ANTECEDENTS TO BUY GREEN PRODUCTS: A CASE OF DEVELOPING COUNTRY

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Abstract. The purpose of this paper is to examine the relationship between green perceived value/green knowledge and intentions to buy green products through green attitude. The research object of this study focuses on Pakistanis consumer. The study undertakes the empirical study and therefore, data are collected through a self-administered questionnaire form 252 respondents. Structural equation modelling technique is used for the analysis of the data with the help of AMOS 22. The empirical results show that green perceived value, green knowledge and green attitude are drivers of intentions to buy green products. Although previous studies have investigated the pertinent issues about green consumer behavior, however, very few studies have been conducted in developing counties like Pakistan. Compared to other developing countries, research on environmental issues in Pakistan is still in the very early stages. This study proposes a research framework which could be helpful for green marketing companies to enhance consumes intentions to buy green products via green perceived value, green knowledge and the green attitude. The empirical results of this study address a serious gap in the existing literature especially in the perspective of an emerging country in the context of green products perception knowledge, attitude and purchase intention. The findings from this study offer significant implications for marketers, academicians as well as policymakers who may concern in promoting extensive promotion and/or adoption of green products.

Keywords: *green products, green perceived value, green attitude, green knowledge and customer.*

Paper type: Research paper

1.0 Introduction

Rapid industrialization that has resulted in the fast pace of corrosion of world natural resources has triggered the significant increase of green purchase behaviour from customers and other stakeholders (Carrete et al., 2012). The terrifying effects of global warming and climate change have alerted the scholars to measure and evaluate the environmental impacts (Wang, 2016). Hence the concept of green marketing came into existence particularly after a conference organized by UNESCO in 1975 in Serbia. Green marketing has been progressed into a major philosophy of marketing. Various organizations are now very much concerned and therefore, committing many efforts to green marketing (Goh and Balaji, 2016). Consumers' environmental concerns and positive mindset about the environment and environmental products have been increasing (Tan, Johnstone and Yang, 2016). Therefore, many companies related to tourism, durables and non-durables products, automobiles, agriculture and others are taking green initiatives for their products development and marketing strategies.

There are past literatures that explicate several factors that significantly play a role in green consumer behaviour. For example; knowledge/information (Bang et al., 2000; Mostafa, 2006; Liu et al., 2012; Gleim et al., 2013); environmental attitude (Liu et al., 2012; Vermeir and Verbeke, 2008; Arvola et al., 2008; Kang et al., 2013); subjective norm /social group /social influence (Kozar and Connell, 2013; Paco et al., 2013; Zhao et al., 2015; Chan and Lau, 2002); trust/confidence in green product (Zhao et al., 2014; Tung et al., 2012; Akerhurst et al., 2012); environmental concern (Zhao et al., 2014; Tsarenko et al., 2013; Cerjak et al., 2010); and green purchase intention (Wang, 2016; Kanchanapibul et al., 2015; Tsarenko et al., 2013). The importance of green marketing is evident from the increased attention of researchers on the aspects of green products and marketing and its influence on the consumer, ecological, and social wellbeing (Biswas and Roy, 2015; Wymer and Polonsky, 2015). Currently, the size of world green products is approximately $6 trillion (USD) in 2015 (European Commission report, 2015). Green customers are becoming mindful of environment-related problems (Khare, 2015). These green consumers are willing to pay extra for the products they perceive are green or environmentally friendly products.

Review of the literature indicates that studies related to green marketing and production by companies in Pakistan are very few (Riana, Ahmad and Mehboob, 2013; Imran, and Low, 2005). Recently, many companies in Pakistan are undertaking environmental friendly production and marketing practices (Muhammad, Ullah and Warren, 2016). However, Pakistani consumers' knowledge about green production processes, green marketing, organic products and recyclable products are found very limited. The Pakistani's government is organizing different programs and taking initiatives to increase the awareness of environmental friendly marketing and manufacturing. Hussain (2014) suggests that consumer's interest, involvement and knowledge related to green products have been on the rise, however, this does not result in green purchase behaviour. Consumer's involvement and concern are significant in predicting consumers' intention to buy green products (Wang, 2016).

The studies in developing countries like China, for instance, have found out that culture might also be an important factor in the context of green consumer behaviour (Chan, 2000; Chan and Lau, 2002; Lee, 2009 and 2010;

Chen, 2010). Similarly, in India, a lot of studies have been conducted to examine the role of various important factors in green consumer behaviour (Khare, 2015; Joshia and Rahman, 2015). However, compared to other developing countries, research on environmental issues in Pakistan is still in the very early stages. Press releases suggest that ecological concerns and green buying are increasing in the country and consumers are willing to pay more money for green products (Vazifehdousta, 2013). In spite of the increases in green product marketing efforts, consumers not really concerned that companies are making false claims and misleading them in terms of green products in order to enhance sales and improve market reputation (Goh and Balaji, 2016). For example, in a study, 48% participants replied that they did not trust the claims made by companies regarding green products (Eurobarometer, 2009). In another study conducted by GFK (2013), this figure was 39%. The main reason for this doubt or lack of trust is many incidents of green washing and irresponsible environmental behaviors by companies (Goh and Balaji, 2016).

2.0 Literature review
2.1 Greens perceived value

Value is based on consumer's perception of benefits, received over the cost of keeping a relationship with any particular brand (Zeithaml, 1988). Patterson and Spreng (1997) stated that consumer's perceived value is based on evaluation of brand, products or service. However, perceived green value is based on consumers' evaluation of net benefits of any product or service among what is given and what is received. This evaluation is based on consumer's environmental attitude, green needs and sustainable expectations (Chen and Chang, 2012). For the purpose of this study, researcher defines perceived green value as an advantage of maintaining relationships with a particular brand because of this brand's environmental friendliness, performance and green benefits (Zeithaml, 1988). Firms may enhance their perceived brand value by showing that their products or services are environmentally friendly. This positive perception about the brand may also influence consumers decision-making process and facilitate a firm to increase profits (Wang, 2016). Consumers carry a positive attitude and image for the brands they perceive as environmentally friendly. Communicating this environmental friendliness of brands to consumers through advertising can create a positive attitude of their brands (Vazifehdousta, 2013). Thus, the study hypothesizes that:

H1: Green perceived value is positively associated with green attitude.

The concept of perceived value is of a great interest to scholars in many fields like anthropology, psychology and sociology studies (Vinson *et al.*, 1977), and specifically in the field of marketing (Vitell, 2015). This interest is visible in shape of numerous empirical studies conducted in the past that supported the link between consumer perceived value and consumer purchase behaviour (Becker and Kaldenberg, 2000). Consumer perceived value often influence consumer purchase intentions particularly, when it is based on incomplete information (Kardes *et al.*, 2004). Perceived value is a combination of attributes based on the perception of any product's value, therefore, it may create positive word-of-mouth and also influence purchase intentions (Sweeney *et al.*, 1999; Ashton *et al.*, 2010). In the rise of the environmentalism nowadays green perceived value plays a more vital role. Perceived value is one of the most important factors influencing purchase intentions (Zeithaml, 1988). Similarly, the negative perceived value may adversely affect the consumer purchase intentions (Sweeney and Soutar, 2001). The consumer is more likely to buy when they perceive higher product value (Chang and Chen, 2008). Review of past literature shows that consumer perceived values basically serve as a guideline for consumer behaviour (Wang, 2016; Vazifehdousta, 2013). Thus, the study hypothesizes that:

H2: Green perceived value is positively associated with intention to buy.

2.2 Green knowledge

Environmental knowledge is based on "a general consciousness of facts, notion, and relationships related to the natural environment " (Fryxell and Lo, 2003, p. 45). It includes what individuals know about the environment. From a marketing perspective, it involves how the product is manufactured, how this may influence the environment, and how shared accountability is essential for viable progress (Wang, 2016). Recycling products, hazardous waste management and greenhouse effect management are the main areas of consumer knowledge of the environment and can be called as green knowledge. Green brand knowledge is referred to as "a green brand node in the consumers' memory with which various associations are connected to environmental commitment and environmental concerns" (Keller, 1993, p. 2). Specifically, green brand knowledge is based on the information that consumer has about the unique brand features or attributes and its related benefits to the overall environment. Consumers green knowledge may increase when they are willing to accept relevant information about the green environmental issues which facilitate the green purchase behaviour (Ganapathy et al., 2014; Geyer-Allely and Zacarias-Farah, 2003).

Existing research studies suggest that environmental knowledge plays a key role in forming customers' green attitude (Mostafa, 2006). Another study effort by Bamberg and Meoser (2007) found out that consumer's knowledge plays an important role in customers' attitude and intentions towards green products and green behaviours. Smith and Paladino (2010) narrated that consumers environmental knowledge will significantly increase positive attitudes and

intentions towards the green product. Another study conducted in Malaysia by Suki (2013) claims that consumer's environmental knowledge impacted young consumers' ecological attitude such as purchasing organic food and recycling. Smith and Paladino (2010) further suggest that higher level of knowledge related to organic food positively influence the development of organic attitudes. Consumers with a high level of green knowledge can easily differentiate features of green products from traditional products that lead to the foundation of positive, encouraging attitudes to the green products.

H3: Green knowledge significantly influences green attitude.

Kaufmann et al., (2012) claims that consumers generally like to know product-related information. For example, knowledge related to product productions process and its effects on the environment. Particularly, consumers are interested in the context of recycling (Wang, 2016). This environmental knowledge significantly influences green behaviour (Norazah, 2013c). Previous studies related to green marketing have noted that consumers' knowledge about green products could influence their purchase intention (Chang and Wu, 2015). Additionally, Smith and Paladino (2010) suggest that knowledge of organic food positively influence organic food product purchase intentions. Connell (2010) claims that lack of knowledge about green products negatively influence green purchase behaviour (Padel and Foster, 2005). Past literature shows that green knowledge has positive and significant relationship with consumers green purchase behaviour (e.g. Chen and Chang, 2012; Eze and Ndubisi, 2013; Mostafa, 2009; Norazah, 2013; Wang. 2016; Vitell, 2015; Peattie, 1995; Yadav and Pathak, 2016). A study by Mostafa (2009) noted a positive and significant relationship between consumer environmental knowledge and green consumer behaviour. According to Thøgersen et al., (2015), consumer favourable attitude related to green products is based on their green knowledge. Henceforth there is a likelihood higher awareness and green knowledge level of the consumer may result in more positive green behaviour. Therefore, the researcher proposed the following hypothesis:

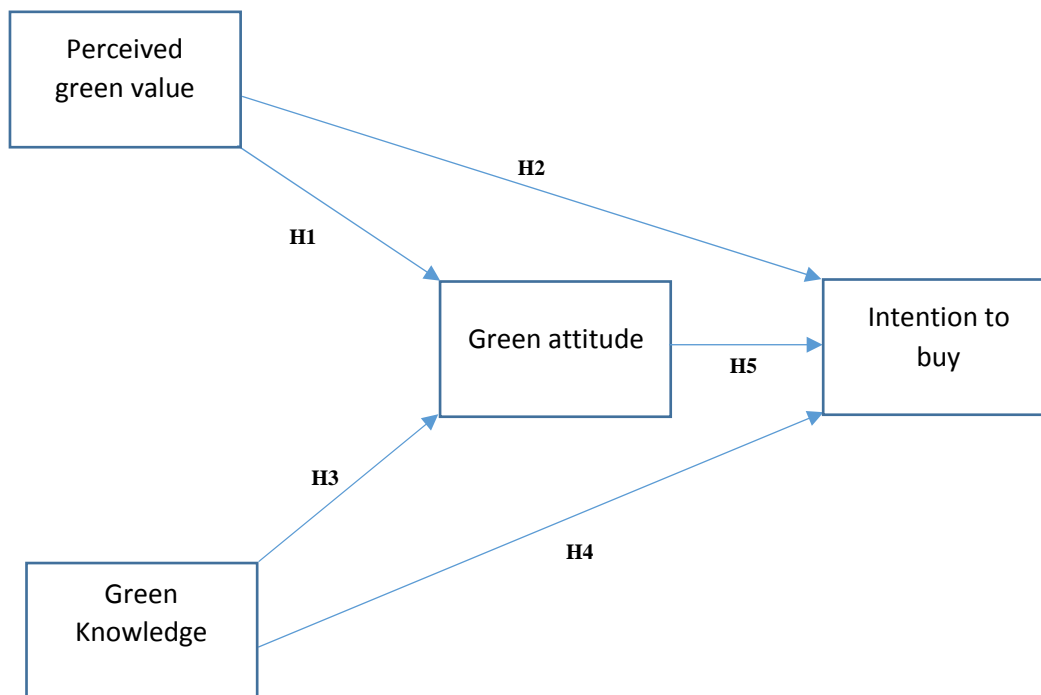**H4:** Green knowledge significantly influences intention to buy.

Fig. 1 Conceptrual model

2.3 Green attitude

Evaluations of various objects and events form our beliefs which ultimately changing into an attitude. It means attitude is derived from a belief on what an individual perceives true (Wang, 2016). Many studies in the past have found out that consumer attitude for any product or brand affects the intention to buy (Smith and Paladino, 2010; Leonidou et al., 2010). Similarly, studies examining the effects of attitude on environmental friendly products have also found a positive relationship. For example, in a study conducted by Wymer and Polonsky (2015) found out that consumers with a

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positive attitude towards the environmental friendly products have higher intention to buy. Therefore, consumers with a positive attitude towards environmental friendly products have higher intentions to purchase. Review of the past literature shows that consumer's green attitude positively influence green products buying behaviour (Aman et al., 2012; Flamm, 2009; Kozar and Connell, 2013; Zhao et al., 2013). A study by Wang (2016) on food item's attitude, knowledge and behaviour found out that attitude impact consumer buying behaviour. In another study in food category by Honkanen and Young (2015) found out that consumers' attitude is the most important factor in forecasting their intentions to purchase. Correspondingly, Fotopoulos and Krystallis (2002) noted the same findings. Generally, consumer's attitude is based on positive image and positive emotions related to any event or product which ultimately influence their purchasing behaviour (Schiffman and Wisenblit, 2014; Thøgersen et al., 2015).

In the context of green products, Yadav and Pathak (2016) found out that consumers attitude towards the green products plays an important role in terms of green purchase behaviour. Similarly, Paul *et al*., (2016) conducted a study in India on green products attitude and purchase behaviour and found a positive relationship between these two. Consumers with a positive attitude towards green products have higher tendency to purchase green products by heavily depending on green products positioning (Mostafa, 2009). Along these research findings, another study by Teng (2009) stated that consumer's intentions to buy or not to buy any brand is mainly derived from consumer's attitude towards that brand. Therefore, this study postulates that:

H5: Consumers'green attitude has a significant effect on intention to buy.

This study emphasizes that green perceived value and green knowledge positively affect intentions to buy green products. Besides, this study argues that the relationships between green perceived value/green knowledge and intention to buy green products are mediated by green attitude. The antecedents of the research framework are green perceived value and green knowledge and the consequent is an intention to buy, while green attitude is a partial mediator. The research framework is reported in Figure 1.

3.0 Method

3.1. Questionnaire development and measures

3.1.1 Sample and procedure

The researcher selects quantitative methods to collect data by distributing a self-administered questionnaire to the respondents in Karachi which is the largest city in Pakistan. The unit of analysis for this study is the individual consumer level. The researcher approaches the retail customers at the exit of well-known supermarkets (Imtiaz Supermarket, Naheed supermarket, Metro, Hyperstar, ARY Cash and Carry supermarket) located in Karachi City. Pre-requisite for selecting any respondent is a recent purchase at these particular supermarkets to ensure that the selected respondents are grocery shoppers. Around 700 customers were approached for this study with a response rate of 41%. After the responses were screened, a total of 252 were found valid and hence usable for final data analysis, with a valid response rate of 36%. Overall, the sample demographics presented in table 1 represents Pakistan's National distribution of gender, income and education. Of the 252 respondents, 62% are men and 38% are women. 34% respondents are below 20 years; 28% of the respondents are between 21 and 30 years of age; 17% are between the age group of 31 to 40 years of age; 13% are between 41 and 50 years of age, and 8% are older than 50 years of age. Furthermore, it shows that for marital status, 36% of the respondents are married while 61% are single and for the rest is other status. In terms of education, 55% respondents have higher secondary; 28% are graduate; 11% have post-graduate and lastly, 6% have some other education. Income level of respondents shows that 12% have income below 10,000; 33% of the respondents have income between 10,000 to 20,000; 27% have income between 21,000 to 30,000; 16% respondents have income between 40,000 to 50,000 and rest have income above 51,000.

Table 1
Respondents characteristics

Demographic Variable Category	Respondent's Demographic Profile Characteristics	
	Option Category	**Percentage**
Gender	Male	62%
	Female	38%
Age	Less than 20	34%
	21 to 30	28%
	31 to 40	17%
	41 to 50	13%
	Above 50	8%
Marital	Married	36%
	Unmarried	61%
	Others	3%
Education	Higher Secondary	55%
	Graduation	28%
	Post-graduation	11%

	Others	06%
House hold income (Rs.)	Below 10,000	12%
	10,000 to 20,000	33%
	21,000 to 30,000	27%
	40,000 to 50,0000	16%
	51,000 and above	12%

Note: 1 USD = 104.83 PKR. (currency converstion done on 02 Feb, 2017) form http://www.xe.com

3.1.2 Method of analysis

To test the proposed hypothesis, data analysis was carried out through Structural equation modelling using AMOS 22.0. Hair *et al.*, (2010, p. 641) recommended that "SEM is most suitable when the investigation has numerous constructs, each signified by several measured variables and allows for all of the association/comparisons to be measured concurrently." Similarly, Harris and Goode (2010, p. 147) clearly narrated that that "SEM overcome the restrictions of bivariate analyses through the concurrent analysis of all the composite relationships among the constructs." This study uses the maximum likelihood method estimation in the SEM model. As recommended by Anderson and Gerbing (1988), the measurement model was measured previous to the assessment of structural model. While the measurement model provided a valuation of the reliability and validity of the study concepts, the structural model measured the causal associations between the constructs.

3.1.3 Common method bias

A self-administered questionnaire approach is adopted to collect primary data related to variables under investigation. The relationship among variables can be influenced by the common method bias. Podsakoff *et al.*, (2003) recommend the procedure to be followed in order to avoid any possibility of this. The respondents are guaranteed of the privacy. Besides verbally mentioning this, it is also highlighted in the inform consent form. Furthermore, to ensure that data is free from common method bias, the researcher conducts two additional statistical tests. First, test results from Harman's single factor that shows very poor model fit (x^2 = 865.21, df = 89, x^2/df = 9.72, GFI = 0.517, CFI = 0.554, TLI = 0.568, IFI = .851, RMSEA = 0.236). Second, common bias method adjusted correlation matrix computed following Lindell and Whitney's (2001) recommendations. After the adjustments, pattern of correlations remained same, therefore, the data set in this study is free from common method bias problem.

Table 2

Constructs and items	λ	t-Statistics	α	ρ	AVE
Green perceived quality			0.88	0.88	0.55
The green product has an acceptable standard of quality.	0.76	*			
The green product would perform consistently.	0.66	10.33			
The green product offers value for money.	0.65	9.45			
Buying the green product would make a good impression on other people.	0.63	10.22			
I would buy the green product instead of conventional products when there are discount rates for green products or promotional activity.	0.75	9.66			
I make a special effort to buy paper and plastic products that are made from recycled materials.	0.71	9.45			
Green attitude			0.87	0.87	0.66
I feel that green product's environmental reputation is generally reliable	0.69	11.65			
I feel that green product's environmental performance is generally dependable	0.72	9.45			
I feel that green product's environmental claims are generally trustworthy	0.68	9.55			
Green product's environmental concern meets my expectations	0.85	10.54			
Green products keep promises and responsibilities for environmental protection	0.75	9.74			
Green knowledge			0.83	0.83	0.74
I feel my knowledge on environmental issues is enough.	0.76	11.54			
Compared to my friends and acquaintances I feel I know more about environmental issues?"	0.86	9.21			
Compared to an environmental expert I feel I know more on environmental issues?"	0.78	10.11			
I can easily understand and identify the environmental symbols on product packaging or in advertising.	0.75	9.88			
Intentions to buy			0.89	0.89	0.77
I intend to purchase green products in the future because of its environmental concern	0.75	16.15			
I expect to purchase green products in the future because of its environmental performance	0.78	17.55			
I am glad to purchase green products in the future because it is environmental friendly	0.74	17.98			

Table 3
Mean. Standard deviation and correlation matrix

Contructs	Mean	SD	GPV	GA	GK	IB
Green perceived value (GPV)	4.35	1.157	(0.65)	0.23	0.15	0.29
Green attitude (GA)	4.55	0.977	0.49	(0.52)	0.16	0.33
Green knowledge (GK)	3.99	0.912	-0.354	-0.34	(0.53)	0.08
Intentions to buy (IB)	4.98	0.996	0.58	0.47	-0.29	(0.81)

Note: Correlation is significant at the 0.01 level.

The mean, standard deviations and correlation matrix are presented in table 3. Discriminant validity is then assessed using the Fornell and Larcker (1981) approach. Discriminant validity is achieved when the AVE of the construct is greater than the correlations between the respective constructs. As seen in Table 3, discriminant validity is confirmed as AVE of each construct is greater than the squared correlation between any two constructs. A thorough examination of within and between construct items correlations and multifaceted bi-factor analysis reveals that the research is free from the halo effect (Cadwell, 2012; Han, 2014). Fornell and Larcker (1981) recommend this approach to be used to assess discriminant validity. To satisfactorily meet the required level of discriminant validity between the two constructs, the square root value of a construct's AVE should be higher than the correlations values among the construct and the other ones in the model. There is an acceptable discriminant validity among the two constructs as shared variances between factors in the model that is lower than the square root on the individual AVE in table 3. Therefore, as per above results, the data in this study meets the reliability and validity requirements.
Fig. 2 Results of full model

3.2.2 The structural model

The results of the structural model in this study are shown in Figure 2. All five paths estimated are significant. Therefore, H1, H2, H3, H4, and H5 are all supported in this study. Similarly, table 4 shows the standardized path coefficient value calculated for the structural model and respective t-statistics in tabular form. As shown in Table 4, the results support all the 5 hypothesized relationships in this study. For example, H1 predicts that green perceived value is positively associated with green attitude. As shown in table 3, this hypothesis is supported ($\beta = 0.41$, t-value = 11.64, p-value < 0.05). Therefore, H1 is accepted. H2 hypothesized that green perceived value is positively associated with intention to buy. Results of structural model path coefficient reveals that green perceived value has a positive and significant relationships with intention to buy ($\beta = 0.45$, t-value = 2.56, p-value < 0.05). Therefore, H2 is supported. Further analysis of path coefficient shows that green knowledge significantly influences green attitude ($\beta = 0.53$, t-value = 1.16, p-value < 0.05), as suggested by H3. Thus, H3 is retained. Likewise, H4 examines whether or not green knowledge significantly influences intention to buy. The path coefficient shows that green knowledge has significant and positive influence on intention to buy ($\beta = 0.49$, t-value = 2.15, p-value < 0.05). Thus, H4 is accepted. Finally, H5 is also supported, as consumers' green attitude has a significant effect on intention to buy ($\beta = 0.71$, t-value = 3.34, p-value < 0.05). Collectively, findings from this study highlight that green perceived value and green knowledge significantly influence intentions to buy green products which is mediated by green attitude.

Table 4
Results from statistical anaylsis of Structural model

Hypothesis	Path coefficient	t-value	Results
H1	0.41	11.646	H1 supported
H2	0.45	2.564	H2 supported
H3	0.53	1.164	H3 supported
H4	0.49	2.156	H4 supported
H5	0.71	3.341	H5 supported

Note: All linkages with t-statistics > 1.96 are significant at p < 0.05

4.0 Discussions. This study assesses the impact of perceived green value and green knowledge on intentions to buy green products. Next, the mediation effect of green attitude on the relationship between perceived green value/green knowledge and intentions to buy is also examined. This study finds out that the increased of green perceived value not

only impact intentions to buy, but also improve green attitude. It means that green perceived value is a critical element in both of creating a positive attitude towards green products and also positively influencing intentions to buy. Same holds true for green knowledge in this study. The empirical results support the above argument and validate that green perceived value would positively influence green attitude and intentions to buy. Additionally, the green attitude would influence consumers' green purchase intentions. The empirical results of this study support the above statement and indicate that green attitude would influence intentions to buy green products. Findings from this study verify that green attitude mediates the relationships between green perceived value and intentions to buy. Correspondingly, green attitude also mediates the relationships among green knowledge and intentions to buy.

The result from this study supports the hypothesized model. Specifically, the SEM results produced results which lead to the acceptance of H1; where it was found that green perceived value has a positive and significant impact on green attitude. This result is in accordance with the results of previous research found in the literature (Vazifehdousta, 2013; Wang, 2016; Wu et. al, 2015; Hamid, 2014). It means when consumer perceived green products as the higher value they will form the positive attitude about green products. In this context creating a sense of positive perceived value for consumer might create a positive attitude for green products. Green products marketers should focus more on creating a positive perception of their green products to distinguish themselves and their products from other competitors while creating a positive green attitude.

Furthermore, the finding from the analysis of data in this study shows that green perceived value is positively associated with intention to buy. Hence H2 is maintained. This finding is in line with many other studies conducted in advance as well as emerging countries. For example, a study conducted in Malaysia by Suki (2016) found out that there are significant and positive relationships between green perceived value and customer's intention to use green products. Similarly in a different study conducted by Dehghanan, and Bakhshandeh (2014) in Iran found out that green perceived value has a positive and direct effect on green purchase intention. Chen and Chang (2012) conducted a study in Taiwan and narrated that green perceived value would positively affect green purchase intentions. Likewise, Tan, Johnstone and Yang (2016) conducted two surveys in Australia and New Zealand and reported that consumers' green perceptions (CGPs) were found to be a significant predictor for consumers' purchase behaviour of environmentally-friendly (EF) household products.

A closer examination of the SEM results shows that H3 is strongly supported as green knowledge significantly influences green attitude. These results also appear to corroborates with the findings from previous studies (Chen and Chang, 2012; Eze and Ndubisi, 2013; Mostafa, 2009; Pagiaslis and Krontalis, 2014; Peattie, 2010; Yadav and Pathak, 2016). Moreover, this study found out that green knowledge has a significant and positive influence on intention to buy as per the results of SEM. Hence H4 is also supported. Green knowledge could exert an impact on consumer's purchase decision because it will assist consumers to have an improved understanding of the green products and also enhance logical consideration. Increasing consumers' green product knowledge could increase their intentions to buy green products. Therefore, better green knowledge will lead to higher intentions to buy green products as of enhanced understanding of value proposition in terms of functional attributes and/or price. Lastly, the results from path coefficient show that consumers green attitude has a significant effect on intention to buy. Hence, H5 is maintained. It is hence proved that higher the consumer's green attitude, higher the consumer's intentions to buy green products. These findings are in line with the findings from earlier studies (e.g. Aman *et al.*, 2012; Barber *et al.*, 2009; Flamm, 2009; Gupta and Ogden, 2009; Lim *et al.*, 2016; Paul *et al.*, 2016; Yadav and Pathak, 2016).

5.0 Implications

The findings from this study offer significant implications for marketers, academicians as well as policymakers who may concern in promoting extensive promotion and/or adoption of green products. While green marketing gaining momentum worldwide (Neff, 2012; Matthes and Wonneberger, 2014; Leonidou and Skarmeas, 2015), the findings from this study suggest empirical evidence about the influence of green perceived value and green knowledge on customers' intentions to buy green products in an emerging economy. Precisely, the results suggest the green perceived value and green knowledge has a positive effect on green products buying intentions through green attitude. It means that when customers perceive higher value level towards green products, they are more probable to buy green products. Similarly, when customers have more knowledge about green products, they are more likely to purchase buy green products. Green perceived value and green knowledge can also be accredited to the green attitude formation which increases the customers' concerns about green products. This is likely to encourage them for purchasing the green products.

6.0 Limitations and future research
The researcher suggests that finding from this study should be interpreted in light of the following limitations. First, this study examines the impact of perceived green value/green knowledge on intentions to buy green products through green attitude. Future research may examine the process by which perceived green value/green knowledge influence intentions to buy green products. Secondly, the sample from one city of Pakistan may not be the representative of the whole population in Pakistan. Therefore, more comprehensive sampling is recommended in future research for enhancing the generalizability of the results. Future research can be conducted to compare the green buying behaviour and non-green consumers. This could help in findings and understanding the non-green consumers' reason for not

buying green products. Finally, the researcher hopes that this study would work as a catalyst to promote green products research in a country where information and awareness related to green products are very limited.

References

1. Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., and Shepherd, R.
2. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes. *Theory of Planned Behaviour*, 50, 443-454.
3. Aman, A.H., Harun, A., and Hussein, Z. (2012). The influence of environmental knowledge
4. and concern on green purchase intention the role of attitude as a mediating variable. *British Journal of Arts and Social Sciences*, 7, 145-167.
5. Anderson, J.C., and Gerbing. D.W. (1988). Structural equation modeling in practice: a review
6. and recommended two-step approach. *Psychol. Bull*, 103, 411-423
7. Biswas, A., and Roy, M. (2015). Green products: an exploratory study on the consumer
8. behaviour in emerging economies of the East. *J. Clean. Prod*, 87, 463-468.
9. Bang, H.K., Ellinger, A.E., Hadjimarcou, J., and Traichal, P.A. (2000). Consumer concern,
10. knowledge, belief, and attitude toward renewable energy: an application of the reasoned action theory. *Psychol. Mark*, 17, 449-468.
11. Bamberg, S., and M€oser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: a
12. new meta-analysis of psycho-social determinants of pro-environmental behavior. *J. nviron. Psychol*, 27, 14-25.
13. Chan, R. Y., and Lau, L.B. (2000). Antecedents of green purchases: a survey in China,
14. *Journal of consumer marketing.* 17, 338-357.
15. Cerjak, M., Mesić, Ž., Kopić, M., Kovačić, D., and Markovina, J. (2010). What motivates
16. consumers to buy organic food: Comparison of Croatia, Bosnia Herzegovina, and Slovenia. *Journal of Food Products Marketing*, 16, 278-292.
17. Chan, R. Y. (2001). Determinants of Chinese consumers' green purchase behavior.
18. *Psychology & Marketing*, 18, 389-413.
19. Chen, Y. S. (2010). The drivers of green brand equity: green brand image, green satisfaction,
20. and green trust. *Journal of Business Ethics*, 93, 307-319.
21. Chen, Y.S. and Chang, C.H. (2012). Enhance green purchase intentions: the roles of green
22. perceived value, green perceived risk, and green trust. *Management Decision*, 50, 502-520.
23. Carrete, L., Castaño, R., Felix, R., Centeno, R., and González, E. (2012). Green consumer
24. behavior in an emerging economy: confusion, credibility, and compatibility. *Journal of Consumer Marketing*, 29, 470 – 481
25. Connell, K.Y.H. (2010). Internal and external barriers to eco-conscious apparel acquisition.
26. *International Journal of Consumer Studies*, 34, 279-286.
27. Dehghanan, H., and Bakhshandeh, G. (2014). The impact of green perceived value and green
28. perceived risk on green purchase behavior of Iranian consumers. *International Journal of Management and Humanity Sciences*, 3, 1349-1357
29. Eze, U. C., and Ndubisi, N. O. (2013). Green Buyer Behavior: Evidence from Asia
30. Consumers. *Journal of Asian and African Studies*, 48, 413-426.
31. Flamm, B. (2009). The impacts of environmental knowledge and attitudes on vehicle
32. ownership and use Transportation Research Part D: *Transport and Environment*, 14, 272-279.
33. Fryxell, G.E., and Lo, C.W. (2003). The influence of environmental knowledge and values on
34. managerial behaviours on behalf of the environment: an empirical examination of managers in China. *J. Bus. Ethics*, 46, 45-69
35. Fotopoulos, C., and Krystallis, A. (2002). Purchasing motives and profile of the Greek
36. organic consumer: a countrywide survey. *British Food Journal*, 104, 730-765.
37. Fornell, C., and Larcker, D.F. (1981). Evaluating structural equation models with
38. unobservable variables and measrement error. *Journal of Marketing Research*, 18, 39-50.
39. Goh, K., and Balaji, M.S. (2016). Linking green skepticism to green purchase behavior.
40. *Journal of Cleaner Production*, 131, 629-638
41. Gleim, M.R., Smith, J.S., Andrews, D., Cronin, J.J. (2013). Against the green: a multimethod
42. examination of the barriers to green consumption. *J. Retailing*, 89, 14–61.
43. Ganapathy, S.P., Natarajan, J., Gunasekaran, A., and Subramanian, N. (2014). Influence of
44. ecoinnovation on Indian manufacturing sector sustainable performance. *International Journal of Sustainable Development and World Ecology*, 21, 198-209.
45. Geyer-Allely, E. and Zacarias-Farah, A. (2003). Policies and instruments for promoting
46. sustainable household consumption. *Journal of Cleaner Production*, 11, 923-926.
47. Hamid, A.R. (2014). A Study on the Relationship between Consumer Attitude, Perceived
48. Value and Green Products. *Iranian Journal of Management Studies*, 7, 329-342.
49. Honkanen, P. and Young, J.A. (2015). What determines British consumers' motivation to buy

50. sustainable seafood?. *British Food Journal*, 117, 1289-1302.
51. Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), Multivariate Data Analysis: A
52. Global Perspective, 7th ed., *Pearson Education Inc*., Essex, NJ.
53. Harris, L.C. and Goode, M.M.H. (2010). Online servicescapes, trust, and purchase intentions.
54. *Journal of Services Marketing*, 24, 230-43.
55. Hair, J.F., Black,W.C., Babin, B.J., Anderson, R.E., Tatham, R.L., 2006. Multivariate Data
56. Analysis, Vol. 6. Pearson Prentice Hall, *Upper Saddle River*, NJ.
57. Imran, M., and Low, N. (2005). Sustainable urban transport in Pakistan: threats and
58. opportunities. Management of Environmental Quality: *An International Journal*, 16, 505 – 529.
59. Joshia, Y., and Rahmanb, Z. (2015). Factors Affecting Green Purchase Behaviour and Future
60. Research Directions, international strategic management review, 3, 128–143
61. Kang, J., Liu, C. and Kim, S. H. (2013). Environmentally sustainable textile and apparel
62. consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies*, 37, 442-452.
63. Kozar, J. M. and Connell, K. Y. H. (2013). Socially and environmentally responsible apparel consumption: knowledge, attitudes, and behaviors. *Social Responsibility Journal*, 9, 315-324.
64. Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2014). An empirical investigation of green purchase behaviour among the young generation. *Journal of Cleaner Production*, 66, 528-536.
65. Keller, K.L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57, 1-22.
66. Kozar, J. M., & Connell, K. Y. H. (2013). Socially and environmentally responsible apparel consumption: knowledge, attitudes, and behavior. *Social Responsibility Journal*, 9, 315-324.
67. Leonidou, C.N., Skarmeas, D. (2015). Gray shades of green: causes and consequences of green skepticism. *J. Bus. Ethics*, 1-15
68. Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. *Journal of consumer marketing*, 26, 87-96.
69. Lee, K. (2010). The green purchase behavior of Hong Kong young consumers: the role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of international consumer marketing*, 23, 21-44.
70. Leonidou, L. C., Leonidou, C. N. and Kvasova, O. (2010). Antecedents and outcomes of consumer environmentally friendly attitudes and behavior. *Journal of Marketing Management*, 26, 1319-1344
71. Lindell, M.K. and Whitney, D.J. (2001). Accounting for common method variance in crosssectional research designs. *J. Appl. Psychol*, 86, 114-122
72. Liu, X., Wang, C., Shishime, T., and Fujitsuka, T. (2012). Sustainable consumption: Green purchasing behaviours of urban residents in China. *Sustainable Development*, 20, 293-308.
73. Lam, Y.C., Lau, M.M. and Cheung, R. (2016). Modelling the Relationship among Green Perceived Value, Green Trust, Satisfaction, and Repurchase Intention of Green Products. *Contemporary Management Research*, 12, 47-60.
74. Matthes, J. and Wonneberger, A. (2014). The skeptical green consumer revisited: testing the relationship between green consumerism and skepticism toward advertising. *J. Advert*, 43, 115-127.
75. Mostafa, M.M. (2006). Antecedents of Egyptian consumers' green purchase intentions: a hierarchical multivariate regression model. *J. Int. Consumer Mark*, 19, 97-126.
76. Muhammad, N., Ullah, F., and Warren, L. (2016). An institutional perspective on entrepreneurship in a conflict environment Evidence from Pakistan. *International Journal of Entrepreneurial Behavior & Research*, 22, 698 – 717.
77. Marques, C.P., and Almeida, D. (2013). A Path Model of Attitudinal Antecedents of Green Purchase Behaviour, *Economics & Sociology*, 6, 135-144.
78. Mostafa, M. (2009). Shades of green: a psychographic segmentation of the green consumer in Kuwait using self-organizing maps. *Expert Systems with Applications*, 8, 11030-11038.
79. Neff, J. (2012), "As More Marketers Go Green Fewer Consumers Willing to Pay for it. Ad Age. http://adage.com/article/news/marketers-green-fewer-consumers-pay/ 237377/.
80. Patterson, P. and Spreng, R. (1997). Modeling the relationship between perceived value, satisfaction and repurchase intention in a business-to- business, service context: an empirical examination. *International Journal of Service Industry Management*, 8, 414-34.
81. Peattie, K. (1995), *Environmental Marketing Management,* Pitman Publishing, London.
82. Paço, A., Alves, H. and Shiel, C. (2013). Development of a green consumer behaviour model. *International Journal of Consumer Studies*, 37, 414-421.
83. Paul, J., Modi, A. and Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123-134.

84. Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003). Common method biases in behavioural research: a critical review of the literature and recommended remedies. *J. Appl. Psychol*, 88, 879-888.
85. Rizwan, M., Ahmad, S.U. and Mehboob, N. (2013). Enhancing the green purchase intention based on green marketing: an empirical study from Pakistan. *Asian Journal of Empirical Research*, 3, 208-219.
86. Smith, S. and Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18, 93-104.
87. Suki, N.M (2017). Green products usage: structural relationships on customer satisfaction and loyalty. *International Journal of Sustainable Development & World Ecology*, 24, 88-95.
88. Smith, S. and Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18, 93-104.
89. Suki, N.M. (2013). Young consumer ecological behaviour. Management of Environmental Quality. *International Journal*, 6, 726-737.
90. Suki, N.M. (2016). Green product purchase intention: impact of green brands, attitude, and knowledge. *British Food Journal*, 118, 2893 – 2910.
91. Schiffman, L.G. and Wisenblit, J. (2014). *Consumer Behaviour*, 11th ed., Pearson Education Inc., Essex, NJ.
92. Thogersen, J., Dutra de Barcellos, M., Gattermann Perin, M. and Zhou, Y. (2015). Consumer buying motives and attitudes towards organic food in two emerging markets. *International Marketing Review*, 32, 389-413.
93. Tan, L.P., Johnstone, M. and Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. *Australasian Marketing Journal*, 24, 288–299.
94. Thøgersen, J., Dutra de Barcellos, M., Gattermann Perin, M. and Zhou, Y. (2015). Consumer buying motives and attitudes towards organic food in two emerging markets. *International Marketing Review*, 32, 389-413.
95. Teng, L. (2009). A comparison of two types of price discounts in shifting consumers' attitude and purchase intentions. *Journal of Business Research*, 62, 14-21.
96. Tung, S. J., Shih, C. C., Wei, S., & Chen, Y. H. (2012). Attitudinal inconsistency toward organic food in relation to purchasing intention and behavior: An illustration of Taiwan consumers. *British Food Journal*, 114, 997-1015.
97. Tsarenko, Y., Ferraro, C., Sands, S. and McLeod, C. (2013). Environmentally conscious consumption: The role of retailers and peers as external influences. *Journal of Retailing and Consumer Services*, 20, 302-310.
98. Tsarenko, Y., Ferraro, C., Sands, S., & McLeod, C. (2013). Environmentally conscious consumption: The role of retailers and peers as external influences. *Journal of Retailing and Consumer Services*, 20, 302-310.
99. Tan, L.P., Johnstone, M.L., and Yang, L. (2016). Barriers to green consumption behaviours: The roles of consumers' green perceptions. *Australasian Marketing Journal*, 24, 288-299.
100. Vitell, S.J. (2015). A case for consumer social responsibility (CnSR): including a selected review of consumer ethics/social responsibility research. *Journal of Business Ethics*, 130, 767-774.
101. Vermeir, I., & Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological Economics*, 64, 542-553.
102. Vazifehdousta, H. (2013). Purchasing green to become greener: factors influence consumers' green purchasing behavior. *Management Science Letters*, 3, 2489-2500.
103. Wang, H.J. (2016). Green brand positioning in the online environment. *International Journal of Communication*, 10, 1405-1427.
104. Wymer, W., Polonsky, M.J. (2015). The limitations and potentialities of green marketing. *J. Nonprofit & Public Sect. Mark*, 27, 239-262.
105. Wu, K., Vassileva, J., Noorian, Z., and Zhao. Y. (2015). How do you feel when you see a list of prices? the interplay among price dispersion, perceived risk and initial trust in Chinese C2C market. *Journal of Retailing and Consumer Services*, 25, 36-46.
106. Yadav, R., Pathak, G.S. (2017). Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior. *Ecological Economics*, 134, 114-122.
107. Zhao, H. H., Gao, Q., Wu, Y. P., Wang, Y., & Zhu, X. D. (2014). What affects green consumer behavior in China? A case study from Qingdao. *Journal of Cleaner Production*, 63, 143-151.
108. Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: a means-end modeland synthesis of evidence. *Journal of Marketing*, 52, 2-22.