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Examining the Moderating Effect of Green Product Knowledge on Green Product Advertising and Green Product Purchase Intention:

A Study Using SmartPLS SEM Approach

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ABSTRACT

Green products are essential for future and present generations, as they are safe for the environment and once disposed will easily get recycled. The world has recognised this fact and there has been lot of research on this as it is the future. The present study is an attempt to understand how much of knowledge about green products and its association with green product advertising leads to green product purchase, and how much of knowledge and attitude effect purchase intension. Prior research on this model has been conducted by Dr Suki, entitled "Green product purchase intention: impact of green brands, attitude, and knowledge," in Malaysia, this research focuses on consumers of Uttarakhand in India. Results were similar except the moderating effect was not significant in prior research, but this research revealed that moderating effect was statistically significant.

KEYWORDS

green product attitude, Green product purchase intention, moderating effect, green product knowledge

INTRODUCTION

Emerging evidence (Wong et al., 1996; Aspinall, 1993) suggests a curious paradox. Despite evidence to suggest that society is increasingly sympathetic towards the environment many environmentally friendly products have not achieved the level of market success that would have been expected. In many consumer product categories, environmentally friendly producers have achieved disappointingly low levels of market share. This is supported by the findings of recent UK surveys which indicate that, although consumers' concern with the environment continues to increase (albeit at a decreasing rate) their willingness to buy environmentally friendly products has declined (Mintel, 1991; 1995).

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Companies have realised that positioning of green products is the only way to stay competitive and in order to achieve this they are continuously ascertaining novel ways in terms exploring new ideas and strategies. To advance a country's green revolution, McGougall (1993) asserts that the role of consumers is essential. This assertion is supported by the evidence that 30–40% of environmental degradation has been brought about by the consumption activities of private households (Grunert,1993). More importantly, if consumers exhibit a high degree of ecological consciousness and channel it to corresponding eco friendly or green purchases, it is likely that profit-driven enterprises will be strongly motivated to adopt the concept of green marketing in their operations. The dynamics of this buyer–seller interaction will consequently lead to further advancement of the green revolution across the whole country (Ottman, 1992).

Thus, to better understand the environmental movement of a particular nation, an examination of how its consumers view and feel about ecological issues, and how they behave accordingly, serves as a good starting point. To proceed further, let us understand who are green customers and green brand, as per Norazah and Norbayah, 2015 a green customer is one who spend money to purchase green products and have a high environmental consciousness and knowledge level, and as per Grant, 2008, p. 25, a green brand is "a brand, which offers a significant eco-advantage over its competitors and is able to attract consumers who set a high priority on making green purchases" also as per Hartmann and Ibanez (2006) "a green brand entails a set of attributes and benefits associated with reduced adverse environmental impact and the creation of a positive impression on consumers by raising their environmental concern". It is however interesting to know that in 2008 Lifestyles of Health and Sustainability (LOHAS) club alone spent close to $300 billion on green products, Cooney (2010). A study done by Norazah, 2016; Soyez, 2012; Thogersen et al., 2015 revealed that consumer have channeled their growing concern for the environment through the demand for eco-friendly products and this movement of "going-green" has expanded worldwide due to intensified awareness of living in a healthier way. The public has increasingly noticed environmental issues by reason of the disastrous environmental pollution arisen from industrial manufacturing activities in the world (Chen, 2011). Consequently, more firms are prone to accept environment protection as their social responsibility (Dwyer, 2009; Lee, 2009). Because environmental concern has quickly become a mainstream issue as a result of global warming nowadays, more forethoughtful companies would like to utilize green opportunities (Molina-Azorı´n et al., 2009; Haden et al., 2009). It was widely believed that there would be an opportunity form growth in the green marketing domain, and firms would have to become more environmentally and socially sensitive to stay competitive in the market. This led firms to expect positive responses from consumers, increase in firm reputation (Ndubisi, 2011), and increase in goodwill and market share (Lee, 2008). Notwithstanding reports that environmental problems constituted public concerns, market growth for green products fell disappointingly short of marketers' expectations (Wong, Turner and Stoneman, 1996). A study on Crisp and fuzzy model of the EOQ model primarily dependent on demand and also permissible delay in payments gives a clear insight of the prevailing market conditions (Sayal et al., 2021)

REVIEW OF LITERATURE

Green Product Advertising

The intensification of global environmental problems has increased social awareness of environmental protection, promoting the development of green consumption (Wang, 2020). A comprehensive amount of research needs to be undertaken to know factors that either encourages or discourages companies from focusing on environmental and sustainability in marketing and advertising campaigns. Kotler (2001). Advertising is an important component that has its presence in today's society. It is such an important aspect that cannot be ignored. The good part is that it can change itself to the changing world. With every passing year the changes that happen needs to be conveyed to target audience in a

similar manner Champlin (2020). As per (Easterling et al. 1996) there has been a substantial increase in advertising with regards to green messages, since advertising one of the most common ways to deliver green message to consumers. Since there has been an increase in environmental awareness from consumers, marketers and advertisers have responded positively to it by informing about the pro-environmental aspects of their products and its importance to them through green advertising (Banerjee, Gulas, & Iyer, 1995; Davis, 1993; Manrai, Manrai, Lascu, & Ryans, 1997). It was also observed that companies advertising not only have favourable effect on sales but social effects in terms of being environmentally concerned was also seen Lim (2021). There were many surveys conducted to know how advertisers can frame their advertising theme and as per Brul, Halvorsen, and Nyborg (2002) it was found that a large section of people want to think of themselves as responsible people who care for the environment and it is because of them environment has not yet degraded. It is this self – identity which has been found to be a strong significant predictor of pro environmental action (Whitmarsh & O'Neill 2010). The image of socially responsible person is an important feeling and advertisers can create advertising themes based on this showing the importance of such people in society through advertisements, this will compel such people to become more environmental conscious. The self – image of being socially responsible and maintaining this image is a motivation for such individuals (Brekke, Kverndokk & Nyborg 2003). For attaining a favourable self – image for being morally superior, the individual needs to make a choice (Nyborg, Howarth, & Brekke 2006). It is needless to say that green advertising has an import effect on green purchase intension and this has been proved statistically as well (Luo, B et al. 2020), as per the literature analysed, we hypothesized that H1: "Green product advertising has a significant effect on Green product purchase intention."

Attitude Towards Green Product

An important factor that cannot be ignored is the gap between attitude and behaviour. Studies have shown the link between the two (Ajzen, 1991; Wicker, 1969) pointed out that the two are significant predictors, but as with the case with all theories there are contradictions (Paladino & Ng, 2013) pointed out that if the consumers are concerned about environmental issues and feel that companies also need to be socially responsible is when the attitude behaviour gap is formed, which makes sense. DoPaço, Raposo, & Leal, 2009 pointed out that a lot of research needs to be done if attitude correlates with behaviour or vice versa. The results indicated that consumers with attitude of animosity and ethnocentrism negatively perceived foreign made products and consumers with world-mindedness attitude positively perceived foreign made products as said by Khairul Anuar Mohammad (2021). Green product has always been seen as products that are environmentally important for the future, Dipeolu, A.A et al 2021. Researchers have made several contributions related to green marketing issues, for example: to investigate consumers' green attitudes and behaviours; to identify the market for green markets; to stratify the green market into different segments based on the consumers' needs; to develop green positioning strategies; and to formulate a green marketing mix program (Chaubey and Pant 2017). A study by (Aman et al., 2012; Barber et al., 2009; Flamm, 2009) pointed out that attitude of consumers towards green product have a significant effect on their knowledge and attitude. Also as per (Yadav and Pathak 2016) that said that consumers attitude plays a significant role in his her green purchase intention. In line with this research another research by (Paul et al. 2016) highlighted that Indian consumer significantly predicts their purchase intention of a green product. To help create a positive brand attitude it is important for marketers to link social media influencers with positive brand attitude Rayasam, L., & Khattri, V. (2022). A study by (Mostafa 2009) revealed that consumers with positive attitude towards green products are more likely to purchase it, proving that there is a need to develop a strong green positioning, also (Teng 2009) had similar results. With the available literature our study hypothesised that H2 consumer's attitude towards green products has a significant effect on green product purchase intention.

Green Product Knowledge

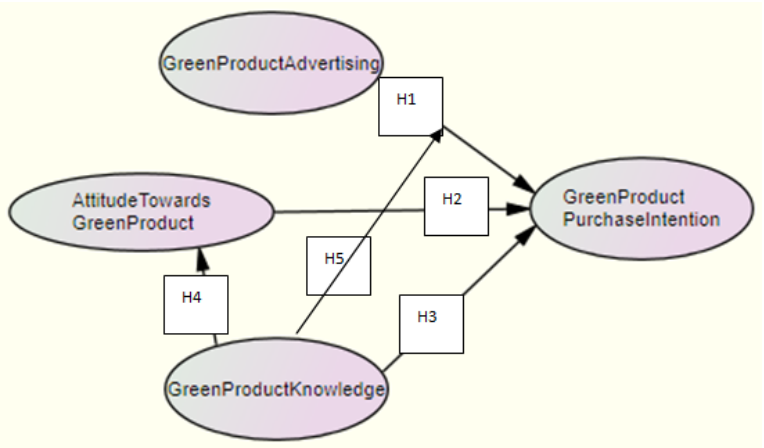
Green message for products that exabit a greater environmental impact will have a greater effect and vice versa, as per (Henion, Russell, and Clee 1981) such products will have higher environmental impact as it will show higher environmental concerns. This finding was consistent with (Niva, Heiskanen, and Timonen 1997) and (Laroche, Bergeron, and BarbaroForleo2001) who proposed that even if consumers lacked knowledge about green products if practical information was made available to such customers, they will be inclined to buy such products. It is however generally seen that behavioural literature shows a positive relationship between knowledge and behaviour. There is however contradiction to this possibility as a study by (Arbuthnot and Lingg, 1975) have shown that ecological knowledge exerts no significant direct effect on the performance of eco-friendly acts, and they suggest that ecological knowledge might act as a mediating variable for ecological attitudes and behaviour. A similar study by (Dispoto1977) revelled that there is a positive association between ecological knowledge and environmentally responsible behaviour. (Davis 1993) has also asserted that augmented knowledge of environmental issues may lead to more positive ecological attitudes. Given the strong attitude–behaviour link in the literature (e.g. Davis, 1989; Ndubisi, 2008), and significant knowledge–behaviour relationship (Dispoto, 1977), it is reasonable to expect a positive relationship between eco-literacy and green buying behaviour. Wang et al. (2019) conducted a study on green product knowledge for promoting green product purchase intention. Dhir et al. (2021) developed a knowledge attitude behaviour context perspective with regards to green products. An et al. (2021) conducted a study for investigating the barriers as well as the determinants for the purchase intention related to innovative new products. Chen et al. (2022) conducted research related to the green product purchase attitude of the consumers during COVID-19 pandemic.

Consistent with the literature review, this study therefore postulates the following hypothesis. H3: Green product knowledge has a significant effect on green product purchase intention. H4: Green product knowledge has a significant effect on consumers' attitude towards green products. H5: Green product knowledge moderates the relationship between green product positioning and green product purchase intention. With reference to the aforementioned literature review, conjectures and hypotheses, the following research framework is posited:

Green Product Purchase Intention

Consumer purchase intention has always been an important latent construct for all of the researchers and the reason is that it is ultimately the purchase of green product that decides both from consumers

Figure 1. Proposed model



and marketers angle weather to manufacture it or not, and this is why we included this variable in our research. Purchase intentions are frequently measured and used by marketing managers as an input for decisions about new and existing products and services. Purchase intentions are correlated and predict future sales. Consumers' stated purchase intentions are one of the primary inputs that marketing manager's use to forecast future sales and to determine how the actions they take will impact consumers' purchasing behaviour. Between 70 and 90 percent of clients of market research suppliers indicated in a study that they regularly measure and use purchase intentions (Jamieson and Bass, 1989). While managers' widespread use of purchase intentions measures suggests that they believe that they are good proxies for what consumers will do in the marketplace, we have long known that they are correlated with but are imperfect predictors of future consumer behaviour (Namias, 1959). Consumer buying behaviour is the sum total of a consumer's attitudes, preferences, intentions, and decisions regarding the consumer's behaviour in the marketplace when purchasing a product or service. Purchase intention can be defined as "what consumers think they will buy". The knowledge of environmental issues and environmentally responsible behaviours are positively related. A high degree of environmental awareness separates the green consumers from the non-green ones (Nath, Vishnu et al 2013). Consumer intentions play an important role in marketing strategies (to implement four P strategies) because they permit companies to evaluate how many products could be produced according to the demand. To predict the purchase intention, companies can interview consumers about their past behaviours in order to forecast their future behaviours but the products that people bought in the past can be different of those they will buy. Thus, another method is to ask consumers what they intend to do (Blackwell et al., 2006, p. 409-410, 742). In a consumer behaviour approach, Solomon et al. (2010, p. 643) defined the attitude as "a lasting, general evaluation of people (including oneself) objects or issues." Graessley et al. (2019) studied the consumer attitude and behaviour related to the technology driven economy. Zhuang et al. (2021) conducted research for studying the factors influencing the purchase intention of the green products.

METHODOLOGY

Sampling and Population

We employed a quantitative method employing purposive sampling technique spread over three weeks in March 2018, by providing self – administered structured questionnaire to 250 respondents of the public in three cities of Uttarakhand namely Dehradun, Haldwani and Nainital. Respondents who practise a green lifestyle, and have a decent green product purchasing experience for at least once a week for purchasing organic hair care products from grocery stores or supermarkets were targeted. Once we got the responses, data was screened to check for any outliers and other errors. Out of 250 respondents 24 respondents were omitted and a total of 226 respondents were found suitable and valid and as per (Hair et al., 2010) this figure was suitable for statistical analysis and Bagozzi and Yi (2012) pointed out that the recommended sample size for a study should be above 100, and if possible, above 200, correlating to a valid response rate of 90%.

Questionnaire Development

The questionnaire had three sections, the first contained details of the respondents demographics like age, gender, professional status etc details in Table 1. Second section exposed respondents to answer questions designed by a priori measurement scale developed by (Patrick et al., 2005), (Chan, 2001), (Keller, 1993) and (Aaker, 2007; Patrick et al., 2005) details in Table 2. And finally, the third section contained questions to explore respondents' frequency of purchasing green products their experience, how much money they are ready to spend on green products, their motivation source etc. A 5-point Likert scale was used where 1 indicated "Strongly disagree and 5 indicating "Strongly agree".

Statistical Technique

Since the data were taken from a priori scale there was no need for an exploratory factor analysis (EFA), we applied structured equation modelling (SEM) since as per Harris and Goode (2004, p. 147) explicitly pointed out that "SEM overcome the limitations of bivariate analyses through the simultaneous analysis of all the complex relationships between the constructs". Correspondingly, Hair et al. (2010, p. 641) stated that, "SEM is most appropriate when the research has multiple constructs, each represented by several measured variables, and allows for all of the relationship/equations to be estimated simultaneously". We had an option to use following software's namely AMOS, SmartPLS, LISREL or ADANCO. After a lot of thought process, it was decided to adopt SmartPLS which is a variance-based technique and since the research data does not have multivariate normal distribution which is sensitive to sample size than other covariance approaches like LISREL or AMOS (Chin, 1998). Bootstrapping was also employed to generate t values statistics that will determine the relationship of path coefficients and allow us to better understand if there is a statistically significant relationship.

DATA ANALYSIS

Demographic Characteristics of Respondents

The descriptive statistics revealed the following results that 55% of the respondents were male followed by 45% females, as shown in Table 1. Responds in the age group of 35 to 55 and above were the most. As far their qualification was concerned 54% had their Professional/Master's degree. And 59% were employed.

Table 1. Demographic of respondents

Demographics(n=SampleSize)	Items	Frequency (%)
Gender (n = 226)	Male	124 (55)
	Female	102 (45)
Age (n = 226)	Under 18 years	11 (05)
	18-24 years	21 (09)
	25-34 years	32 (14)
	35-44 years	51 (23)
	45-55 years	56 (25)
	55 and above	55 (24)
Qualification (n = 226)	Non – matriculate	03 (01)
	High school (Matriculation/12th)	80 (35)
	Bachelor's Degree	14 (06)
	Professional/Master's Degree	121 (54)
	Doctorate Degree	08 (04)
Professional status (n = 226)	Student	33 (15)
	Looking for work	03 (01)
	Homemaker	20 (09)
	Employed	133 (59)
	Self – employed	37 (16)

Experience with Green Products Purchases

Table 2 shows the third section of questions asked from respondents which included questions like regularity of purchase, types of items purchased etc. On a weekly basis 53% respondents spent Rs 101 to 150 in a week on green products. And family members constituted 45% on the source of motivation to buy green products, hair care products were the types of green products purchased the most 48%. And the frequency of purchase in a week was 1 to 5 times accounting for 46%.

Table 3 shows the questions asked from the respondents in section 2 of the questionnaire, as already discussed our research was circled around knowing the impact of green product positioning, attitude towards green product directly and indirectly with green product knowledge on green product purchase intention and the moderating impact of green product knowledge on green product purchase intention. The four constructs were adapted from the study of Suki, (2016) "Green product purchase intention: impact of green products, attitude, and knowledge", and the entire study was conducted in three cities namely Nainital, Dehradun, and Haldwani of Uttarakhand India.

Partial Least Squares

Since PLS handles non normal data and there is no issue with small sample size and in addition takes care of formative scale and heterogeneity issues with ease, (Hair et al, 2014) was the reason we did the data analysis using SmartPLS2, the analysis was done in two stages i.e., measurement and structural model as in the case with virtually all social sciences research the data can suffer from low theoretical information with high complexity (Joreskog & Wold 1982, p. 270). The measurement model stage checks the latent constructs validity [convergent and discriminant] and reliability. To establish a strong reliability Cronbach's alpha and composite reliability were employed to check internal consistency, table

Table 2. Experiences on green product purchases

Variable	Frequency	Percentage
Regularity of green purchase (weekly)	105	46.4
1-5 times	75	33.1
6-10 times	46	20.3
11-15 times	56	24.7
Types of green products purchased		
Organic eatables	110	48.6
Hair care products	57	25.2
Organic vegetables	3	0.01
Electronics	103	45.5
Source of motivation to buy green product		
Family member	80	33.5
Friends/peers	43	19
Neighbours	50	22.1
Amount spent on green product purchases (per month)		
<Rs.100	120	53
Rs.101-Rs.150	40	17.6
Rs.151-Rs.200	16	0.07
>Rs.201	50	22

Table 3. Experiences on green product purchases

Green Product Advertising	Aaker, 2007; Patrick et al., 2005	Quality and price are important when consumers purchase green products
		I get to know about green producing through advertisement
		Green products have matched my personal wants and needs
		Green product is always overpriced
		I prefer to purchase environmentally green products
Attitude towards Green Products	Patrick et al., 2005	I feel that green product's environmental reputation is generally reliable
		I feel that green product's environmental performance is generally dependable
		I feel that green product's environmental claims are generally trustworthy
		Green product's environmental concern meets my expectations
		Green products keep promises and responsibilities for environmental protection
Green Product Knowledge	Keller, 1993	Going green products could be a beneficial investment in long-term.
		Green product's environment performance meets my expectations
		Lack of availability of access is a major reason for low popularity and demand of green products
		I purchase green product because it is environmentally friendly
		I purchase green product because it has more environmental benefit than other products
Green Product Purchase Intention	Chan, 2001	I intend to buy green product because of your environmental concern.
		I expect to purchase green product in the future because of its environmental benefits
		Overall, I'm glad to purchase green product because it is environmentally friendly

4 shows these values which are in the tolerable limits >0.70 Hair et al. (2010), all our values were above .70 indicating a strong reliability. Since all values of Average Variance Extracted (AVE) were >0.50 Fornell and Larcker (1981) indicating a good convergent validity, signifying that all four latent variable were able to explain50% variance of their respective indicators (Gotzet et al., 2010) and also ensures that errors were at their minimal. To ensure that there were strong convergent validity the standardized factor loadings, and AVE were used in bootstrapping by creating 500 sub samples, and all values were above the cut off threshold of 0.60 with no cross loadings and all values significant at (p<.001) also indicating that the measurement items loaded well within their own constructs (Hair et al.,2010).

Comparison of shared variance between factor with individual factor AVE was tested to check the discriminant validity (Fornell & Larcker, 1981). Table 5 shows that the share variances between factors were lower than their square root of individual factor's AVE, indicating discriminant validity holds true and different constructs are dissimilar with one another. As per (Sussman and Siegal, 2003) all associations between the four factors were <.70, showing good level of discriminant validity. It was also proved that each factor was distant from each other as the correlation between GBK and GPI was the strongest (r=0.445,

p<0.01), the correlation between GPA and GPI (r=0.432, p<0.01) followed by AGP and GPI the lowest at (r=0.421, p<0.01). As Multicollinearity is the biggest threat to regression this aspect needs to be checked with Variance Inflation Factor (VIF) and tolerance values, our structural model was not affected by it as the values ranged between 2.043 and 2.460 for AGP and GBK respectively, Hair *et al.* (2010). If we have a look at the mean and the standard deviation we notice that GPI has the highest mean of 3.368 with 0.722 as standard deviation followed by GBK (mean=3.345, standard deviation=0.815).

Goodness-of-Fit Indicator

As per Goodness – of – fit index (GoF) criterion the values range from 0 to 1 (Tenenhaus et al., 2005) and Cohen (1988) and Wetzels et al. (2009) gave three segments small (0.1 <GoF £ 0.25); medium

Table 4. Analysis of reliability and validity

Items	Standardized Loadings	Cronbach's alpha	Composite reliability	Average variance extracted
Green product advertising				
GPA1	0.79	0.781	0.841	0.517
GPA2	0.729			
GPA3	0.662			
GPA4	0.62			
GPA5	0.78			
Attitude towards Green Products				
AGP1	0.752	0.82	0.893	0.627
AGP2	0.894			
AGP3	0.711			
AGP4	0.799			
AGP5	0.794			
Green product knowledge				
GBK1	0.761	0.846	0.89	0.619
GBK2	0.719			
GBK3	0.761			
GBK4	0.829			
GBK5	0.856			
Green products purchase intention				
GPI1	0.854	0.878	0.922	0.798
GPI2	0.936			
GPI3	0.889			

a Composite reliability = (square of the summation of the factor loadings)/{(square of the summation of the factor loadings) + (square of the summation of the error variances)}.

b AVE = (summation of the square of the factor loadings)/{(summation of the square of the factor loadings)+ (summation of the error variances)}.

(0.25 <GoF £0.36), and large (GoF> 0.36) and our value was 0.61, which falls in large segment indicating a good model fit.

Structural Model

Once the model fit is accessed the next stage is the structural model stage in which analysis is run to test the research hypotheses. The predictive capability measure using Blindfolding procedure was also used as SmartPLS2 has this option, where a cross-validated redundancy value greater than 0 shows that there is predictive relevance, while a value less than 0 indicates lack of predictive relevance (Chin, 1998), our study had the cross-validated redundancy value of 0.571 that is greater than 0 indicating the presence of predictive relevance. The R^2 value was 0.668 which means all the independent variables accounted for 66% variance explained or in other words all independent variables were able to explain 66%, which is a higher number that exceeds the minimum level of 10% indicating strong explaining power (Falk & Miller (1992)), as indicated above a bootstrap re sampling technique with 500 sub – samples, since the bootstrapped estimates produces a *t*-value and as per table value any value below 1.96 shows the effect is insignificant meaning accepting the null hypothesis (Yi and Davis, 2003). Table 6 shows the

Table 5. Inter-construct correlations and square root of the AVE

Variables	Mean	SD	GPA	AGP	GBK	GPI
GPA	3.223	0.824	**0.719**			
AGP	3.187	0.778	0.324**	**0.792**		
GBK	3.345	0.815	0.490**	0.447**	**0.786**	
GPI	3.368	0.712	0.432**	0.421**	0.445**	**0.89**
Skewness			0.662	0.157	0.578	0.469
Kurtosis			0.135	0.326	0.271	0.421
Tolerance			0.488	0.429	0.461	0.484
VIF			2.213	2.043	2.46	2.213

Notes: **. Correlation statistically significant at 0.01 level (2-tailed); Diagonal values showing the squareroot of the average variance extracted; and the Off-diagonal showing the shared variances; SD = Standarddeviation

statistical results of the structural model and hypothesis testing results based on bootstrapped t value. GPA is seen to have a significant and positive link with GPI (β1=0.385, *t* value=5.1688,$p<0.05$) so H1 is supported. In similar vein, AGP had a significant influence on GPI (β2=0.192, *t*value= 2.277, $p<0.05$) suggesting that H2 is also retained. Further examining revealed that GBK was significant and positively related to GPI (β3=0.474, *t*-value=7.896, $p<0.05$), hence H3 was also retained. Besides H4 examines if GBK has a significant effect on AGB, the test reviled that GBK have a significant positive effect with AGB (β4=0.670, *t*-value=20.521, $p<0.05$). Hence H4 is maintained.

The moderating relationship between GPK and GPA with GPI was assessed using H5, this process was done using SPSS process macro developed by Prof Hayes, figure 2 shows the moderating effect graphically, before we understand the graph it is important to note that fifth hypothesis H5 was also maintained as (β5=0.109, *t*-value=2.178, $p>0.05$). Since the iteration effect was also significant it indicated that the influence of GPA and GPI does vary significantly across GPK level, Figure 2

DISCUSSION

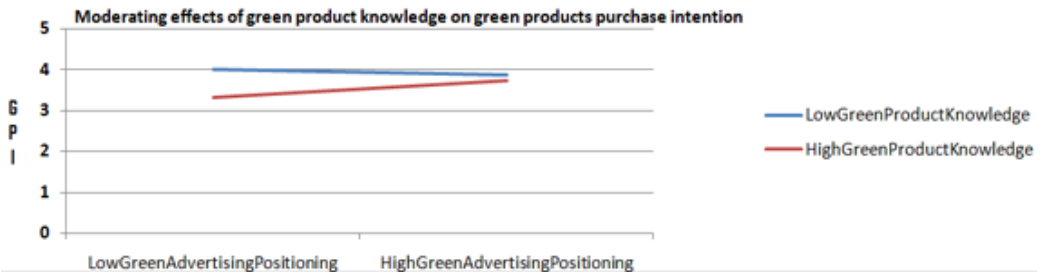
Our study was focussed on understanding the effect of Green product advertising on Green product purchase intention, and it was found that our results were consistent with the studies conducted by (Aaker

Table 6. Hypothetical testing with bootstrapped t value

Hypothesized paths	Path Coefficients	*t*-value	Results
Direct relationships			
H1 Green product advertising → Green products purchase intention	0.385	5.168*	Supported
H2 Attitude towards green product → Green products purchase intention	0.192	2.277*	Supported
H3 Green product knowledge → Green products purchase intention	0.474	7.896*	Supported
H4 Green product knowledge → Attitude towards green product	0.67	20.521*	Supported
Moderating effects			
H5 Green product positioning * Green product Knowledge à Green products purchase intention	0.109	2.178*	Supported

* Statistically significant at $p<0.05$ (*t*-value > 1.960)

Figure 2. Graphical representation of the interaction effect



& Joachimsthaler, 2002; Hartmann & Ibanez, 2006; D'Souza et al., 2007; Mostafa, 2009; Lin & Chang, 2012; Huang et al., 2014; Norazah, 2016), the relationship between the two produced a path coefficient of 38.5% which is adequate in explaining the variance of the two and if it needs the support of proving it mathematically, we see the *t*-value i.e. 5.168 [table 6] which is above 1.98 indicating statistically significant relationship as the probability value was below 0.05, indicating rejection of null hypothesis. Our study is useful for marketers as it reveals that there is a positive effect of green product advertising, making consumers feel the importance of using green products, so that they can make advertisements that spreads the benefits of using green products and since it is a perfectly competitive market, the marketers have the potential to innovate and hence differentiate their offering from other competitors, this in turn creating increased demand leading to enhanced consumers intention to purchase. It was also found that attitude of consumers towards green products had a positive relation with its intention to purchase it. And this finding was similar with results of (Fotopoulos & Krystallis 2002; Lee et al. 2010; Chen & Peng 2012; Honkanen & Young 2015 and Felix & Braunsberger 2016) who affirmed that consumers who exhibit higher positive attitude towards green products are more prone to have a positive behaviour and a higher preference to buy green products. This supported our second hypothesis. Coming to our third hypothesis which postulated that green product knowledge has a significant effect on green product purchase intention, showed that the alternate hypothesis was strongly accepted and there was a strong relationship of 47.4% [table 6] with t-value of 7.89. This indicated that consumers feel responsible towards the environment when they purchase green products, this finding was same with the findings of (Aman et al., 2012; Barber et al., 2009; Flamm, 2009; Gupta and Ogden, 2009; Lim et al., 2016; Paul et al., 2016; Yadav & Pathak, 2016), indicating a positive attitude towards green products and a higher environmental consciousness leads to higher frequency to purchase, which in turns makes the consumer feel that purchasing green products is the best they can do to protect the environment (Teng, 2009; Mostafa, 2009 & Norazah, 2016). Further this study also reported that consumers who had better green product knowledge had better attitude towards green products which also supported our fourth hypothesis and there were similar studies which reviled same results (Chen & Chang, 2012; Eze & Ndubisi, 2013; Mostafa, 2009; Pagiaslis & Krontalis, 2014; Peattie, 2010; Yadav & Pathak, 2016) in fact 67% path coefficient was the strongest, and the final hypothesis analysing the moderating effect was also significant which indicated the multiplication of green product positioning with green product knowledge and understanding its effect with green purchase intension.

CONCLUSION AND RECOMMENDATION

Our research focussed on understanding Quantitative data used in the research will allow upcoming researchers to better elucidate the importance of this study. No research can full-fledged and same is the case with our research it does suffer from few limitations which becomes the potential for others researchers to work upon. The sample was not representative of the population hence results will vary; it is recommended that extensive and exhaustive sampling can be used. The findings of the study provide some important practical implications for research and green practice, as green brands

and consumers' green buying behaviour continue to be important research issues. Our research in the context of green purchase intention confirms that green brand knowledge is the most critical factor that could influence consumers' intention to purchase green products. Consequently, firms should portray to the consumers that they play a vital role in practicing and creating a green business environment in the competitive marketplace. Successfully explaining eco-friendly qualities of a product and brand to consumers to buttress their knowledge would help to better assist consumers' evaluation of green products and green brand (Pickett, 1995; Rios *et al.,* 2006). Also, firms require building a stupendous green brand personality to strengthen the green brand knowledge of current and potential customers, so as to influence the green purchase intention of the consumers. The firms should also ensure that the benefits of consuming green products should be distinguished from other conventional products and brands. The pricing factor should be taken care of in order to compete with usual products. This shall enhance the degree of green purchase intention of the consumers. The knowledge about the green products and its benefits towards health and environment shall elevate the consumers' level of awareness, interest, and the demand for green products could shift the consumers' buying behaviour towards a greener lifestyle (Huang *et al.,* 2014).When consumers are made aware about the production methods, packaging and green promotion of the green products, consumers decision making process is influenced positively towards green purchase (Norazah, 2013a).The green purchase intention of the consumers is also highly influences by the positioning of the green products and green brands. Therefore, the firms should focus on the positioning, promoting and advertising the green products by using all kinds of media vehicles available. Once the green brand equity for the green product is build, the green product market agility or longevity shall be elongated. This shall encaser the optimal utilisation the natural resources and taking care of the environment. Our research found the strongest effect R^2 between knowledge and attitude at 66% so additional contributing factors can be identified to increase the relationships to better understand consumers needs, for instance more moderating variables can be identified to get precise results which would help marketers to devise better strategies to help make socially viable products.

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