same approach. The benefit of using quantitative approach to analyse the impact of Green Marketing on consumer purchase patterns and decision making in India is that views of more number of people can be analysed.

3.6 Research Instrument

Questionnaires provide the researcher an opportunity to collect data from a large sample size with a low possibility of the responses' distortion (Saunders et al., 2009). With an intention to collect large amount of data with negligible distortion of responses, this research has adopted the Questionnaire instrument for this quantitative study. According to Saunders et al. (2009), questionnaire is generally a term used to collect data in large amounts where in every respondent responds to the same group of questions in a pre-set order. To analyse the green views of different Indian consumers, and for the purpose of determining their purchasing patterns this technique can be considered as most appropriate based on the literature.

Due to the geographical difference between Ireland and India, and because of the large target sample, the data for this study was collected using an online questionnaire. Although, interviews was an alternate approach for this study, the time constrains made it difficult to conduct interviews for the large target sample. An online survey is considered as an effectively universal technique by Quinlan (2011) for people with technological and skill access.

The questionnaire used in this research is adapted from a study by Juwaheer et al. (2012), which analysed the impact of green marketing on consumer purchase patterns in Mauritius. The questionnaire consists of 7 factors as mentioned below. The factors under environmental beliefs are weighed against the environmental behaviour. Environmental beliefs include effectiveness of eco-labelling in green products identification, intensity of green packaging and branding on green consumers, green advertisements and consumption patterns, importance of green products and premium green pricing, embedding an eco-image and environmental concerns and beliefs, which are scored on a 5-point Likert scale between 1 and 5 (where, 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly Agree). For this scale, there are 29 questions in total further divided among the aforementioned factors.

Therefore, the highest score would be 150 while the lowest score would be 29. In terms of the environmental behaviour, there are 9 questions scored on a frequency scale between 1 and 4 (where, 1=Never, 2=Sometimes, 3=frequently and 4=Always). The highest score for this scale is 36 while the lowest score is 9. Various socio-demographic factors like gender, age, education and place of residence were considered using the Indian Census form.

A Pilot study was conducted by distributing the questionnaire to 12 individuals in order to ascertain the understanding and generality of the questionnaire and to address any issues or concerns regarding the questionnaire. As a result of this Pilot study, it was observed that the researcher needed to make a few modifications to ensure correctness.

Q8. Effectiveness of eco-labelling and green products identification	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Eco-labels are eye catching on green products 2. Sufficient information is provided on eco-labels 3. I believe that eco-labels are easy to read 4. Green products are marketed to me in a way which I really find engaging and relevant to my lifestyle 5. Information on eco-labels is accurate for green products 6. It is easy for me to identify green products in India					
Q9. Intensity of green packaging and branding for ecological customers 1. I acknowledge that the information on packaging is an important criterion 2. It is important to reuse or recycle the packaging after use 3. Biodegradable packaging is an important consideration for green customers 4. I feel good about buying brands which are less damaging to the environment 5. I trust well-known green branded products in India					
Q10. Environmental advertisement and green consumption patterns 1. Green advertisements should promote environmental friendly products in a credible manner 2. The content of environmental advertisements should offer pertinent emotional relevance for green customers 3. Attractive environmental advertisements will encourage me to adopt green purchasing patterns 4. I acknowledge that environmental advertisements are not exaggerated for green products in India					
Q11. Importance of green products and premium green pricing 1. I accept as true that a portion of the price for green products goes to a worthy environmental cause 2. I consider that green products are very important in the context of India 3. I think that it is reasonable to pay a higher price for products that are produced in an ecological way					
Q12. Embedding an eco-image in marketing of green products					

1. I share the opinion that the green products should bear an eco-image in India 2. There should be more visibility in the way in which green products are marketed in India **Q14. Environmental concerns and beliefs in India** 1. The earth is approaching the limit the number of people it can support 2. The balance of nature is very delicate and easily upset 3. Human have the right to modify the natural environment to suit their needs 4. The humans' interference with nature often has disastrous consequences 5. Plants and animals exist primarily to be used by humans 6. Humans have to control industrial growth to maintain a healthy economy 7. Human must live in harmony with nature in order to survive 8. Human need to adapt to the natural environment because they can remake it to suit their own needs 9. There are limits to which the industrialized society can expand 10. Mankind is severely abusing the environment					

Table 1: Environmental Beliefs – Questionnaire

Q13. Environmental behaviour of consumers	Never	Sometimes	Frequently	Always
1. Use of biodegradable soaps or detergents 2. Avoid buying aerosol products 3. Read labels to see if contents are environmentally safe 4. Buy products made or packaged in recycled materials 5. Buy products in packages that can be refilled 6. Avoid buying products from companies who are environmentally responsible 7. Recycle bottles, cans or glass 8. Consumers taking their own bags to the supermarket 9. Contribute money to environmental causes				

Table 2: Environmental Behaviour – Questionnaire

Sample:

There are two types of techniques that can be used for sampling, namely, probability and non-probability sampling. In probability sampling, interpretations are made from the sample concerning a population to address the aim and objectives of the research following different rules in the sample selection (Saunders et al., 2009). On the other hand, non-probability sampling uses alternative techniques for sample selection based on the researcher's subjective judgment (Saunders et al., 2009). For the purpose of this research, non-probability sampling is used, in particular convenient sampling. In the

case of convenient sampling, random selection is done to easily obtain the sample and the process is carried on until the desired sample size is reached (Saunders et al., 2009). India is a developing country, and the concept of green marketing is comparatively new, therefore a full target population using probability sampling (alternate sampling method) could not be used. Since the research was associated with buying behaviour of consumers with regard to green marketing, the participants included regular supermarket visitors from different gender, age groups, education qualification and place of residence. The gender was coded as Female=1 and Male=2. The age group was further divided into tertiles (18-23=1, 23-38=2, and 39-62=3). The highest education level was divided into three and coded as Intermediate=1, Graduate=2 and Masters=3. The place of residence was coded as Urban=1 and Rural=2. To facilitate the research, 100 surveys were sent out to participants from Telangana State, India, of which 80 complete responses were received.

3.7 Ethical Considerations

According to Saunders et al., (2009), the researchers should be responsible to protect the rights of all individuals who are a part of their research. Ethical conduct is a combination of anonymity and confidentiality of the participants involved in a research. Quinlan (2011) refers to anonymity and confidentiality of the participants as a declaration by the researcher to protect their identity and data keeping it private and confidential.

This research has thoroughly considered and followed all ethical guidelines stated by National College of Ireland. This research involved quantitative data collection in the form of an online survey. For the purpose of data safety, there was no documentation of names. The participants were informed that the study is anonymous and their consent to participate in the survey was taken. The participants were also informed that they could withdraw from the survey at any given time. The survey results were not accessible to anyone but the researcher.

3.8 Data Analysis

The first segment of data analysis includes exporting the responses from Survey Monkey to Microsoft Excel in order to code it as mentioned earlier. These coded responses are then exported to SPSS for analysing the data.

Before analysing the data to address the research question, it is essential to analyse the internal consistency of the questionnaire itself. The factors involving the environmental beliefs include effectiveness of eco-labelling and green products identification, intensity of green packaging and branding for ecological customers, environmental advertisement and green consumption patterns, importance of green products and premium green pricing, embedding an eco-image in marketing of green products and consumers' perceptions on environmental concerns and beliefs in India. For this

research, the internal consistency of the different factors and scales namely, Environmental Beliefs and Environmental behaviour were measured using the Cronbach's alpha. The internal consistency is used to measure the correlation of responses between the different questions of the questionnaire. Cronbach's alpha (>0.7) is considered as a reliable technique to measure the internal consistency of questionnaires with multiple items (Gliem and Gliem, 2003). For this research, the Cronbach's alpha was calculated for all the factors (Table 3) and it was observed that while the Cronbach alpha for the whole questionnaire was 0.826 which is greater than 0.7, making the questionnaire reliable, all the factors individually did not have Cronbach's alpha greater than 0.7. Detailed Cronbach's alpha results can be found in **Appendix A.**

Variable	Cronbach's alpha
Effectiveness of eco-labelling and green products identification	.717
Intensity of green packaging and branding for ecological customers	.752
Environmental advertisement and green consumption patterns	.598
Importance of green products and premium green pricing	.498
Embedding an eco-image in marketing of green products	.838
Consumers' perceptions on environmental concerns and beliefs	.452
Environmental behaviour of consumers	.807
Overall Questionnaire	.826

Table 3: Test of internal consistency of the questionnaire

Following the internal consistency test, the composite scores for all the factors are calculated and used for consequent analysis. The analysis for this research was done in 3 parts. The first part included statistical tests for normality followed by tests of difference to check for significant associations. In order to investigate the relationships between variables, the second part included the correlation analysis of the factors and the third part involved regression analysis of the factors.

Test of Normality and Test of Difference:

To analyse the descriptive statistics, test of normality is done using the Shapiro-Wilk test and distributions of histograms. Depending on the normality or the deviation from it, statistical tests on different groups are carried out. The p value shows the significance level and for $p<0.05$, the null hypothesis is rejected and for $p>0.05$, the null hypothesis is accepted.

There are two groups of statistical tests of difference, namely, parametric and non-parametric. Parametric tests are used when the numerical data is normally distributed (Saunders et al., 2009). When normality is assumed, parametric tests are done, therefore, to compare means, between two independent groups assuming normality, Levene's T-test for equal variance is done and to compare means between k independent groups assuming normality, one-way ANOVA test is done. The independent t-test compares the means between two groups using spread of scores as the measure.

If there is a low likelihood of difference between the two groups, it is represented using a large t statistic where the $p < 0.05$ meaning it is statistically significant (Saunders et al., 2009). One-way analysis of variance (ANOVA) test is used when the data is distributed in 3 or more groups. The variance is analysed using ANOVA both within and between the groups by comparing the means. The F-ratio as a result would represent the differences, and when there is a low likelihood of difference between groups, F statistic is large with $p<0.05$ showing statistical significance (Saunders et al., 2009).

Non-parametric tests are used when the numerical data is not normally distributed (Saunders et al., 2009). When deviation from normality is assumed, non-parametric tests are done. For difference between two independent groups, where the data is not normally distributed, a Mann-Whitney U test is appropriate. If there is low likelihood of difference between the two groups, a large U statistic along with $p<0.05$ shows the statistical significance (Saunders et al., 2009). This test is non-parametric equivalent of the parametric independent t-test (Saunders et al., 2009). Similarly, a Kruskal-Wallis H-test is done for more than two independent groups.

Correlation Analysis

A bivariate correlation analysis for all the factors of environmental beliefs and environmental behaviour to measure the relationship between the variables is done using Spearman's rank order correlation, as it is non-parametric. The Spearman's rank order correlation is used to measure the level and strength of the relationship between the variables (Saunders et al., 2009). The correlation coefficient (r) helps in quantifying the strength of the relationship and lies between -1 and +1 (Saunders et al., 2009). The figure 2 below shows the level of relationship on the basis of the r value. The p value shows the statistical significance of the variables and if $p<0.05$ or in certain cases $p<0.01$ shows statistical significance, therefore, the null hypothesis is rejected.

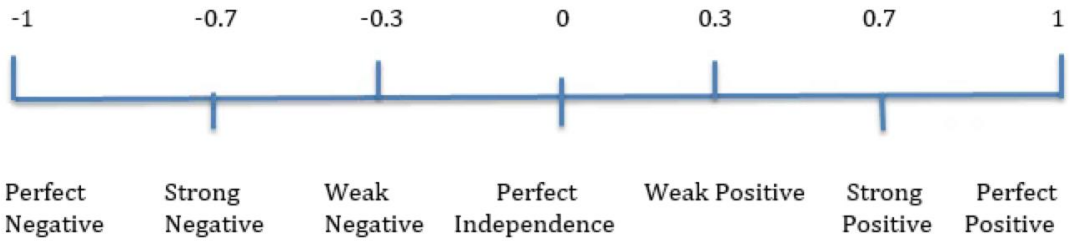


Figure 2: Correlation Coefficient values

Correlation and regression analysis are both used to analyse the relationships between variables, however, correlation analysis shows the degree of association while regression analysis shows the relationship between dependent and independent variables.

Regression Analysis

Regression analysis consists of measuring the coefficient of determination as well as the regression equation using independent variables (Saunders et al., 2009). For this study, a linear regression analysis is done with environmental behaviour, environmental beliefs and the different factors as well as the socio-demographics. The controlled variables include the socio-demographics, while the not controlled variables include the different factors of environmental beliefs with environmental behaviour as the dependent variable.

In regression analysis, the values of dependent variable can be predicted using values of independent variables, resulting in a regression equation (Saunders et al., 2009). The regression equation for this analysis is as follows:

$$Environmental\ behaviour = a + \beta EL + \beta GBP + \beta EAd + \beta GP + \beta EI + \beta ECB + e$$

Where,

Environmental behaviour is the dependent variable

a- intercept

β coefficient- measures the effect of independent variables

EL- eco-labelling

GB- green branding and packaging

EAd- environmental advertising

GP- green pricing

EI- embedding an eco-image

ECB- environmental concerns and beliefs

e- error

There are four principal assumptions justifying linear regression. They are linearity and additivity, statistical independence, homoscedasticity and normality of error distribution (Saunders et al., 2009). On the basis of the assumption, the researcher has undertaken diagnostic tests. A Durbin-Watson statistic is used to test the auto-correlation. The Durbin-Watson statistic lies between 0 and 4, where, values towards 0 indicate positive correlation, value of 2 indicates no autocorrelation and value towards 4 indicates negative correlation (Saunders et al., 2009). In this analysis, the Durbin-Watson analysis was found to be 2.179, therefore suggesting no autocorrelation (Appendix 3).

The coefficient of determination (R^2), shows the variation of independent variables on the dependent variable based on the equation and the Adjusted R^2 takes account of the number of independent variables from the equation (Saunders et al., 2009).

3.9 Limitations of research methodology

The first limitation of this methodology is that the questionnaire consisted of closed-ended questions, which are easy for the respondents to answer but if a question is misinterpreted, the researcher is likely to overlook it. The Cronbach's alpha of some of the individual factors was not greater than 0.7 even though the overall Cronbach's alpha value was greater than 0.7, is a prominent limitation. The rural sample is very small compared to the urban sample. Therefore, the conclusions drawn might not be completely accurate due to the lack of sample size. Also, the 20% of non-respondents could have influenced the insights of the research, therefore adding to the limitations. Another limitation is the convenient sampling method, as the flaws in this method cloud the conclusions drawn from the sample, therefore, possibly leading to incomplete conclusions.

4. Results

This chapter consists of the basic exploratory results, test of normality for all factors followed by the parametric and non-parametric tests, results for correlations and the regression analysis. The questionnaire received an 80% response rate with 80 participants.

4.1 Exploratory Results

An exploratory study was done and the frequency data is summarized in **Table 4**. The majority participants were female (45%) compared to male (35%). The participants' age ranged between 18 and 62 years. The mean, SE, 95% confidence interval and range for all of the factors is also presented in the table below.

Table 4: Frequencies and Descriptive Statistics

Variable	**Frequency**	**Valid %**	**-**	**-**	**-**
Categorical variables					
Gender					
Female	45	56.3			
Male	35	43.8			
Age					
18-23	26	32.5			
23-38	27	33.8			
39-62	27	33.8			
Highest Education Level attained					
Intermediate	20	25			
Graduate	38	47.5			
Masters	22	27.5			
Place of Residence					
Urban	69	86.3			
Rural	11	13.8			
Exploratory variables	**M**	**SE**	**95% Confidence Interval**	**Range**	
Effectiveness of eco-labelling and green products identification	20.86	0.33	20.19 - 21.52	14-29	
Intensity of green packaging and branding for ecological customers	20.46	0.29	19.88 - 21.04	13-25	
Environmental advertisement and green consumption patterns	15.38	0.22	14.94 - 15.83	6-20	
Importance of green products and premium green pricing	11.23	0.20	10.81 -11.63	6-15	
Embedding an eco-image in marketing of green products	8.23	0.13	7.96 - 8.51	2-10	
Environmental concerns and beliefs in India	37.15	0.37	36.41 -37.89	30-49	
Environmental behaviour of Consumers	23.21	0.52	22.17 -24.25	12-36	

4.2 Tests of Normality and Difference

The summary of all results of the test of Normality for all factors based on Shapiro-Wilk is presented in **Table 5**. The detailed case summary and descriptive results along with the normality results for individual factors can be referred to in **Appendix B**.

From the table below, it can be observed that data for all the socio-demographic factors for eco-labelling, age for green branding, gender and education for environmental behaviour appear to be distributed normally ($p>0.05$) while for all of the remaining factors the data is deviated from normality ($p<0.05$).

Table 5: Test of Normality (Shapiro-Wilk Test)

Variable	Gender	Age	Education	Place of Residence
Effectiveness of **eco-labelling** and green products identification	Normal	Normal	Normal	Normal
Intensity of **green packaging and branding** for ecological customers	Deviated	Normal	Deviated	Deviated
Environmental advertisement and green consumption patterns	Deviated	Deviated	Deviated	Deviated
Importance of green products and premium **green pricing**	Deviated	Deviated	Deviated	Deviated
Embedding an eco-image in marketing of green products	Deviated	Deviated	Deviated	Deviated
Consumers' perceptions on **environmental concerns and beliefs**	Deviated	Deviated	Deviated	Deviated
Environmental behaviour of consumers	Normal	Deviated	Normal	Deviated

*All normality tests are based on Shapiro-Wilk test

In the cases where there is lack of deviation from normality parametric tests like independent t test and one-way ANOVA tests have been relied on, however, in the cases where there is deviation from normality, non-parametric tests like Mann-Whitney U test and Kruskal-Wallis test have been considered for each of the factors.

Effectiveness of eco-labelling and green products identification

Table 6 includes a summary of all independent t-test and ANOVA for all of the socio-demographic variables. For full results, please refer **Appendix C**.

Table 6: Results of Independent t-test and ANOVA for eco-labelling

Demographic Variables	**n**	**Mean**	**SD**	**SE**	**F**	**Sig**	**t**	**Sig. (Two-tailed)**
Gender					.013	.911	-.285	.776
Female	45	20.77	3.06	.457				
Male	35	20.97	2.93	.496				
Age					.247	.782		
18-23	26	20.53	3.82					
23-38	27	21.11	2.20					
39-63	27	20.92	2.85					
Education					1.756	.180		
Intermediate	20	19.80	3.50					
Graduate	38	21.13	2.88					
Master	22	21.36	2.53					
Place of residence					1.623	.206	1.474	.144
Urban	69	21.05	3.05	.365				
Rural	11	19.63	2.33	.704				

Gender:

The Levene's Test for equal variance **(F=.013, p=.911)** specifies that there is not enough evidence to reject the assumption of equal variances, hence, equal variances can be assumed. The result of the independent t-test states that there is insufficient evidence that perception of Female participants **(M=20.77, SD=3.06, SE=.457, n=45)** and Male participants **(M=20.97, SD=2.93, SE=.496, n=35)** is different **(t(78) = -.285, p=.776).**

Age:

Based on the ANOVA results **(F=.247, p=.782)** from **Table 6**, it can be observed that there are no significant differences between age group 18-23 **(M=20.53, SD=3.82)**, 23-38 **(M=21.11, SD=2.20)** and 39-62 **(M=20.92, SD=2.85)**.

Education:

Based on the ANOVA results **(F=1.756, p=.180)**, it can be observed that there are no significant differences between Education level of participants, Intermediate **(M=19.80, SD=3.50)**, Graduate **(M=21.13, SD=2.88)** and Masters **(M=21.36, SD=2.53)**.

Place of Residence:

The Levene's Test for equal variance **(F=1.623, p=.206)** specifies that there is not enough evidence to reject the assumption of equal variances, hence, equal variances can be assumed. The result of the independent t-test states that there is insufficient evidence that perception of Urban participants **(M=21.05, SD=3.05, SE=.367, n=69)** and Rural participants **(M=19.63, SD=2.33, SE=.704, n=11)** is different **(t(78) = 1.474, p=.144)** as shown in **Tables 6.**

Intensity of green packaging and branding for ecological customers

Table 7 includes a summary of all Mann-Whitney U test, ANOVA and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix D**.

Gender:

The Mann-Whitney U test shows that there is no statistical significant difference of perception among female and male participants with mean ranks of **41.86** and **38.76** respectively **(U=726.500, p=.549)**.

Age:

Based on the ANOVA results **(F=2.352, p=.102)** from **Table 7**, it can be observed that there are no significant differences between age group 18-23 **(M=21.30, SD=2.37)**, 23-38 **(M=19.81, SD=3.13)** and 39-62 **(M=20.29, SD=1.99)**.

Education:

The Kruskal-Wallis test **(X^2 (2)= .784, p=.676)** from **Table 7**, shows that there is no statistical significant difference between the participants of different education level, Intermediate **(M rank=37.03),** Graduate **(M rank= 40.72)** and Masters **(M rank =43.27).**

Place of residence:

The Mann-Whitney U test suggests that there is a statistical significance in difference of perception among urban and rural participants with mean ranks of **43.32** and **22.82** respectively **(U=185.000, p=.006)**.

Table 7: Results of Mann-Whitney U-test, Kruskal-Wallis test and ANOVA for green branding

Demographic Variables	n	Mean	SD	Mean Rank	F	Sig	U	$X^2(2)$	Sig. (Two-tailed)
Gender							726.500		.549
Female	45			41.86					
Male	35			38.76					
Age					2.352	.102			
18-23	26	21.30	2.37						
23-38	27	19.81	3.13						
39-63	27	20.29	1.99						
Education								.784	.676
Intermediate	20			37.03					
Graduate	38			40.72					
Master	22			43.27					
Place of residence							185.000		.006
Urban	69			43.32					
Rural	11			22.82					

Environmental advertisement and green consumption patterns

Table 8 includes a summary of all Mann-Whitney and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix E**.

Gender:

The Mann-Whitney U test **(Table 8)** shows that there is no statistical significance in difference of perception among female and male participants with mean ranks of **39.97** and **42.47** respectively **(U=718.000, p=.494)**.

Age: The Kruskal-Wallis test **(X^2 (2)= 1.173, p=.556)** from **Table 8**, shows that there is no statistical significant difference between the participants of different age groups, 18-23 **(M rank=38.90),** 23-38 **(M rank= 38.20)** and 39-62 **(M rank =44.33).**

Table 8: Results of Mann-Whitney U-test and Kruskal-Wallis test for environmental advertising

Demographic Variables	n	Mean Rank	U	$X^2(2)$	Sig. (Two-tailed)
Gender			718.000		.494
Female	45	39.97			
Male	35	42.47			
Age				1.173	.556
18-23	26	38.90			
23-38	27	38.20			
39-63	27	44.33			
Education				1.247	.536
Intermediate	20	35.68			
Graduate	38	42.58			
Master	22	41.30			
Place of residence			362.000		.803
Urban	69	40.25			
Rural	11	42.09			

Education:

The Kruskal-Wallis test **(X^2 (2)= 1.247, p=.536)** from **Table 8**, shows that there is no statistical significant difference between the participants of different education level, Intermediate **(M rank=35.68),** Graduate **(M rank= 42.58)** and Masters **(M rank =41.30).**

Place of Residence:

The Mann-Whitney U test **(Table 8)** shows that there is no statistical significance in difference of perception among urban and rural participants with mean ranks of **40.25** and **42.09** respectively **(U=362.000, p=.803)**.

Importance of green products and premium green pricing

Table 9 includes a summary of all Mann-Whitney and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix F**.

Table 9: Results of Mann-Whitney U-test and Kruskal-Wallis test for green pricing

Demographic Variables	n	Mean Rank	U	$X^2(2)$	Sig. (Two-tailed)
Gender			783.500		.968
Female	45	40.59			
Male	35	40.39			
Age				3.680	.159
18-23	26	41.62			
23-38	27	34.11			
39-63	27	45.81			
Education				1.801	.406
Intermediate	20	34.60			
Graduate	38	42.53			
Master	22	42.36			
Place of residence			184.000		.005
Urban	69	43.33			
Rural	11	22.73			

Gender:

The Mann-Whitney U test suggests that there is no statistical significance in difference of perception among female and male participants with mean ranks of **40.59** and **40.39** respectively **(U=783.500, p=.968)**.

Age:

The Kruskal-Wallis test **(X^2 (2)= 3.680, p=.159)**, shows that there is no statistical significant difference between the participants of different age groups, 18-23 **(M rank=41.62),** 23-38 **(M rank= 34.11)** and 39-62 **(M rank =45.81).**

Education:

The Kruskal-Wallis test **(X^2 (2)= 1.801, p=.406)** from **Table 9**, suggests that there is no statistical significant difference between the participants of different education level, Intermediate **(M rank=34.60),** Graduate **(M rank= 42.53)** and Masters **(M rank =42.36).**

Place of residence:

The Mann-Whitney U test **(Table 9)** illustrates that there is a statistical significance in difference of perception among urban and rural participants with mean ranks of **43.33** and **22.73** respectively **(U=184.000, p=.005)**.

Embedding an eco-image in marketing of green products

Table 10 includes a summary of all Mann-Whitney and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix G**.

Gender:

The Mann-Whitney U test **(Table 10)** demonstrates that there is no statistical significance in difference of perception among female and male participants with mean ranks of **38.52** and **43.04** respectively **(U=698.000, p=.351)**.

Age:

The Kruskal-Wallis test **(X^2 (2)= 3.425, p=.180)** from **Table 10**, shows that there is no statistical significant difference between the participants of different age groups, 18-23 **(M rank=45.62),** 23-38 **(M rank= 34.78)** and 39-62 **(M rank =41.30).**

Education:

The Kruskal-Wallis test **(X^2 (2)= .147, p=.916)**, illustrates that there is no statistical significant difference between the participants of different education level, Intermediate **(M rank=40.50),** Graduate **(M rank= 39.62)** and Masters **(M rank =42.02).**

Place of Residence:

The Mann-Whitney U test **(Table 27)** suggests that there is a statistical significance in difference of perception among urban and rural participants with mean ranks of **43.04** and **24.55** respectively **(U=204.000, p=.008)**.

Table 10: Results of Mann-Whitney U-test and Kruskal-Wallis test for eco-image

Demographic Variables	n	Mean Rank	U	$X^2(2)$	Sig. (Two-tailed)
Gender			698.500		.351
Female	45	38.52			
Male	35	43.04			
Age				3.425	.180
18-23	26	45.62			
23-38	27	34.78			
39-63	27	41.30			
Education				.147	.916
Intermediate	20	40.50			
Graduate	38	39.62			
Master	22	42.02			
Place of residence			204.000		.008
Urban	69	43.04			
Rural	11	24.55			

Consumers' perceptions on environmental concerns and beliefs

Table 11 includes a summary of all Mann-Whitney and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix H**.

Gender:

The Mann-Whitney U test **(Table 11)** shows that there is no statistical significance in difference of perception among female and male participants with mean ranks of **37.81** and **41.69** respectively **(U=673.500, p=.450)**.

Table 11: Results of Mann-Whitney U-test and Kruskal-Wallis test for environmental concerns

Demographic Variables	n	Mean Rank	U	$X^2(2)$	Sig. (Two-tailed)
Gender			673.500		.450
Female	44	37.81			
Male	34	41.69			
Age				2.613	.271
18-23	26	43.37			
23-38	26	33.79			
39-63	26	41.35			
Education				.660	.719
Intermediate	20	35.98			
Graduate	37	40.65			
Master	21	40.83			
Place of residence			296.500		.298
Urban	67	40.57			
Rural	11	32.95			

Age:

The Kruskal-Wallis test **(X^2 (2)= 2.613, p=.271)** from **Table 11**, shows that there is no statistical significant difference between the participants of different age groups, 18-23 **(M rank=43.37),** 23-38 **(M rank= 33.79)** and 39-62 **(M rank =41.35).**

Education:

The Kruskal-Wallis test **(X^2 (2)= .660, p=.719)** illustrates that there is no statistical significant difference between the participants of different education level, Intermediate **(M rank=35.98),** Graduate **(M rank= 40.65)** and Masters **(M rank =40.83).**

Place of Residence:

The Mann-Whitney U test **(Table 11)** shows that there is no statistical significance in difference of perception among urban and rural participants with mean ranks of **40.57** and **32.95** respectively **(U=296.500, p=.298)**.

Environmental behaviour of consumers

Table 12 includes a summary of all independent t-test, ANOVA, Mann-Whitney and Kruskal-Wallis test for all of the socio-demographic variables. For full results, please refer **Appendix I**.

Table 12: Results of independent t-test, ANOVA, Kruskal-Wallis test and Mann-Whitney U-test for environmental behaviour

Demographic Variables	**n**	**Mean**	**SD**	**SE**	**Mean Rank**	**t**	**F**	**Sig**	**U**	**$X^2(2)$**	**Sig. (Two-tailed)**
Gender						2.239	.001	.978			.022
Female	44	24.27	4.51	.680							
Male	35	21.88	4.53	.766							
Age										.404	.817
18-23	26				40.75						
23-38	27				37.78						
39-63	26				41.56						
Education							.012	.989			
Intermediate	20	23.30	3.81								
Graduate	37	23.24	5.28								
Master	22	23.09	4.38								
Place of residence									367.000		.921
Urban	69				39.90						
Rural	11				40.64						

Gender:

The Levene's Test for equal variance **(F=.001, p=.978)** specifies that there is not enough evidence to reject the assumption of equal variances, hence, equal variances can be assumed. The result of the independent t-test **(t(77) = 2.329, p=.022)** as shown in **Table 12** states that there is a significant difference in the perception of Female participants **(M=24.27, SD=4.51, SE=.680, n=44)** and Male participants **(M=21.88, SD=4.53, SE=.766, n=35).**

Age:

The Kruskal-Wallis test **(X^2 (2) = .404, p=.817)** suggests that there is no statistical significant difference between the participants of different age groups, 18-23 **(M rank=40.75),** 23-38 **(M rank= 37.78)** and 39-62 **(M rank =41.56).**

Education:

Based on the ANOVA results **(F=.012, p=.989)** from **Table 12**, it can be observed that there are no significant differences between Education level of participants, Intermediate **(M=23.30, SD=3.81)**, Graduate **(M=23.24, SD=5.28)** and Masters **(M=23.09, SD=4.38)**.

Place of Residence

The Mann-Whitney U test illustrates that there is no statistical significance in difference of perception among urban and rural participants with mean ranks of **39.90** and **40.64** respectively **(U=367.000, p=.921)**.

4.3 Correlations

Table 13 represents a summary of the correlation between the distinct factors of environmental beliefs and environmental behaviour using spearman's rho. It can be noted that there are distinct shifts in both the R values and p values, even though the correlation in most cases remains positive but weak. The detailed correlation analysis for each of the factors can be referred to in **Appendix J**.

Table 13: Correlations between factors of environmental beliefs and environmental behaviour

Variables	R	Sig.
Effectiveness of eco-labelling and green products identification	.250*	.027
Intensity of green packaging and branding for ecological customers	.318**	.004
Environmental advertisement and green consumption patterns	.120	.291
Importance of green products and premium green pricing	.365**	.001
Embedding an eco-image in marketing of green products	.065	.572
Consumers' perceptions on environmental concerns and beliefs	.026	.819

All correlations are made with environmental behaviour as dependent variable using spearman's rho.
(**Correlation is significant at 0.01 and *Correlation is significant at 0.05)

In the case of the correlation between effectiveness of eco-labelling and green product identification and environmental behaviour, it can be observed that there is a very weak positive correlation between the variables **(R=.250)**, however, it is statistically significant **(p=.027)**. Similarly, correlation between importance of green products and premium green pricing and the environmental behaviour is positive but weak and statistically significant **(R=.365, p=.001).** In the case of green branding, correlation is significant at 0.01. So, considering the correlation between intensity of green packaging and branding and the environmental behaviour, a statistically significant and positive weak correlation can be found **(R=.318, p=.004)**. There is no correlation or statistical significance between embedding an eco-image in marketing of green products **(R=.065, p=.572),** green advertisements **(R=.120, p=.291)** or consumers' perceptions on environmental concerns and beliefs **(R=0.26, p=.819)** and environmental behaviour.

4.4 Regression

Table 14 represents a summary of the regression analysis with environmental behaviour as the dependent variable and factors of environmental beliefs and the controlled socio-demographic variables as independent. The exhaustive regression model can be found in **appendix k**.

Table 14: Regression analysis

Coefficients [a]					
	R^2	Adjusted R^2	β	p	Tolerance
Model 1	.094	.017			
Model 2	.303	.175			
Sex(Gender)			-.204	.069	.878
Place of Residence			.203	.104	.709
Group 1			-.046	.774	.415
Group 3			-.070	.590	.638
Edu 1			.075	.612	.494
Edu 3			-.013	.915	.748
Eco labelling			.119	.305	.804
Intensity Green Branding			.358	.013	.542
Environmental Advertising			-.013	.925	.597
Green Pricing			.326	.034	.470
Eco Image			-.160	.329	.404
Environmental concern			-1.319	.192	.743

([a] is dependent variable: Environmental Behaviour)
Group 1, Group 3, Edu 1, Edu 3 are dummy variables for Age and Education respectively.

From the regression model, the adjusted R^2 for model 1 with the controlled socio-demographic variables shows that **1.7%** of environmental behaviour change is explained by changes in the independent variables. The adjusted R^2 for model 2 consisting of the factors of environmental beliefs infers that **17.5%** of environmental behaviour change is explained by the factors of environmental beliefs. The tolerance for all the factors is greater than 0.1, therefore showing that there is no collinearity between the variables.

From the results, it can be observed that consumer perception of intensity of green branding **(β=.358, p=.013)** is significantly positively associated with the environmental behaviour, showing that every 1 unit increase in green branding causes are .358 increase in environmental behaviour on scale 12-36. The consumer perception of green pricing **(β=.326, p=.034),** is also significantly positively associated with the environmental behaviour, showing that every 1 unit increase in green pricing causes .326 increase in environmental behaviour.

Environmental advertisements **(β=-.013, p=.925)**, eco-image **(β=-.160, p=.329)** and environmental concerns **(β=-1.319, p=.192)** have shown negative but not statistically significant effect on environmental behaviour. Eco-labelling **(β=.119, p=.305)** on the other hand, shows positive but not significant effect on environmental behaviour.

Male perceptions **(β=-.204, p=.069)**, difference in perceptions of different age groups (**β=-.046, β=-070, p=.774, p=.590**) and education level, Masters in particular (**β=-.013, p=.612**) are all negatively but not statistically significantly associated with environmental behaviour, however, place of residence shows a positive but not significant effect **(β=.203, p=.104)**.

5. Discussion

5.1 Introduction

This chapter will present a discussion of the key findings with the literature of the research topic and explore if the findings fit with the previous researches. This chapter will also include the implications of the study, suggestions for further research and limitations of the study.

This overall research aim for this paper was to investigate the impact of green marketing on the green purchasing behaviour of consumers. As discussed earlier, the area of green marketing has been gaining momentum especially in developing nations like India, so knowing about green perceptions of consumers would be interesting to build better green marketing strategies. To understand what influences consumers' environmental behaviour, for this research, a regression model was made using the environmental belief factors and socio-demographic variables. The study was concentrated on the Telangana region in India, where green marketing is becoming more popular and there is a rise in awareness among people. Apart from the regression model, to analyse the supportive objectives, descriptive analysis along with correlation analysis using Spearman's rho was undertaken.

5.2 Intensity of green packaging and branding for ecological customers

The primary objective of the research was to investigate the direction and strength of the relationship between the six distinct environmental belief factors and environmental behaviour, while controlling for key socio-demographic factors. The first key finding was that the perception of green packaging and branding has a significant and positive effect on the environmental behaviour of consumers. Some of the underlying questions of the factor measure how good the consumers feel about buying green brands and how they trust well-known brands in India and whether biodegradable packaging is an important consideration for them or if they believe in reusing and recycling the products they buy. From the response frequencies for all of these questions, it was found that most of them agree and strongly agree to these underlying questions. This means that increase in green branding would lead to an increase in environmental behaviour in turn increasing the green purchases. In the sense, from the response frequencies for environmental behaviour, it is found that majority of the people buy biodegradable products, they also but products that can be re-used. This forms a direct link between the two factors. Another finding from supporting objectives of the study shows that there is a weak but positive correlation between consumers' perception of green branding and their environmental behaviour. It was also found that there are associations with green branding on the basis of consumers' place of residence and a significant difference in their mean scores were found. The mean score for the urban consumers was almost double the score of rural consumers.

The green buying behaviour of consumers from the past literature shows that consumers' perceptions of green branding is affecting their green buying behaviour. Aaker (1991) identified brand awareness,

associations and quality perception as key factors influencing consumer's behaviour. On the basis of a conceptual framework, it was suggested that the literature supports that the brand benefits accounts as an encouraging factor for green purchases, therefore influencing consumer's environmental behaviour (Cherain and Jacob, 2012). On exploring the functional attributes by means of a quantitative analysis, it was found that there is also a positive effect on the brand because of consumers' perception of green brand positioning (Patrick et al., 2005). Based on a quantitative study, using regression analysis, with a sample of women who were frequent visitors of supermarkets in London, it was found that brands can influence consumer behaviour towards ecological product consumption (Pickett-Baker and Ozaki, 2008). Therefore, it can be inferred that the current findings for green branding are in line with the previous literature findings, however, the demographic significance about change in urban and rural perceptions is the an additional finding in this study compared to others.

Future work should concentrate on a larger sample spread across different urban and rural locations to add more insight to the generalisability of the current findings. The results from this study point towards policy implications such as increase in government funding as there is a direct significant and positive link of green branding on consumer behaviour. India is predicted to be in the top third ranks of growing economies and manufacturing destinations, most likely by the year 2020 (Make in India). Additional government funding on brands that use green manufacturing methods could be beneficial and probably lead to even further growth. Green branding should also be further concentrated upon in terms of corporate marketing strategies as this can be termed as a driver of green purchases. The findings from this study suggest that there was a major difference in the urban and rural perceptions, so investment of potential money in the rural area to increase the market segment there would be a rational option.

5.3 Importance of green products and premium green pricing

In support of the primary research objective, another key finding is that there is a significantly positive effect of consumer perception about the importance of green products and premium green pricing and the environmental behaviour of the consumers. Some of the underlying questions of the importance of green products and premium green pricing factor include the perception of consumers about how important they consider green products, how strongly they believe that a portion of the price of green products is used for a worthy environmental cause, and whether they think it is reasonable to pay higher for green products. The response frequencies by majority of them in the case of importance of green products was agree and strongly agree, however, in terms of the price-related questions, majority of the urban consumers responded positively while most rural consumers disagreed. This entails that green pricing has a direct link to the environmental behaviour of consumers, thus adding to the green purchases. The findings from the sub-objectives show that there is a significant positive correlation between green pricing and the environmental behaviour of consumers, nevertheless, there was a significant difference in consumer perceptions of people from urban and rural areas. While consumers from both the locations were influenced by green pricing, the mean scores of urban consumers was found to be about double than that of the rural consumers.

The literature states that consumers can be influenced to pay a premium price by showing them the additional benefits of eco-friendly products, such as quality, ecologically safe, non-hazardous, more efficient and so on, therefore increasing green purchases (Renfro, 2010). Khare et al. (2013), conducted a quantitative study on 6 cities in India using a sample of 500 participants, where in it was observed that Indian consumers' green attitude was influenced by the brand and price of the product (Khare et al., 2013). The scale used in the previous study was adapted by Lee (2009), while this research adopts the scale from Juwaheer et al. (2012), which is fairly new and constructed keeping in mind a developing economy (Mauritius). Effective marketing strategies influence consumers to pay a premium price for green products therefore increasing green purchase patterns of consumers (Ottman, 1998). It can be seen that the findings of the research for green pricing are in support of the previous literature and show interesting comprehension of Indian consumers like how green products are important to them and how their environmental behaviour is impacted by green brands and pricing. Also, on the basis of the literature, it can be noted that the Indian market for green consumers is marginally underexploited (Khare, 2014), green brands and importance of green products and premium green pricing should be made use of in marketing strategies and so on for increasing green purchases.

5.4 Effectiveness of eco-labelling and green products identification

From the results, it was found that consumer perception of eco-labelling has a positive effect on the green purchasing behaviour, but there was not enough evidence from the sample size to show the statistical significance of this effect. It can also be inferred from the results that there is a positively significant correlation between the effectiveness of eco-labelling and identification of green products and the environmental behaviour of consumers. However, there was no significant difference in perceptions across the socio-demographics.

Preceding literature in this area has identified contradictory views in general where some researchers have stated that green purchases are not driven by eco-labels while others have stated that eco-labels do attract consumers therefore influencing their green purchases (Leire and Thidell, 2005 and Cherion and Jacob, 2012). Both of these studies, however were based on reviewing literature using different frameworks, while Cherion and Jocob (2012), used a conceptual framework, Leire and Thidell (2005) used a Nordic framework. The findings from the current research support that green purchases are positively impacted by eco-labelling but its statistical significance could not be stated.

5.5 Environmental advertisement and green consumption patterns

Environmental advertisement and green consumption patterns have been identified to be one of the contributing factors to consumers' attitude and behaviour by some previous literature while others have

proved contradicting results showing that consumers were influenced by green advertisements but did not have a resulting impact on their behaviour (Lutz, 1985 and Chase and Smith, 1992). While Lutz (1985), used a conceptual framework, Chase and Smith (1992), used a quantitative study where 70% of the respondents did not find messages in these advertisements very influencing while over 50% of them did not pay enough attention to these messages as according to them, they lacked credibility. Pooley and O'Connor (2000), have added to this by reporting that green messages do not necessarily inspire a positive green attitude in consumers. The findings from this research have shown that environmental advertisements and eco-image have a negative effect on environmental behaviour of consumers, however, this result was not statistically significant. From the response frequency, it was found that consumers feel that environmental advertisements should be presented in credible manner, but about 70% of the respondents feel that these environmental advertisements are exaggerated. It is interesting that despite the finding that green branding drives green purchase behaviour, green advertisements don't influence green purchases positively. It can be observed that the findings of the research partially support the aforementioned literature as it can be concluded that environmental advertisements don't impact the behaviour of consumers in a way that adds to the green purchases.

5.6 Consumers' perceptions on environmental concerns and beliefs

Consumers' perceptions on environmental concerns and beliefs and its impact on green buying behaviour has been a widely studied area with results varying depending on the place, culture and ethics. Empirical studies on developed nations showed positive findings but the drivers varied for each nation while for most of the developing nations, the primary driver of green purchases was found to be environmental concerns and beliefs of consumers. McKinsey (2007), conducted a survey in which it was found that 87% of men and women, from different developing nations like Brazil, India, China and developed nations like, Canada, UK, France and the US have inclined themselves in decreasing their negative impact on the ecosystem (McKinsey, 2007). In the case of India, Singh and Pandey found results that are contradictory to other studies. Using a comprehensive literature review, it was found that Indian consumers lacked brand awareness of green products which did not fit with their concerns and beliefs (Singh and Pandey, 2012). On the other hand, another study based on a conceptual framework stated that there is awareness amongst consumers which is encouraging green behaviour (Mishra and Sharma, 2010). The findings from the current research point that Indian consumers are aware but their environmental concerns and beliefs do not increase their environmental behaviour, which is a combination of the two contradictory studies. It was found that environmental concerns had no correlation with environmental behaviour, however, it had a negative effect on environmental behaviour. But, because of the small sample size, the finding was not statistically significant. Although this study has bridged the gap in the Indian context to an extent, future work could contemplate this relationship with a different and bigger sample size spread across India as the results may be different based on the locations as well.

5.7 Future Research

The future research could take a new approach to this study by using mixed approach using survey to collect the quantitative data complemented with qualitative data by means of in-depth interviews, to study the drivers of green consumer behaviour like green branding and premium green pricing, over a period of time. Studies could be undertaken to identify why green advertising has a negative impact on environmental behaviour of consumers even though green branding has found to have a positive impact on the same. According to Jankowicz (2005), using multiple methods research design is a better way of getting more accurate results. Questionnaires can be complemented with either semi-structured or in-depth interviews giving more detailed and accurate results. The research can also be concentrated more on the socio-demographic front, especially the Urban versus Rural perceptions, as this study showed many interesting results with regard to the same.

5.8 Limitations

This research has provided interesting insights on the impact of green marketing on consumer purchase patterns in India, nonetheless, there are certain limitations of this study. One of the fundamental limitations of the study includes the limited sample size especially the rural sample, which would give a better understanding about consumer perception in different parts of India. Another limitation is that the study was concentrated on Telangana state alone. The lack in sampling frame and the method of data collection through convenient sampling is another drawback, as convenience sampling is not considered as robust as simple random sampling. Also, the response rate for the stud was 80% but the 20% of non-respondents could have influenced the insights of the research, therefore adding to the limitations. This research also includes limitations in terms of the theories and concepts of green marketing, as this is a rather new area of research in emerging markets, especially India, so there were limited predetermined predictors or hypothesis to elaborate on. Another drawback of this study is that there was no confirmatory factor analysis performed on the scale used and it was not specific to Indian population.

5. Conclusion

The research was carried out to bridge the gap in the literature about how consumer purchasing patterns are influenced by different green marketing strategies in the context of developing countries. While green marketing has become a widely researched area, it has only gained resonance in the case of India in the recent past.

The purpose of this research was to investigate the impact of green marketing on consumer purchasing patterns and decision making in India. The sample concentrated particularly on the Telangana state in India. The overall purpose of the research was contained by sub-objectives that contributed to finding the direction and strength of the relationship between the six distinct environmental belief factors and environmental behaviour, while controlling for key socio-demographic factors. Other sub-objectives included investigation of significant associations between the environmental behaviour, the six environmental belief factors and key socio-demographic variables including gender, age, education and place of residence and the analysis of correlations between environmental belief factors (eco-labelling, green branding and packaging, environmental advertisements, green pricing, embedding an eco-image, environmental concerns and beliefs) and the environmental behaviour of consumers

The significant findings of the study harmonised with the literature that had been reviewed previously, while the larger significant addition to the findings was about the urban and rural socio-demographic results. The first key significant finding was that consumer perception of the intensity of green packaging and green branding had a significant and positive effect on the environmental behaviour of consumers therefore initiating a direct link between branding and consumer behaviour and adding to the green purchase patterns. From the literature, it can be inferred that there is a positive impact of green branding on consumer behaviour, hence impacting their purchase decisions. It was found that people tend to trust known brands easily. The second key finding was that consumers felt the importance of green products and the premium green pricing also had a direct positive yet significant impact on the green behaviour of consumers, further leading to their purchase patterns. In terms of correlations, weak but significant positive correlations were found between consumer perceptions of effectiveness of eco-labelling and green consumer behaviour. This study has confirmed the findings from previous literature. Correspondingly, intensity of green packaging and branding was also found to be correlated to the environmental behaviour of consumers. The regression analysis furthered this theory for Indian consumers. Also, importance of green products and premium green pricing and environmental behaviour were found to be correlated. There were significant associations found in terms of eco-image, green branding and green pricing with regard to the socio-demographics of place of residence. A significant difference in the perception of urban and rural participants was found. Previous researchers have suggested that the impact of socio-demographics on the environmental behaviour might be restricted (Diamantopoulus et al., 2003). Therefore, the current research is augmenting the previous research by showing significant associations.

Apart from this, some other interesting results were found but were not statistically significant. Based on the results, it was gathered that effectiveness of eco-labelling had a positive effect on the consumers' environmental behaviour. It was also observed that environmental advertising had a negative effect on environmental behaviour, similar result was found in terms of environmental concerns and beliefs of consumers and its relationship to the environmental behaviour. This shows that consumers are concerned about the environment, but they are reluctant to purchase green products.

In terms of correlations also, no significant correlation was found between the environmental concerns of consumers, environmental advertising and eco-image and the environmental behaviour of consumers. Further research, with a bigger sample size might be able to shed more significant insights with regard to these findings.

References

Aaker, D.A. (1991) 'Managing brand equity: Capitalizing on the value of a brand name', *Journal of Marketing*, 56(2), p. 125. doi: 10.2307/1252048.

Ajzen, I. (1991) 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes*, 50(2), pp. 179–211. doi: 10.1016/0749-5978(91)90020-t.

Baldwin, P. (1993) 'Advertisers beginning to see green', *The Dallas Morning News*, pp. J1–J11.

Barber, N. (2005) *Wine label design, information and bottle packaging: influence on wine buying behaviours*. Master's Thesis thesis. Prude University, IN.

Barber, N. (2010) '"Green" wine packaging: Targeting environmental consumers', *International Journal of Wine Business Research*, 22(4), pp. 423–444. doi: 10.1108/17511061011092447.

Belz, F.M. and Peattie, K. (2009) *Sustainability Marketing: A Global Perspective*. Edited by John Wiley & Sons. Glasgow.

Braimah, M. and Tweneboah-Koduah, E.H. (2011) 'An Exploratory Study of the Impact of Green Brand Awareness on Consumer Purchase Decision in Ghana', *Journal of Marketing Development and Competitiveness*, 5(7), pp. 11–18.

Carlson, L., Grove, S.J. and Kangun, N. (1993) 'A content analysis of environmental advertising claims: A matrix method approach', *Journal of Advertising*, 22(3), pp. 27–39. doi: 10.1080/00913367.1993.10673409.

Chan, R.Y.K. (2004) 'Consumer responses to environmental advertising in china', *Marketing Intelligence & Planning*, 22(4), pp. 427–437. doi: 10.1108/02634500410542789.

Chase, D. and Smith, T.K. (1992) 'Consumers keen on green but marketers don't deliver', *Advertising Age*, 63(63).

Cherian, J. and Jacob, J. (2012) 'Green marketing: A study of consumers' attitude towards environment friendly products', *Asian Social Science*, 8(12). doi: 10.5539/ass.v8n12p117.

Crane, A. (2000) 'Facing the backlash: Green marketing and strategic reorientation in the 1990s', *Journal of Strategic Marketing*, 8(3), pp. 277–296. doi: 10.1080/09652540050110011.

Cronin, J.J., Smith, J.S., Glelm, M.R., Martinez, J. and Ramirez, E. (2011) 'Sustainability oriented marketing strategies: an examination of stakeholders and the opportunities they present', *Journal of the Academy of Marketing Science*, 39(1), pp. 158–174.

Dahlstorm, R. (2011) *Green Marketing: Theory Practice and Strategy*. Cengage Learning India edition.

Davis, J.J. (1993) 'Strategies for environmental advertising', *Journal of Consumer Marketing*, 10(2), pp. 19–36. doi: 10.1108/07363769310039102.

Diamantopoulos, A., Schlegelmilch, B.B., Sinkovics, R.R. and Bohlen, G.M. (2003) 'Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation', *Journal of Business Research*, 56(6), pp. 465–480. doi: 10.1016/s0148-2963(01)00241-7.

Easterling, D., Kenworthy, A. and Nemzoff, R. (1996) 'The greening of advertising: A Twenty-Five year look at environmental advertising', *Journal of Marketing Theory and Practice*, 4(1), pp. 20–34. doi: 10.1080/10696679.1996.11501714.

Elkington, J. (1994) 'Towards the sustainable corporation: Win-win-win business strategies for sustainable development', *California Management Review*, 36(2), pp. 90–100. doi: 10.2307/41165746.

G, L. (1999) 'Business, customers and sustainable living in an interconnected world: a multilateral ecocentric approach', *Journal of Business Ethics*, 20(4), pp. 273–288.

Gilg, A., Barr, S. and Ford, N. (2005) 'Green consumption or sustainable lifestyles? Identifying the sustainable consumer', *Futures*, 37(6), pp. 481–504. doi: 10.1016/j.futures.2004.10.016.

Gill, J. and Johnson, P (2002), *Research Methods for Managers.* 3rd ed: London: Sage

Ginsberg, J.M. and Bloom, P.N. (2004) 'Choosing the right green marketing strategy', *MIT Sloan Management Review*, pp. 79–84.

Grob, A. (1995) 'A structural model of environmental attitudes and behaviour', *Journal of Environmental Psychology*, 15(3), pp. 209–220. doi: 10.1016/0272-4944(95)90004-7.

Gupta, S. and Ogden, D.T. (2009) 'To buy or not to buy? A social dilemma perspective on green buying', *Journal of Consumer Marketing*, 26(6), pp. 376–391. doi: 10.1108/07363760910988201.

Han, H., Hsu, L.T. and Sheu, C. (2010) 'Application of the theory of planned behavior to green hotel choice: Testing the effect of environmental friendly activities', *Tourism Management*, 31(3), pp. 325–334. doi: 10.1016/j.tourman.2009.03.013.

Harrison, E.B. (1993) *Going Green: How to communicate your Company's Environmental Commitment*. Homewood, IL. .

Hartmann, P., Apaolaza Ibáñez, V. and Forcada Sainz, F.J. (2005) 'Green branding effects on attitude: Functional versus emotional positioning strategies', *Marketing Intelligence & Planning*, 23(1), pp. 9–29. doi: 10.1108/02634500510577447.

Juwaheer, T., Pudaruth, S. and Monique Emmanuelle Noyaux, M. (2012) 'Analysing the impact of green marketing strategies on consumer purchasing patterns in Mauritius', *World Journal of Entrepreneurship, Management and Sustainable Development*, 8(1), pp. 36–59. doi: 10.1108/20425961211221615.

Kalafatis, S.P., Pollard, M., East, R. and Tsogas, M.H. (1999) 'Green marketing and Ajzen's theory of planned behaviour: A cross-market examination', *Journal of Consumer Marketing*, 16(5), pp. 441–460. doi: 10.1108/07363769910289550.

Khare, A., Mukerjee, S. and Goyal, T. (2013) 'Social influence and green marketing: An exploratory study on Indian consumers', *Journal of Customer Behaviour*, 12(4), pp. 361–381. doi: 10.1362/147539213x13875568505903.

Khare, A. (2014) 'Antecedents to green buying behaviour: A study on consumers in an emerging economy', *Marketing Intelligence & Planning*, 33(3), pp. 309–329. doi: 10.1108/mip-05-2014-0083.

Kinnear, T.C. and Taylor, J.R. (1973) 'The effect of ecological concern on brand perceptions', *Journal of Marketing Research*, 10(2), p. 191. doi: 10.2307/3149825.

Kuhn, G.L. (1999) *Environmental labels and entry into an environmentally differentiated market under asymmetric information*. Thunen Series of Applied Economic Theory thesis. University Rostock. .

Laroche, M., Bergeron, J. and Barbaro-ForleoGuido (2001) 'Targeting consumers who are willing to pay more for environmentally friendly products', *Journal of Consumer Marketing*, 18(6), pp. 503–520. doi: 10.1108/eum0000000006155.

Leire, C. and Thidell, Å. (2005) 'Product-related environmental information to guide consumer purchases – a review and analysis of research on perceptions, understanding and use among Nordic

consumers', *Journal of Cleaner Production*, 13(10-11), pp. 1061–1070. doi: 10.1016/j.jclepro.2004.12.004.

Leonidou, C.N., Katsikeas, C.S. and Morgan, N.A. (2013) '"Greening" the marketing mix: Do firms do it and does it pay off?', *Journal of the Academy of Marketing Science*, 41(2), pp. 151–170. doi: 10.1007/s11747-012-0317-2.

Lutz, R.J. (1985) *Affective and Cognitive Antecedents of Attitude towards the Ad: A Conceptual Framework*.

Maheshwari, A. and Malhotra, G. (2011) 'Green marketing: a study on Indian youth', *International Journal of Management and Strategy*, 2(3).

Mainieri, T., Barnett, E.G., Valdero, T.R., Unipan, J.B. and Oskamp, S. (1997) 'Green buying: The influence of environmental concern on consumer behavior', *The Journal of Social Psychology*, 137(2), pp. 189–204. doi: 10.1080/00224549709595430.

Make in India Available at: http://www.makeinindia.com/article/-/v/direct-foreign-investment-towards-india-s-growth (Accessed: 27 July 2016)

Maslow, A.H. (1943) 'A theory of human motivation', *Psychological Review*, 50(4), pp. 370–396. doi: 10.1037/h0054346.

Maslow, A.H. (1954) 'Motivation and personality', *New York: Harper and Row*.

Mathur, S., Guiry, M. and Tikoo, S. (2009) 'Intergenerational culture-specific consumption differences between Asian Indian immigrants in the U.S. And Indians residing in an Indian metropolis', *Journal of International Consumer Marketing*, 20(3-4), pp. 69–80. doi: 10.1080/08961530802129276.

McKinsey (2007) *Mckisey and Company Inc*.

McLeod, S.A. (2014) *Maslow's Hierarchy of Needs*. Available at: www.simplypsychology.org/maslow.html (Accessed: 26 July 2016).

Michaud, C. and Llerena, D. (2011) 'Green consumer behaviour: An experimental analysis of willingness to pay for remanufactured products', *Business Strategy and the Environment*, , p. n/a–n/a. doi: 10.1002/bse.703.

Mintel (2006) *Green living, US Marketing Research Report*. London.

Mishra, P. and Sharma, P. (2010) 'Green Marketing in India: Emerging Opportunities and Challenges', *Journal of Engineering, Science & Management Education*, 3, pp. 9–14.

Mostafa, M.M. (2009) 'Shades of green: A psychographic segmentation of the green consumer in Kuwait using self-organizing maps', *Expert Systems with Applications*, 36(8), pp. 11030–11038. doi: 10.1016/j.eswa.2009.02.088.

Okada, M.E. and Mais, E.L. (2010) 'Framing the "Green" alternative for environmentally conscious consumers', *Sustainability Accounting, Management and Policy Journal*, 1(2), pp. 222–234. doi: 10.1108/20408021011089257.

Ottman, J. (1993) *Green Marketing: Challenges and Opportunities*. NTC, Lincolnwood, IL.

Ottman, J. (ed.) (2011) *The New Rules of Green Marketing: Strategies Tools and Inspiration for Sustainable Branding*. Greenleaf Publishing.

Ottman, J.A. (2006) *The rules of 'green' marketing*. Available at: http://www.marketingprofs.com/6/ottman1.asp (Accessed: 26 August 2016).

Patrick, Apaolaza Ibáñez, V. and Forcada Sainz, F.J. (2005) 'Green branding effects on attitude: Functional versus emotional positioning strategies', *Marketing Intelligence & Planning*, 23(1), pp. 9–29. doi: 10.1108/02634500510577447.

Peattie, K. (1995) *Environmental Marketing Management: Meeting the Green Challenge*. London.

Peattie, K. (2001) 'Golden goose or wild goose? The hunt for the green consumer', *Business Strategy and the Environment*, 10(4), pp. 187–199. doi: 10.1002/bse.292.

Pickett-BakerJosephine and Ozaki, R. (2008) 'Pro-environmental products: Marketing influence on consumer purchase decision', *Journal of Consumer Marketing*, 25(5), pp. 281–293. doi: 10.1108/07363760810890516.

Polonsky, M.J., Carlson, L., Grove, S. and Kangun, N. (1997) 'International environmental marketing claims', *International Marketing Review*, 14(4), pp. 218–232. doi: 10.1108/02651339710173426.

Prakash, A. (2002) 'Green marketing, public policy and managerial strategies', *Business Strategy and the Environment*, 11(5), pp. 285–297. doi: 10.1002/bse.338.

Purohit, H.C. (2012) 'Product Positioning And Consumer Attitude Towards Eco-Friendly Labeling and Advertisement: An Analytical Study', *Journal of Management Research*, 12(3), p. 153.

Quinlan, C., 2011. Business Research Methods. Hampshire: Thomas Rennie

Rahbar, E. and Abdul Wahid, N. (2011) 'Investigation of green marketing tools effect on consumers purchase behaviour', *Business Strategy Series*, 12(2), pp. 73–83. doi: 10.1108/17515631111114877.

Rashid, N.R.N.A. (2009) 'Awareness of Eco-label in Malaysia's green marketing initiative', *International Journal of Business and Management*, 4(8). doi: 10.5539/ijbm.v4n8p132.

Raska, D. and Shaw, D. (2012) 'When is going green good for company image?' *Management Research Review*, 35(3/4), pp. 326–347. doi: 10.1108/01409171211210190.

Renfro, L.A. (2010) 'Green Business Operations and Green Marketing', *Gatton Student Research Publication*, 2(2).

Robson, C. (2002)*, Real world research,* Oxford: Blackwell.

Sarkar, A.N. (2012) 'Green Branding and Eco-innovations for evolving a sustainable green marketing strategy', *Asia-Pacific Journal of Management Research and Innovation*, 8(1), pp. 39–58. doi: 10.1177/2319510x1200800106.

Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Student.* 3rd ed. Essex: Pearson Education Limited

Shamdasani, P., Chon-Lin, G. and Richmond, D. (1993) 'Exploring green consumers in an oriental culture: role of personal and marketing mix factors', *Advances in Consumer Research*, 20(1), pp. 488–493.

Singh, P.B. and Pandey (2012) 'Green Marketing:policies and practices for sustainable development', *Integral Review -A Journal of Management*, 5(1).

Spruyt, A., Hermans, D., De Houwer, J., Vandekerckhove, J. and Eelen, P. (2007) 'On the predictive validity of indirect attitude measures: Prediction of consumer choice behavior on the basis of affective priming in the picture–picture naming task', *Journal of Experimental Social Psychology*, 43(4), pp. 599–610. doi: 10.1016/j.jesp.2006.06.009.

Stafford, E.R. (2003) ‘Commentary: Energy efficiency and the new green marketing’, *Environment: Science and Policy for Sustainable Development*, 45(3), pp. 8–10. doi: 10.1080/00139150309604533.

Straughan, R.D. and Roberts, J.A. (1999) ‘Environmental segmentation alternatives: A look at green consumer behavior in the new millennium’, *Journal of Consumer Marketing*, 16(6), pp. 558–575. doi: 10.1108/07363769910297506.

Tracy, A.P. and Oskamp, S. (1984) ‘Relationships among ecologically responsible behaviors’, *Journal of Environmental Systems*, 13(2), pp. 115–126. doi: 10.2190/6tn8-48wt-63xt-chen.

Welford, R. (2000) *Hijacking Environmentalism*. London: Earthscan.

Wulf, K.D. and Odekerken-Schröder, G. (2003) ‘Assessing the impact of a retailer’s relationship efforts on consumers’ attitudes and behavior’, *Journal of Retailing and Consumer Services*, 10(2), pp. 95–108. doi: 10.1016/s0969-6989(02)00013-9.

Yin, H. and Ma, C. (2009) ‘International integration: A hope for a greener china?’, *International Marketing Review*, 26(3), pp. 348–367. doi: 10.1108/02651330910960825.

Zinkhan, G.M. and Carlson, L. (1995) ‘Green advertising and the reluctant consumer’, *Journal of Advertising*, 24(2), pp. 1–6. doi: 10.1080/00913367.1995.10673471.

List of Appendices

Appendix A

Cronbach's Alpha for entire scale

Case Processing Summary

		N	%
Cases	Valid	78	96.3
	Excluded[a]	3	3.7
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.826	39

Cronbach's Alpha for Eco-labelling

Case Processing Summary

		N	%
Cases	Valid	80	98.8
	Excluded[a]	1	1.2
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.717	6

Cronbach's Alpha for Green Branding

Case Processing Summary

		N	%
Cases	Valid	80	98.8
	Excluded[a]	1	1.2
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.752	5

Cronbach's Alpha for environmental advertisements

Case Processing Summary

		N	%
Cases	Valid	80	98.8
	Excluded[a]	1	1.2
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.598	4

Cronbach's Alpha for green pricing

Case Processing Summary

		N	%
Cases	Valid	80	98.8
	Excluded[a]	1	1.2
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.498	3

Cronbach's Alpha for environmental concerns and beliefs

Case Processing Summary

		N	%
Cases	Valid	78	96.3
	Excluded[a]	3	3.7
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.452	10

Cronbach's alpha for eco-image

Case Processing Summary

		N	%
Cases	Valid	80	98.8
	Excluded[a]	1	1.2
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.838	2

Cronbach's alpha for environmental behaviour

Case Processing Summary

		N	%
Cases	Valid	79	97.5
	Excluded[a]	2	2.5
	Total	81	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.807	9

Appendix B

Normaility test Results

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EffectEcolabel	Female	.103	45	.200*	.977	45	.503
	Male	.144	35	.064	.957	35	.191

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EffectEcolabel	18-23	.171	26	.048	.937	26	.113
	23-38	.137	27	.200*	.958	27	.334
	39-62	.119	27	.200*	.961	27	.390

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EffectEcolabel	Intermediate	.177	20	.100	.946	20	.308
	Graduate	.152	38	.026	.951	38	.094
	Masters	.150	22	.200*	.928	22	.112

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EffectEcolabel	Urban	.114	69	.027	.972	69	.127
	Rural	.211	11	.186	.858	11	.054

a. Lilliefors Significance Correction

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
IntensityGreenBranding	Female	.159	45	.006	.950	45	.053
	Male	.202	35	.001	.908	35	.007

a. Lilliefors Significance Correction

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
IntensityGreenBranding	18-23	.141	26	.198	.931	26	.081
	23-38	.190	27	.013	.933	27	.081
	39-62	.189	27	.015	.955	27	.275

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
IntensityGreenBranding	Intermediate	.157	20	.200*	.952	20	.399
	Graduate	.181	38	.003	.930	38	.021
	Masters	.122	22	.200*	.951	22	.331

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
IntensityGreenBranding	Urban	.162	69	.000	.935	69	.001
	Rural	.208	11	.198	.936	11	.474

a. Lilliefors Significance Correction

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvAd	Female	.225	45	.000	.923	45	.005
	Male	.181	35	.005	.851	35	.000

a. Lilliefors Significance Correction

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Age	Statistic	df	Sig.	Statistic	df	Sig.
EnvAd	18-23	.174	26	.042	.947	26	.194
	23-38	.234	27	.001	.812	27	.000
	39-62	.174	27	.034	.933	27	.082

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvAd	Intermediate	.175	20	.109	.949	20	.354
	Graduate	.220	38	.000	.824	38	.000
	Masters	.170	22	.100	.955	22	.388

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvAd	Urban	.152	69	.000	.968	69	.076
	Rural	.376	11	.000	.570	11	.000

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
GreenPricing	Female	.228	45	.000	.910	45	.002
	Male	.175	35	.008	.902	35	.005

a. Lilliefors Significance Correction

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
GreenPricing	18-23	.171	26	.050	.944	26	.168
	23-38	.206	27	.005	.920	27	.039
	39-62	.227	27	.001	.883	27	.006

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
GreenPricing	Intermediate	.193	20	.049	.931	20	.161
	Graduate	.214	38	.000	.917	38	.008
	Masters	.184	22	.050	.916	22	.062

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
GreenPricing	Urban	.218	69	.000	.908	69	.000
	Rural	.264	11	.031	.847	11	.038

a. Lilliefors Significance Correction

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EcoImage	Female	.278	45	.000	.850	45	.000
	Male	.271	35	.000	.738	35	.000

a. Lilliefors Significance Correction

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EcoImage	18-23	.215	26	.003	.873	26	.004
	23-38	.307	27	.000	.733	27	.000
	39-62	.302	27	.000	.852	27	.001

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EcoImage	Intermediate	.262	20	.001	.875	20	.015
	Graduate	.280	38	.000	.787	38	.000
	Masters	.356	22	.000	.791	22	.000

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EcoImage	Urban	.298	69	.000	.854	69	.000
	Rural	.332	11	.001	.745	11	.002

a. Lilliefors Significance Correction

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalConcern	Female	.141	44	.028	.916	44	.004
	Male	.119	34	.200*	.960	34	.246

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalConcern	18-23	.138	26	.200*	.966	26	.530
	23-38	.145	26	.166	.849	26	.001
	39-62	.120	26	.200*	.946	26	.188

$*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalConcern	Intermediate	.108	20	.200*	.983	20	.963
	Graduate	.128	37	.129	.923	37	.014
	Masters	.194	21	.038	.856	21	.005

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalConcern	Urban	.114	67	.030	.946	67	.006
	Rural	.336	11	.001	.814	11	.014

a. Lilliefors Significance Correction

Tests of Normality

	Sex	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalBehaviour	Female	.137	44	.039	.952	44	.064
	Male	.146	35	.057	.950	35	.113

Tests of Normality

	Highest Educational Level Attained	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalBehaviour	Intermediate	.127	20	.200*	.937	20	.207
	Graduate	.139	37	.069	.947	37	.076
	Masters	.129	22	.200*	.958	22	.454

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Age	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalBehaviour	18-23	.102	26	.200*	.972	26	.687
	23-38	.090	27	.200*	.983	27	.931
	39-62	.166	26	.065	.860	26	.002

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Tests of Normality

	Place of residence	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
EnvironmentalBehaviour	Urban	.093	68	.200*	.967	68	.072
	Rural	.302	11	.006	.841	11	.032

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Appendix C

Tests of difference for Eco-labelling

Independent T-test for Gender

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
EffectEcolabel	Female	45	20.7778	3.06660	.45714
	Male	35	20.9714	2.93544	.49618

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EffectEcolabel	Equal variances assumed	.013	.911	-.285	78	.776	-.19365	.67841	-1.54425	1.15695
	Equal variances not assumed			-.287	74.654	.775	-.19365	.67467	-1.53775	1.15045

Independent t-test for place of residence

Group Statistics

	Place of residence	N	Mean	Std. Deviation	Std. Error Mean
EffectEcolabel	Urban	69	21.0580	3.05289	.36752
	Rural	11	19.6364	2.33550	.70418

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EffectEcolabel	Equal variances assumed	1.623	.206	1.474	78	.144	1.42161	.96443	-.49842	3.34164
	Equal variances not assumed			1.790	16.015	.092	1.42161	.79432	-.26214	3.10536

ANOVA for Age

EffectEcolabel

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.507	2	2.254	.247	.782
Within Groups	702.980	77	9.130		
Total	707.488	79			

Anova for education

ANOVA

EffectEcolabel

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30.854	2	15.427	1.756	.180
Within Groups	676.633	77	8.787		
Total	707.488	79			

Appendix D

Tests of difference for green branding

Mann-Whitney U test for gender and place of residence

Ranks

	Sex	N	Mean Rank	Sum of Ranks
IntensityGreenBranding	Female	45	41.86	1883.50
	Male	35	38.76	1356.50
	Total	80		

Test Statistics[a]

	IntensityGreenBranding
Mann-Whitney U	726.500
Wilcoxon W	1356.500
Z	-.599
Asymp. Sig. (2-tailed)	.549

a. Grouping Variable: Sex

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
IntensityGreenBranding	Urban	69	43.32	2989.00
	Rural	11	22.82	251.00
	Total	80		

Test Statistics[a]

	IntensityGreenBranding
Mann-Whitney U	185.000
Wilcoxon W	251.000
Z	-2.753
Asymp. Sig. (2-tailed)	.006

a. Grouping Variable: Place of residence

ANOVA for Age

IntensityGreenBranding

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30.645	2	15.323	2.354	.102
Within Groups	501.242	77	6.510		
Total	531.888	79			

Kruskal-Wallis for Education

Ranks

	Highest Educational Level Attained	N	Mean Rank
IntensityGreenBranding	Intermediate	20	37.03
	Graduate	38	40.72
	Masters	22	43.27
	Total	80	

Test Statistics[a,b]

	IntensityGreenBranding
Chi-Square	.784
df	2
Asymp. Sig.	.676

a. Kruskal Wallis Test

b. Grouping Variable: Highest Educational Level Attained

Appendix E

Tests of difference for environmental advertisements

Mann-Whitney U test for Gender and Place of residence

Ranks

	Sex	N	Mean Rank	Sum of Ranks
EnvAd	Female	45	38.97	1753.50
	Male	35	42.47	1486.50
	Total	80		

Test Statistics[a]

	EnvAd
Mann-Whitney U	718.500
Wilcoxon W	1753.500
Z	-.685
Asymp. Sig. (2-tailed)	.494

a. Grouping Variable: Sex

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
EnvAd	Urban	69	40.25	2777.00
	Rural	11	42.09	463.00
	Total	80		

Test Statistics[a]

	EnvAd
Mann-Whitney U	362.000
Wilcoxon W	2777.000
Z	-.250
Asymp. Sig. (2-tailed)	.803

a. Grouping Variable: Place of residence

Kruskal Wallis test for Age and Education

Ranks

	Age	N	Mean Rank
EnvAd	18-23	26	38.90
	23-38	27	38.20
	39-62	27	44.33
	Total	80	

Test Statistics[a,b]

	EnvAd
Chi-Square	1.173
df	2
Asymp. Sig.	.556

a. Kruskal Wallis Test

b. Grouping Variable: Age

Ranks

	Highest Educational Level Attained	N	Mean Rank
EnvAd	Intermediate	20	35.68
	Graduate	38	42.58
	Masters	22	41.30
	Total	80	

Test Statistics[a,b]

	EnvAd
Chi-Square	1.247
df	2
Asymp. Sig.	.536

a. Kruskal Wallis Test

b. Grouping Variable: Highest Educational Level Attained

Appendix F

Tests of difference for green pricing

Mann-Whitney U test for Gender and Place of residence

Ranks

	Sex	N	Mean Rank	Sum of Ranks
GreenPricing	Female	45	40.59	1826.50
	Male	35	40.39	1413.50
	Total	80		

Test Statistics[a]

	GreenPricing
Mann-Whitney U	783.500
Wilcoxon W	1413.500
Z	-.040
Asymp. Sig. (2-tailed)	.968

a. Grouping Variable: Sex

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
GreenPricing	Urban	69	43.33	2990.00
	Rural	11	22.73	250.00
	Total	80		

Test Statistics[a]

	GreenPricing
Mann-Whitney U	184.000
Wilcoxon W	250.000
Z	-2.796
Asymp. Sig. (2-tailed)	.005

a. Grouping Variable: Place of residence

Kruskal Wallis test for Age and Education

Ranks

	Age	N	Mean Rank
GreenPricing	18-23	26	41.62
	23-38	27	34.11
	39-62	27	45.81
	Total	80	

Test Statistics[a,b]

	GreenPricing
Chi-Square	3.680
df	2
Asymp. Sig.	.159

a. Kruskal Wallis Test

b. Grouping Variable: Age

Ranks

	Highest Educational Level Attained	N	Mean Rank
GreenPricing	Intermediate	20	34.60
	Graduate	38	42.53
	Masters	22	42.36
	Total	80	

Test Statistics[a,b]

	GreenPricing
Chi-Square	1.801
df	2
Asymp. Sig.	.406

a. Kruskal Wallis Test

b. Grouping Variable: Highest Educational Level Attained

Appendix G

Tests of difference for eco-image

Mann-Whitney U test for Gender and Place of Residence

Ranks

	Sex	N	Mean Rank	Sum of Ranks
EcoImage	Female	45	38.52	1733.50
	Male	35	43.04	1506.50
	Total	80		

Test Statistics[a]

	EcoImage
Mann-Whitney U	698.500
Wilcoxon W	1733.500
Z	-.933
Asymp. Sig. (2-tailed)	.351

a. Grouping Variable: Sex

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
EcoImage	Urban	69	43.04	2970.00
	Rural	11	24.55	270.00
	Total	80		

Test Statistics[a]

	EcoImage
Mann-Whitney U	204.000
Wilcoxon W	270.000
Z	-2.652
Asymp. Sig. (2-tailed)	.008

a. Grouping Variable: Place of residence

Kruskal-Wallis test for Age and Education

Ranks

	Age	N	Mean Rank
EcoImage	18-23	26	45.62
	23-38	27	34.78
	39-62	27	41.30
	Total	80	

Test Statistics[a,b]

	EcoImage
Chi-Square	3.425
df	2
Asymp. Sig.	.180

a. Kruskal Wallis Test

b. Grouping Variable: Age

Ranks

	Highest Educational Level Attained	N	Mean Rank
EcoImage	Intermediate	20	40.50
	Graduate	38	39.62
	Masters	22	42.02
	Total	80	

Test Statistics[a,b]

	EcoImage
Chi-Square	.174
df	2
Asymp. Sig.	.916

a. Kruskal Wallis Test

b. Grouping Variable: Highest Educational Level Attained

Appendix H

Tests of difference for environmental concerns

Mann-Whitney U test for Gender and place of residence

Ranks

	Sex	N	Mean Rank	Sum of Ranks
EnvironmentalConcern	Female	44	37.81	1663.50
	Male	34	41.69	1417.50
	Total	78		

Test Statistics[a]

	EnvironmentalConcern
Mann-Whitney U	673.500
Wilcoxon W	1663.500
Z	-.755
Asymp. Sig. (2-tailed)	.450

a. Grouping Variable: Sex

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
EnvironmentalConcern	Urban	67	40.57	2718.50
	Rural	11	32.95	362.50
	Total	78		

Test Statistics[a]

	EnvironmentalConcern
Mann-Whitney U	296.500
Wilcoxon W	362.500
Z	-1.040
Asymp. Sig. (2-tailed)	.298

a. Grouping Variable: Place of residence

Kruskal Wallis test for Age and Education

Ranks

	Age	N	Mean Rank
EnvironmentalConcern	18-23	26	43.37
	23-38	26	33.79
	39-62	26	41.35
	Total	78	

Test Statistics[a,b]

	EnvironmentalConcern
Chi-Square	2.613
df	2
Asymp. Sig.	.271

a. Kruskal Wallis Test

b. Grouping Variable: Age

Ranks

	Highest Educational Level Attained	N	Mean Rank
EnvironmentalConcern	Intermediate	20	35.98
	Graduate	37	40.65
	Masters	21	40.83
	Total	78	

Test Statistics[a,b]

	EnvironmentalConcern
Chi-Square	.660
df	2
Asymp. Sig.	.719

a. Kruskal Wallis Test

b. Grouping Variable: Highest Educational Level Attained

Appendix I

Tests of difference for environmental behaviour

Independent t-test for Gender

Group Statistics

	Sex	N	Mean	Std. Deviation	Std. Error Mean
EnvironmentalBehaviour	Female	44	24.2727	4.51542	.68072
	Male	35	21.8857	4.53594	.76671

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EnvironmentalBehaviour	Equal variances assumed	.001	.978	2.329	77	.022	2.38701	1.02476	.34645	4.42758
	Equal variances not assumed			2.328	72.908	.023	2.38701	1.02530	.34355	4.43047

Kruskal-Wallis test for Age

Ranks

	Age	N	Mean Rank
EnvironmentalBehaviour	18-23	26	40.75
	23-38	27	37.78
	39-62	26	41.56
	Total	79	

Test Statistics[a,b]

	EnvironmentalBehaviour
Chi-Square	.404
df	2
Asymp. Sig.	.817

a. Kruskal Wallis Test

b. Grouping Variable: Age

ANOVA for Education

ANOVA

EnvironmentalBehaviour

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.513	2	.256	.012	.989
Within Groups	1686.829	76	22.195		
Total	1687.342	78			

Mann-Whitney U test for Place of residence

Ranks

	Place of residence	N	Mean Rank	Sum of Ranks
EnvironmentalBehaviour	Urban	68	39.90	2713.00
	Rural	11	40.64	447.00
	Total	79		

Test Statistics[a]

	EnvironmentalBehaviour
Mann-Whitney U	367.000
Wilcoxon W	2713.000
Z	-.099
Asymp. Sig. (2-tailed)	.921

a. Grouping Variable: Place of residence

Appendix J

Correlation of Eco-labelling and environmental behaviour

Correlations

			EffectEcolabel	EnvironmentalBehaviour
Spearman's rho	EffectEcolabel	Correlation Coefficient	1.000	.250*
		Sig. (2-tailed)	.	.027
		N	80	79
	EnvironmentalBehaviour	Correlation Coefficient	.250*	1.000
		Sig. (2-tailed)	.027	.
		N	79	79

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation of green branding and environmental behaviour

Correlations

			IntensityGreenBranding	EnvironmentalBehaviour
Spearman's rho	IntensityGreenBranding	Correlation Coefficient	1.000	.318**
		Sig. (2-tailed)	.	.004
		N	80	79
	EnvironmentalBehaviour	Correlation Coefficient	.318**	1.000
		Sig. (2-tailed)	.004	.
		N	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation of environmental advertisement and environmental behaviour

Correlations

			EnvAd	EnvironmentalBehaviour
Spearman's rho	EnvAd	Correlation Coefficient	1.000	.120
		Sig. (2-tailed)	.	.291
		N	80	79
	EnvironmentalBehaviour	Correlation Coefficient	.120	1.000
		Sig. (2-tailed)	.291	.
		N	79	79

Correlation of green pricing and environmental behaviour

Correlations

			GreenPricing	EnvironmentalBehaviour
Spearman's rho	GreenPricing	Correlation Coefficient	1.000	.365**
		Sig. (2-tailed)	.	.001
		N	80	79
	EnvironmentalBehaviour	Correlation Coefficient	.365**	1.000
		Sig. (2-tailed)	.001	.
		N	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

Correlation of eco-image and environmental behaviour

Correlations

			EcoImage	EnvironmentalBehaviour
Spearman's rho	EcoImage	Correlation Coefficient	1.000	.065
		Sig. (2-tailed)	.	.572
		N	80	79
	EnvironmentalBehaviour	Correlation Coefficient	.065	1.000
		Sig. (2-tailed)	.572	.
		N	79	79

Correlation of environmental concerns and beliefs and environmental behaviour

Correlations

			EnvironmentalConcern	EnvironmentalBehaviour
Spearman's rho	EnvironmentalConcern	Correlation Coefficient	1.000	.026
		Sig. (2-tailed)	.	.819
		N	78	78
	EnvironmentalBehaviour	Correlation Coefficient	.026	1.000
		Sig. (2-tailed)	.819	.
		N	78	79

Appendix K

Regression Analysis

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Edu3, Sex, Group3, Place of residence, Edu1, Group1 [b]	.	Enter
2	EnvAd, EffectEcolabel, EnvironmentalConcern, IntensityGreenBranding, GreenPricing, EcoImage [c]	.	Enter

a. Dependent Variable: EnvironmentalBehaviour

b. Tolerance = .000 limit reached.

c. All requested variables entered.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.306[a]	.094	.017	4.63952	.094	1.227	6	71	.303	
2	.551[b]	.303	.175	4.25142	.210	3.259	6	65	.007	2.179

a. Predictors: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1

b. Predictors: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1, EnvAd, EffectEcolabel, EnvironmentalConcern, IntensityGreenBranding, GreenPricing, EcoImage

c. Dependent Variable: EnvironmentalBehaviour

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	158.430	6	26.405	1.227	.303[b]
	Residual	1528.288	71	21.525		
	Total	1686.718	77			
2	Regression	511.869	12	42.656	2.360	.014[c]
	Residual	1174.849	65	18.075		
	Total	1686.718	77			

a. Dependent Variable: EnvironmentalBehaviour

b. Predictors: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1

c. Predictors: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1, EnvAd, EffectEcolabel, EnvironmentalConcern, IntensityGreenBranding, GreenPricing, EcoImage

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	25.178	2.717		9.268	.000		
	Sex	-2.705	1.096	-.288	-2.468	.016	.935	1.070
	Place of residence	1.071	1.576	.080	.679	.499	.917	1.090
	Group1	1.456	1.590	.148	.916	.363	.491	2.036
	Group3	1.406	1.348	.142	1.043	.301	.683	1.464
	Edu1	-1.157	1.589	-.109	-.728	.469	.574	1.743
	Edu3	.121	1.359	.012	.089	.929	.759	1.317
2	(Constant)	9.887	8.292		1.192	.237		
	Sex	-1.916	1.036	-.204	-1.849	.069	.878	1.139
	Place of residence	2.713	1.643	.203	1.651	.104	.709	1.411
	Group1	-.456	1.585	-.046	-.288	.774	.415	2.411
	Group3	.693	1.279	.070	.542	.590	.638	1.568
	Edu1	.800	1.568	.075	.510	.612	.494	2.022
	Edu3	-.135	1.254	-.013	-.107	.915	.748	1.336
	EffectEcolabel	.188	.182	.119	1.034	.305	.804	1.244
	IntensityGreenBranding	.652	.256	.358	2.549	.013	.542	1.845
	EnvAd	-.030	.319	-.013	-.095	.925	.597	1.676
	GreenPricing	.829	.384	.326	2.160	.034	.470	2.126
	EcoImage	-.604	.615	-.160	-.983	.329	.404	2.476
	EnvironmentalConcern	-.226	.171	-.158	-1.319	.192	.743	1.347

a. Dependent Variable: EnvironmentalBehaviour

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Group2	.[b]	.	.	.	.000	.	.000
	Edu2	.[b]	.	.	.	.000	.	.000
	EffectEcolabel	.222[b]	1.920	.059	.224	.920	1.087	.491
	IntensityGreenBranding	.374[b]	3.076	.003	.345	.773	1.294	.423
	EnvAd	.164[b]	1.431	.157	.169	.957	1.045	.483
	GreenPricing	.355[b]	2.975	.004	.335	.807	1.240	.462
	EcoImage	.094[b]	.726	.470	.086	.773	1.294	.469
	EnvironmentalConcern	-.013[b]	-.110	.912	-.013	.926	1.080	.468
2	Group2	.[c]	.	.	.	.000	.	.000
	Edu2	.[c]	.	.	.	.000	.	.000

a. Dependent Variable: EnvironmentalBehaviour

b. Predictors in the Model: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1

c. Predictors in the Model: (Constant), Edu3, Sex, Group3, Place of residence, Edu1, Group1, EnvAd, EffectEcolabel, EnvironmentalConcern, IntensityGreenBranding, GreenPricing, EcoImage

Collinearity Diagnostics[a]

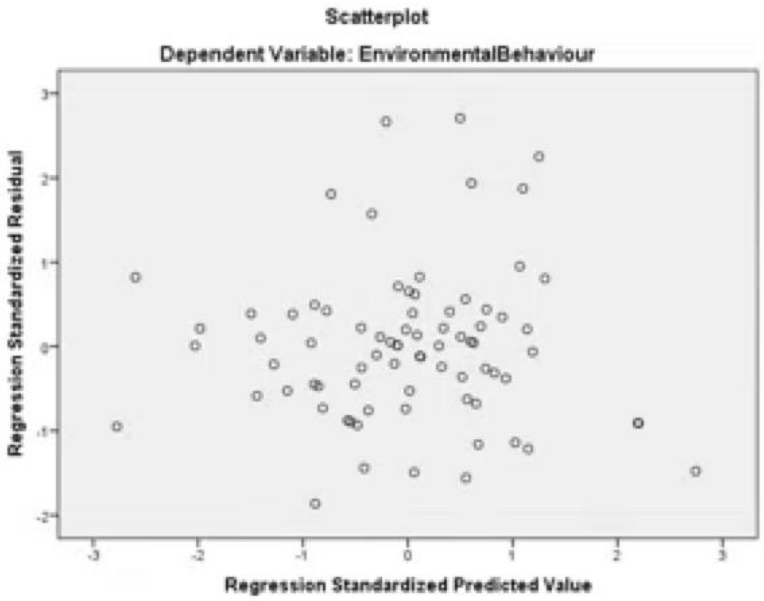
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions												
				(Constant)	Sex	Place of residence	Group1	Group3	Edu1	Edu3	EffectEcolabel	IntensityGreenBranding	EnvAd	GreenPricing	EcoImage	EnvironmentalConcern
1	1	4.152	1.000	.00	.01	.00	.01	.01	.01	.01						
	2	1.370	1.741	.00	.00	.00	.07	.06	.10	.07						
	3	.825	2.244	.00	.00	.00	.01	.21	.01	.37						
	4	.335	3.520	.00	.03	.01	.07	.12	.61	.32						
	5	.207	4.483	.00	.01	.05	.74	.56	.14	.07						
	6	.085	6.978	.00	.64	.38	.04	.00	.12	.00						
	7	.027	12.437	.99	.31	.56	.05	.04	.02	.16						
2	1	9.978	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	1.390	2.680	.00	.00	.00	.07	.05	.10	.05	.00	.00	.00	.00	.00	.00
	3	.827	3.475	.00	.00	.00	.01	.21	.01	.34	.00	.00	.00	.00	.00	.00
	4	.359	5.275	.00	.01	.00	.02	.17	.48	.41	.00	.00	.00	.00	.00	.00
	5	.212	6.856	.00	.00	.02	.68	.51	.16	.07	.00	.00	.00	.00	.00	.00
	6	.094	10.326	.00	.70	.03	.01	.01	.02	.06	.00	.00	.00	.01	.00	.00
	7	.084	10.870	.00	.16	.51	.09	.01	.08	.05	.00	.00	.00	.00	.01	.00
	8	.021	21.743	.00	.00	.03	.01	.01	.01	.00	.52	.01	.03	.00	.08	.00
	9	.011	30.547	.03	.04	.11	.00	.02	.01	.01	.00	.10	.01	.81	.00	.02
	10	.010	31.947	.01	.00	.00	.01	.00	.00	.00	.08	.01	.54	.02	.00	.19
	11	.007	37.900	.00	.07	.00	.05	.00	.07	.00	.04	.72	.00	.06	.35	.05
	12	.006	42.362	.02	.00	.22	.01	.00	.00	.00	.15	.12	.38	.02	.56	.22
	13	.003	62.857	.93	.01	.06	.03	.00	.07	.00	.20	.05	.04	.07	.00	.51

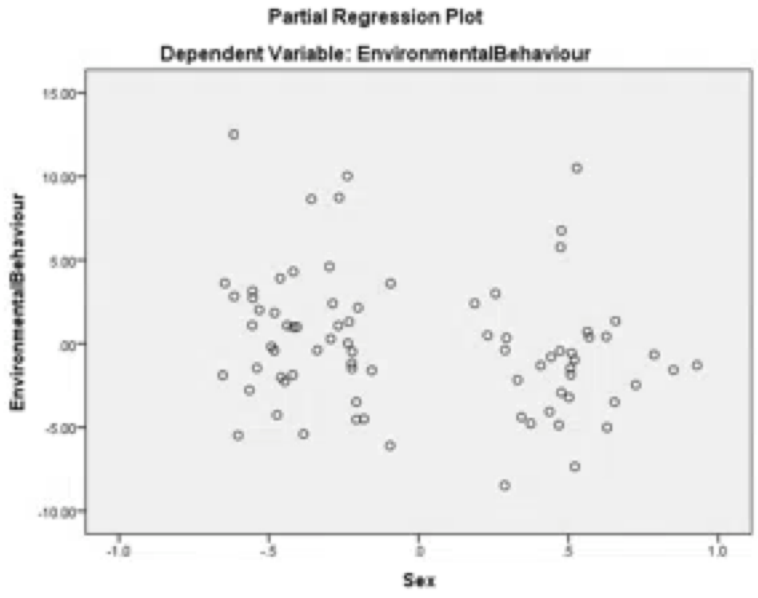
a. Dependent Variable: EnvironmentalBehaviour

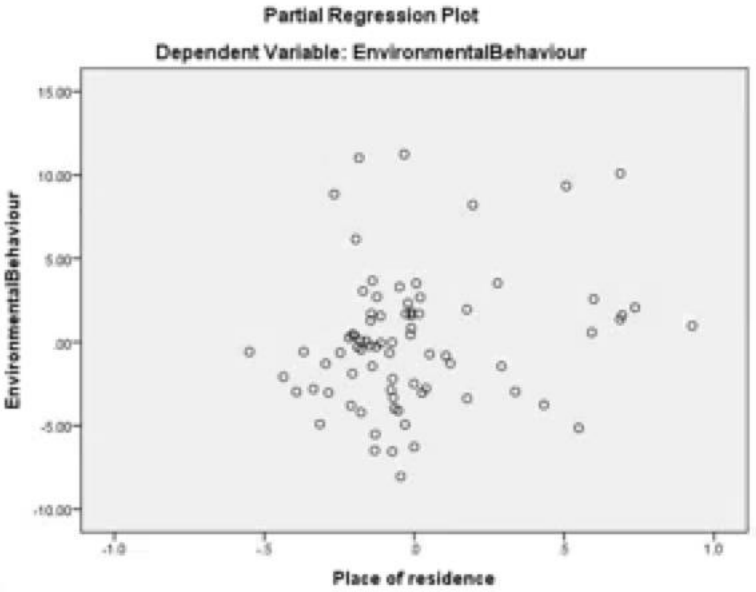
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.0481	30.2843	23.2051	2.57830	78
Residual	-7.92685	11.51394	.00000	3.90612	78
Std. Predicted Value	-2.776	2.746	.000	1.000	78
Std. Residual	-1.865	2.708	.000	.919	78

a. Dependent Variable: EnvironmentalBehaviour



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Dependent Variable: EnvironmentalBehaviour
EnvironmentalBehaviour
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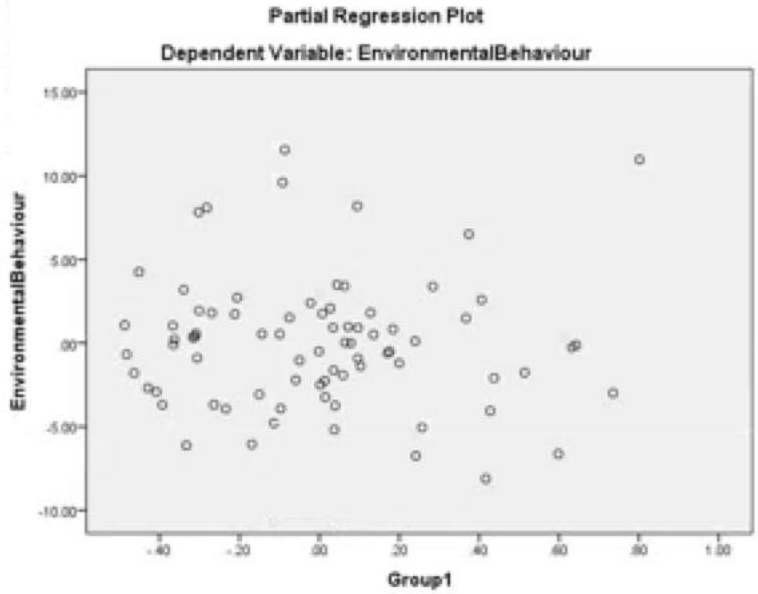
10.00
5.00
.00
-5.00
-10.00
-1.0
-.5
0
.5
1.0
Place of residence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EnvironmentalBehaviour
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10.00
5.00
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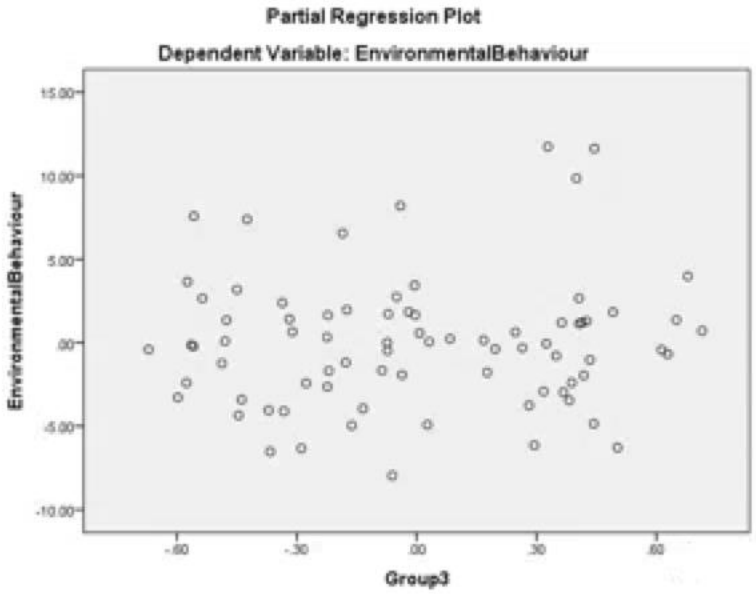
-5.00
-10.00
-.40
-.20
.00
.20
.40
.60
.80
1.00
Group1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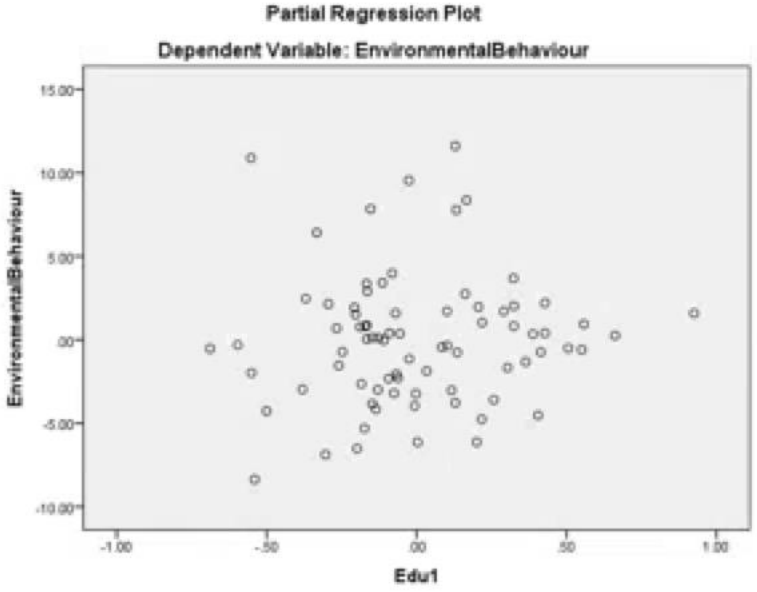
5.00
.00
-5.00
-10.00
-.60
-.30
.00
.30
.60
Group3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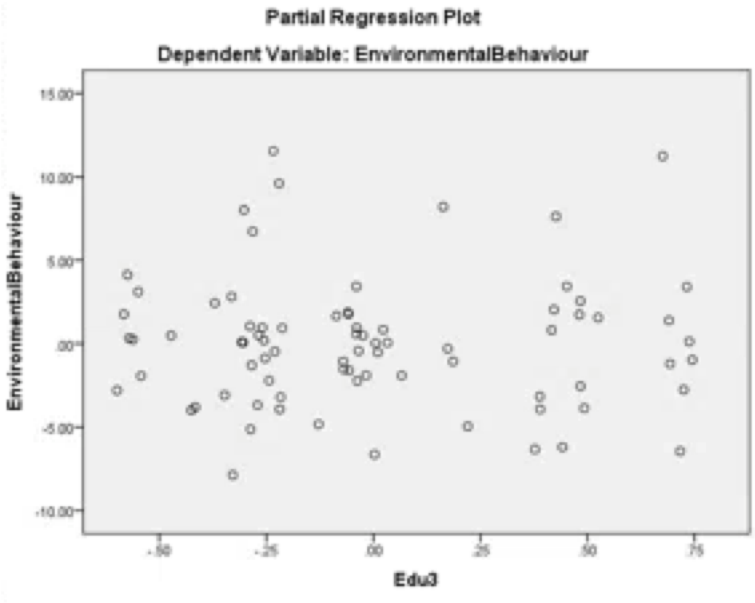
-5.00
-10.00
-1.00
-.50
.00
.50
1.00
Edu1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.00
-5.00
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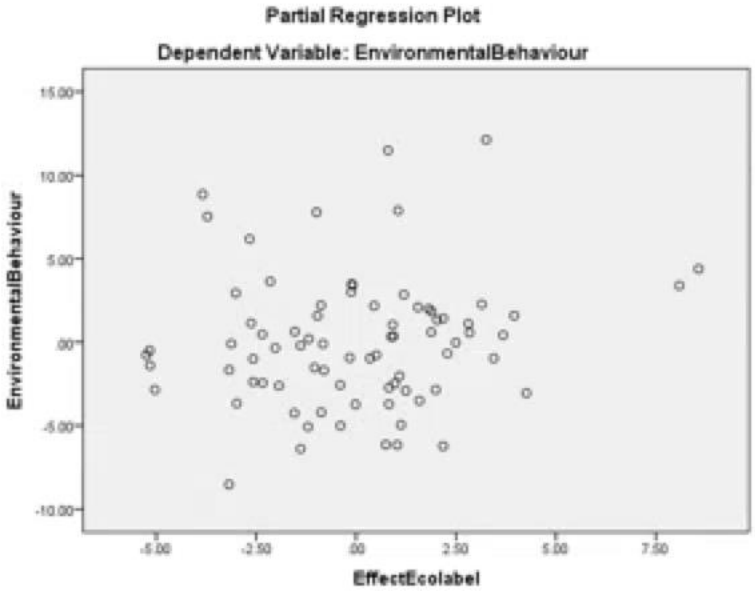
-.25
.00
.25
.50
.75
Edu3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.00
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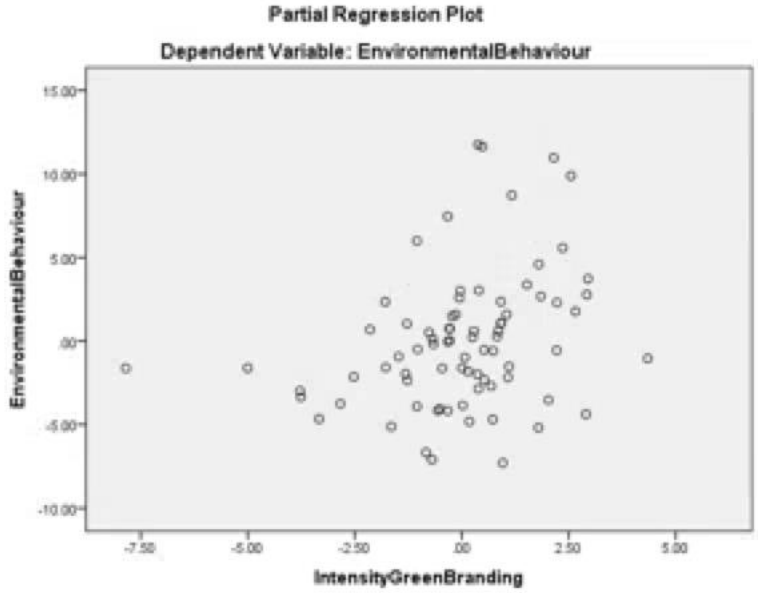
.00
2.50
5.00
7.50
EffectEcolabel


Partial Regression Plot
Dependent Variable: EnvironmentalBehaviour
EnvironmentalBehaviour
15.00
10.00
5.00
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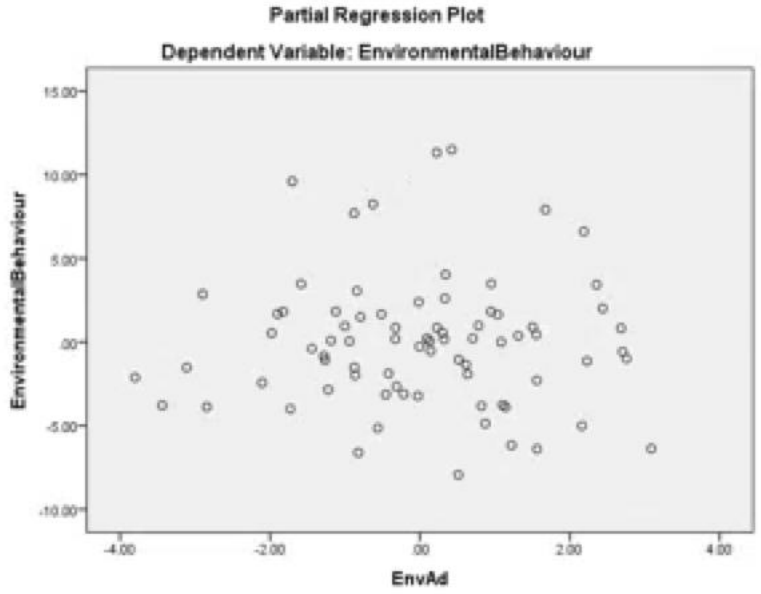
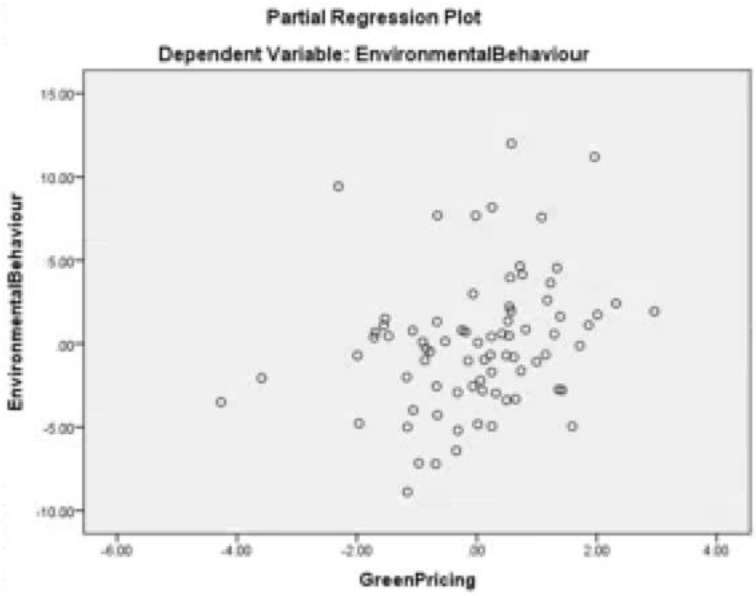
-5.00
-10.00
-7.50
-5.00
-2.50
.00
2.50
5.00
IntensityGreenBranding


Partial Regression Plot
Dependent Variable: EnvironmentalBehaviour
EnvironmentalBehaviour
15.00
10.00
5.00
.00
-5.00
-10.00
-4.00
-2.00
.00
2.00
4.00
EnvAd


Partial Regression Plot
Dependent Variable: EnvironmentalBehaviour
EnvironmentalBehaviour
15.00
10.00
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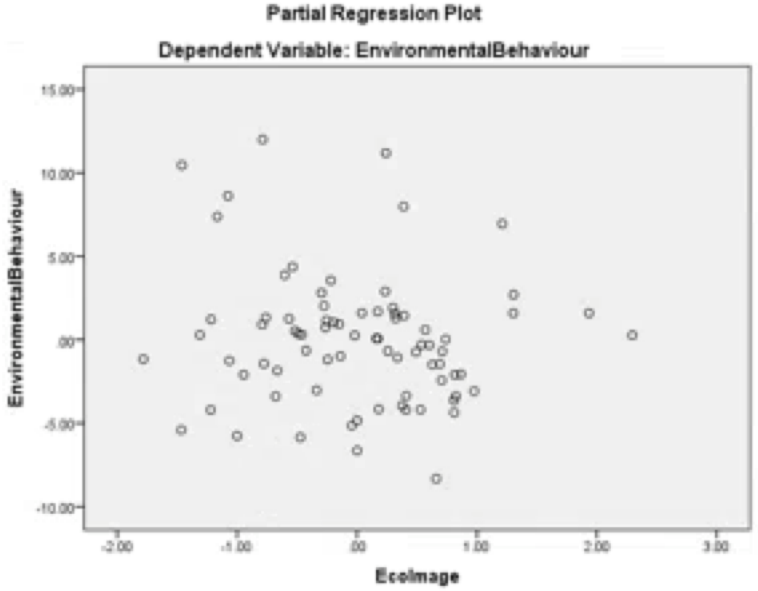
-5.00
-10.00
-6.00
-4.00
-2.00
.00
2.00
4.00
GreenPricing


Partial Regression Plot
Dependent Variable: EnvironmentalBehaviour
EnvironmentalBehaviour
15.00
10.00
5.00
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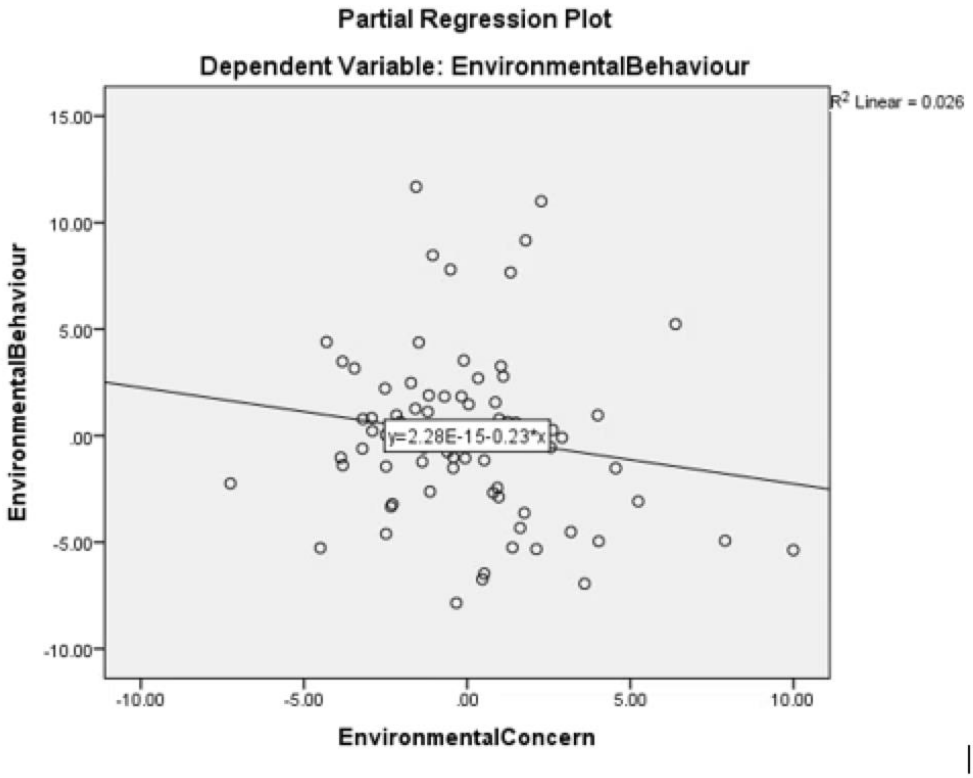
-5.00
-10.00
-2.00
-1.00
.00
1.00
2.00
3.00
EcoImage


Partial Regression Plot
Dependent Variable: EnvironmentalBehaviour
R² Linear = 0.026
y=2.28E-15-0.23*x
EnvironmentalBehaviour
EnvironmentalConcern
15.00
10.00
5.00
.00
-5.00
-10.00
-10.00
-5.00
.00
5.00
10.00