THE RELATIONSHIP BETWEEN ENVIRONMENTAL BELIEFS AND GREEN PURCHASE INTENTIONS: EXAMINING THE MEDIATING ROLE OF ENVIRONMENTAL CONCERN AND MODERATING ROLE OF ENVIRONMENTAL RESPONSIBILITY

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A thesis submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy/Science in Management Sciences with specialization in Marketing at the Faculty of Management Sciences
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IN THE NAME OF

ALLAH

THE MOST MERCIFUL AND BENEFICENT

DEDICATION

"To my father Mr. Gulzar Hussain (Late) & Mother for their un-conditional love, prayers, and continuous support to make my dreams a reality."

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DECLARATION

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The thesis entitled "The Relationship between Environmental Beliefs and Green Purchase Intentions: Examining the Mediating Role of Environmental Concern and Moderating Role of Environmental Responsibility" submitted by Mr. Israr Ahmad in partial fulfillment of Doctor of Philosophy in Management Sciences with specialization in Marketing has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules & regulations.

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ABSTRACT

The voice of environmentally concerned consumers led many firms to incorporate the green marketing elements in their business models. Many organizations spent millions of dollars on the development, selling and promotional campaigns of green products. The notion was also supported by researchers and international survey organizations in the form of growing demand and market share of green products. However, in reality, existing sales trends of green products in the markets are not promising. Although consumers are in favor of green products and green firms even some of them are agreed to pay extra amount to buy green products but when comes to make a purchase decision, conventional products remain their first choice at the point of sale. Thus, non-acceptance of green products by the consumers at large scale is becoming a major issue of concern for marketing managers. Therefore, it is very timely to explore and understand the underlying mechanism of human attitude formation process. The aim of this research is to examine the impact of environmental beliefs on green purchase intentions. Although, environmental beliefs have a significant role in motivating the individuals to behave in an environmental friendly way still a weak relationship between environmental beliefs and green purchase intentions has been reported in prior research. Therefore, the mediating role of environmental concern between environmental beliefs and green purchase intentions as well as moderating role of environmental responsibility between environmental beliefs and environmental concern was explored to advance the existing stream of research in the field of green marketing. The conceptual framework was developed based on the theory of reasoned action. Survey method was used to collect data from consumers of Rawalpindi and Islamabad. For this purpose, already established measures were adapted from

previous studies in the field of green marketing. Subsequently, 519 useable responses were utilized for data analysis through statistical techniques. Structural Equation Modeling (SEM) technique was used to gauge the model fit and to test the hypothesized associations. Likewise, the conceptual framework was also tested through bootstrapping technique suggested by Preacher and Hayes. The results revealed that environmental concern mediate the relation between environmental beliefs and green purchase intentions. Similarly, moderating role of environmental responsibility between environmental beliefs and environmental concern was also proved. The thesis was winded up by highlighting the theoretical, contextual and managerial implications along-with future research avenues.

Keywords: Environmental Beliefs, Environmental Concern, Environmental Responsibility, Green Purchase Intentions

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LIST OF ABBREVIATIONS

EB	Environmental Beliefs
EC	Environmental Concern
ER	Environmental Responsibility
GPI	Green Purchase Intentions
ANOVA	Analysis of Variance
AMOS	Analysis of Moment Structures
EFA	Exploratory Factor Analysis
CFA	Confirmatory Factor Analysis
CFI	Confirmatory Fit Index
GFI	Goodness of Fit Index
AGFI	Adjusted Goodness of Fit Index
Df	Degrees of Freedom
RMSEA	Root Mean Square Error of Approximation
SRMR	Standardized Root Mean Square Residual
MSV	Maximum Shared Variance
PCLOSE	p of Close Fit
SEM	Structural Equation Modeling
SPSS	Statistical Package for Social Sciences
CR	Composite Reliability
AVE	Average Variance Extracted

χ^2	Chi-Square
N	Sample Size
Std. Error	Standard Error
SD	Standard Deviation
M	Mean
SE	Standard Error
LLCI	Lower Limit Confidence Interval
ULCI	Upper Limit Confidence Interval

CHAPTER 1

INTRODUCTION

"Rising energy prices growing pollution and resource consumption in Asia and political pressure to address climate change are driving innovation toward healthier more efficient high performance products. In short all marketing will incorporate elements of green marketing". (Ottman, Stafford, & Hartman, 2006, pp. 34-35)

1.1 Background:

Well documented changes are evident in global terrestrial ecosystems (Nolan et al., 2018). These mainly includes changes in atmospheric composition, increased concentration of greenhouse gases, global and regional climate change, land cover changes and habitant loss, loss of biodiversity and increase in exotic invasive species (Skogen, Helland, & Kaltenborn, 2018). These changes are sometimes interrelated with each other which change the function and services of terrestrial ecosystems (Pitelka, Canadell, & Pataki, 2007). Environmental changes are caused by ecosystems change and categorized as direct and indirect derivers of change. Any natural or human induced factor that effect an ecosystem directly is termed as direct deriver of changes i.e. temperature, precipitation, land-use change, logging, fires and climate

variability. Whereas, factors that do not directly affect the particular ecosystem are referred as indirect derivers which include global climate and socioeconomic change, population growth, national and international policy (Anastasopoulou, Chobotova, Dawson, Kluvankova-Oravska, & Rounsevell, 2007). The extent of observed changes in ecosystem might be effect of interaction of multiple derivers (Pitelka et al., 2007) and this impact can vary for different terrestrial ecosystem. This variation of impacts is due to different levels of resilience in an ecosystem which is a result of long term interaction on inherent characteristics of ecosystem and prevailing environmental factors. In fast growing metropolitan ecosystems, increasing intensity of environmental degradation issues around the globe have resulted in introducing several new concepts in the field of marketing research such as green marketing and green consumption.

"*Green Marketing includes marketing processes and activities of developing and selling products and services based on environmental benefits*" (Chen, 2013, p. 295). Environmental protection is the basic element which differentiates green marketing from conventional marketing (Rex & Baumann, 2007). Conventional marketing intends to fulfill the needs of human being whereas in green marketing, environment is also taken in to account while developing a product or service to serve the human being. On the other hand, from consumers point of view, green consumption is conceptualized as the extent to which environment is taken in to consideration by the consumers while buying, using or disposing of the various green products/services offered by the organizations (Moisander, 2007; Perera, Auger, & Klein, 2018).

The notion of green marketing and green consumptions came in to existence when rapid changes in the environment in the form of global warming, non-

availability of clean water, changing weather conditions, degradation of land, damage to ozone layer, reduction of flora & fauna and increasing pollution are acknowledged and subsequently concern was expressed by the consumers (Manget, Roche, & Münnich, 2009; Perera et al., 2018). The voice for the protection of natural environment is increasing day by day to overcome its negative effects on future generations (Davari & Strutton, 2014; Zou & Chan, 2019). Thus increasing pressure from consumers along with international regulatory bodies have made a large number of firms to revisit their business models in order to incorporate the green marketing elements (Cronin, Smith, Gleim, Ramirez, & Martinez, 2011; Grimmer & Woolley, 2014; Ma et al., 2018; Pawaskar, Raut, & Gardas, 2018; Straughan & Roberts, 1999). Several business organizations perceived it an opportunity and start offering green products in market place to take a competitive advantage (Chen & Chang, 2013; Delmas & Pekovic, 2018; Luo & Bhattacharya, 2006; Stefan & Paul, 2008). Such organizations spent millions of dollars on the development, selling and on promotional campaigns of green products (D'Souza, Taghian, Sullivan-Mort, & Gilmore, 2015; Fetterman, 2006; Huang, Yang, & Wang, 2014; Menguc, Auh, & Ozanne, 2010).

Many prior studies, researchers and international survey organizations predicted the growing demand (Schmeltz, 2012) and market share of green products. According to Natural Marketing Institute reports, 200+ billion USD$ market of Lifestyles of Health and Sustainability (LOHAS) was expected to be double by 2010 and quadruple by the end of 2015 (Widger, 2007). Similarly, in another study conducted by (Tolliver-Nigro, 2012) it was predicted that in 2015, market of green products will be approximately $845 billion. In a survey, it was found that 83% of consumers exhibited their concern for environment (Nielson, 2011). Similarly, survey

results revealed that "53 per cent of the total 15,933 respondents" consider environment as an essential aspect while making a buying decision (Euromonitor-International, 2012). Even consumers are willing to pay extra money for buying green products from those organizations which are taking measures to protect the environment and natural resources (Chen & Chang, 2012; Lung, 2010; Suchard & Polonski, 1991; Veisten, 2007). An extant literature highlighted the growing concern of consumers towards environmental hazards (Akehurst, Afonso, & Martins Gonçalves, 2012; California-Green-Solutions, 2007; Hartmann-Group, 2007) and intentions to purchase the green products (Cooney, 2010; Phillips, 1999; Saad, 2006).

Despite the above mentioned facts, recent surveys and research in the field of green marketing has found that engagement of consumers in green marketing campaigns and adoption of green products is still an unresolved issue (Barbarossa & Pastore, 2015; Provasnek, Schmid, Geissler, & Steiner, 2017). Several authors have also addressed that existing sales trends of green products in the markets are not promising (Clifford & Martin, 2011; González, Felix, Carrete, Centeno, & Castaño, 2015; Nielsen, 2013). The actual market share of green products is far less (i.e. around 1%-3%) as compare to the growing demand and supply predicted by prior research (Bray, Johns, & Kilburn, 2011). In a similar study, it was highlighted by authors that actual market share of green products vary between 1% to 6% (Nielsen, 2013). In parallel, many organizations offering green products such as Clorox Green Works, Nature's Source have also reported a noticeable decline in the sales of green products in the market place (Clifford & Martin, 2011).

Research in the field of green marketing indicates that although some of the environmentally conscious consumers start buying green products based on the assumption that their decision will benefit the environment (Gleim, Smith, Andrews,

& Cronin, 2013; Huang et al., 2014; Todd, 2004) however, majority of potential consumers are still lying in the category of "talk the walk" (Biswas & Roy, 2015; Govind, Singh, Garg, & D'Silva, 2019; Ma et al., 2018; Moser, 2015). Although such consumers is in favor of green products and appreciate green organizations for their initiatives taken to protect the environment however, when it comes to make a purchase decision, conventional products remain their first choice in most of the deals (Garcia-Castro & Aguilera, 2015; Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007; Johnstone & Tan, 2015; Vermeir & Verbeke, 2008; Young, Hwang, McDonald, & Oates, 2010). Thus, non-acceptance of green products by the consumers' at large scale is becoming a major issue of concern for practitioners (Barbarossa & Pastore, 2015; Gleim et al., 2013; Johnstone & Tan, 2015) and thus it is very timely to propose and test the reasons/mechanisms of this failure. The gap between the consumer intentions and actual behavior is termed as attitude-behavior gap. Attitude-behavior gap is creating serious embarrassment for those organizations which are involved in the business of green products on one hand, and creating barriers for those organizations who wish to become green to meet the social obligations and international requirements on the other hand (Medeiros, Ribeiro, & Cortimiglia, 2014; Lüdeke-Freund & Dembek, 2017). Irrespective of several challenges, still a stream of research is of the view that involvement of consumers in green consumption behaviors is continuously growing in parallel to increasing global concern towards the environmental degradation issues. This increasing environmental concern of consumers is forcing business organizations to incorporate green marketing elements in their business models and highlight the initiatives which are taken by them to overcome the environmental degradation issues. However, at the same time, another stream of research also agreed that attitude-behavior gap may not be reduced and

firms may not be able to achieve financial objectives associated with green marketing strategies until or unless they have in-depth understanding of the mindset of target consumers (Gatersleben, Murtagh, Cherry, & Watkins, 2019; Leonidou & Skarmeas, 2017; Thieme, Royne, Jha, Levy, & Barnes McEntee, 2015; Vezich, Gunter, & Lieberman, 2017). Hence, current study is an effort to address the "attitude-behavior gap" where consumers are not turning their intentions and concern in to action in terms of adoption of green products (Barbarossa & Pastore, 2015; Chen, 2010; Moser, 2015).

The demand of green products may vary in different geographical regions due to variant political, social and economic conditions (Gleim et al., 2013; Johnstone & Tan, 2015; Stern, 2000). Although several variables have been acknowledged by prior research in the field of green marketing which influence the consumers' green purchase intentions in different cultures, social and economic settings however quantum of research is still needed to develop effective mechanisms which can help the marketing managers to reduce the attitude-behavior gap in market place (Barbarossa & Pastore, 2015; Cronin et al., 2011; Govind et al., 2019; Joshi & Rahman, 2015). Current study is an effort to respond these calls for research on psychographic factors which can play a prominent role in the development of effective mechanism to involve the majority of consumers in green consumption behaviors. Thus, the central aim of this thesis was to explore the relationship among different psychographic variables such as Environmental Beliefs (EB), Perceived Environmental Concern (PEC), Perceived Environmental Responsibility (PER) and Green Purchase Intentions (GPI). The results of this research will enable the marketing managers to understand the complex nature of attitude formation process

which is a prerequisite to formulate the effective marketing strategies which could be resulted in promoting green consumption behaviors among the consumers.

Environmental beliefs are conceptualized as the awareness of consumers about the environmental degradation issues and their effects on human lives (Guber, 2003). Environmental degradation issues which may include global warming, climate change, pollution, depletion of natural resources, disposal of wastage, non-availability of clean water and lowering air quality. Such problems are becoming a great challenge with the passage of time for government and policy makers in many countries around the globe. Research also reveals that public beliefs towards the environmental degradation issues are rapidly changing with the passage of time (Lu, Chang, & Chang, 2015; Roberts, 1996; Yadav & Pathak, 2017) therefore, researchers are interested to identify the ways through which environmental beliefs can be translated in to green purchase intentions (Chen, Hung, & Change, 2016; Gadenne, Sharma, Kerr, & Smith, 2011; Ozaki & Sevastyanova, 2011). Research in the field of green marketing indicates that environmental beliefs act as a driving force behind the participation of consumers in environmental friendly behaviors (Clark, Haytko, Hermans, & Simmers, 2019; Tanner & Wölfing Kast, 2003) and green purchase intentions (Gadenne et al., 2011; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997). The environmental beliefs of public may also vary across the cultures with respect to geographic regions, level of education, awareness, intensity and economic conditions of country (Anderson, Romani, Phillips, Wentzel, & Tlabela, 2007; Barber, 2010; Do Paco & Raposo, 2009; Doyle, 2018; Dunlap, 1994; Gabler, Butler, & Adams, 2013; Harris, 2006; Okada & Mais, 2010; Nordfjærn & Rundmo, 2018; Zhong & Chen, 2019). However, the intensity of environmental problems may directly or indirectly influence the consumer to express their concern towards the

causes of environmental problems and their green consumption behaviors (Doyle, 2018; Dunlap, 1994). There are several authors which have directly or indirectly highlighted the impact of environmental beliefs on green purchase intentions in their studies. Some researchers in the field of green marketing highlighted that consumers with higher level of environmental beliefs are more expected to engage in green consumption behaviors (Gadenne et al., 2011; Mainieri et al., 1997). Likewise, there are studies which intimates that environmental beliefs may not necessarily motivate the consumers to involve in green purchase intentions (Ozaki & Sevastyanova, 2011; Pickett-Baker & Ozaki, 2008; Xiao, Buhrmann, & Sciences, 2019). It may be because of environmental beliefs held by consumers differ with respect to geographic regions (Dunlap, 1994; Ziegler, 2017). Marketing managers are using different strategies so that consumers' environmental beliefs can be effectively translated in to green purchase intentions (Davari & Strutton, 2014). On the other hand, researchers are still exasperating to explore that how effectively environmental beliefs can be turned in to green purchase intentions (Ozaki & Sevastyanova, 2011). It can be inferred from prior research that consumer knowledge about environmental problems is although important in inducing green purchase intentions however, all consumers may not respond to such information in same way. It is more likely that consumers with environmental concern may become more inclined towards the adoption of green products and services in response of effective manipulation towards the environmental hazards and their effects on nature and human life. Prior research has also revealed the positive relationship between environmental beliefs and environmental concern (Kilbourne & Pickett, 2008). In parallel, researchers have also explored the relationship between environmental concern and consumer purchase intentions (Griskevicius, Tybur, & Bergh, 2010). Thus, it can be inferred that

environmental concern may mediate the relationship between environmental beliefs and green purchase intentions. Strengthening the environmental beliefs in an effective way may raise environmental concern among the consumers which ultimately can become an antecedent for green purchase intentions. Such consumers with strong environmental beliefs may also think to change their buying patterns in order to support the green marketing firms and could be more intended towards the purchase of green products (Griskevicius et al., 2010). Likewise, such consumers may also pay greater attention towards the information sources highlighting the environmental degradation issues.

Environmental concern is also highlighted in prior research as an important variable which could influence the consumers' green purchase decisions (Jain & Kaur, 2004; Tam & Chan, 2018). It can be conceptualized as "the degree to which people are aware of environmental problems and assist struggles to solve them or signify the readiness to contribute personally to their solution" (Dunlap & Jones, 2002, p. 485). The environmental concern of public is rapidly changing with the passage of time (Landry, Gifford, Milfont, Weeks, & Arnocky, 2018; Roberts, 1996) in parallel to increasing awareness about environmental hazards and such consumers are found more intended towards the purchase of green products (Kim & Choi, 2005; Thieme et al., 2015). Research indicates that environmental concern is a major factor which can motivate the consumers to join the efforts which are made to overcome the environmental degradation issues (Diekmann & Franzen, 2019; Kwon, Englis, & Mann, 2016; SGuin, Pelletier, & Hunsley, 1998). Similarly, it is more likely that consumers with environmental concern evaluate the effects of their purchase decisions on environment (Follows & Jobber, 2000; Nath, Kumar, Agrawal, Gautam,

& Sharma, 2013). Even consumers with environmental concern are found to pay even high price for environmental friendly products (Kim & Choi, 2005).

Perceived environmental responsibility is conceptualized as an internal sense of responsibility or emotional feelings which make the consumers intended towards the purchase of green products (Griskevicius et al., 2010). It can also be conceptualized as the extent to which consumers feel responsible for the environmental hazards and feel empowered to act in a way such that their decisions may not harm the environment (Cleveland, Kalamas, & Laroche, 2012). Consumers' motivation to exhibit the environmental responsibility is related to their internal feelings towards environmental protection issues (Griskevicius et al., 2010) and the extent to which they are willing to make efforts at individual level to overcome the environmental degradation issues. Such consumers might be more sensitive in realizing the adverse impact of environmental hazards on human life and other living-beings (Gadenne et al., 2011) and may emotionally involve with environmental protection issues (Griskevicius et al., 2010). Environmental responsibility has been explored as an independent variables in some studies (Lee, 2009) whereas some authors have reported considerable variation in the tendency of consumers towards the involvement in green consumption behaviors due to different levels of environmental responsibility (Wu & Yang, 2018). Research also indicates that consumers with higher level of responsibility may be considered as more concerned about the environment and expected to be more intended towards the utilizations of green products to support the efforts to overcome the environmental degradation issues (Knopman, Susman, & Landy, 1999). Therefore, in conceptual model, environmental responsibility is proposed as the moderating variable between the relationship of environmental beliefs and environmental concern.

Green purchase intentions has been conceptualized as the probability of consumers to engage in green consumption behaviors (Oliver & Lee, 2010). Intentions play most significant role in predicting the chances of consumers to display the actual behavior (Beckford, Jacobs, Williams, & Nahdee, 2010) therefore many authors in prior studies has taken it as dependent variable (Chan & Lau, 2000; D'Souza, Taghian, & Khosla, 2007; Schuitema & Groot, 2015). In line with prior research, the current study has also taken the green purchase intentions as a dependent variable so that variation in the consumer response can be predicted due to environmental degradation issues.

1.2 Justification of Research:

While going through the green marketing literature, two main streams are found which are grasping the interest of researchers in order to improve the response of consumers towards green products. One stream of research is making efforts to exploring the relationships between different psychographic and contextual variables to highlight the hidden patterns of human behavior (Albayrak, Aksoy, & Caber, 2013; Barber, Kuo, Bishop, & Goodman Jr, 2012; D'Souza et al., 2007; Griskevicius et al., 2010; Kim & Choi, 2005). The other stream of research is highlighting variables which may help the organizations to devise the effective marketing plans and communication strategies (do Paço & Reis, 2012; Hartmann & Apaolaza-Ibáñez, 2012; Haytko & Matulich, 2008; Osterhus, 1997; Pickett-Baker & Ozaki, 2008; Royne, Martinez, Oakley, & Fox, 2012; Thieme et al., 2015; Zhu, 2012; Zinkhan & Carlson, 1995). There is a dire need to extend the understanding of human attitude

formation process. The ultimate reason is that human behavior is very complex in nature and without deep understanding of consumer behavior and attitude formation process, effective business plans and communication strategies may not produce the desired results for business firms such as in case of green marketing (Barbarossa & Pastore, 2015; Govind et al., 2019; Polonsky, 2011; Xiao et al., 2019; Zou & Chan, 2019).

The success of green firms is depending upon the participation of maximum consumers in green marketing campaigns in terms of buying green products and services. Today, a large number of green products are available in the market place for consumers in parallel to conventional products (Wasserman, 2009). Green firms are investing huge amounts on marketing campaigns so that consumers can be engaged in green consumption behaviors (Fetterman, 2006; Sony, 2019). However, current stream of research is continuously highlighting that consumer are not translating their intentions in to actions in terms of purchasing green products (Barbarossa & Pastore, 2015; Clifford & Martin, 2011; González et al., 2015; Govind et al., 2019; Johnstone & Tan, 2015). Such consumers are creating barriers in the diffusion of green products in the market place on one hand and creating a lack of motivation for potential consumers on the other hand (Gleim et al., 2013; Moser, 2015). Such type of indications highlights a need for researchers to extend the findings from new perspectives (Memery, Megicks, & Williams, 2005; Xiao et al., 2019). These new perspectives may include the mediating and moderating role of different variables in conceptual models which may help the green marketing firms to identify the hidden patterns of human attitude formation process and resultantly can propose effective marketing plans and communication strategies in order to involve the consumers in green consumption behaviors (Barbarossa & Pastore, 2015; Bhuian,

Sharma, Butt, & Ahmed, 2018; Coşkun, Vocino, & Polonsky, 2017; Dagher & Itani, 2014; do Paço & Reis, 2012; Memery et al., 2005; Zhang, Li, Cao, & Huang, 2018).

Further, the deviating economic conditions, increasing environmental pollution, diminishing natural resources and increasing demand of energy in many countries, it has become important to utilize the available resources in an efficient manner (Biswas & Roy, 2015; Johnstone & Tan, 2015). It may only possible when green products are introduced and used at greater scale and consumers should be educated accordingly (Borin, Cerf, & Krishnan, 2011; Lin & Chang, 2012). However, it is important to know and understand the characteristics of target markets so that green products can be made famous among the consumers (Leonidou & Skarmeas, 2017; Sony, 2019; Xiao et al., 2019).

Rapidly changing worldwide economical, legal and political scenario has forced many international companies to identify and serve new market segments to reap the financial benefits (Kassinis & Vafeas, 2006; Menguc & Ozanne, 2005). Many countries around the globe with huge population are considered to be emerging market segments to serve the increasing demand of green products (Chang & Chang, 2017; González et al., 2015; Nguyen, Lobo, & Greenland, 2017; Sharma & Iyer, 2012). However, inadequate information about consumers in terms of ways through which their green buying habits can be altered with respect to geographical boundaries and cultures may lead towards the failure of green marketing strategies and financial loss for green marketing organizations (Davari & Strutton, 2014; Leonidou & Skarmeas, 2017; Sreen, Purbey, & Sadarangani, 2018).

Increasing pressure from international environmental organizations and social institutions, several government and local agencies of different countries are also taking initiatives to overcome the environmental issues and promote the green

consumerism (Karatu & Mat, 2014; Zhu, Cordeiro, & Sarkis, 2013). However, without understanding the mindset of public, the desired results and objectives may not be achieved. Such type of studies are dire needed especially in developing countries such as Pakistan which are severely affected due to environmental degradation issues for effective policy making.

1.3 Gap Analysis and Contribution of the Research:

The concept of green marketing is gaining popularity with the increase in environmental concern of consumers (Barbarossa & Pastore, 2015; González et al., 2015; Perera et al., 2018). Firms are investing huge amounts to become green in order to meet international environmental standards and social obligations (Chaowanapong, Jongwanich, & Ijomah, 2018; Fetterman, 2006; Pope, 2010) and subsequently started offering green products in the market place (Chen & Chang, 2013). On the other hand consumers are found in favor of green firms and green products even ready to pay extra money for green products (Chen & Chang, 2012; Lung, 2010) but still actual market share of green products is far less than it was expected by the green firms or predicted by the researchers and survey organizations (González et al., 2015; Nielsen, 2013; Zou & Chan, 2019). A large number of consumers virtually supporting green firms and green products but practically only few of them are found translating their intentions in to actions (Johnstone & Tan, 2015; Wood, Robinson, & Poor, 2018; Young et al., 2010). The phenomenon is known as attitude-behavior gap which indicates that actions of consumers are not aligned with their interests. Thus current study is an effort to participate and contribute in the quantitative research stream in

the field of green marketing which is trying to explore the complex nature of human attitude formation process by identifying and explaining the relationship among different attitudinal variables.

Prior research in the field of green marketing have used different choice models and research theories such as information processing (Johnson & Puto, 1987), theory of reasoned action (Ajzen & Fishbein, 1975; Zhu, 2012), theory of planned behavior (Osterhus, 1997) to explore the relationship among different variables with an objective to provide an understanding regarding the underlying concepts of human behavior. However, attitude-behavior gap is still an unresolved issue. Current study has used and extended the theory of reasoned action by proposing a theoretical model containing four attitudinal variables i.e. environmental beliefs, environmental concern, environmental responsibility and green purchase intentions. Exploring the role of different attitudinal variables in the conceptual model will enable the researcher to contribute the body of knowledge by addressing the attitude-behavior gap which is highlighted by several researchers and survey organizations in prior research. It will enable the researcher to provide a better understanding of complex nature of human attitude formation process. In presence of inadequate information about consumer attitude formation process, effective business plans and communication strategies may not produce the desired results for business firms such as in case of green marketing (Barbarossa & Pastore, 2015; Gleim, Smith, & Cronin Jr, 2018; Polonsky, 2011).

Attitude-behavior gap is creating a growing demand for research in order to extend the findings from new perspectives (Memery et al., 2005; Sreen et al., 2018) so that consumers can be involved in green consumption (Perera et al., 2018). The research endeavors posit that the dynamics of the attitude-behavior equations are

severally impeded / constrained by some variables, therefore introduction of new variables are invariably inevitable to have a meaningful and plausible findings and open up new avenues of research (Barbarossa & Pastore, 2015; Geiger, Fischer, & Schrader, 2018; Memery et al., 2005; Newton, Tsarenko, Ferraro, & Sands, 2015; Xie, Bagozzi, & Grønhaug, 2015). With this perspective in mind, employing certain mediating and moderating variables in conceptual models may have long lasting and varying impact on the consumer attitudes from different angles (Bhuian et al., 2018; Dagher & Itani, 2014; do Paço & Reis, 2012; Newton et al., 2015). Undoubtedly in the wake of new models developed based on dynamic moderating and mediating variables may unfold the unfathomable relationships between consumer attitudes and green purchase intentions (Joshi & Rahman, 2015; Zhang et al., 2018), and can propose new directions which can bridge the attitude-behavior gap (Wu & Yang, 2018). It is inferred from prior research that environmental beliefs held by consumers are considered to be an antecedent of green purchase intention (Gadenne et al., 2011; Mainieri et al., 1997) however there are studies which indicate that consumers' knowledge regarding the environmental problems may not lead towards the green purchase intentions (Bamberg, 2003; Nordlund & Garvill, 2002; Pickett-Baker & Ozaki, 2008). The ultimate reason may be that exposing the consumers with certain environmental problems may produce different results for green marketing organizations in different cultures and social setting (Dunlap, 1994; Sreen et al., 2018). Some of the authors have reported environmental beliefs as an antecedent of consumer green purchase intention. On the other hand there are several research studies which reveal that environmental beliefs may vary across the cultures with respect to geographic regions, level of education, awareness, intensity of environmental degradation issues and economic conditions of the country (Anderson

et al., 2007; Barber, 2010; Do Paco & Raposo, 2009; Doyle, 2018; Dunlap, 1994; Gabler et al., 2013; Okada & Mais, 2010; Zhong & Chen, 2019). Therefore, response of consumers in terms of green purchase intentions may not be same in all regions (Xiao et al., 2019; Ziegler, 2017). These contradictions in findings of prior research indicate that there exist certain mediating and moderating variables which are hampering the relationship of both variables i.e. environmental beliefs and green purchase intentions. Hence, it is worthwhile to identify such mechanisms through which consumers can be engaged in green purchase intentions through strengthening their environmental beliefs. Thus one of the theoretical contribution of current study is that it is an effort to fill this gap by proposing environmental concern as the mediating variables between independent variable (environmental beliefs) and dependent variable (green purchase intentions). It is proposed that without inducing environmental concern, consumers may not be inclined to take interest in green marketing campaigns and green products (Olson, 2013; Suki, 2016). Another theoretical contribution of current thesis is that it proposes that perceived environmental responsibility moderate the relationship between environmental beliefs and environmental concern in such a way that consumers with higher level of environmental responsibility could be more concerned about the environment as compare to the consumers with low level of perceived environmental responsibility. Such consumers may pay more attention towards the information sources highlighting the environmental problems which ultimately increase their level of environmental concern (Lin & Huang, 2012). Prior research has highlighted the dominant role environmental concern in raising the green purchase intentions of consumers. At the same time, some of the authors are of the view that even consumer with environmental concern may not opt for green product when given a chance in market

place (Newton et al., 2015; Ohtomo & Hirose, 2007; Tam & Chan, 2018). The contradiction in findings highlight a need to identify the antecedents of environmental concern (Newton et al., 2015; Trivedi, Patel, & Acharya, 2018) which can subsequently leads towards the involvement of consumers in green consumption. Hence, one of the theoretical contribution of this thesis is that it has proposes environmental beliefs as an antecedent of environmental concern.

In many countries, government is also playing its role in terms of making and enforcing rules and regulation to promote the green living, giving incentives to green firms and subsidies to encourage the green consumerism (Biswas & Roy, 2015; Johnstone & Tan, 2015). Results of prior research also indicate that consumers expect from government to play a significant role in terms of taking initiatives to protect the natural environment and promote the green consumerism (Biswas & Roy, 2015; Johnstone & Tan, 2015; Lai, 2000). Such initiatives may give a confidence to potential consumers to translate their innate thinking process in to purchase intentions of green products and sharing information with peers. On the other hand certain authors suggested that government should not wait for consumers rather take initiatives, impose rules and regulations to force them towards the involvement in green purchase intentions (Johnstone & Tan, 2015). It is however still needed to identify the ways through which government can involve the potential consumers in green consumption behaviors. Similarly, it is also a need of time for government to identify the ways through which industry can also be motivated to incorporate the green marketing components in order to compete in international markets. Without meeting the environmental standards set by international regulatory bodies can inversely affect the exports of products and sales in international markets. Thus, another contribution of current thesis is that its results will enable the government and

policy makers to understand the mindset of consumers and devise the effective policies for consumers and business firms.

1.4 Significance of the Research:

There are certain facets which make the current study of more concern for policy makers, researchers and marketing managers of national and international firms.

1.4.1 Contextual Significance:

The research in the field of green marketing is continuously growing to enrich the pool of knowledge with findings from different cultures and geographical regions to reduce the attitude-behavior gap. Major credit for this research goes to authors belongs to developed countries whereas only a small portion is owned by developing nations (Chaowanapong et al., 2018; Gurău & Ranchhod, 2005; Ibtissem, 2010; Rahbar & Wahid, 2011; Ramayah, Lee, & Mohamad, 2010; Sony, 2019; Suki, 2016). However, to increase the generalizability of results the research from developing nations is as much significant as it is considered for developed nations.

There are different facets which make studies from developing nations worthy and inevitable. First, the residents of developing nations are considered to be more environmentally concerned as compare to the residents of developed nations (Diekmann & Franzen, 2019; Lo, 2016). Therefore, consumers of developing

countries may provide great business opportunities for green products if careful communication plans are prepared to target the different market segments. Second, most of the developing nations are emerging markets due to huge population which can provide an opportunity to business organizations to reap financial benefits by introducing certain green products and services. Third, large markets in developing nations could provide growth opportunity for certain products which have completed their life cycle or reached on decline stage in developed nations. In such a way, business organizations can obtain substantial financial benefits from developing countries. Fourth, certain developing countries with huge population could also provide first move advantage to business organizations which want to server the consumer markets with green products. Fifth, organizations can also get benefits from the business-friendly environment and opportunities offered by the government of developing nations to start a business in terms of income tax rebate. Sixth, cheap land, labor and energy in developing nations can also provide financial benefits to business firms. Seventh, the greater access to electronic and print media have also changed the mindset of consumers in developing nations. As a result, the diffusion of products and services could take place in a short span of time. Eight, business firms of developing nations could also get benefit of country of origin effect due to cultural and technological differences. Business firms in developing nations can opt for differentiation strategy for certain innovative products and services and can enjoy reasonable financial returns on investment. Ninth, the generalizability of results could not be possible without considering the findings from the developing countries with huge population (González et al., 2015; Kassinis & Vafeas, 2006; Lin & Huang, 2012).

Worldwide changing environmental conditions along with regulatory pressure have pushed many organizations and government agencies to take initiative against the environmental issues from strategic perspective (Cronin et al., 2011; Diaz-Rainey & Ashton, 2015; Grimmer & Woolley, 2014). In this regard government involvement is also becoming important to promote the green practices in many countries to meet the future challenges (Biswas & Roy, 2015; Xiao et al., 2019; Zhu et al., 2013). Although effects of environmental changes are not recognized prominently in developing countries however Pakistan is among the top 10 countries of the world which are severely affected due to environmental degradation issues (Germanwatch, 2017). Some of the cities of Pakistan, which includes Peshawar, Karachi & Rawalpindi, are ranked amongst the top 20 cities of the world in terms of worst environmental conditions (AirVisual, 2017; Greenpeace, 2019). Such environmental conditions are causing a lot of diseases, deaths and psychological problems among the residents of countries such as Pakistan. Above all, consumers are not aware about the harmful effects of environmental degradation issues on their daily lives. Therefore, environmental degradation issues, if not addressed properly, could damage the image of Pakistan at international level. Likewise, Pakistan could face shortage of certain resources in near future such as shortage of food and water, shortage of energy, shortage of cultivation area, changing weather conditions and destruction of wild life. Similarly, from economic point of view, exports could also be declined due to not meeting the international regulations to maintain the environmental standards. Therefore, such studies are really important in order to formulate the policies and regulations to maintain the environmental standards as well as to promote the green culture in Pakistan. Thus, findings of current research will help the policy makers to understand the current state of mind of population about the significance of

environmental issues. Consequently, such information may help the government and policy makers to initiate plans having a combination of "stick & carrot" so that green culture can be promoted in Pakistan.

Understanding and addressing the consumers' preferences and needs is important because of difference in political, social and economic conditions worldwide which ultimately affect the consumer's attitude and purchase decisions (Gleim et al., 2013; Johnstone & Tan, 2015; Sreen et al., 2018; Stern, 2000). Many countries around the globe have emerging markets for green products with huge population having potential to serve and reap financial benefits (Chang & Chang, 2017; González et al., 2015; Nguyen, Lobo, & Nguyen, 2018; Sharma & Iyer, 2012) however it is very important for every national and international firm to have in depth knowledge about target consumers for the successful development and execution of green marketing strategies (Afonso, Gavilan, García-Madariaga, & Gonçalves, 2018; Gatersleben et al., 2019; Gurău & Ranchhod, 2005; Rahbar & Wahid, 2011; Sheth, Sethia, & Srinivas, 2011). The reason is that environmental beliefs, environmental concern and environmental responsibility differ with respect to geographical regions, nature and intensity of environmental degradation issues, economic and social factors (Clark et al., 2019; Sreen et al., 2018; Zou & Chan, 2019). Current study is an effort to provide base line information about the current level of environmental beliefs, environmental concern, environmental responsibility and green purchase intentions of Pakistani consumers.

Current economic conditions and increasing demand of energy and alternative energy resources (González et al., 2015; Ha & Janda, 2012; Ibtissem, 2010) increasing environmental pollution and diminishing natural resources, it has become important to utilize the available resources in an efficient manner. It may only

possible when green products are introduced and used at greater scale. However, it is important to know about the behavior patterns through which green products can be made famous among the consumers (Ball & Kittler, 2019; Leonidou & Skarmeas, 2017). Inadequate information about consumers may lead towards the failure of green marketing strategies and huge financial loss for green marketing organizations (Charter & Polonsky, 2017; Davari & Strutton, 2014; Gregory-Smith, Manika, & Demirel, 2017; Leonidou & Skarmeas, 2017).

1.4.2 Theoretical Significance:

A stream of research in the field of green marketing is continuously highlighting that consumers are not preferring the green products over the conventional products. Studies have revealed that even environmentally concerned consumers are not practically involved in green marketing campaigns in terms of preferring green products over the conventional products (Barbarossa & Pastore, 2015; Chen, 2010; Govind et al., 2019; Moser, 2015; Xiao et al., 2019). These findings depict that strong predictors are required to induce the environmental concern among the target consumers in order to strengthen their green purchase intentions. Thus, current study has taken environmental beliefs as a predictor of environmental concern and proposes that strengthening environmental beliefs is a pre-requisite to raise the environmental concern which can subsequently induce the green purchase intentions.

There are researchers in the field of green marketing who have highlighted environmental beliefs as an antecedent behind the involvement of consumers in green

consumption (Gadenne et al., 2011; Mainieri et al., 1997; Tanner & Kast, 2003). On the other hand, there are studies which intimates that environmental beliefs may not necessarily motivate the consumers to involve in green purchase intentions (Carrington, Neville, & Whitwell, 2014; Gabler et al., 2013; Gifford, 2014; Maxwell-Smith, Conway, Wright, & Olson, 2018; Pickett-Baker & Ozaki, 2008). It may be because of environmental beliefs held by consumers differ with respect to geographic regions (Dunlap, 1994; Huang, 2016; Sreen et al., 2018) due to the role of different mediating and moderating variables. Thus current study has proposed environmental concern as mediating variable between environmental beliefs and green purchase intentions to provide an understanding that relationship between environmental beliefs and green purchase intentions can be bridged through environmental concern.

Previous research has highlighted environmental responsibility as an important variable which empower the individuals to make environmental friendly decisions. Current study proposes that environmental responsibility moderate the relationship between environmental beliefs and environmental concern in such a way in such a way that consumers with higher level of environmental responsibility could be more concerned about the environment as compare to the consumers with low level of perceived environmental responsibility.

The foundation of conceptual model developed for investigation is based on the most recurring theory known as Theory of Reasoned Action (Ajzen & Fishbein, 1975; Zhu, 2012).Theory of reasoned action is most reliable when a researcher is intended to observe the variation in intentions as an outcome variable (Zhu et al., 2013) and has already been extended by different authors in prior studies by adding different attitudinal variables (e.g. Bamberg, 2003; Han & Kim, 2010; Moser, 2015; Mostafa, 2007). The current study is an effort to extend the theory of reasoned action

by exploring the role of certain variables such as environmental beliefs, environmental concern and environmental responsibility with an expectation to explain a reasonable variation in outcome variable i.e. green purchase intentions.

After all, exploring the role of certain mediating and moderating variables in conceptual model may enable the readers to understand the complex nature of human attitude formation process. On the other hand, the results may also enable the researchers in the field of green marketing to extend the findings from different perspectives with an objective to overcome the attitude-behavior gap.

1.4.3 Managerial Significance:

Exploring the role of mediating and moderating variables in conceptual model may enable the marketing managers to understand that only consumers' knowledge or information about the environmental hazards is not sufficient to translate their purchase intentions in to behavior rather it is important how effectively this information can change their thinking process and make them concerned about the environmental hazards in routine life (Polonsky, 2011). Such understanding may enable the marketing managers to understand what is really needed to be taken in to consideration while developing and executing the green marketing strategies in order to reduce the attitude-behavior gap. Effective execution of green marketing strategies may attract and engage the greater number of consumers in green marketing activities and subsequently help the green business firms to capture the greater market share.

1.5 Problem Statement:

Despite many challenges, the concept of green marketing is gaining popularity (Biel & Grankvist, 2010; González et al., 2015; Polonsky, 2011) in parallel to increasing knowledge of customers regarding the environmental hazards (Gleim et al., 2013; Leonidou & Leonidou, 2011; Leonidou & Skarmeas, 2017). The results of prior research indicates that consumers are severely concerned regarding the environmental degradation issues and are willing to support, even ready to pay extra amount to purchase green products form the firms which are taking initiatives for the protection of environment and natural resources (Chen & Chang, 2012; Lung, 2010; Suchard & Polonski, 1991; Veisten, 2007). The changing attitude of consumers around the globe was perceived as an opportunity by several firms and therefore starts offering green products (Chen & Chang, 2013; Luo & Bhattacharya, 2006). Many organizations spend millions of dollars to change their processes in order to become green with an expectation that it will enable them to capture a greater market share with a sustainable competitive advantage (D'Souza et al., 2015; Fetterman, 2006; Huang et al., 2014; Menguc et al., 2010; Pope, 2010). However, it is revealed by several authors in recent research and survey organizations that the growth market share of green products is far less than it was predicted in past (Ball & Kittler, 2019; Charter & Polonsky, 2017; Clifford & Martin, 2011; González et al., 2015; Leonidou & Skarmeas, 2017; Nielsen, 2013). Although consumers are in favor of green products and green firms (Chen & Chang, 2012; Nielsen, 2013; Schmeltz, 2012) even some of them are agreed to pay extra amount to buy green products (Chen & Chang, 2012; Lung, 2010; Veisten, 2007) but when comes to make a purchase decision,

conventional products remains their first choice at the point of sale (Johnstone & Tan, 2015; Young et al., 2010). Thus, consumers are not translating their intentions in to purchase decision which is termed as attitude-behavior gap (Biswas & Roy, 2015; Charter & Polonsky, 2017; Moser, 2015). The irregular behavior of consumers has led many companies to re-think about their decision of becoming green (Johnstone & Tan, 2015) because of huge cost associated with becoming green (Sony, 2019). On the other hand, organizations with green products are becoming more concerned about the ways through which consumers can be engaged in green marketing campaigns to save their huge investments (Adawiyah, 2018). The reason is that the success of green business firms is directly related to higher level of acceptance and sales of green products in the market place (Barbarossa & Pastore, 2015). Therefore, in line of current research stream, it is worthwhile to explore the factors to be considered for the involvement of consumers in Green Consumption?

1.6 Research Questions:

This research will contribute in the body of knowledge by answering the following research questions:

1. Does environmental beliefs impact the consumers' green purchase intentions?
2. Does environmental beliefs impact the consumers' environmental concern?
3. Does consumers' environmental concern affects the green purchase intentions?

4. Does consumers' environmental concern mediate the relationship between independent variable (i.e. environmental beliefs) and dependence variable (i.e. green purchase intentions)?

5. Does consumers' environmental responsibility moderate the relationship between independent variable (i.e. environmental beliefs) and mediating variable (i.e. environmental concern)?

1.7 Objectives of the study:

Some of the key objectives of this study are mentioned below:

1. To examine the impact of environmental beliefs on green purchase intentions.
2. To examine the impact of environmental beliefs on environmental concern.
3. To examine the impact of environmental concern on green purchase intentions.
4. To examine the moderating role of environmental responsibility between environmental beliefs and environmental concern.
5. To examine the mediating role of environmental concern between environmental beliefs green purchase intentions.

The remainder of the thesis is organized as follow: the very next section constitutes the literature review which provides the detailed view of existing literature related to the green marketing in connection with the variable of the current study. Based up on the literature review new relationships and hypothesis are developed keeping in view the objectives and research questions of the study. The next section

provides the detail regarding the justification of methodology adopted to prove the relationships among the variables of study. In the same section the analysis of results will be presented. In the same line the next section conclusions, discussions and recommendations will be presented based up on the results of study. The research will end with the description of the limitations of the study and by providing the future research opportunities.

CHAPTER 2

LITERATURE REVIEW

2.1 Green Marketing:

The concept of Green marketing emerged in late 1980s and early 1990s in order to respond the consumer voice regarding environmental degradation issued. First workshop on "Ecological Marketing" was conducted by American Marketing Association (AMA) in 1975 and defined it as "marketing of products that are presumed to be environmentally safe". Initial emphasis of Green Marketing was to observe the environmental impacts made by companies however with the passage of time the concentration averted on moving to low-carbon economy.

Several terminologies are used for green marketing such as "environmental marketing" (Coddington, 1993; Leonidou & Leonidou, 2011), "ecological marketing" (Deshwal, 2012; Henion & Kinnear, 1976), "sustainable marketing" (Fuller, 2000; Sheth & Parvatiyar, 1995), and "eco-marketing" (Todd, 2004). It comprises marketing processes and activities of developing and selling products and services based on

environmental benefits. According to another study "proper green marketing activities include identifying the market for green products and ideas, investigating consumers' green attitudes and behaviors, stratifying the green market into different segments based on the consumer needs, developing green positioning strategies, and formulating a green marketing mix program" (Chen, 2013, p. 296). Now a day companies are continuously involving green marketing campaigns to become socially responsible. Utilizing "green" as a marketing strategy may not be considered as an easy task because it required a huge investment to bring a change in production and marketing processes on large scale (Chen, 2010). However, such policies require long term orientation along with a commitment to win the trust of consumers and ultimately reap the financial benefits and corporate image as well.

With the passage of time, discussions on environmental issues are getting more importance because environmental changes have started affecting many parts of the world. International regulatory bodies have started to develop the standards to protect the environment. Consequently, the increasing access to electronic and print media have made the consumers more conscious about the environmental changes which ultimately influence their purchase decisions. So in order to comply with the legal obligation of international regulatory bodies and comply with the changing behaviors of environmentally conscious consumers, organizations need to bring changes in their "business models" to obtain a competitive advantage in the market place. Companies may also get first mover advantage and reap financial benefits by serving the emerging markets with the green products according to the requirements of target population (Chang & Kuo, 2008). Changing environmental conditions around the globe may bring a time in near future for business organization where they have no option but to become green for existence and prosperity. Therefore,

identifying the target markets with reasonable population and potential for green products may be a crucial task for marketers for the success of their business (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003; Schlegelmilch, Bohlen, & Diamantopoulos, 1996; Wagner, 2003). Hence, understanding the nature of consumers in target markets is crucial for the successful positioning of green products and services and making the green marketing campaigns successful. It will also allow the marketers to develop effective green marketing strategies which can appeal to green consumers in both functionally and hedonically.

2.2 Environmental Beliefs:

Prior research have indicated that environmental beliefs of consumer is in fact their subjective knowledge build up on their experiences, feelings and their own perspective (Groening, Sarkis, & Zhu, 2018). Thereof, environmental beliefs are conceptualize as the realization of public about the effects of environmental degradation issues such as global warming, climate change, depletion of natural resources, pollution, disposal of wastage, water & air quality etc on human lives (Guber, 2003). According to prior research, environmental beliefs are considered to be driving force which may provide guideline to public to act in an environmental friendly way by changing their perceptions with the passage of time (McCarty & Shrum, 2001). Consumers with strong environmental beliefs can be easily involved in green consumption behaviors (Pagiaslis & Krontalis, 2014) because strong environmental beliefs raise the self-responsibility of consumers which ultimately motivate them to act in environmental friendly way (Wang & Lin, 2017). Such

consumers with strong environmental beliefs are also considered to be an attractive potential target market for marketing managers in order to attract them towards green products by using careful marketing strategies (D'Souza et al., 2007). The researchers have suggested that in order to identify the suitable target groups to serve with green products it is essential to explore the relationship between environmental beliefs and consumer behaviors (Groot & Steg, 2007). Environmental beliefs have been defined in literature in two ways. General beliefs are conceptualized as the general relationship between the human being and environment (Stern, 2000). Several authors use new environmental paradigm (NEP) (Dunlap & Liere, 1978) to measure the general beliefs held by the consumer towards the environment. On the other hand, specific beliefs are beliefs of consumers about the acceptance of reality that living being are affecting due to environmental degradation issues which include global warming, water & air quality, climate change, pollution, depletion of natural resources, disposal of wastage, and so on (Stern, Kalof, Dietz, & Guagnano, 1995). Many prior research studies have reported a weak relationship between general environmental beliefs and other attitudinal variables (Gadenne et al., 2011; Kilbourne & Pickett, 2008). The current research study turns around the specific beliefs. In fact, consumers may not be expected to exhibit environmental concern and their intentions to behave in an environmental responsible till the time comes when everyone start accepting the reality that environmental degradation issues do exist and need to be dealt on priority. Whereas individuals with general belief may not considered to be in a state where they admit the intensity of environmental problems and its effects on the living beings. In both models of environmental beliefs (Dietz, Stern, & Guagnano, 1998; Stern et al., 1995), specific beliefs and attitudes leads towards the intentions and behaviors.

2.3 Environmental Concern:

Environmental concern is conceptualized in prior research as "the degree to which people are aware of environmental problems and assist struggles to solve them or signify the readiness to contribute personally to their solution" (Dunlap & Jones, 2002, p. 85). Other authors conceptualized the environmental concern as the recognition of consumers that the protection of natural resources requires urgent attention (Kalafatis, Pollard, East, & Tsogas, 1999). According to another definition, environmental concern is conceptualized as "the extent to which the consumer is worried about threats to the environment, the consequences of such threats for the harmony of nature and future generations, and the lack of human action to protect the environment for future generations" (Abdul-Muhmin, 2007, p. 238). The differences in the conceptualization of environmental concern have made it difficult for researchers to measure it in similar way (Gärling, Fujii, Gärling, & Jakobsson, 2003). However, the significance of environmental concern is widely accepted and recognized by researchers and practitioners to involve the consumers in green consumption behaviors (Afonso et al., 2018; Tilikidou, 2007). Similarly, environmental concern has made many organizations to take in to account the sustainability in their business models. It has also pushed the governments towards taking necessary measure in the form of policy making and its implementation in order to survive in the global market and to reduce the harmful effects on living being (Leonard, 2008). Findings of prior research study concluded that decision making of consumers can be affected due to environmental concern (Jain & Kaur, 2004). Especially, environmental concern has been identified found as a major factor behind

the adoption of energy efficient products and innovative technologies (Diaz-Rainey & Ashton, 2015). Authors in prior research have also suggested to explore the role of several other variables in relation to environmental concern so that a better understanding can be created to study the human buying behaviors (Albayrak et al., 2013). The result of another research study revealed that individuals with an environmental concern could be more intended to participate in such activities which are initiated to overcome the environmental degradation issues (SGuin et al., 1998). Environmentally concerned consumers can also be a source of positive word of mouth for green organizations. Prior research indicates that environmentally concerned consumers have shown their willingness to prefer green hotels as well as to create positive word of mouth (Aman, Harun, & Hussein, 2012; Huang, Lin, Lai, & Lin, 2014; Martínez García de Leaniz, Herrero Crespo, & Gómez López, 2018). Research have also highlighted the difference in the level of environmental concern among the consumers of developed nations and developing nations (Dunlap, 1994) however its role is more critical in developing nations (Lin & Syrgabayeva, 2016). It is therefore indeed worthwhile to identify the existing level of environmental concern among the target consumers as well as the ways through which environmental concern can be raised for the success of green marketing campaigns (Suki, 2016). Without environmental concern, consumers may not be inclined towards their individual involvement in such activities which are related to overcome the environmental degradation issues (Jaiswal & Kant, 2018). In another research study authors highlighted that "attitudes of environmental concern are rooted in a person's concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment" (Zelezny & Schultz, 2000, p. 368).

2.4 Environmental Responsibility:

Environmental responsibility may be conceptualized as the extent to which young people feel responsible themselves for the environment and feel empowered to make environmental friendly decisions. The importance of raising the environmental responsibility of consumers is growing with the passage of time (Wells, Ponting, & Peattie, 2011). Therefore, environmental degradation and erosion of safe sanctuaries of the inhabitants remained the major concern of the many environmental protectionists / protagonists around the globe. Environmental responsibility frames the purchase decisions of consumers in such a way perhaps they can take into account the impact of their purchase decision on other living being as well as on environment (Emilien, Weitkunat, & Lüdicke, 2017). Thus, the purchase decisions of environmentally responsible consumers benefit the society as a whole rather focusing on their self-interest (Chryssides & Kaler, 1993; Jansson, Marell, & Nordlund, 2010). The reason is that such consumers have a sensible thinking towards the accelerating environmental threats which make them to think about the impact of their purchase and consumption decisions on the ecological processes of the planet (Pawaskar et al., 2018). At the same time, prior research also highlights that in some cases consumers may exhibit environmentally responsible behavior depending upon their convenience (Paco & Rodrigues, 2016). The decisions and opinions of such consumers, to some extent, are still directed by their own sense of responsibility apropos environmental conservation (Miniero, Codini, Bonera, Corvi, & Bertoli, 2014). Similarly, few studies have also highlighted such consumers which are of the view that responsibility to safeguard the environment belongs to government rather forcing the individuals to

behave in an environmental friendly way (Johnstone & Tan, 2015; Lee, 2009). Such thinking plays a role of barrier in making the young generation to play their role in supporting the activities which are related to overcome the environmental degradation issues (Fielding & Head, 2012). In contradiction, research findings of another study depicts that although there are thoughts among the today's youth that environmental protection is the responsibility of government and consumers however, in parallel, such thinking does not cause any decline in their own sense of environmental responsibility (Wray-Lake, Flanagan, & Osgood, 2010). Hence, consumers with higher level of responsibility towards the environmental damage are expected to be more inclined towards the engagement in green consumption behaviors (Wu & Yang, 2018). However, level of consumers perceived environmental responsibility depends upon the accessibility to the relevant information in proper format and its interpretation (Valor, 2008; Wells et al., 2011). The dire need was felt to inculcate the concept of the environment protection in the younger people for the future generations and made them environmentally cautious. Only personal considerations for environment protection can have massive impact on the environment improvement. Given the adversarial ramifications of the environment erosion, people have also realized their responsibilities (Gadenne et al., 2011) and have emotionally involved and taking measures to mitigate the environmental deterioration (Lee, 2008). Somehow the people at large now are convinced to take good care of planet and its inhabitants on sustainable basis to ensure environment conservation (Griskevicius et al., 2010). Their realization of the environmental problems was instrumental to behave environment friendly and go for green purchasing at individual levels (Kilbourne & Pickett, 2008; Zuraidah, Hashima, Yahya, & Mohamad, 2012) and they shift their purchase patterns towards green products.

2.5 Green Purchase Intentions:

Purchase intention is "a combination of consumers' interest in buying a product and the possibility of buying" (Wu, Wu, Lee, & Lee, 2015, p. 2). Similarly, as the concepts of the green purchase intentions are embedded, this will primarily serves as a basis that individuals will have eco-friendly likelihoods and prefer eco-friendly products over traditional products in daily lives (Oliver & Lee, 2010). Intentions of consumers may include their planning to purchase or repurchase a product or service from a company, refer a product or service to others as well as agreeableness of consumers to pay price premiums for a particular product or service (Namkung & Jang, 2017) therefore, a number of researchers and practitioners have recognized the significance of inducing intentions of consumers towards a product or service (Bowen & Shoemaker, 1998; Zeithaml, Berry, & Parasuraman, 1996). Purchase intention is also conceptualized as an attitudinal variable which may be used to predict the contributions of consumers to a brand (Kumar, Lee, & Kim, 2009). According to prior research studies, green purchase behavior is an outcome of green purchase intentions, which indicates that purchase intention plays a vital role in modeling the decision making process of consumers to purchase a green product of service (Beckford et al., 2010; Chan, 2001). Similarly, behavioral intentions was reported to be the most significant antecedent of actual behavior while exploring the decision making process of consumers by using the theory of reasoned action (Ajzen & Fishbein, 1975; Zhu, 2012). In further research studies, a behavioral intention is considered to be a type of confirmation by the consumer to behave in a certain way (Baker & Crompton, 2000; Cronin, Brady, & Hult, 2000). Prior research in the field of green marketing also

reveals that primary concern of using different modes of advertisements is to activate the green purchase intentions of consumers so that they can move forward to transform it in to actual behavior in terms of adoption of green products and services (Matthes, Wonneberger, & Schmuck, 2014). Further, results of a cross-cultural research in which consumers of two main cities (i.e. Los Angeles and Shanghai) were surveyed reveals that identifying the antecedents of green purchase intentions in different cultures may provide more inclusive understanding of actual consumer green purchase behavior (Chan & Lau, 2002). Especially, research to explore the green purchase intentions in developing countries is more crucial due to a noticeable difference in the cultural, social, economic and technological advances (Achchuthan & Thirunavukkarasu, 2016). Another reason behind the need of exploring the green purchase intentions of consumers in developing nations is that in most of the developing countries are blessed with huge population which can provide an opportunity to green firms to reap financial returns by serving the consumers with relevant green products (Goh & Balaji, 2016; Lai & Cheng, 2016).

2.6 Theoretical Support:

Theory of Reasoned Action (Ajzen & Fishbein, 1975; Zhu, 2012) and Theory of Planned Behavior (Osterhus, 1997) are found two prominent theories which are widely used in marketing literature to study the purchase behavior. Theory of reasoned action is normally used when a researcher intends to examine the behavioral intentions of consumers while theory of planned behavior is used when a researcher intends to examine the behavioral intentions as well as the actual behavior of

consumers (Gadenne et al., 2011; Polonsky, 2011). According to theory of reasoned action, attitude and subjective norms leads towards the intentions of consumers to execute a certain behavior. However, attitudes are formed based on the manipulation of information and the way it is processed by the audience. The results of prior research have proved that attitudes plays more extrapolative role in explaining the behavior intentions as compare to the subjective norms (Trafimow & Fishbein, 1994). Therefore, conceptual model for current thesis is developed based on the proposed relationship among the attitudinal variables instead of subjective norms. Many researchers have extended the theory of reasoned action in similar way by adding different attitudinal variables to explain the variation in consumers' purchase intentions (Bamberg, 2003; Ha & Janda, 2012; Han & Kim, 2010; Xianbing Liu, Wang, Shishime, & Fujitsuka, 2012; Moser, 2015; Mostafa, 2007; Rahbar & Wahid, 2011). According to another study, use of theory of reasoned action is reliable in such conditions when a researcher is intended to explore the factors which can motivate and raise the intentions of consumers towards the purchase of green products (Zhu et al., 2013). The current research has also utilized the theory of reasoned action to develop a conceptual model in order to identify the underlying mechanisms of consumer green purchase intentions. It is proposed that environmental beliefs may stimulate environmental concern among the consumers which may ultimately cause a change in consumer green purchase intentions. It is further proposed that environmental responsibility may moderate the relationship of environmental beliefs and environmental concern in such a way that consumers with higher level of environmental responsibility may portray greater level of concern for environment.

Similarly, the proposed relationship between environmental beliefs, environmental concern and green purchase intentions can also the explained based on

the foundation of Cognitive Consistency Theory. The theory has also been used by different authors in the field of marketing to propose the relationship among the different variables in their conceptual models (Ng, Butt, Khong, & Ong, 2014). The Cognitive Consistency Theory proposes that human behavior in not consistent. It remains under the process of change to overcome the mental and physical inconsistencies aroused by its surroundings. According to the Cognitive Consistency Theory (Festinger, 1957) when people perceive inconsistency between the sources of information then their behavior would be more concurrent with their values, beliefs and perceptions to restore the mental or physical disorders. These values, beliefs and perceptions evolve after the evaluation of pros and cons of each conflicting factor which cause a dissonance. A person remains in the state of tension till the availability and selection of best alternative source of information to behave differently so that dissonance can be resolved. After overcoming the dissonance, a person returned to a comfortable zone where internal feelings gets aligned with the motives to be achieved in result of alteration in behavior (Haber, Leach, Schudy, & Sideleau, 1982). Similarly, when consumers start realizing that environmental degradation issues are negatively affecting the daily lives of human being and that the results of such environmental issues could be more drastic for their children and future generations if not addressed properly well in time, it will raise their environmental concern. Consequently, environmental beliefs and environmental concern will influence their green purchase intentions to join hands with the community promoting green culture. Involvement of such type of behaviors may bring the consumers in a comfortable zone where they could feel better as compare to those consumers which are not concerned with environmental degradation issues. Similarly, moderating role of environmental responsibility can be supported by means of the norm activation model

(Schwartz, 1977). According to norm activation model, individuals are expected to be more concerned about the environmental degradation issues when they are aware about the negative consequences of environmental degradation issues and feel guilty for not playing their role to barricade the negative effects on human lives. Such feelings of guild make the individuals to start behaving in an environmental friendly way.

2.7 Hypothesis Development:

2.7.1 Relationship of environmental beliefs with environmental concern and green purchase intentions:

Awareness of the individuals of the environmental issues are positively interconnected with the environmental behaviors (Tanner & Kast, 2003), and various research endeavors testify the fact that consumers that opt for eco purchasing have vibrant and dominant environment beliefs (Mainieri et al., 1997; Pickett-Baker & Ozaki, 2008). However, according to prior research it is found that consumers possessing positive environmental beliefs may exhibit a consistent response towards green products of services in terms of purchase intentions thus; marketing managers may easily target markets with such consumers by carefully formulating and executing the marketing strategies (D'Souza et al., 2007). Similarly, perceptions of public towards the significance of environmental problems may vary across the cultures with respect to geographic regions, level of education, awareness, intensity and economic conditions of country (Anderson et al., 2007; Barber, 2010; Do Paco & Raposo, 2009; Doyle, 2018; Dunlap, 1994; Harris, 2006; Okada & Mais, 2010). These

differences may affect differently to the residents of that particular region to express their concern towards the environmental problems and their possible solutions (Dunlap, 1994). The greater access of population to global media is also playing vital role in changing the environmental beliefs over the time. In many Asian countries, environmental changes and its effects are more observable. Changing weather conditions, shortages of water and food, energy crisis, increasing population and energy crisis are some of the ultimate observable changes which are affecting the social and economic conditions of individuals as well as at national level. Research reveals that population in Asian countries is more concerned with environmental problems as compare to population of western nations (Cherian & Jacob, 2012). Hence specific environmental beliefs held by consumers significantly affect their concern towards the environment. Similarly, strong environmental beliefs may also influence the consumers to take initiative in terms of involving in green consumption behaviors in order to confront the environmental degradation issues. According to theory of reasoned action, it is proposed that changing the environmental beliefs of consumers in an effective way may induce environmental concern which will ultimately affect their green purchase intentions. The relationship of environmental beliefs with environmental concern and green purchase intentions can also be explained by using the cognitive consistency theory. According to this theory, consumers with strong environmental beliefs should be more concerned about the environmental changes and must be ready to act in such a way so that environmental problems can be eliminated. Similarly, consumers with environmental beliefs should also exhibit a favorable response towards green products in terms of purchase intentions. Hence following hypothesis has been proposed based on the above discussions:

H 1: Environmental beliefs have a positive association with green purchase intentions.

H 2: Environmental beliefs have a positive association with environmental concern.

2.7.2 Relationship of environmental concern with green purchase intentions:

Numerous studies posit that consumers that are sensitive to the environmental issues invariably weigh the pros & cons of their purchases vis-a-vis their impact on the environment (Follows & Jobber, 2000; Nath et al., 2013). Thus, such consumers may be more inclined towards the adoption of green consumption behaviors (Kilbourne & Pickett, 2008). There are dearth of empirical studies in which authors revealed inconclusive findings when the relationship between environmental concern and green purchase intentions was explored suggesting that certain consumers portraying higher level of environmental concern may not likely to indulge in green consumption behaviors (Chang, 2011; Hines, Hungerford, & Tomera, 1987; Ramayah et al., 2010). However in general, a positive correlation between environmental concern and environmentally friendly behavior has been revealed in prior research studies (Kalafatis et al., 1999; Laroche, Bergeron, & Barbaro-Forleo, 2001; Manaktola & Jauhari, 2007; Straughan & Roberts, 1999). Prior research also confirm the willingness of consumers to purchase environmental friendly products even though such products are more expensive as compere to conventional alternatives available in the market place on low prices (Bang, Ellinger, Hadjimarcou, & Traichal, 2000). The findings of another study revealed that it is more probable that consumers with higher level of environmental concern could be more inclined towards the purchase of green products as compare to the less concerned consumers (Kim & Choi,

2005). A similar study in which researchers evaluated almost 53 articles related to green purchase behaviors from 2000 to 2004 and found that environmental concern is a major variable which influence the consumer green purchase intentions (Joshi & Rahman, 2015). According to theory of reasoned action, it is proposed that environmental concern will lead towards the consumer green purchase intentions. The relationship of environmental concern with environmental concern and green purchase intentions can also be explained by using the cognitive consistency theory. According to this theory, consumers with strong environmental concern should exhibit environmental friendly behavior in such a way that such consumers should be more intended towards the purchase of green products rather preferring conventional products (Kilbourne & Pickett, 2008). Hence following hypothesis are proposed based on the above discussions:

H 3: Environmental concern has a positive association with green purchase intentions.

2.7.3 Mediating role of environmental concern between environmental beliefs and green purchase intentions:

A stream of existing research is continuously trying to investigate the potential factors which can explain a significant and positive change in consumers' green purchase intentions. Many authors have developed theoretical models by introducing different variables which may influence the consumers while making a decision to purchase a green product or service (Cowan & Kinley, 2014; Griskevicius et al., 2010; Ha & Janda, 2012; Kang, Liu, & Kim, 2013; Pagiaslis & Krontalis, 2014). However, in many cases it is found that consumers prefer conventional products rather purchasing green products (Johnstone & Tan, 2015; Young et al., 2010). This

complex nature of human behavior required a continuous research to explore the new relationships and/or identifying mediating and moderating roles of different variables so that marketing strategies can be changed from time to time according to the nature of consumers, product, and purchase patterns (Barbarossa & Pastore, 2015; Dagher & Itani, 2014; Joshi & Rahman, 2015). Many authors have theorized that consumers would be more ready to engage in environmentally friendly behaviors if they perceive that environmental problems have reached a very serious level (Dunlap, 1994). Similarly, consumers with strong environmental beliefs are also expected to prefer green products over the conventional products. However, there are also studies available which have reported that relationship between environmental beliefs and green purchase intention is from weak to moderate (Pickett-Baker & Ozaki, 2008). The difference in results required to identify the hidden patterns and variables which may play a significant role to bring a positive change in consumer intentions to purchase green products and services

Previous research indicates that environmental beliefs are indirect predictors of specific pro-ecological behaviors, therefore predictive ability of environmental beliefs should be assessed along with the mediating variables (Corral-Verdugo, Bechtel, & Fraijo-Sing, 2003; Gadenne et al., 2011) so that accurate picture of consumer trends and patterns concerning the green markets and green purchase intentions may be tapped. It is proposed that environmental concern mediate the relationship between environmental beliefs and green purchase intentions. The variation in the actual behaviors of consumers is based on the processing of environmental information which they received from resources available around them. Logically, if environmental beliefs of consumers are not strong they may not demonstrate their concern for environment (Kim & Choi, 2005; Pickett-Baker &

Ozaki, 2008; Suki, 2016). Thus, these consumers will not prefer the green products neither they will give attention to increasing intensity of environmental hazards. Raising environmental concern is increasingly becoming important for firms for the developing and marketing of green products effectively in emerging markets (Wray-Lake et al., 2010). Research suggest that positive environmental beliefs affect their concern for environment and ultimately these consumers are expected to be more inclined towards green purchase intentions (Knopman et al., 1999). The result of prior studies also revealed that without the environmental concern, consumers may not be intended towards the purchase of green products (Lee, 2009; Ling-Yee, 1997; Sinnappan & Rahman, 2011). The current study also proposes that the effect of environmental concern on green purchase intentions preceded by the beliefs held by the consumers towards the seriousness of environmental problems. The mediating role of environmental concern can also be explained by applying the Associative Network Memory Model. The model is commonly used in marketing research to explain the memory structure (Till & Nowak, 2000) thus it can also provide a foundation to explain the association between environmental beliefs, environmental concern and green purchase intentions. According to prior research, human memory can be explained as "a network consisting of various nodes connected by associative links" (Till & Shimp, 1998, p. 68). Each node constitutes some sort of information and connected with each other via associative links (Krishnan, 1996). Every node activates the associative node to give the meaning and link the certain situations and objects. The strength of these links may result in transfer of feeling from one object to another or from one situation to another. According to this model each variable in the theoretical framework will play a role as a node. These nodes are linked with each other. The strength of each variable or node with other variable in the research model

could be different. In such a way, it is proposed that environmental beliefs held by consumers are associated with environmental concern. Consequently, an association between environmental concern and green purchase intentions can reveals the extent to which consumers with environmental concern are willing to engage in green consumption behaviors. Hence following hypothesis are proposed based on the above discussions:

H 4: Environmental concern mediates the relationship between environmental beliefs and green purchase intentions.

2.7.4 Moderating role of environmental responsibility between environmental beliefs and environmental concern:

Perceived environmental responsibility is conceptualized as an internal sense of responsibility or emotional feelings which make the consumers intended towards the purchase of green products (Griskevicius et al., 2010). It can also be conceptualized as the extent to which consumers feel responsible for the environmental hazards and feel empowered to act in a way such that their decisions may not harm the environment (Cleveland et al., 2012). The motivation of consumers to involve in environmentally responsible behavior solely depends on their personal desire to make individual-level efforts to overcome the environmental degradation issues (Griskevicius et al., 2010). Such consumers realize the adverse impact of environment on human and other living-beings (Gadenne et al., 2011) and may emotionally involve with environmental protection issues (Lee, 2008). Research also indicates that consumers with higher level of responsibility may be considered as more concerned about the environment and expected to be more intended towards the

utilizations of green products to support the efforts to overcome the environmental degradation issues (Do Paco & Raposo, 2009; Knopman et al., 1999). Current study proposes that perceived environmental responsibility may moderate the relationship between environmental beliefs and environmental concern in such a way that consumers with higher level of environmental responsibility could be more concerned about the environment as compare to the consumers with low level of perceived environmental responsibility. Such consumers may pay more attention towards the information sources highlighting the environmental problems which ultimately increase their level of environmental concern (Lin & Huang, 2012). The moderating role of environmental responsibility can also be explained by using the norm activation model which is originated from social psychology context (Schwartz, 1977). According to norm activation model, expectation from individuals to involve in environmental friendly behaviors depends up on their perceptions regarding the dangerous consequences of environmental degradation issues on one hand and the extent to which they feel themselves to be responsible for not playing their role to confront the environmental degradation issues on the other hand (Cherian & Jacob, 2012; Lee, 2009; Newman & Fernandes, 2016). The feelings of guilt make the individuals to respond in an environmental responsible way (Ng et al., 2014) in terms of involvement in green consumption behaviors (Nyborg, Howarth, & Brekke, 2006). It can be inferred that from above discussions that:

H 5: Environmental responsibility moderates the relationship between environmental beliefs and environmental concern such that in case of high level of environmental responsibility the positive relationship between environmental beliefs and environmental concern will be stronger.

2.8 Theoretical Model:

Theoretical model proposed for the current study pertains to four variables which include environmental beliefs, environmental concern, environmental responsibility and green purchase intentions.

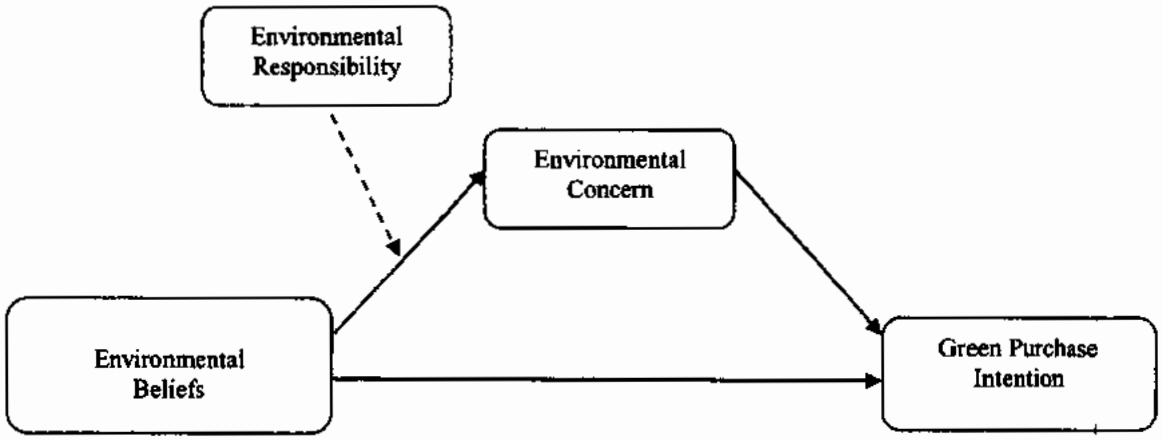

Figure 1. Conceptual model of the relationships between environmental beliefs (EB), environmental concern (EC), environmental responsibility (ER) and green purchase intentions (GPI).

The direct relationship between environmental beliefs, environmental concern and green purchase intentions was proposed based on the theoretical and empirical findings in prior research. Similarly, the mediating role of environmental concern between environmental beliefs and green purchase intentions was also proposed based on the theoretical and empirical finding of prior research studies in the field of green marketing. Consequently, the moderating role of environmental responsibility was

also proposed between environmental beliefs and environmental concern which can be observed in figure 1.

CHAPTER 3

RESEARCH METHODOLOGY

The current research was an attempt to investigate the direct relationship between environmental beliefs and consumer green purchase intentions; and the mediating role of environmental concern between environmental beliefs and consumer purchase intentions which have been derived from the literature in the field of green marketing. Moreover, the moderating role of environmental responsibility between environmental beliefs and green purchase intentions was also explored.

All efforts were made to share with marketing managers the extent to which consumers are concerned with the environmental degradation issues, their involvement and intentions towards the adoption of green products. It was therefore expected that findings of this research may enable the marketing managers to get a strategic control while developing and executing the green marketing strategies for the achievement of organizational objectives.

In the previous chapter we have articulated the literature related to green marketing and other variables of study. Furthermore, the relationship among the variables has also been conjectured theoretically in order to draw the hypothesis of the study. In

current chapter, we have discussed the methodology which was used to test the conceptual model and hypotheses which are derived from literature. This chapter also outlines the details related to the type of research, research design, and treatment of variables, sample selection criteria, data collection technique, and types of tests which are applied to test the relationship among the variables.

3.1 Research Design:

Research design provides an overall strategy used to address the research questions of the study (Zechmeister & Posavac, 2003). Before proceeding ahead, it was worthwhile to discuss regarding the paradigm to which this study attempted to contribute.

The current research constitutes the characteristics of descriptive research as well as causal research because this research was an attempt to investigate the relationship among certain variables such as environmental beliefs, environmental concern, environmental responsibility and green purchase intentions. Current research also explored the mediating role of environmental concern between independent variable i.e. environmental beliefs and dependent variable i.e. green purchase intentions. Similarly, the moderating role of environmental responsibility between independent variable i.e. environmental beliefs and mediating variable i.e. environmental concern was also examined in this research study. In first stage, the data (literature) related to green purchase intentions was extracted from previous research. Furthermore, the hypotheses and research questions were drawn based up on the literature review presented in chapter two.

Several quantitative tools and techniques were utilized in order to address the research questions and objectives set forth for the study. In quantitative research, most of the researchers tend to check the causal relationship among the variables. The direction of these relationships is clearly described mostly in the hypotheses of the study which are derived from the literature review. Several techniques such as experiments and surveys are available to collect the data for quantitative research. The researcher and several authors have explained pros and cons associated with each technique. However, in line with the majority of prior research in the field of green marketing; survey method was utilized by the author for data collection. This technique benefits the researchers in terms of saving cost, easily access the target population, collection of standardized data on large scale, ease of data tabulation and analysis.

Moreover, current research adopted cross-sectional research design and survey method technique following the ongoing stream of research in the field of green marketing (Konuk, Rahman, & Salo, 2015; Nguyen et al., 2017; Pagiaslis & Krontalis, 2014).

3.2 Population:

A population can be defined as "the entire set of people or observations in which a researcher is interested or which are being studied" (Malcolm & Blerkom, 2009, p. 212). In most of the Asian countries such as Pakistan, a vast majority of population constitutes the youngsters (Baker & Crompton, 2000). Therefore, a considerable amount of the data was gathered from youngsters due to common

characteristics shared by them. Further, data was collected from the respondents of two major cities of Pakistan i.e. Islamabad and Rawalpindi. In both cities, a large number of residents are not local. Most of the residents belonged to other cities of Pakistan however staying in both cities due to their job, business or for the sake of education. Similarly, respondents of the study were not restricted to a particular sector such as service or education sector. All these measures were taken to increase the generalizability of results.

3.3 Sampling Technique and Sample Size:

There are several ways which are used by researchers to make decision about sample size however it mainly depends up on the type of study. Appropriate sample size is considered to be a pre-requisite to run certain statistical tests. Convenience sampling was used because the conceptual framework pertains no such variable which necessitate an explicit type of organization and work setting. Similarly, question regarding the generalizability may be raised because of using convenience sampling technique however; this weakness can be ignored in social sciences research because:

"....Social processes and patterns of causal relationships appear to be more generalizable and more stable than specific characteristics such as individual level of prejudice" (Wasserman, 2009, p. 221)

In prior research several authors have provided guideline for selecting a proper sample size while conducting a survey research. According to a research study, a sample size containing 200 observation may be enough for simple models (Kelloway, 1998) while for moderately complex conceptual models, a sample size containing

300-400 valid observation may be used to apply the statistical tools and techniques for further analysis of data (Boomsma, 1983). Keeping in view the complexity of conceptual model developed for current research study, a sample size containing 300-400 observations was appropriate. However, 519 useable responses were finally utilized for data analysis to verify the proposed research model for the study.

3.4 Survey Method:

There are many survey methods which can be used for the collection of data. These methods constitute self-administration questionnaire, telephonic interviews, face to face interviews and the internet (Mooi & Sarstedt, 2011). Every method has its pros and cons in terms of cost or interference of researcher.

In order to meet the objectives of the research study and to address the overall research questions and proposed hypothesis, the author opted for self-administered questionnaires as a suitable survey instrument for data collection. The ultimate reason was that in most of the prior research which has been carried out in the green marketing context, the researchers have already used self-administered questionnaires as a survey instrument for all those variables which are used in the proposed research model of current study (Chan & Lau, 2002; Kilbourne & Pickett, 2008; Lee, 2009; Ling-Yee, 1997; Mei, Ling, & Piew, 2012; Paco & Rodrigues, 2016; Tantawi, O'Shaughnessy, Gad, & Ragheb, 2009). Likewise, it is most commonly used method used for data collection in the field of social science (Stone, 1978). Self-administered questionnaire was accompanied with a cover letter highlighting the significance of the research and assurance of anonymity of information. Each questionnaire has been

compiled for self-report. The other advantages of this method are low cost and minimal interference of researcher (Malhotra & Birks, 2007). The minimal interference of a researcher is very helpful in reducing response bias. Similarly, this method allows the respondents to have enough time in order to complete the questionnaire without any interference of the researcher.

There are several disadvantages of this survey method. These disadvantages include low response rate. Respondents may leave blank most of the questionnaire which might be due to less understanding of the phenomenon. This drawback can be controlled by providing an opportunity to the respondents to ask for the clarification if they are unable to understand the questions. Similarly, the distribution of survey among the carefully targeted groups can reduce the low response rate.

3.5 Survey Design and Data Collection Procedures:

A proper survey instrument was designed under the guidelines and directions provided by several authors in prior research to collect the desired data from the target population. The ultimate purpose of following these guidelines and directions was to reduce the response error and enhance the involvement of respondents of the study. The first measure which was taken in to consideration while designing the survey instrument was the education level and the characteristics of the target population. The survey instrument was designed in a proper, simple and understandable language (Malhotra & Birks, 2007) i.e. in English. Prior research, which has been carried-out in the field of management or marketing, researchers have used scales which are developed in English. Similarly, English is an official language which is widely used

in public and private sector organizations of Pakistan. Similarly, it is also used as a mode of communication in education sector. Most of the researchers prefer to use those questionnaires which has already used and validated by another researcher (Rahbar & Wahid, 2011). Likewise, number of questions, sequence and length of questions, proper formatting and line spacing among the questions were also taken in to consideration while designing the survey instrument (Borin et al., 2011). Likewise, demographic questions were placed at the end of the survey instrument so that the respondents do not get bored before starting the completion of survey instrument. Another reason for the placement of these questions at the end was that these questions are used to collect personal information related to the respondents. After completion of the whole survey they can easily provide the required demographic data.

Before the filling of questionnaire, the respondents were informed regarding the importance and purpose of the study. Similarly, before starting the further data collection the scale was reviewed by the experienced researchers. Respondents for the study were selected on the basis of their voluntary participation. Overall 1500 were distributed among the respondents of the study. Thus, yielding an effective response rate of 34.6%.

3.6 Measures (see Appendix A):

All measures for the constructs were taken from the prior research studies which were carried out from the green marketing perspective due to their proved reliability and validity in different countries and cultural context. The use of

established standardized scales to measure the study variables reduces the likelihood of instrumentation threats (Youssef & Luthans, 2007).

3.6.1 Environmental Beliefs:

In order to measure the Environmental Beliefs, seven items scale was adapted from the study of Kilbourne & Pickett (2008). Responses were measured on 7-points likert scale ranging from (1) "strongly disagree" to (7) "strongly agree". Survey items include "Different types of pollution are rising to dangerous levels", "Shortages of some important resources will occur in the near future", "The availability of clean water will become a problem in the future", "Some living things are being threatened with extinction", "Continued use of chemicals in agriculture will damage the environment", "Global warming is becoming a problem", "Ozone depletion is an environmental problem". In prior studies, the scale had an internal consistency reliability ranging from .80 to .86. In order to, assess the reliability of each scale, the author adopted the most widely used and accepted technique to measure internal consistency reliability i.e. Cronbach's alpha (Price & Mueller, 1986). The value of Cronbach's alpha of seven items scale used for current study to measure the environmental beliefs was found .87 which is above the acceptable level (0.70) suggested by (Nunnally, 1978). Reliability is considered to be a pre-requisite for validity of a scale (Nunnally, 1978).

3.6.2 Environmental Concern:

To measure the Environmental Concern, seven items scale was used in which three items were adapted from the study of Ling-Yee (1997) and further four items were adapted from the study of Lee (2009). Responses were measured on 7-Points likert scale ranging from (1) "strongly disagree" to (7) "strongly agree". Sample items include "I become angry when I think about harm being done to environment by pollution", "When I think of the ways industries are causing pollution, I get frustrated and angry", "I become incensed when I think about the harm being done to planet and life by pollution," and "I often think about how the environmental quality in Pakistan can be improved", "I am very concerned about the environment", "It frightens me to think that much of the food I eat is contaminated with pesticides", "I am emotionally involved in environmental protection issues in Pakistan", "I am worried about the worsening of the quality of environment in Pakistan". In prior studies, this scale had an internal consistency (reliability) ranging from .80 to .86. The value of Cronbach's alpha of seven items scale used for current study to measure the environmental concern was found .90.

3.6.3 Environmental Responsibility:

To measure the Perceived Environmental Responsibility, six items scale was used in which five items were adapted from the study of Paco & Rodrigues (2016) and further one item was adapted from the study of Tantawi et al. (2009). Responses were measured on 7-Points likert scale ranging from (1) "strongly disagree" to (7)

"strongly agree". Sample items include "I should be responsible for protecting our environment", "Environmental protection starts with me", and "I have taken responsibility for environmental protection since I was young", "Everyone is responsible for protecting the environment in their everyday life", "We should recognize the need to protect the environment today so that future generations will not suffer the consequences", "I think I have responsibility in protecting the environment in my country". In prior studies, the scale had an internal consistency reliability ranging from .80 to .86. The value of Cronbach's alpha of six items scale used for current study to measure the environmental responsibility was found to be .90.

3.6.4 Green Purchase Intentions:

To measure the consumer Green Purchase Intentions, four items scale was adapted from the study of Chan & Lau (2000). Responses were measured on 7-Points likert scale ranging from (1) "strongly disagree" to (7) "strongly agree". These items include "I would consider buying those products that are environmental friendly", "I would intend to buy those products that are less polluting", "I would buy those products that are not harmful to the environment," and "I would intend to switch other brands for ecological reasons". In prior studies, the scale had an internal consistency reliability ranging from .80 to .86. The value of Cronbach's alpha of four items scale used for current study to measure the green purchase intentions was found .94.

Table 1. List of instruments used

Sr. No.	Variables	Instrument Author/s	No. of Items	Reliability Cronbach's α
1	Environmental Beliefs	Kilbourne & Pickett (2008)	7	.87
2	Environmental Concern	Ling-Yee (1997) Lee (2009)	7	.90
3	Environmental Responsibility	Paco & Rodrigues (2016) Tantawi et al. (2009)	6	.88
4	Green Purchase Intentions	Chan & Lau (2000)	4	.94

3.7 Sample Demographics:

The data was collected from different public and private sector organizations in order to investigate the hypothesis of the research study. Data reveals that 68.6% of the respondents are male and 31.4% respondents of the study are female. The qualifications ranged from inter level to PhD level with proportion of inter (12 or 13 years of education) level 3.6%, bachelors/graduate (14/15/16 years of education) level 36.7%, Masters (17/18 years of education) 51.8% and PhD 8.0 %. The average age of respondents is revealed as 29.9 years (SD =5.6). The mean experience of the respondents of the study is found as 6 years (SD= 5.3). Similarly, 22.5% respondents of the study reported their salary (in Pak Rs.) < 25000, 32.9% = 25,000 to 50,000, 19.3% = 51,000 to 75,000, 15.9% = 76,000 to 100,000, and 9.5% of the remaining respondents reported their salary > 100,000. The mean salary of the respondents of the study is found around Rs. 40,000 (SD= 1.3).

Table 2. Sample demographics

Variable	Description	Frequency	Percentage (%)	Mean	S.D.
Gender	Male	353	66.7	-	
	Female	166	33.3		
Marital Status	Yes	285	53.9	-	
	No	244	46.1		
Age	< 27	179	33.8	29.91	5.54
	27 to 32	193	36.5		
	> 32	157	29.7		
Education	12/13 Years	19	3.6	17.1	1.75
	14/15/16 Years	194	36.7		
	17/18 Years	274	51.8		
	Above 18 Years	42	7.9		
Income (Pak Rs.)	< 25000	119	22.5	Rs. 50,000 approx.	1.26
	25,000 to 50,000	174	32.9		
	51,000 to 75,000	102	19.3		
	76,000 to 100,000	84	15.9		
	> 100,000	50	9.5		
Experience	< 4 Years	210	39.7	6.01	5.25
	4 to 9 Years	174	32.9		
	> 9 Years	145	27.4		

Chapter Summary:

Chapter 3 provides an overview about the methodology which is adapted to address the relationships proposed in theoretical model. The chapter was started by shedding light on the research design adapted for current thesis. Further, the chapter also provides a brief view about the target population as well as justification about the sufficient sample size. Consequently, this section also provides the details related to type of study and sampling technique and measures used for the collection of data from the respondents of the study. The chapter also provides the overview of sample characteristics and reliability of the scales adapted from prior research.

CHAPTER 4

RESULTS

This chapter starts with the details related to the steps used for the preparation of data for further analysis. Subsequently, the chapter provides the results obtained by applying the certain statistical techniques such as Exploratory Factor Analysis, Confirmatory Factor Analysis and Structure Equation modeling. The chapter also provides the procedure used to explore the mediating role environmental concern between environmental beliefs and green purchase intentions as well as the moderating role of environmental responsibility between environmental beliefs and environmental concern.

4.1 Preparation of Data for Analysis:

The data collected through questionnaire was properly coded in SPSS. During this process, items of each variable were given proper label for its identification during analysis. Descriptive statistics was used to identify the extreme values, missing values, outliers and errors which were occurred during the data entry process. Errors

from data were removed/ corrected by accessing the original survey. Similarly, missing values were identified in SPSS by generating the frequency table. Consequently, missing values were treated in SPSS by using the mean value for demographic variables and median for the items which were measured by using likert scale. Responses with greater number of missing values or unengaged responses were deleted from the final data sheet.

During the survey for current research study, respondents were asked to provide their extent to which they are agree they are agree/disagree with the given statements in survey form on 7-Points likert scale ranging from (1) "strongly disagree" to (7) "strongly agree". The statements were used to measure four main continuous variables which constitute environmental beliefs, perceived environmental concern, perceived environmental responsibility and green purchase intentions. Before applying statistical tests to check the outliers of data, mean values of four variables of study were calculated for each respondent. After calculation of means, univariate outliers were detected in SPSS by applying the Boxplot graphical technique. On the other hand, Cook's distance test was applied on dataset to detect the multivariate outliers and influential records (Cook, 1977). The records with Cook's distance values greater than 1.00 are considered as influential records and therefore may be deleted from final dataset (Cook & Weisberg, 1982). The values of Cook's distance test in figure 2 are less than .05 which is an evident that there are no influential records in final dataset. Similarly, Multicollinearity issues were detected by observing the values of VIF values. VIF values for all independent variables was found less than the threshold value i.e. 3.3 (O'brien, 2007) indicating the absence of multicollinearity issues in the dataset.

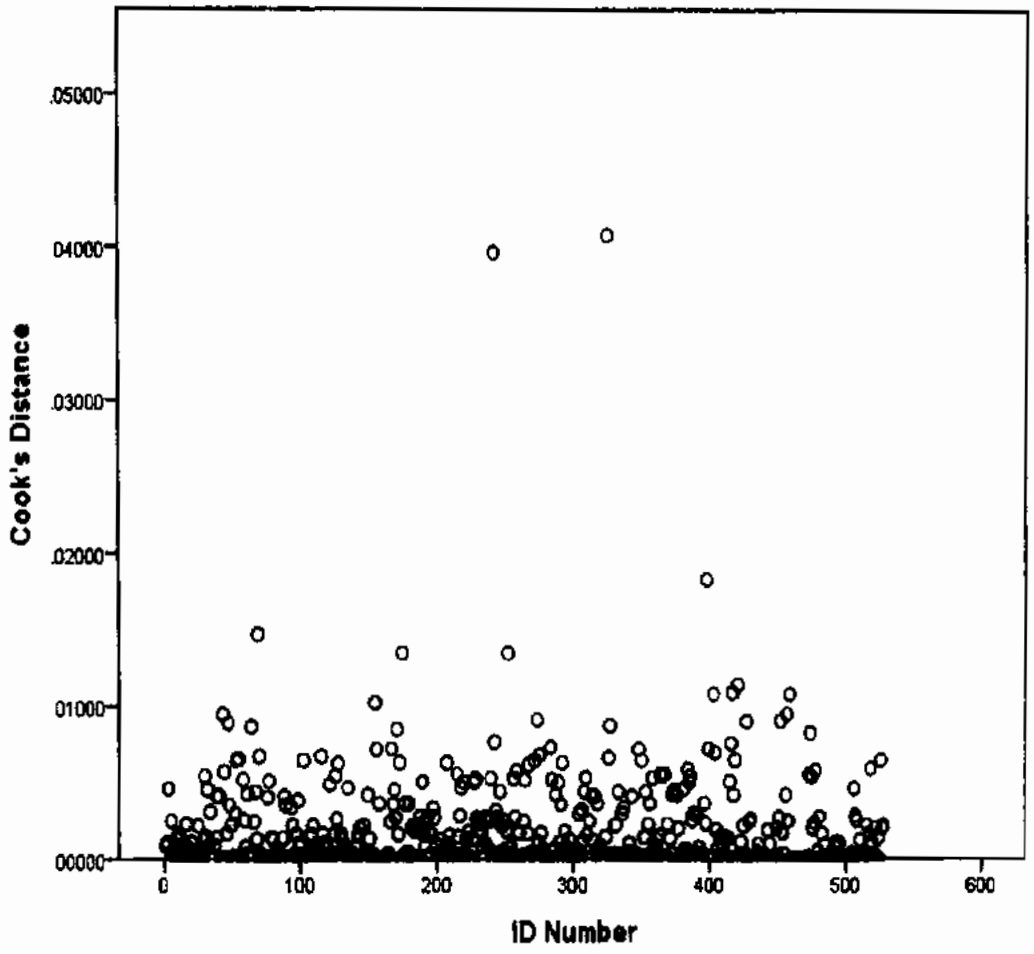

Figure 2. Detection of multivariate outliers through Cook's distance test

Normality of data is also primary assumption for applying parametric test. Data may be referred as normal when it is lying under an acceptable range or following an acceptable pattern. Therefore, normality of continuous variables in the dataset was confirmed by using two techniques. In fist technique i.e. graphical presentation, Boxplot, Q-Q plots and Histograms were used to observe the pattern of data. The data patterns obtained through graphical techniques demonstrate the normality of data. In second technique, results of statistical tests such as Skewness, Kurtosis were also observed to check the normality of data. The value of Skewness

for each continuous variable of dataset was found within acceptable range i.e. $-1 \leq 0 \leq +1$ (Field, 2009; Trochim & Donnelly, 2001). Similarly, the values of Kurtosis for all variables of study were also found within acceptable range i.e. $-2 \leq 0 \leq +2$ indicates the lack of sufficient variance in the observed variable (George, 2011; Gravetter & Wallnau, 2014). Thus, results of both statistical techniques (Skewness and Kurtosis) demonstrated the normality of data.

4.2 Control Variables:

A variable which is held constant, while assessing the relationship between an independent and a dependent variable is known as a control variable (Sekaran, 2004, p. 144). Such variables strongly influence the results therefore researchers held such variable constant during the analysis (Becker, 2005) so that relative relationship between independent and dependent variables can be explored. Mostly demographic variables are controlled during the research studies in the field of marketing which are identified by conducting the analysis of variance (ANOVA) (Hannibal, Liu, & Vedlitz, 2016; Laroche et al., 2001; Lee, 2009; Mohai, 1992; Xiao & McCright, 2015).

ANOVA test is used when researchers are interested to observe whether there exist any mean differences in the response of more than two groups (Mooi & Sarstedt, 2011). Before, applying ANOVA test, certain assumptions were met for reliable results. Such assumptions constitute that observed variable should be measured on interval scale and its values are normally distributed. Similarly, group sizes of data also required to be equal. Unequal sample sizes of groups can bring the biasness in the

results (Mooi & Sarstedt, 2011). To overcome such biasness, an alternative method was used where a major difference in group sizes was found (Brown & Forsythe, 1974; Welch, 1951). However, rests of the mandatory assumptions were fulfilled.

Table 3. ANOVA analysis – Gender

Dependent Variable		Sum of Squares	Df.	Mean Square	F	Sig.
Environmental Concern	Between Groups	10.22	1	10.27	4.48	0.04
	Within Groups	592.87	527	1.13		
	Total	603.09	528			
Green Purchase Intentions	Between Groups	4.96	1	4.96	2.18	0.14
	Within Groups	881.08	527	1.67		
	Total	886.04	528			

The results of ANOVA test for current study reveals the significant difference in the sample means of the groups under consideration i.e. gender and income whereas no difference in the sample means of age, marital status, education and experience was found. Therefore, researcher controlled gender and income variables in further analysis. Such variables were controlled in the past research as well (e.g. Lee, 2009) in the field of marketing.

Table 4. ANOVA analysis – INCOME

Dependent Variable		Sum of Squares	Df.	Mean Square	F	Sig.
Environmental Concern	Between Groups	11.15	4	2.79	2.45	0.04
	Within Groups	591.94	524	1.13		
	Total	603.09	528			
Green Purchase Intentions	Between Groups	18.95	4	4.74	2.98	0.02
	Within Groups	867.09	52	1.66		
	Total	886.04	528			

4.3 Descriptive statistics and correlation:

Means, standard deviations, correlations and reliabilities of the variables of the thesis are presented in below table 5. The results reveals that there exists a significant positive correlation between environmental beliefs and environmental concern ($r = .24$, $p < .01$). A significant positive correlation was also found between environmental beliefs and green purchase intentions ($r = .12$, $p < .05$). Furthermore, a significant and positive correlation was also found between environmental concern and green purchase intentions ($r = .25$, $p < .01$). The mean and standard deviation for environmental beliefs was found 4.66 & 1.47 respectively, for environmental concern

was 5.64 & 1.09, for environmental responsibility was 4.94 & 1.39 and for green purchase intentions was 5.24 & 1.36.

Table 5. Descriptive statistics, reliabilities and inter-correlations

Variables	Mean	SD	1	2	3	4
1. Environmental Beliefs	4.66	1.47	1			
2. Environmental Concern	5.64	1.09	0.24**	1		
3.Environmental Responsibility	4.94	1.39	0.02	0.13**	1	
4. Green Purchase Intentions	5.24	1.36	0.11**	0.25**	0.07	1

Notes: N = 519; **$p < .01$

4.4 Exploratory Factor Analysis:

To measure the variables of study, the author found different scales for each variable in previous studies. So, in order to confirm whether an expected structure is present in observed variables and assure the accuracy of measurement of constructs (Barrett, 1972; Haytko & Matulich, 2008; Nguyen et al., 2018; Royne et al., 2012) the author opted for Exploratory Factor Analysis (EFA) prior to Confirmatory Factor Analysis (CFA). EFA is a statistical technique which is widely used to screen the variables for subsequent analysis. "*It is used to reveal the number of factors and the variables that belong to specific factors*" (Mooi & Sarstedt, 2011, p. 202). Before, applying EFA, certain assumptions were met to confirm the appropriateness of data for reliable results. Such assumptions constitute the following:

4.4.1 Observed variable should be measured on interval or ratio scale:

All observed variables for current study were measured on 7-Points likert scale ranging from (1) "strongly disagree" to (7) "strongly agree" hence meeting the requirements of EFA.

4.4.2 No missing values in the data:

Missing values were identified for each demographic and continuous variable and were treated by using mean for demographic variables and median for the items which were measured by using likert scale. Similarly, responses with greater number of missing values were deleted from the data set.

4.4.3 Sample Adequacy:

The decision whether the dataset is viable for EFA depends on the values of Kaiser–Meyer–Olkin (KMO) and Bartlett's test of Sphericity. The KMO statistic, which is also known as the measure of sampling adequacy (MSA), indicates whether the data collected for each variable of research model is suitable for factor analysis. Prior research revealed that a sample size containing the dataset of 150 responses may also adequate for EFA subject to the strong inter-item correlations (Guadagnoli & Velicer, 1988). Similarly, minimum sample size pertaining to 200 observations may also be used for exploratory factor analysis (Hoelter, 1983). Researchers also provide

the cutoff values for KMO and MSA based on which researchers decide about the appropriateness of data for factor analysis (Kaiser, 1974). The value of KMO≥0.8 and value of p≤.05 for Bartlett's test in table 6 confirmed the adequacy of sample indicating that there exist significant correlations among the items of observed variables of study:

Table 6. KMO and Bartlett's test results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.87
Bartlett's Test of Sphericity	Approx. Chi-Square	7448.43
	df	276
	Sig.	0.00

4.4.4 Communalities:

Communality can be defined as the extent to which an item of a variable of the study is correlated with all other items. Higher values of inter-item correlation are considered to be better. Lower values of communalities i.e. between 0.0-0.3 may cause a trouble for a variable to load significantly on any factor (Mooi & Sarstedt, 2011). Below table 7 provides an over view of communalities for each item of observed variables of study:

Table 7. Communalities

Item	Initial	Extraction
EB_1	0.66	0.72
EB_2	0.65	0.70
EB_3	0.46	0.45
EB_4	0.40	0.38
EB_5	0.50	0.51
EB_6	0.57	0.59
EB_7	0.34	0.34
EC1	0.48	0.41
EC2	0.50	0.44
EC3	0.61	0.62
EC4	0.54	0.58
EC5	0.54	0.51
EC6	0.64	0.59
EC7	0.55	0.58
ER_1	0.54	0.57
ER_2	0.50	0.54
ER_3	0.59	0.64
ER_4	0.64	0.70
ER_5	0.45	0.47
ER_6	0.59	0.63
PI_1	0.69	0.70

PI_2	0.78	0.82
PI_3	0.84	0.92
PI_4	0.71	0.73

Extraction Method: Maximum Likelihood.

4.4.5 Reliability:

Below table 8 highlights the values of Cronbach's alphas, label and specification for each extracted factor.

Table 8. Cronbach's alpha values

Factor Label	Cronbach's alpha	Specification
Environmental Beliefs	0.88	Reflective
Environmental Concern	0.88	Reflective
Environmental Responsibility	0.89	Reflective
Green Purchase Intentions	0.94	Reflective

All values of Cronbach's alphas are above 0.70 which is the minimum acceptable level defined by the (Nunnally, 1978). The indicators of all factors are significantly correlated and mostly interchangeable therefore all factors are specified as reflective (Jarvis, MacKenzie, & Podsakoff, 2003).

4.4.6 Validity:

Validity refers to the extent ". . . we are indeed measuring the concept we set out to do and not something else" (Sekaran, 2004, p. 206). There are several types of validity such as convergent validity and discriminant validity which are used by the researchers in order to identify the appropriateness of a measuring tool. Convergent validity means that all items of a variable are significantly correlated to each other. Factor loading presented in below table 9 depicts that all factors of the study exhibit adequate convergent validity. The loadings of all items of each observed variable is greater than minimum cutoff value i.e. 0.40 (Kucukusta, Mak, & Chan, 2013).

The researchers have also highlighted in previous studies that adequate factor loading is also related to the appropriate sample size of dataset (Rahbar & Wahid, 2011; Stone, 1978). Discriminant validity refers the extent to which factors are different from each other and having no sufficient correlation. The results of correlation matrix presented in below table 9 demonstrate that correlation between the factors of the study is less than 0.70. Similarly, result presented in below table 9 reveals that there are no problematic cross-loadings. These findings establish the sufficient discriminant validity because all variables of the study are strongly related to their own factor.

The results further reveal that total variance explained by the four-factor model is 59%. Likewise, eigenvalue for each extracted factor is found greater than 1.0 except one, which was found 0.99. "An eigenvalue describes how much variance is accounted for by a certain factor" (Mooi & Sarstedt, 2011, p. 210).

Table 9. Item loadings

	Pattern Matrix			
	Factors			
	1	2	3	4
EB_1		0.84		
EB_2		0.83		
EB_3		0.67		
EB_4		0.59		
EB_5		0.72		
EB_6		0.78		
EB_7		0.57		
EC_1	0.64			
EC_2	0.66			
EC_3	0.79			
EC_4	0.77			
EC_5	0.71			
EC_6	0.76			
EC_7	0.74			
ER_1			0.76	
ER_2			0.74	
ER_3			0.79	
ER_4			0.83	
ER_5			0.68	

ER_6	0.79	
PI_1		0.83
PI_2		0.91
PI_3		0.97
PI_4		0.85

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Table 10. Factor Correlation Matrix

Factor	1	2	3	4
(EB) 1	1.00	0.26	0.15	0.28
(EC) 2	0.26	1.00	0.01	0.12
(ER) 3	0.15	0.01	1.00	0.08
(GPI) 4	0.28	0.12	0.08	1.00

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.

4.5 Confirmatory Factor Analysis:

Confirmatory Factor Analysis (CFA) is used to determine or confirm the factor structure of data set which we extracted in EFA. It brings more precision while estimating the measurement model (Hinkin, 1995). For current study, CFA was run to assess and validate the four-factor measurement model comprising of Environmental Beliefs, Environmental Concern, Environmental Responsibility and Green Purchase Intentions.

4.5.1 Model Fit/ Full Measurement Model:

Model fit refers to how well our proposed model accounts for the correlations between variables in the dataset. Specific measures such as Chi-Square (χ^2 or CMIN), Degree of Freedom (DF), CMIN/DF, Confirmatory Fit Index (CFI), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Appropriation (RMSEA) and p of Close Fit (PCLOSE) are calculated in line with cutoff criteria (Hu & Bentler, 1999) for current study to determine goodness of fit. Further, Confirmatory Fit Index (CFI) was also used to determine the goodness of fit of our measurement model as its value remains almost stable with the inclusion of large number of variables in the measurement model (Kenny & McCoach, 2003). Modification indices were observed to identify the possibility to improve the model. Consequently, error terms of factors were co-varied to improve the model fitness. The resulting values of fit indices such as χ^2 / DF is found between 1 and 3 i.e. 1.22, CFI was found greater

than 0.95 i.e. 0.99, GFI was found greater than 0.95 i.e. 0.96, AGFI was found greater than 0.80 i.e. 0.94, SRMR was found less than 0.08 i.e. 0.03, RMSEA was found less than 0.06 i.e. 0.02 and PClose was found greater than 0.05 i.e. 1.00 depicting the fitness and appropriateness of measurement model proposed for the study. Below figure also indicates that all items loading for each construct is greater than 0.5. Similarly, values given in below table 11 depict the goodness of fit of four factor measurement model:

Table 11. Values of measures used to gauge the model fit during CFA

Measure	Estimate	Threshold
CMIN	282.07	--
DF	231	--
CMIN/DF	1.22	Between 1 and 3
CFI	0.99	>0.95
GFI	0.96	>0.95
AGFI	0.94	>0.80
SRMR	0.03	<0.08
RMSEA	0.02	<0.06
PCLOSE	1.00	>0.05

Similarly, figure 3 shows the variables of study along-with items which are used during assessment of model fit by using the confirmatory factor analysis.

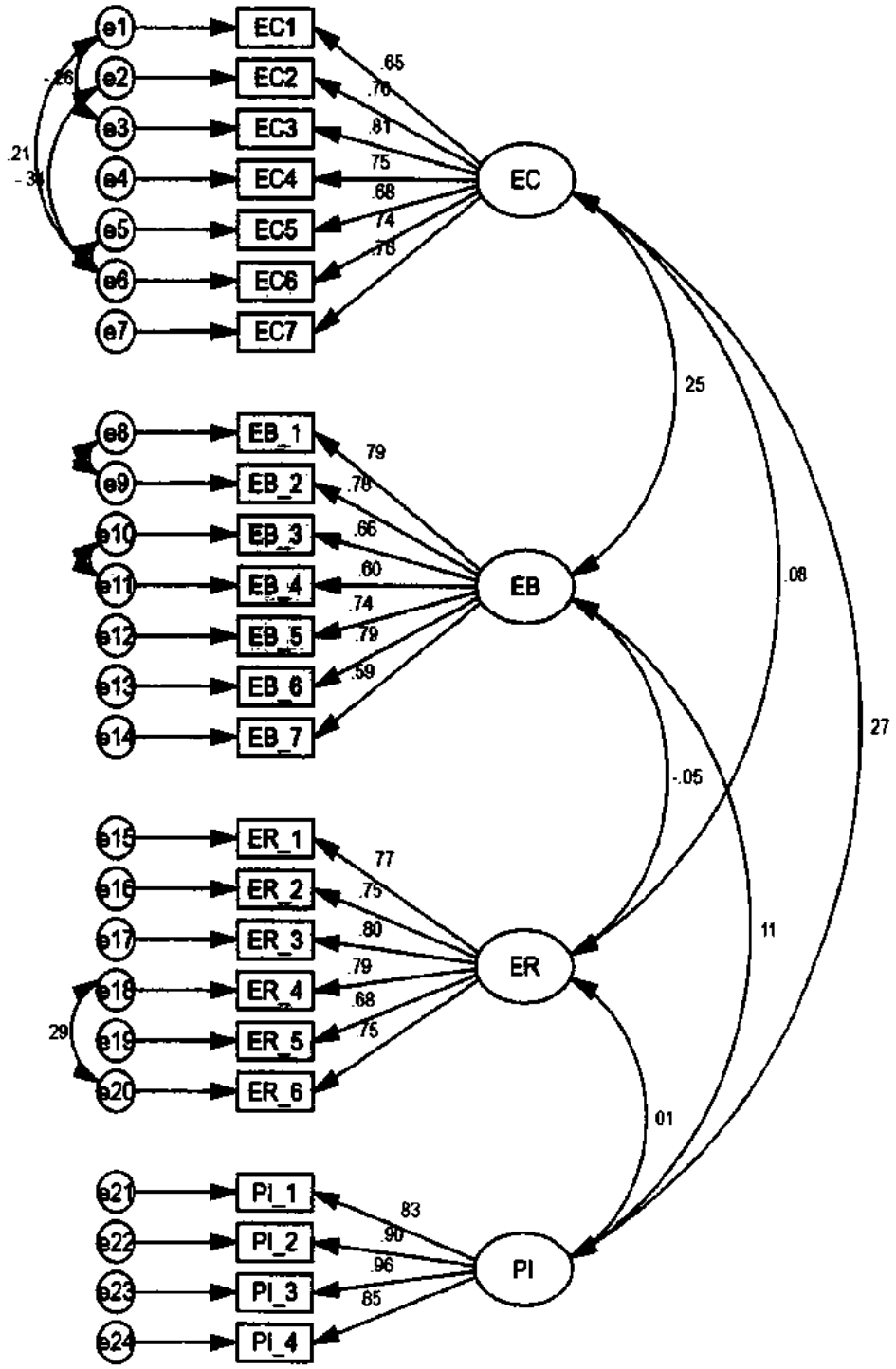

Figure 3. Assessing the model fit during confirmatory factor analysis

4.5.2 Validity and Reliability:

The literature suggests that a model should demonstrate the reliability as well as sufficient convergent and discriminant validity during confirmatory factor analysis before a researcher proceeds to test the causal model. Therefore, measures such as Average Variance Extracted (AVE), Maximum Shared Variance (MSV) and Composite Reliability (CR) are used by the researcher to establish the validity and reliability for four-factor model developed for the research study.

4.5.3 Convergent Validity:

The value of AVE for all variables of study was found greater than 0.50 which demonstrate the sufficient convergent validity.

4.5.4 Discriminant Validity:

In order to confirm the discriminant validity, the author first took the square root of AVE and to compare it with the values of correlation among the factors. The obtained values (mentioned in diagonal) were found greater than the inter-factor correlation. Similarly, the values of MSV for each construct is less than the value of AVE. Hence, indicating that all factors are possessing adequate discriminant validity.

Table 12. Convergent and discriminant validity of measurement model

Factor Label	CR	AVE	MSV	1	2	3	4
1. Environmental Concern	0.89	0.53	0.07	**0.73**			
2. Environmental Beliefs	0.88	0.51	0.06	0.25***	**0.71**		
3. Environmental Responsibility	0.89	0.57	0.01	0.08†	0.06	**0.76**	
4. Green Purchase Intentions	0.94	0.79	0.07	0.27***	0.11*	0.01	**0.89**

Significance of Correlations: † $p < 0.100$; *** $p < 0.001$; * $p < 0.01$;
Square root of AVE is in diagonal & bold

4.5.5 Common Method Bias:

The data for all variables of study was collected by using survey method. Therefore, in order to check whether the results of measurement model are affected due to method bias, statistical approach was utilized (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) before proceeding for further analysis of data such as structural equation modeling. According to this method an "unmeasured latent factor" was formed and subsequently relationship with all items of measurement model was created. The results before the inclusion of common latent factor (CLF) were compared with the results obtained after the inclusion of CLF in measurement model. It was observed that there is no major difference in the values of Composite Reliability, Average Variance Extracted and Maximum Shared Variance obtained after the inclusion of CLF in our measurement model. The values of both CR and AVE were found greater than the minimum threshold for all constructs except the

value of AVE obtained for Environmental Concern where it was found 0.49. Likewise, MSV values were also found less than the AVE. Although the value of AVE for environmental concern was found slightly less the threshold value, still no item of environmental concern was deleted from the measurement model due to the possession of sufficient inter-item correlation and having CR value equal to 0.70.

Table 13. Convergent and discriminant validity of measurement model during CMB

Factor Label	CR	AVE	MSV	1	2	3	4
1. Environmental Concern	0.87	0.49	0.06	**0.70**			
2. Environmental Beliefs	0.88	0.51	0.06	0.24***	**0.71**		
3. Environmental Responsibility	0.86	0.50	0.01	0.03	0.09	**0.71**	
4. Green Purchase Intentions	0.93	0.76	0.06	0.24***	0.10*	0.057	**0.87**

Significance of Correlations: *** $p < 0.001$; *$p < 0.01$;
Square root of AVE is in diagonal & bold

Similarly, figure 4 shows the variables of study along-with items which are used during assessment of model fit through confirmatory factor analysis. Common Latent Factor (CLF) can also be observed in figure 4 which was included to observe the variation in values of CR, MSV and AVE during Common Method Bias.

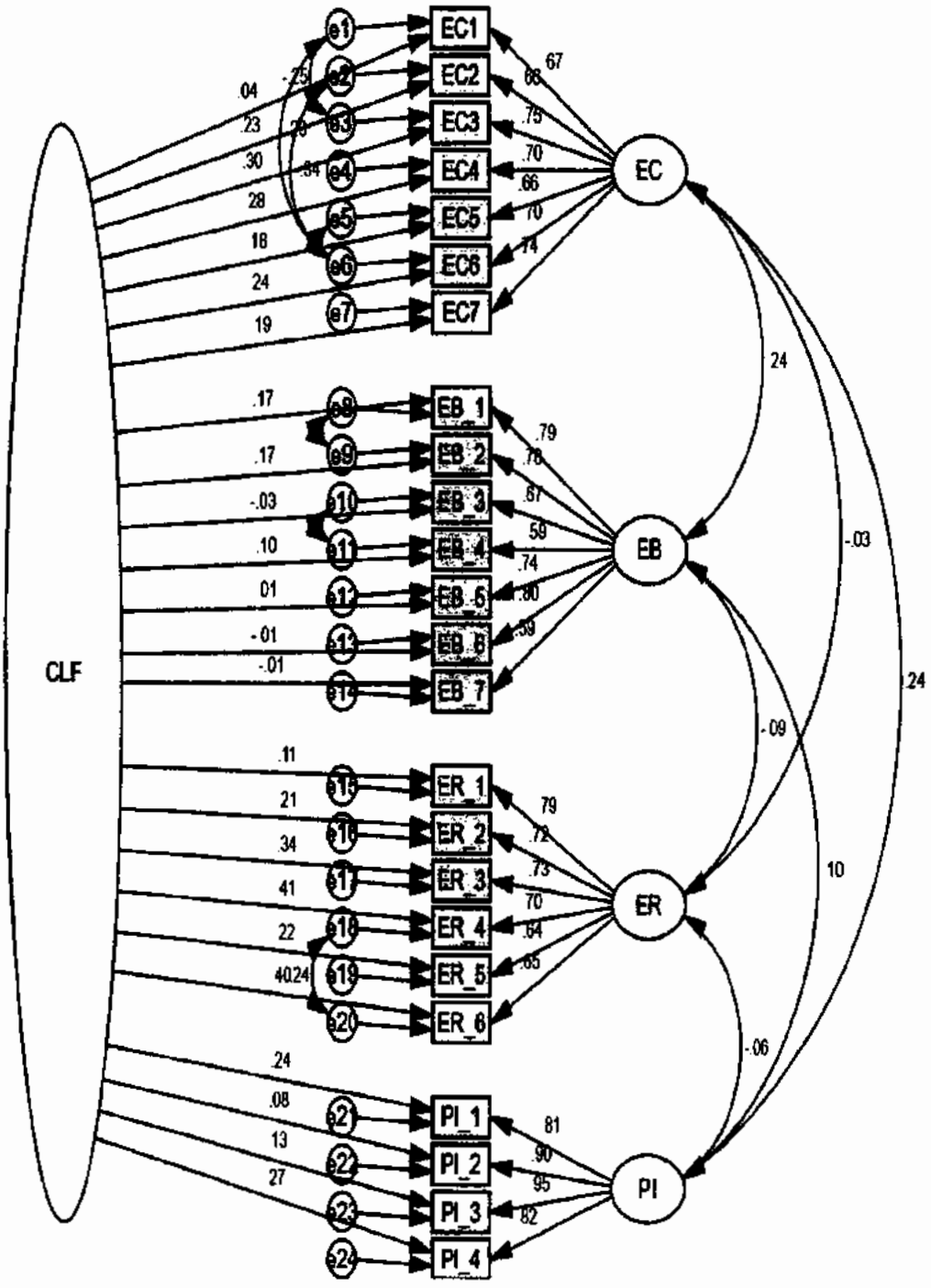

Figure 4. Assessing the model fit during common method bias

4.5.6 Checking the Invariance of Measurement Model:

Measurement model was tested through invariance tests in order to check whether the factors and their loadings are equal across the groups or otherwise (Byrne, 2008). The presence of invariance across groups ensures that all variable items are interpreted in similar way which enables the researchers to address the research problems in a meaningful way instead of reporting biased results (Milfont & Fischer, 2010). Three necessary invariance tests which includes the configural, metric & scalar were conducted to assess the measurement model.

4.4.6.1 Configural Invariance

Configural invariance test was conducted to identify whether the basic structure of measurement model is invariant across the different groups. For this purpose, two demographic groups were created in AMOS and data files were loaded accordingly. Subsequently, CFA was run for both male and female group separately to observe the model fit for each group. The resulting values of fit indices for male and female group such as χ^2 / DF was found between 1 and 3 i.e. 1.44 for male group and 1.44 for female group, CFI was found greater than 0.95 i.e. 0.97 for male group and 0.97 for female group, SRMR was found less than 0.08 i.e. 0.04 for male group and 0.04 for female group, RMSEA was found less than 0.06 i.e. 0.03 for male group and 0.03 for female group and PClose was found greater than 0.05 i.e. 1.00 for male group and 1.00 for female group depicting the fitness and invariance of measurement

model across two groups. The summary of fit indices indicating the goodness of fit of four factor measurement model across both groups can be observed in below table 14:

Table 14. Values of measures used to gauge the model fit during configural invariance test

Measure	Estimate (Male / Female)	Threshold
CMIN	687.58	--
DF	478	--
CMIN/DF	1.44	Between 1 and 3
CFI	0.97	>0.95
GFI	0.96	>0.95
AGFI	0.88	>0.80
SRMR	0.04	<0.08
RMSEA	0.03	<0.06
PCLOSE	1.00	>0.05

Furthermore, below figures indicates that for male and female respondents, all items loading for each construct is greater than 0.5 depicting the invariance of measurement model across the male and female group.

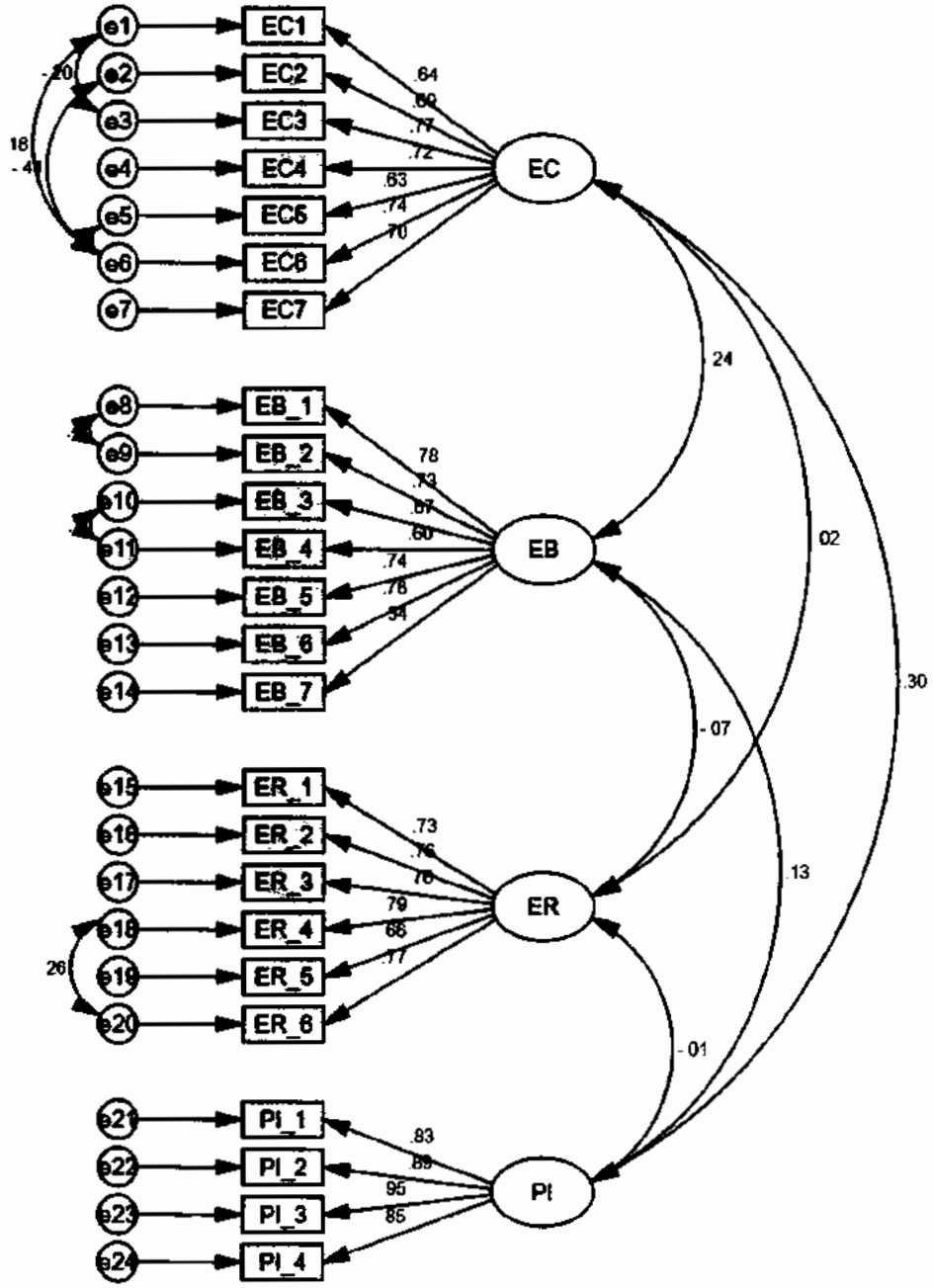

Figure 5. Assessing the model fit for male group during configural invariance test

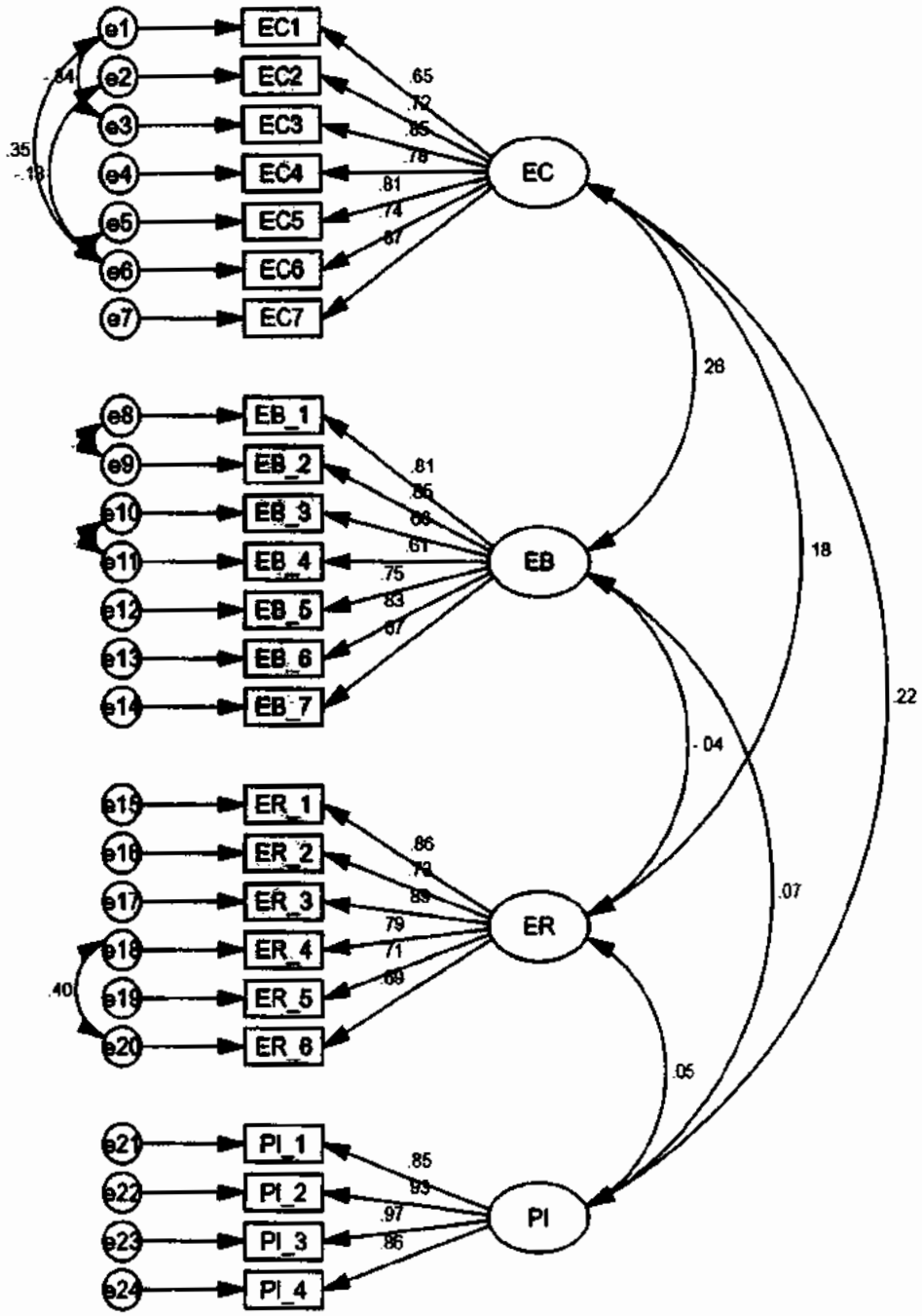

Figure 6. Assessing the model fit for female group during configural invariance test

4.4.6.2 Metric Invariance

Metric invariance test was also conducted to identify whether the factor loadings are invariant across the groups. Establishing the metric invariance ensures the researcher that items used to measure the variables of study were interpreted in the similar way by both male and female respondents (Milfont & Fisher, 2010). For this purpose, data file was split for male and female respondents in AMOS. The results revealed after comparing the regression weighs of measurement model with the regression weights of constraint model indicates that both models are invariant ($\chi^2 = 35.99$; $P > .05$). Hence full metric invariance was proved.

Table 15. Results obtained for metric invariance test

Model	DF	CMIN	P-value
Measurement weights	24	35.99	0.055

4.4.6.3 Scalar Invariance

Scalar invariance test was also conducted to identify whether the observed scores are invariant across the male and female group (Milfont & Fisher, 2010). Establishing the metric invariance ensures the researcher that scores obtained on observed variable are related to scores obtained for latent variables i.e. both male and female respondents have obtained similar scores on latent and observed variables.

The results for scalar invariance test are observed by comparing the values of measurement intercepts & Structural covariances of measurement model with the values of measurement intercepts & structural covariances of constraint model. For this purpose, data file was split for male and female respondents in AMOS. The results revealed the full scalar invariance across the male and female group except for two items of environmental beliefs. Hence, partial scalar invariance was proved.

Table 16. Results obtained for scalar invariance test

Model	DF	CMIN	p-value
Measurement intercepts	45	61.34	0.053
Structural covariances	61	65.49	0.083

4.6 Structural Equation Modeling:

Structural Equation Modeling (SEM) is widely used multivariate data analysis technique in social sciences (Mooi & Sarstedt, 2011). Confirmatory factor analysis is used to identify the extent to which items are related to specific constructs whereas structural equation modeling (SEM) is used to explore the causal relationships among the latent and observed constructs. The direction of causal relationships among the constructs is derived from theoretical explanations given in prior literature. SEM is such a powerful data analysis technique which can be used to estimate the results from a simple structural model to a very complex structural model which carries

multiple independent variables, dependent variables, moderating variable, mediating variables as well as control variables. Similarly, it can also measure the multiple causal relationships at a single attempt.

Structural Equation Modeling (SEM) is used for current study in a way such that model fit of full structural model was determined at first stage. Full structural model constitutes the relationship of unobserved/latent variables with each other, with unobserved variables as well as with error terms. Assessing the model fit is considered to be an essential requirement before using the SEM to test the causal/structural paths of study to accept or reject the hypothesis of the study (Kline, 2015; Yuan, 2005). The direction of arrow from one latent variable to other in structural model depicts the influence of exogenous variable on endogenous variable (Barbara, 2001). After assessing the adequacy of full measurement model, fit indices for each structural or causal model or path model was assessed to accept or reject the hypothesis of the study.

In order to assess the model-fit specific measures such as Chi-Square (χ^2 or CMIN), Degree of Freedom (DF), CMIN/DF, Standardized Root Mean Square Residual (SRMR), Root Mean Square Error of Appropriation (RMSEA), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI) and p of Close Fit (PCLOSE) are calculated in line with cutoff criteria by Hu & Bentler (1999) for current study to determine goodness of fit. Further, Confirmatory Fit Index (CFI) was also used to determine the goodness of fit of our measurement model as its value remains almost stable with the inclusion of large number of variables in the measurement model (Kenny & McCoach, 2003). Modification indices were observed to identify the possibility to improve the model. Consequently, error terms of factors were co-varied to improve the model fitness. Likewise, value of beta (β) and multiple

squared correlations (R^2) was also explained during assessment of model fit for each structural path as well as for full structural model.

Sample size is also considered to be a crucial factor for SEM (Iacobucci, 2010). Prior research indicates that sample size to be used for SEM depends upon the certain factors such as number of constructs, correlation among these constructs, normality of data, reliability values, missing values in data and item loading (Muthén & Muthén, 2002). Some authors suggest that sample size pertaining the 50 observations could be sufficient (Iacobucci, 2010). Similarly, a sample size containing the 200 number of cases is also suggested for studies using SEM (Kline, 2015; Weston & Gore Jr, 2006). Generally, it is suggested that sample size must be three times greater than the number of indicators (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005).

4.6.1 Assessing the Model Fit – Path Model – Relationship between Environmental Beliefs and Green Purchase Intentions:

Model fit for path model containing to the direct relationship between two constructs i.e. Environmental Beliefs and Green Purchase Intentions was assessed to address the hypothesis 1 of the study. The error terms of Environmental Beliefs and Green Purchase Intentions were co-varied in order to improve the model fitness. The resulting values of fit indices (shown in below table 17) such as χ^2 / DF was found between 1 and 3 i.e. 1.55, CFI was found greater than 0.95 i.e. 0.99, GFI was found greater than 0.95 i.e. 0.98, AGFI was found greater than 0.80 i.e. 0.96, SRMR was found less than 0.08 i.e. 0.04, RMSEA was found less than 0.06 i.e. 0.03 and PClose

was found greater than 0.05 i.e. 0.98 depicting the fitness and appropriateness of path model proposed to address the hypothesis 1 of the study.

Table 17. Values of Measures used to Gauge the Model Fit for Structural Model Containing the Positive Relationship between EB and GPI

Measure	Estimate	Threshold
CMIN	73.00	--
DF	47	--
CMIN/DF	1.55	Between 1 and 3
CFI	0.99	>0.95
GFI	0.98	>0.95
AGFI	0.96	>0.80
SRMR	0.04	<0.08
RMSEA	0.03	<0.06
PCLOSE	0.98	>0.05

The value of standardized coefficient (β) for structural path from environmental beliefs to green purchase intentions (β=0.11, p<0.001) was found positive and significant. Similarly, the value of multiple squared correlations (R^2 = .01) reveals that 1% variation in green purchase intentions is explained by the environmental beliefs. The control variable "income" identified during ANOVA was also included while assessing the model fit of structural model. However, the value of

standardized coefficient (β = .01; p>.05) depicts no significant effect of control variable is found on green purchase intentions. Thus, H1 stated that "Environmental beliefs have a positive association with green purchase intentions" was fully supported.

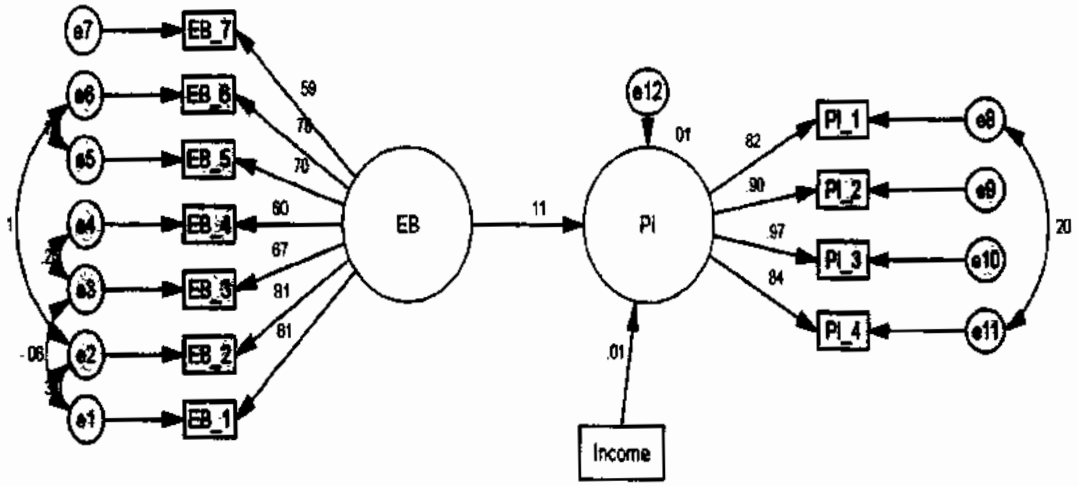

Figure 7. Model fit for structural model containing the positive relationship between EB and GPI

4.6.2 Assessing the Model Fit – Path Model – Relationship between Environmental Beliefs and Environmental Concern:

Model fit for path model containing to the direct relationship between two constructs i.e. Environmental Beliefs and Environmental Concern was assessed to address the hypothesis 2 of the study. The error terms of Environmental Beliefs and Environmental Concern were co-varied in order to improve the model fitness. The resulting values of fit indices (shown in below table 18) such as χ^2 / DF was found between 1 and 3 i.e. 1.39, CFI was found greater than 0.95 i.e. 0.99, GFI was found greater than 0.95 i.e. 0.97, AGFI was found greater than 0.80 i.e. 0.96, SRMR was

found less than 0.08 i.e. 0.04, RMSEA was found less than 0.06 i.e. 0.03 and PClose was found greater than 0.05 i.e. 1.00 depicting the fitness and appropriateness of path model proposed to address the hypothesis 2 of the study.

Table 18. Values of measures used to gauge the model fit for structural model containing the positive relationship between EB and EC

Measure	Estimate	Threshold
CMIN	125.08	--
DF	90	--
CMIN/DF	1.39	Between 1 and 3
CFI	0.99	>0.95
GFI	0.97	>0.95
AGFI	0.96	>0.80
SRMR	0.04	<0.08
RMSEA	0.03	<0.06
PCLOSE	1.00	>0.05

The value of standardized coefficient (β) for structural path from environmental beliefs to environmental concern (β=0.25, p<0.001) was found positive and significant. Similarly, the value of multiple squared correlations (R^2 = .08) reveals that 8% variation in environmental concern is explained by the environmental beliefs. The control variables "Gender and Income" identified during ANOVA was also

included while assessing the model fit of path model. The value of standardized coefficient for gender (β = .11, $p<.05$) depicts that there is a significant effect of gender is found on environmental concern. Whereas value of standardized coefficient for income (β = .09, $p>.05$) depicts no significant effect of income is found on environmental concern. Thus, H2 stated that "Environmental beliefs have a positive association with environmental concern" was fully supported.

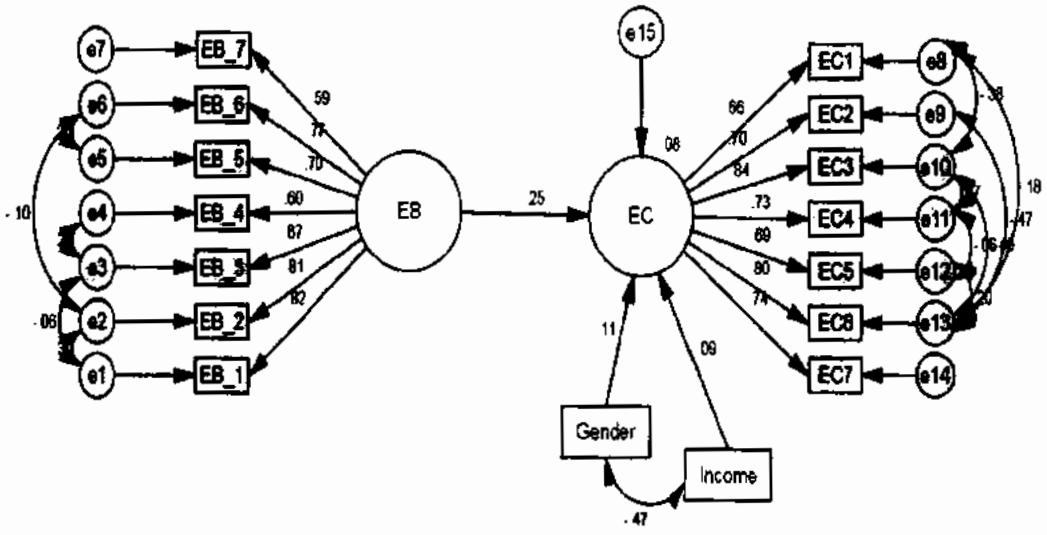

Figure 8. Model fit for structural model containing the positive relationship between EB and EC

4.6.3 Assessing the Model Fit – Path Model – Relationship between Environmental Concern and Green Purchase Intentions

Model fit for structural model containing to the direct relationship between two constructs i.e. Environmental Concern and Green Purchase Intentions was assessed to address the hypothesis 3 of the study. The error terms of Environmental Concern and Green Purchase Intentions were co-varied in order to improve the model

fitness. The resulting values of fit indices (shown in below table 19) such as χ^2 / DF was found between 1 and 3 i.e. 1.49, CFI was found greater than 0.95 i.e. 0.99, GFI was found greater than 0.95 i.e. 0.98, AGFI was found greater than 0.80 i.e. 0.97, SRMR was found less than 0.08 i.e. 0.02, RMSEA was found less than 0.06 i.e. 0.03 and PClose was found greater than 0.05 i.e. 0.99 depicting the fitness and appropriateness of path model proposed to address the hypothesis 3 of the study.

Table 19. Values of measures used to gauge the model fit for structural model containing the positive relationship between EC and GPI

Measure	Estimate	Threshold
CMIN	67.02	--
DF	45	--
CMIN/DF	1.49	Between 1 and 3
CFI	0.99	>0.95
GFI	0.98	>0.95
AGFI	0.97	>0.80
SRMR	0.02	<0.08
RMSEA	0.03	<0.06
PCLOSE	0.99	>0.05

The value of standardized coefficient (β) for structural path from Environmental Concern to green purchase intentions (β=0.27, $p<0.001$) was found

positive and significant. Similarly, the value of multiple squared correlations (R^2 = .07) reveals that 7% variation in green purchase intentions is explained by the Environmental Concern. The control variable "income" identified during ANOVA was also included while assessing the model fit of path model. The value of standardized coefficient (β = .00, p>.05) depicts no significant effect of control variable is found on green purchase intentions. Thus, H3 stated that "Environmental concern has a positive association with green purchase intentions" was fully supported.

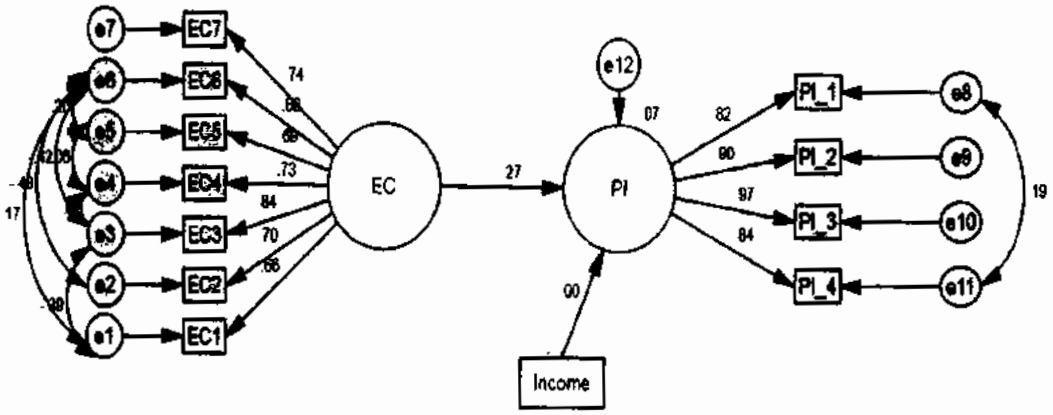

Figure 9. Model fit for structural model containing the positive relationship between EC and GPI

4.6.4 Assessing the Model Fit – Path Model – Role of Environmental Concern as a Mediator between Environmental Beliefs and Green Purchase Intentions:

Model fit for path model containing the mediating role of Environmental Concern in the direct relationship between Environmental Beliefs and Green Purchase Intentions was assessed to address the hypothesis 4 of the study. The error terms of

Environmental Beliefs, Environmental Concern and Green Purchase Intentions were co-varied in order to improve the model fitness. The resulting values of fit indices (shown in below table 20) such as χ^2 / DF was found between 1 and 3 i.e. 1.39, CFI was found greater than 0.95 i.e. 0.99, GFI was found greater than 0.95 i.e. 0.96, AGFI was found greater than 0.80 i.e. 0.95, SRMR was found less than 0.08 i.e. 0.04, RMSEA was found less than 0.06 i.e. 0.03 and PClose was found greater than 0.05 i.e. 1.00 depicting the fitness and appropriateness of path model proposed to address the hypothesis of the study.

Table 20. Values of measures used to gauge the model fit for structural model containing EC as a mediating variable between EB and GPI

Measure	Estimate	Threshold
CMIN	188.67	--
DF	136	--
CMIN/DF	1.39	Between 1 and 3
CFI	0.99	>0.95
GFI	0.96	>0.95
AGFI	0.95	>0.80
SRMR	0.04	<0.08
RMSEA	0.03	<0.06
PCLOSE	1.00	>0.05

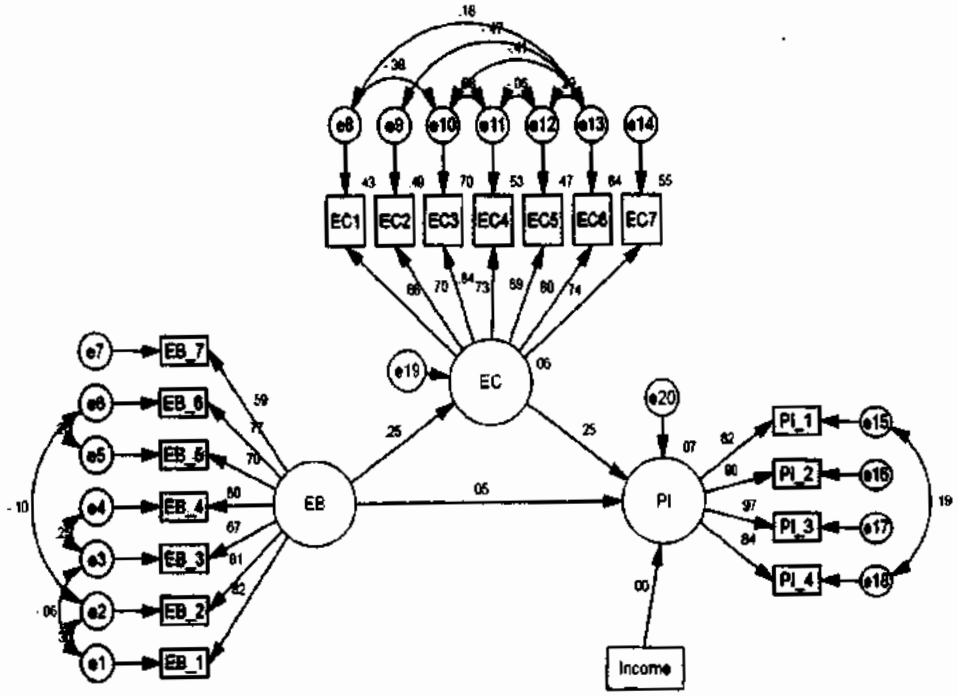

Figure 10. Model fit for structural model containing EC as a mediating variable between EB and GPI

4.6.5 Mediation Analysis Using Structure Equation Modeling (SEM):

All pre-requisite statistical tests exhibit the acceptable results which let the researchers to use Structural equation modeling to test the proposed hypothesis of the study. Bootstrapping technique was used to test the mediation effect through analyzing the direct and indirect effects (Shrout & Bolger, 2002) instead of using traditional method suggested by Baron and Kenny. In bootstrapping technique, multiple samples are drawn from the dataset with replacement to apply the statistical tests. Bootstrapping technique possess high statistical power and therefore could be used for small sample size also (Zhang & Wang, 2008). To test the mediating role of

environmental concern between environmental beliefs and green purchase intentions, 2000 bootstrap samples were extracted with 95% bias-corrected confidence interval.

Table 21. Structural equation modeling – Mediation results

Effect	β	Remarks
Direct effect of EB on GPI without mediator i.e. EC	0.11*	Significant
Direct effect of EB on GPI in presence of mediator i.e. EC	0.05**	Non-Significant

SEM - Bootstrap Results for Indirect Effects

	M	SE	LLCI 95%	ULCI 95%
EB	0.03***	0.02	0.03	0.10

Notes: *N*=519; *p<0.01; **p>0.05; ***p<0.001; Bootstrap sample size=2000; LL =lower limit; UL =upper limit; CI =confidence interval

The results revealed (Table. 21) that the relationship between environmental beliefs (independent variable) and green purchase intentions (dependent variable) became insignificant (β = .05, p = *n.s.*) after the inclusion of environmental concern (mediating variable) in the conceptual model (Figure 10). Similarly, the indirect effect of environmental beliefs on green purchase intentions was also found significant (β = 0.03, SE = .02, CI = 0.03~0.10) indicating that environmental concern mediates between the environmental beliefs and green purchase intentions. Thus, H4 was fully supported.

was found greater than 0.05 i.e. 0.74 depicting the fitness and appropriateness of path model proposed to address the hypothesis of the study.

Table 22. Values of measures used to gauge the model fit for structural model containing ER as a moderating variable between EB and EC

Measure	Estimate	Threshold
CMIN	3.55	--
DF	3.00	--
CMIN/DF	1.18	Between 1 and 3
CFI	0.99	>0.95
GFI	0.99	>0.95
AGFI	0.98	>0.80
SRMR	0.01	<0.08
RMSEA	0.02	<0.06
PCLOSE	0.74	>0.05

4.6.7 Moderation Analysis Using Structure Equation Modeling:

All pre-requisite statistical tests exhibit the acceptable results which let the researchers to use Structural equation modeling to test the moderating role of environmental responsibility between environmental beliefs and environmental

concern. Bootstrapping technique was used to test the moderation effect of environmental responsibility between environmental beliefs and environmental concern. For this purpose, we centralize the independent variable i.e. Environmental Beliefs (EB) and moderating variable i.e. Environmental Responsibility (ER) in order to overcome the multicollinearity issues (Aiken, West, & Reno, 1991; Dawson, 2014; Echambadi & Hess, 2007). In next step, we multiply the independent variable (EB) with moderating variable (ER) to create an interaction term. Subsequently, environmental concern was regressed on independent variable (EB), moderating variable (ER), interaction term and control variable. The results revealed (Table 23) that the relationship between interaction term and environmental concern is significant ($\beta = 0.10$, $p<0.05$) indicating that environmental responsibility moderate the relationship between the environmental beliefs and environmental concern. Thus, H5 was also supported.

Table 23. Moderation testing using structural equation modeling

	Predictor	β	S.E.	C.R.	p
1	EB	0.22	0.03	5.21	0.00
2	ER	0.09	0.03	2.21	0.03
3	EB x ER	0.10	0.02	2.36	0.02

Notes: *N*=519; Bootstrap sample size=2,000. Dependent variable=Environmental concern

Graphical presentation of interaction plot (Figure 12) also reveals that moderating variable i.e. environmental responsibility strengthening the relationship

between independent variable i.e. environmental beliefs and dependent variable i.e. environmental concern. It can be observed that consumer with low level of environmental beliefs reflects the lower level of environmental concern at different levels of environmental responsibility whereas when environmental beliefs and environmental responsibility increases, environmental concern also increases.

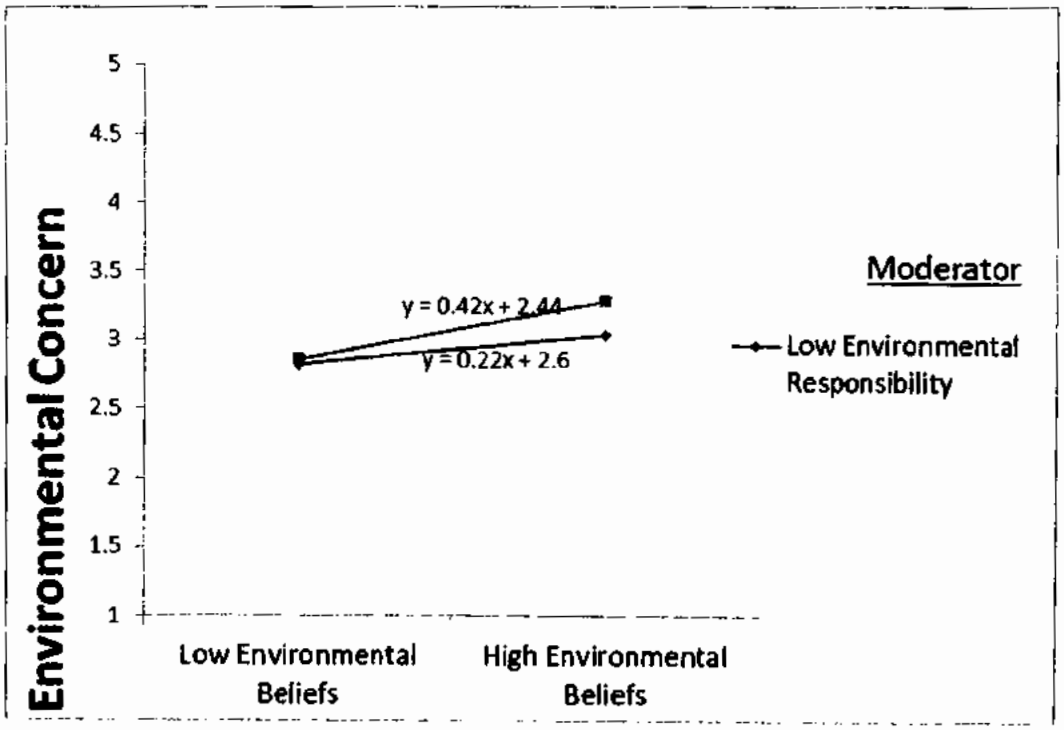

Figure 12. Interaction plot – Moderating role of ER between EB and EC

4.7 Mediation and Moderation Analysis Using Process Technique:

Mediation analysis is a process by which researchers understand and explore an underlying mechanism through which an independent variable effect dependent

variable through another (third) variable known as a mediator. Mediation analysis technique suggested by Baron & Kenny (1986) has been widely used by researchers during last few decades as universal truth. According to Baron & Kenny (1986) approach, the relationship of independent variable with dependent variable must be significant when dependent variable is regressed on independent variable. However, with the passage of time, the researchers raised concern regarding the mandatory relationship of independent variable with dependent variable. According to a study, the relationship of independent variable with dependent variable may not be a necessary condition because this relationship might not be significant due to several reasons such as small sample size or due to the role of other unseen factors (Shrout & Bolger, 2002). To overcome such issues, researchers suggested that significance of change resulted in the relationship of independent variable and dependent variable in response of the presence of mediating variable must be observed through certain tests (e.g. Sobel Test) before deciding about the full or partial mediation.

Sobel's test (Sobel, 1982) is utilized to identify the significance of change resulted in the relationship of independent variable and dependent variable after introducing the mediating variable. The value of Sobel test determines whether mediation took place or not based on the change in indirect effect of independent variable on dependent variable. However, there are certain weaknesses associated with Sobel Test. It requires normality of data to apply the test. Similarly, it possesses low statistical power and in such case large sample size is required for data analysis. To overcome such issue certain authors suggested bootstrap method for mediation analysis (Preacher & Hayes, 2004). This technique has some advantages over other statistical tests used for mediation analysis therefore researchers in the field of social science are widely using this technique. In this method, multiple samples are drawn

from the dataset with replacement to apply the statistical tests. This method possesses high level of statistical power and does not require normality of data thus it can be applicable on small sample sizes for mediation analysis.

4.7.1 Exploring the role of Environmental Concern as mediator between Environmental Beliefs and Green Purchase Intentions by using Process Technique of Bootstrapping:

In order to address the mediating role of environmental concern between environmental beliefs and green purchase intentions, bootstrapping technique has been utilized (Preacher & Hayes, 2004). To ease the users of this method, a macro tool has been developed by Preacher and Hayes which can be downloaded and installed in SPSS. This statistical tool has the ability to apply statistical tests to analyze the 76 different types of models developed by the Preacher and Hayes. Keeping in view the proposed model for current study, the author has used model 4 to investigate the mediating role of environmental concern between environmental beliefs and green purchase intentions. Results of process analysis indicate that environmental beliefs are significantly and positively affect the consumer green purchase intentions (β = 0.10, t= 2.58, p < .05). Similarly, results indicate that environmental concern also significantly and positively affect the green purchase intentions (B=0.30, t = 5.50, p<0.001). Likewise results presented in below table 24 reveals that environmental belief is significantly and positively affect the environmental concern (β = 0.18, t = 5.59, p < 0.001). Lastly, we tested the mediating role of environmental concern between the relationship of environmental beliefs and green purchase intentions.

The results indicate that environmental concern fully mediate the relation of environmental beliefs with green purchase intentions (B= 0.05, t = 1.27, p > 0.05). The same was further supported when the indirect effect was tested using the bootstrap estimation approach with 2000 samples (Shrout & Bolger, 2002).

Table 24. Environmental concern as mediator between environmental beliefs and green purchase intentions

		β	SE	t	P
1	Direct effect of EB on EC	0.18	0.03	5.59	0.000
2	Direct effects of EC on GPI	0.30	0.05	5.50	0.000
3	Direct effects of EB on GPI	0.10	0.04	2.58	0.01
4	Mediation of EC b/w EB and GPI	0.05	0.04	1.27	0.21

Significance using Normal Distribution and Indirect Effects

	Effect	SE	Z	P
Sobel	0.05	0.01	3.89	0.000

Bootstrap Results for Indirect Effects

		M	SE	LLCI 95%	ULCI 95%
Effect	EB	0.05	0.02	0.03	0.09

Notes: N=519; *p<0.01; Bootstrap sample size=2000; LL =lower limit; CI =confidence interval; UL =upper limit.

According to prior research, full mediation takes place when indirect effect is found significant and direct impact of independent variable on dependent variable

become insignificant in presence of mediating variable (Mathieu & Taylor, 2006). The result reveals that the value of indirect coefficient is also found significant (B= 0.05, SE = 0.02, CI = 0.03~0.09) indicating that environmental concern is fully mediating the positive relation of environmental beliefs and green purchase intentions. The mediating role of environmental concern is also verified by Sobel test ($z=3.89$, $p<0.001$).

4.7.2 Exploring the role of Environmental Responsibility as moderator between Environmental Beliefs and Environmental Concern by using Process Technique of Bootstrapping:

Moderation analysis refers to a process by which researchers study the increase or decrease in the strength of relationship of independent and dependent variable in presence of a third variable which is called a moderator (Sekaran, 2004). In order to address the mediating role of environmental responsibility between environmental beliefs and environmental concern, bootstrapping technique suggested by Preacher & Hayes (2004) has been used. Keeping in view the proposed model for current study, the author has used model 1 to investigate the moderating role of environmental responsibility between environmental beliefs and environmental concern. This method does not require the creation of interaction term by multiplying the independent variable with dependent variable for moderation analysis. Similarly, this method does not required normality of data rather this technique automatically uses the mean centered values of independent and dependent variables for moderation analysis. The significance of relationship between interaction term and dependent

variable indicates that the relationship between independent variable and dependent variable is moderated by the third variable.

The interaction term which was created by multiplying the independent and moderating variable was investigated by testing the conditional effects of environmental responsibility (moderating variable) at three levels of environmental beliefs (independent variable) i.e. one standard deviation below the mean, at the mean, and one standard deviation above the mean (Aiken et al., 1991).

Table 25. Moderating role of environmental responsibility (ER) in the relationship of environmental beliefs (EB) and environmental concern (EC)

Predictor	β	SE	t	p
Constant	5.64	.05	123.32	0.00
ER	0.07	.04	1.93	0.05
EB	0.17	.03	5.08	0.00
EB x ER	0.05	.02	2.01	0.05

Conditional Direct Effects of X on Y

ER	Effect	Boot SE	t	p	LLCI 95%	ULCI 95%
ER -1 SD (-1.37)	.10	.05	2.20	0.03	0.01	0.19
ER M (.0000)	.17	.03	5.08	0.00	0.10	0.23
ER +1 SD (1.37)	.24	.05	4.88	0.00	0.14	0.33

Notes: *N*=519; Bootstrap sample size =2,000; LL =lower limit; UL =upper limit; CI =confidence interval; Dependent Variable = Environmental concern

The significant value of interaction term (β = 0.05, t = 2.01, p < .05) given in table 25 indicates that environmental responsibility moderates the relationship between environmental beliefs and environmental concern. Similarly, results indicate that environmental beliefs have a positive and is significant effect on environmental concern (β = 0.17, t= 5.08, p < .05). Whereas, results presented in table 25 reveals that there is no significant effect of environmental responsibility on environmental concern (β = 0.07, t = 1.93, p > 0.05). Further, the results in table 25 reveals that conditional direct effects of environmental beliefs on environmental concern were significant when environmental responsibility was one standard deviation below the mean (P<.05), at mean (P<.05) and at one standard deviation above the mean (P<.05). Table 25 provides the summary of statistical values obtained during exploring the role environmental responsibility between environmental beliefs and environmental concern by using bootstrapping method.

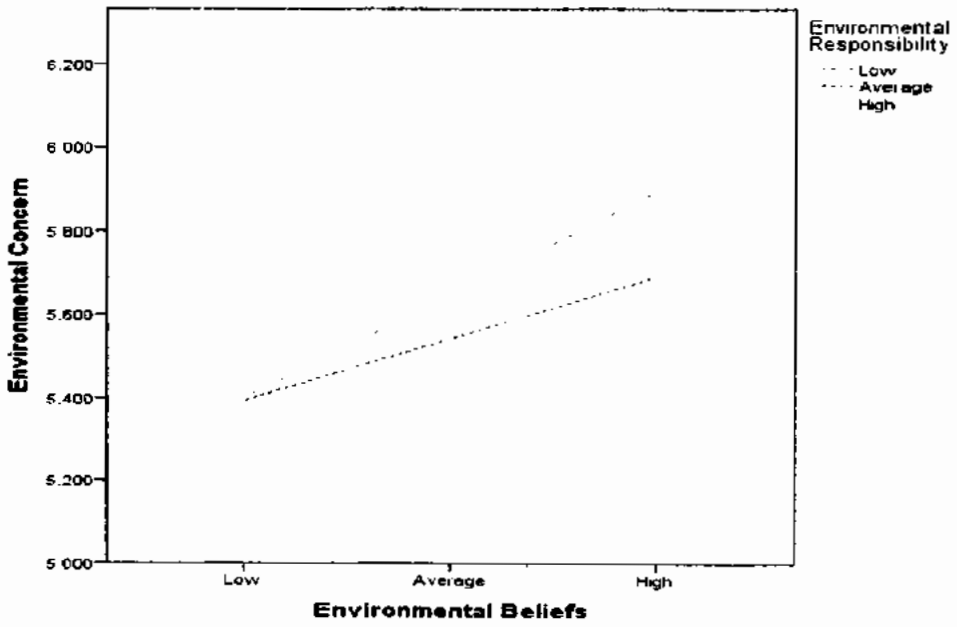

Figure 13. Interaction plot - Visualization of conditional effect of EB on EC

Graphical presentation of interaction plot (Figure 13) also reveals that moderating variable i.e. environmental responsibility strengthening the relationship between independent variable i.e. environmental beliefs and dependent variable i.e. environmental concern. It can be observed that consumer with low level of environmental beliefs reflects the lower level of environmental concern at different levels of environmental responsibility whereas when environmental beliefs and environmental responsibility increases, environmental concern also increases.

4.8 Moderated Regression Analysis:

In order to explore the proposed moderating role of environmental responsibility between environmental beliefs and environmental concern, Multiple Moderated Regression (MMR) analysis technique is also used. In this method, control variable identified through ANOVA i.e. gender was entered in step1. In step 2, independent variable i.e. environmental beliefs and moderating variable i.e. environmental responsibility was entered. Finally, in step 3, an interaction term created by multiplying the independent variable i.e. environmental beliefs and moderating variable i.e. environmental responsibility was entered. Mean centered values of independent variable i.e. environmental beliefs and moderating variable i.e. environmental responsibility were used during MMR analysis in order to avoid the multicollinearity issues (Aiken et al., 1991; Dawson, 2014; Echambadi & Hess, 2007). Results presented in table 26 indicates that interaction term is significantly and positively associated with dependent variable i.e. environmental concern indicating

that environmental responsibility moderates the relationship between environmental beliefs and environmental concern.

Table 26. Results of moderated regression analysis

	β	*t*	R^2	*F*	*p*
Step 1					
Gender	0.09*	2.17			0.04
ΔR^2	-	-	0.01*	4.48	0.03
Step 2					
EB	0.24**	5.58			0.00
ER	0.07*	2.05			0.04
ΔR^2	-	-	0.06**	12.92	0.00
Step 3					
EB x ER	0.38*	2.35			0.02
ΔR^2	-	-	0.01*	11.15	0.02

Notes: *N*=519; Dependent Variable: Environmental Concern; **p<0.01; *p<0.05

The results in table 26 depicts that value of beta was significant for gender (β=.15, p<.05) with overall (ΔR^2 = .01, F=4.48, p<.05) when control variable was entered in step 1 during MMR analysis. Similarly, in step 2 both independent variable i.e. environmental beliefs and moderating variables i.e. environmental concern were entered. The results indicate that slope for environmental beliefs is positive and significant (β= .24, t=5.58, p<.01) as well as slope for environmental concern is also positive and significant (β= .07, t=2.05, p<.05) with overall (ΔR^2 = .06, F=12.92,

$p<.01$). Likewise, interaction term obtained by multiplying the independent variable i.e. environmental beliefs and moderating variables i.e. environmental concern (EB x ER) was entered in step 3. The results revealed a positive and significant effect of interaction term on dependent variable i.e. environmental concern ($\beta= .38$, $t=2.35$, $p<.05$) with overall ($\Delta R^2 = .01$, $F=11.15$, $p<.05$). Hence, the moderating role of environmental responsibility between environmental beliefs and environmental concern was proved.

Chapter Summary:

This chapter pertains the measures used for the preparation of data for further analysis. After identifying the control variables, exploratory factor analysis (EFA) was used to assure the accuracy of measurement of constructs. Similarly, confirmatory factor analysis (CFA) was used to confirm the structure of data set which was extracted during EFA. Model fit was assessed and validity & reliability of measures was properly assessed. This chapter also pertain the details related to the statistical techniques such as structure equation modeling and process analysis which are used to accept or reject the proposed hypothesis of the study. The results of statistical techniques indicate the acceptance of all proposed hypotheses of the study. These hypotheses include the direct relationship between environmental beliefs and green purchase intentions, direct relationship between environmental beliefs and environmental concern, direct relationship between environmental concern and green purchase intentions, mediating role of environmental concern between environmental

beliefs and green purchase intentions, moderating role of environmental responsibility between environmental beliefs and environmental concern.

Table 27. Hypothesis summary in terms of supported/ not supported

	Hypothesis	Remarks
H.1.	Environmental beliefs have a positive association with green purchase intentions	Supported
H.2.	Environmental beliefs have a positive association with environmental concern	Supported
H.3.	Environmental concern has a positive association with green purchase intentions	Supported
H.4.	Environmental concern mediates the relationship between environmental beliefs and green purchase intentions	Supported
H.5.	Environmental responsibility moderates the relationship between environmental beliefs and environmental concern such that in case of high level of environmental responsibility the positive relationship between environmental beliefs and environmental concern will be stronger	Supported

CHAPTER 5

DISCUSSION & CONCLUSION

The current research is carried out to enrich the pool of knowledge in the field of green marketing. Green marketing is considered to be an emerging area for research due to worldwide changing attitude and concern towards the environmental changes (Gleim et al., 2013; Kassinis & Vafeas, 2006; Moser, 2015); which have led many organizations to incorporate the green marketing elements in their businesses (Grimmer & Woolley, 2014; Pagiaslis & Krontalis, 2014). Many prior researches and surveys by different organizations have proved favorable attitude of consumers towards green products and services however recent findings are contradicted with these predictions (Biswas & Roy, 2015; González et al., 2015; Nielsen, 2013). The consumers are although in favor of green products however when it comes to a purchase decision, conventional products always remain their preferred choice. Therefore, actual share of green products is still far behind the expectations of those organizations which are involved in such business (Bray et al., 2011; D'Souza et al., 2015). In order to address the attitude-behavior gap certain objectives and research questions were set forth.

This section entails a bird eye view of results obtained through applying different statistical techniques such as Descriptive Statistics, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Common Method Bias (CMB), Structure Equation Modeling (SEM) and Process Macro developed by Preacher and Hayes in order to address the research questions and objectives set forth for the current thesis. The results are also compared and analyzed in line with the findings of prior studies in the field of green marketing. Subsequently theoretical implications, managerial implications, contextual implications and strengths of study are presented. Thereafter, conclusion is provided as a final word followed by the limitations and further research avenues to extend the findings of current thesis.

5.1 Major Findings

5.1.1 An Overview of Methodology:

The current research was an attempt to investigate the relationship between environmental beliefs and consumer green purchase intentions. In this study, the author also explored the mediating role of environmental concern between environmental beliefs and consumer purchase intentions which have been derived from the literature in the field of green marketing. The authors used different quantitative methods were incorporated to answer the research questions of the study. In the same line with ongoing stream of research in the field of green marketing (Konuk et al., 2015; Nguyen et al., 2017; Pagiaslis & Krontalis, 2014) this research

was cross-sectional in nature and questionnaire as a survey method was utilized for data collection. Convenience sampling was proposed because no variable in the framework necessitate a certain type of organization and work setting. Finally, a sample containing the 519 useable responses were utilized to verify the proposed conceptual model for the study. All measures for the constructs were taken from previous studies, which were carried out from green marketing perspective due to their proved reliability and validity in different countries and cultural context. Descriptive statistics was used to identification and rectification of data. Missing values were treated and responses with greater number of missing values and outliers were deleted from the data sheet. Normality of data was assessed by using the Skewness and Kurtosis.

5.1.2 Reliability and Validity of Constructs:

Exploratory Factor Analysis (EFA) was used to assess whether an expected structure is present in observed variables and accuracy of measurement of constructs. Few items were deleted due to poor loading and due to cross loading in order to establish the construct validity and reliability. Subsequently, Confirmatory Factor Analysis (CFA) was used to bring more precision while estimating the four-factor measurement model. During CFA, all items loading for each construct was found greater than 0.5. Similarly, resulting values of fit indices met the cutoff criteria suggested by Hu & Bentler (1999) indicating the appropriateness of measurement model proposed for the study. The value of Average Variance Extracted (AVE) and Composite Reliability for all variables of study was found greater than 0.50 and 0.70

respectively which demonstrate the sufficient convergent validity. Similarly, all factors are possessing adequate discriminant validity as the square root of AVE for all factors was found greater than the inter-factor correlation values. Thereafter, effect of method bias was assessed by creating a Common Latent Factor (CLF). No major difference in the values of regression coefficients (λ), AVE and CR was obtained after the inclusion of Common Latent Factor "CLF" in our measurement model. CR and AVE values were found greater than the minimum threshold for all constructs i.e. 0.7 and 0.5 respectively except for environmental concern. However, all items of environmental responsibility were retained during further analysis due to possessing the CR value higher than the cutoff criteria.

5.1.3 Testing of Hypotheses through SEM and Process:

The current study pertains five hypotheses which include direct relationship between variables as well as the mediating and moderating role of certain variables. These hypotheses were tested by using the statistical techniques which include Structural Equation Modeling and bootstrapping method suggested by Preacher and Hayes (2004). At first stage, full structural model constituting the independent variable (environmental Beliefs), dependent variable (green purchase intentions) and mediating variable (environmental concern) was determined and found adequate based on the cutoff criteria suggested by Hu & Bentler (1999) for model fit specific measures. At second stage, fit indices for each structural model to accept or reject the hypothesis of the study were assessed and found adequate.

The results reveal that specific environmental beliefs have a positive association with green purchase intentions. These findings are in line with the previous studies carried out by different authors in prior research (Pickett-Baker & Ozaki, 2008; Tanner & Kast, 2003). Similarly, it was found that specific environmental beliefs have a positive association with environmental concern. These results also confirm the finding of prior research carried out by different authors in the field of green marketing (Kilbourne & Pickett, 2008; Lin & Syrgabayeva, 2016). There are empirical and theoretical findings of certain studies in which authors reached on inconclusive results while examine the probability of environmentally concerned consumers to involve in environmental friendly behaviors (Chang, 2011; Hines et al., 1987; Ramayah et al., 2010). However, the results of current study confirm the direct relationship between environmental concern and green purchase intentions. The same finding has been reported in previous research conducted by different authors such as (Kalafatis et al., 1999; Manaktola & Jauhari, 2007; Straughan & Roberts, 1999).

Previously, certain authors such as Pickett-Baker & Ozaki (2008) reported that relationship between environmental beliefs and green purchase intentions is from weak to moderate which may be due to the role of certain mediating variables. The results of current study obtained through SEM and Process technique also confirm that environmental concern mediates the relationship between environmental beliefs and green purchase intentions. Likewise, the results of current study also confirm the moderating role of environmental responsibility between the relationship of environmental beliefs and environmental concern such that in case of high level of environmental responsibility the positive relationship between environmental beliefs and environmental concern will be stronger.

5.2 Strengths of Study:

There are several facets of current study which may be regarded as the strengths of this research. The current research is an answer to most recent calls by the researchers and business organizations which requires the exploration of underling mechanisms which could reduce the attitude-behavior gap (Gleim et al., 2013; González et al., 2015; Kassinis & Vafeas, 2006; Thieme et al., 2015; Xie et al., 2015). These mechanisms include the role of moderating and mediating variables which may extend the finding of ongoing stream of research in green marketing field. The author developed conceptual model based on the theoretical explanations given by several authors in their research studies. This study is first one, to the best of authors' knowledge, which have explored the role of environmental concern as the mediating variables between environmental beliefs and green purchase intentions, and environmental responsibility as a moderating variable between the relationship of environmental beliefs and environmental concern.

Second, strength of the study is that all proposed hypotheses were verified and proved based on the results identified through structural equation modeling and process technique. The hypotheses include the direct relationship of environmental beliefs with environmental concern and green purchase intentions, the relationship of environmental concern with green purchase intentions, the moderating role of environmental responsibility between environmental beliefs and environmental concern as well as the mediating role of environmental concern between environmental beliefs and green purchase intentions.

Third, strength of the study is that data was collected from adults serving in different organizations with different backgrounds to address the research questions of the study. The data collected from adult respondents may be considered more reliable as compare to the data collected from students (Xie et al., 2015). Consequently, the findings of the study may also be regarded as more reliable from the perspective of researchers and practitioners.

Fourth, the foundation of conceptual model for current research is based on most famous theory known as theory of reasoned action. This theory is most widely used where researchers are intended to identify the variation in intentions of respondents as an outcome variable.

Fifth, the findings of current study will open further research avenues. The researchers may identify and explore the role other moderating and mediating variables between the relationship of environmental beliefs and green purchase intentions, environmental beliefs and environmental concern and between the environmental beliefs and environmental concern. Such contributions may increase the predictive ability of conceptual models which may provide more practical implication for marketing managers and business organizations to reduce the attitude-behavior gap.

5.3 Contextual Implications:

The research in the field of green marketing is continuously growing to enrich the pool of knowledge with findings from different cultures and geographical regions to reduce the attitude-behavior gap. The current study was also an effort to participate

the ongoing stream of research in the field of green marketing by sharing the findings from a developing country i.e. Pakistan. The results of current study are in line with the findings of ongoing research in the field of green marketing. The findings reveal that specific environmental beliefs have stronger association with environmental concern as compare to the weak association with green purchase intentions. These finding suggest that sincere efforts are needed to improve specific environmental beliefs of consumers to improve their environmental concern which could ultimately helpful in advancing the green purchase intentions.

These efforts may include the effective use of electronic and print media for advertising campaigns. These advertising campaigns may highlight that how environmental changes are effecting our country, what could be the future if such environmental issued are not dealt urgently especially what problems could be faced by our children and future generations, what initiatives are taken by the government, what initiatives are required from organizations and lastly what is expected from the general public. The results of such efforts may take long time (McDonald, Oates, Thyne, Timmis, & Carlile, 2015) in changing the mindset of public however could not be overlooked due to the alarming environmental degradation issues of Pakistan.

On the other hand, consumers should be educated regarding the available green products in the market place, what symbols are used for such products by the business organizations and how such products can be identified. These campaigns must also include the information how such products are beneficent for environment (Huang et al., 2014; Yu, Yu, & Chao, 2017) as well as for consumers.

The role of government could not be overlooked in promoting green consumption behaviors. The government should make regulations and policies to meet the international environmental standards and such policies must be properly

documents and communicated to organizations for strict compliance. Prior research also reveals that some of the consumers are of the view that it's the responsibility of government to take initiatives and implement the rules and regulations so that a line of action can be given to industry and consumers as well (Chan, 2001; Chang & Kuo, 2008; Lai, 2000).

The ultimate reason may be that consumer thinks that government has necessary powers to bring change by imposing environmental regulations and resources to assist the public in adopting green consumption behaviors. Such initiatives may include giving subsidies to green firms, investing in R&D activities to improve the green products and services and relaxation in tax to control the prices of green products (Soyez, Francis, & Smirnova, 2012). Initially the government can use "stick and carrot" while evaluating the implementation of such policies however such evaluations must be strictly observed with the passage of time.

The government, at initial stage, should also appreciate and facilitate the business organizations in terms of tax rebate to produce and introduce green products in national markets. Likewise, the voice of relevant government organizations working in Pakistan such as "Pakistan Environmental Protection Agency" must be made clear and loud to play an effective role in the society. These environmental organizations may also authorize to verify the authenticity of claims made by green firms regarding the green products. Sharing such information with consumers can reduce their skepticism and can be helpful in making easy decisions while buying green products.

In parallel, government should take some strict decisions (Bamberg, 2003; Wagner, 2003) in terms of creating barriers such as imposing tax on products which are harmful for the environment such as plastic bags and other packing materials.

Such organization may be forces to shift from conventional materials to biodegradable materials. Similarly, environmental organization may be authorized to have a strong check on housing societies and industry. Policies must be defined for housing societies to take initiatives for the protections of natural environment while initiating the mega projects.

Similarly, industries must be advised to make sure the use of technology for the recycling of waste. The environmental organizations can also prepare written material to change the environmental beliefs of public in Pakistan. Such material can also be made a part of curriculum so that environmental concern can be raised among the children and teenagers by changing their environmental beliefs. The effective presentation of such material can also make the children and teenagers environmental responsible in future. In another study it is highlighted that "Raising environmentally conscious generations will help ensure that tomorrow 's problem solvers and decision makers are well prepared for the challenges they will likely face" (Liu, Vedlitz, & Shi, 2014, p. 89).

After all, it must be realized that consumers must perceive that government and concerned organizations are making sincere efforts and such efforts are in the best favor of consumers their children and future generations. Otherwise all efforts could be in vain and just wastage of time and resources if the implementation of policies and environmental rules and regulations are not observed in true letter and spirit at all levels. It is also highlighted in prior research that giving subsidies on green products and services may also provide an opportunity to prospect consumers to think and change their consumption behaviors (Dunlap & Liere, 1978).

The results demonstrate that environmental responsibility moderate the relationship between environmental beliefs and environmental concern. It can be

inferred from these results that consumers with high environmental responsibility could be the first potential market segment for certain green products. Such innovators could be followed by early majority and the diffusion goes on and green products may capture a reasonable market share however certain factors must also be taken in to consideration while introducing green products.

These factors may include price and quality of the green products as compare to the conventional products. Although the cost of producing the green products is high however such products may not be widely accepted or diffusion of such products could be very slow if the price of green product is higher than the conventional product. However, for certain products, if the quality of the product is perceived better by the consumers then they may go for green products initially on trial basis. Later on, such consumers become regular users (Dietz et al., 1998; Kassinis & Vafeas, 2006) and could also become referrals for others if the product meets the perceived expectations.

5.4 Theoretical Implications:

Current stream of research is continuously highlighting that consumer are not translating their intentions in to actions in terms of purchasing green products (Barbarossa & Pastore, 2015; González et al., 2015; Johnstone & Tan, 2015). These finding have lead the researchers to extend the findings from new perspectives (Memery et al., 2005). These new perspectives may include the mediating and moderating role of different variables which may affect the consumer attitude from different angles (Barbarossa & Pastore, 2015; Cleveland & Laroche, 2007; Dagher &

Itani, 2014). In order to respond the theoretical gaps identified from prior research, a conceptual model was developed as an effort to understand and address the complex nature of human behavior. The foundation of conceptual model developed for investigation is based on the most recurring theory known as Theory of Reasoned Action (Ajzen & Fishbein, 1975; Zhu, 2012).Theory of reasoned action is most reliable when a researcher is intended to observe the variation in intentions as an outcome variable (Zhu et al., 2013) and has already been extended by different authors in prior studies by adding different attitudinal variables (e.g. Bamberg, 2003; Han & Kim, 2010; Moser, 2015; Mostafa, 2007). The current study has also extended the theory of reasoned action by exploring the role of certain variables such as environmental beliefs, environmental concern and environmental responsibility which explain a reasonable variation in outcome variable i.e. green purchase intentions. In some of the prior research studies, environmental beliefs of consumers are considered to be an antecedent of green purchase intention (Gadenne et al., 2011; Mainieri et al., 1997) however there are research studies in which authors have pointed out that environmental beliefs of consumers may not be necessarily translated in to green purchase intentions (Bamberg, 2003; Nordlund & Garvill, 2002; Pickett-Baker & Ozaki, 2008). The results of current study revealed that the relationship between environmental beliefs and green purchase intentions is weak just like reported by certain authors in prior studies (Bang et al., 2000). The weak relationship between environmental beliefs and green purchase intentions is an indication towards the presence of certain mediating variables which are hampering the relationship of both variables (Gadenne et al., 2011). Thus, current study has extended these findings by exploring the role of environmental concern as the mediating variable between independent variable (environmental beliefs) and dependent variable (green purchase

intentions). The statistical analysis reveals that the relationship of specific environmental beliefs with environmental concern and likewise the relationship of environmental concern with green purchase intentions became stronger as compare to the direct relationship between environmental beliefs and green purchase intentions.

Similarly, in prior studies it was highlighted by certain authors that even consumers with environmental concern are not practically involved in green purchases (Manaktola & Jauhari, 2007; Newton et al., 2015). Such finding refers towards the identification of strong antecedent of environmental concern. Current study has taken environmental beliefs as an antecedent of environmental concern. The results proved the strong association between environmental beliefs and environmental concern which concur the findings of prior research studies (Kilbourne & Pickett, 2008). Similarly, positive relationship between the environmental beliefs and green purchase intentions is also witnessed by prior research studies (Pagiaslis & Krontalis, 2014). It was further verified that perceived environmental responsibility has a role of moderating variable between the relationship of environmental beliefs and environmental concern in such a way that consumers with higher level of environmental responsibility could be more concerned about the environment as compare to the consumers with low level of perceived environmental responsibility.

The results of ANOVA depict that there exists a difference in the environmental concern of male and female respondents. Female respondents of the study are found more environmentally concerned (mean = 5.78) as compare to the male respondents (mean = 5.57). The findings are in line with the results highlighted by several authors in prior studies (Hannibal et al., 2016; Laroche et al., 2001; Lee, 2009; Mohai, 1992; Xiao & McCright, 2015).

Similarly, a difference was also observed in environmental beliefs, environmental concern and green purchase intentions of consumers with respect to difference in income group of the respondents of the study. Interestingly, the environmental concern of respondents with lower income level (i.e. < Rs. 25000) was found higher (mean = 5.82) than the respondents with higher income. The findings are also consistent with previous research findings (Xiao & McCright, 2015). Similarly, the environmental beliefs of respondents with lower income level (i.e. < Rs. 25000) was found higher (mean = 5.03) than the respondents with higher income. Likewise, green purchase intentions are found high (mean = 5.52) for respondents with income level greater than Rs. 100,000. These findings are also an addition in the theoretical implication of current study highlighting the variation in the response of consumers towards green marketing campaigns with respect to difference in the earning of consumers.

5.5 Managerial Implications:

Several implications can be inferred from the results of study. The weak association between environmental beliefs and green purchase intentions suggest that there is lack of awareness among the population regarding the environmental hazards, its antecedents and consequences. The findings suggest that the development and execution of synergetic and creative marketing communication plans through electronic and print media (Huang, 2016) are inevitable to improve the specific environmental beliefs (Hannibal et al., 2016) so that consumers can exhibit a desire response. Marketing managers may also design certain campaigns in which they can

highlight the severity of environmental degradation issues and the urgency to mitigate environmental degradation issues (Lin & Syrgabayeva, 2016). Using social media for such campaigns may also be a wise strategy in which marketing managers can involve trusted opinion leaders (Yu et al., 2017) to highlight the severity of environmental degradation issues and grasp the attention of potential consumers towards the adoption of green products. However, the primary focus of environmental campaigns and communication strategies may be to shed light on local environmental degradation issues (Hannibal et al., 2016) to strengthen the specific environmental beliefs and to raise the environmental concern (Liu et al., 2007). Prior studies reveal that residents of a specific geographical region may be aware about the environmental hazards (e.g. global warming, shortage of clean water, energy crisis, household pollution) which are visible to them or effects are directly felt whereas some of the environmental problems may be more dangerous however not visible to general public (Schultz et al., 2014) such as pollution created by industries. Similarly, consumers of specific region may not consider that certain environmental problems are relevant to them and therefore attention is not granted to such issues.

The role of environmental concern as a mediating variable between environmental beliefs and green purchase intentions requires special attention and understanding. Environmental concern could be a driving force behind the consumers' will to respond the green marketing activities. Improving environmental beliefs could be a possible way to raise the environmental concern of consumers. The relationship between environmental beliefs and environmental concern indicates that it is pre-requisite to improve the specific environmental beliefs in order to raise the environmental concern of the consumers. The central role of environmental concern suggests that consumers with higher level of environmental concern could be an

attractive target market segment to serve with relevant green products and services. Therefore, applying the concept of institutional learning theory, marketing managers could go for sales promotions as an initial strategy to attract the environmentally concerned consumers towards the green products and services (Fetterman, 2006). Their first purchase could enter them in a long-lasting relationship with business firm if expectations are met and needs are fulfilled by the product according to the claims made by the green firm. Subsequently, satisfied consumers with green products could also become advocate of green products and create positive word of mouth (Khare, 2015; Lee, 2009). Result also suggest that introducing the products which are more relevant to local environmental problems could be an effective move to attain the attentions of environmentally concerned consumers. However, marketing managers should also make sure that such green products are according to the preferences of the consumers and conveniently available in the market place (Keh & Pang, 2010; Ma et al., 2018; Tascioglu & Rehman, 2016).

The understanding of moderating role of environmental responsibility between environmental beliefs and environmental concern can unfold the opportunities for marketing managers. Prior research have already highlighted the opportunity cost associated with the green consumption (White & Simpson, 2013) therefore, sometimes, involvement in environmental activities demand a self-sacrifice (Brough, Wilkie, Ma, Isaac, & Gal, 2016). The results reveals that consumers have the realization of severity of environmental degradation issues and they are ready to support the environmental activities in order to save the future generation from the negative consequences of environmental degradation issues. Thus, market segment with higher level of environmental beliefs and environmental responsibility may provide a first mover advantage to organizations which are planning to enter in

emerging markets with relevant green products or services. The reason is that, according to the results of thesis, environmental responsibility moderates the relationship between environmental beliefs and environmental concern such that in case of high level of environmental responsibility the positive relationship between environmental beliefs and environmental concern become stronger. Therefore, consumers with higher level of responsibility may exhibit a higher level of environmental concern and subsequently may become ready to involve in green activities by sacrificing self-interest over the environmental benefits. However, precautionary must be taken into consideration by the marketing managers to involve such consumers in green activities. According to prior research, consumers have start realizing their responsibility to mitigate the environmental degradation issues (Gadenne et al., 2011) but it should be kept in mind that the success of green business organizations is associated with the observation of consumers about the sincerity of business firms towards the environmental issues. Applying the concept of signaling theory, the green business firms must highlight their green initiatives regularly through print and electronic media (Wang, Krishna, & McFerran, 2017). Such initiatives must be visible and evidence must also be shared with the consumers to build trusting relationships (Xie et al., 2015). Likewise, prior research also reveals that consumers with environmental responsibility and environmental concern may ignore green products just because of having lack of information or no information regarding the green products (Ma et al., 2018; Wheeler, Sharp, & Nenycz-Thiel, 2013). Therefore, marketing managers should also focus on creating awareness of green products in the market place through print and electronic media. There could be several steps which could be taken to increase the success rate and acceptance of green products in the market place especially by the consumers with higher levels of

environmental beliefs, environmental responsibility and environmental concern. First, there must be congruence between green product and specific environmental issue. Initially, products related to local environmental issues must be offered in the market to fulfill the needs of consumers. Second, features which differentiate the green products from conventional products must be communicated to targeted market segment especially for the understanding of environmentally concerned consumers. Third, the packaging of green products must be attractive (Magnier & Schoormans, 2015) and different from conventional products. Consumers must also be educated about the symbols used for green products which may enable the consumers to differentiate between conventional products and green products in market place. Similarly, features which differentiate the green products from conventional products must be communicated to the target market so that environmentally responsible consumers can be attracted to involve in business deal. Fourth, there must be a congruence between the visual and verbal claims made regarding the green products to enhance the acceptance in the market place (Magnier & Schoormans, 2015) especially through the involvement of environmentally responsible and environmentally concerned consumers. The claims made regarding the green products must be tested and verified. Miscommunication could break the trust of environmentally concerned consumers and increase skepticism. Fifth, special attention must be devoted to research and development activities in order to bring continuous improvement in green products to meet the expectations of consumers in the target markets.

The moderating role of environmental responsibility between environmental beliefs and environmental concern also suggest that consumers with higher environmental responsibility could be an important source for the creation of word of

mouth because of their self-drive to confront the environmental degradation issues. The significance of word of mouth communication could be inferred from the statement that word of mouth "is the primary factor behind 20 percent to 50 percent of all purchasing decisions" and is "at-least ten times more effective" than traditional advertising methods (SGuin et al., 1998, pp. 6-7). Word of mouth is widely accepted in culture such as Pakistan where many consumers discuss their purchase decisions with each other for affirmation. Therefore, marketing managers must be very careful regarding the quality of green products and environmental claims made related to the green products. During such campaigns, the consumers should be motivated to give their feedback regarding the performance of green products. Such feedback should be used to bring continuous improvement in the quality of green products (Zuraidah et al., 2012).

The demographic characteristics may also be helpful for marketing managers to make certain campaigns in which consumers should give a feeling that making the right product choices could be beneficent for all stakeholders and it is need of time. Applying the concept of social identity theory, marketing managers may create an environment where consumers may have a good feeling and pride while making environmental friendly choices. The findings of current research also suggest that marketing managers should not ignore the demographic characteristics of target market segment. Consumers with higher level of environmental concern and environmental responsibility may be the initial segment which could be served with relevant green products. However, pricing strategies should be adopted keeping in view the economic factors (Lo, 2016) prevailed in larger market place which could be suitable for large market segments. Higher prices could be charged if product differentiation strategy is used to enter in the market. According to the finding of

current thesis, consumers with high income could be ready to pay greater amount for environmental friendly products (Lin & Syrgabayeva, 2016).

Marketing managers must be patient enough as the process of changing environmental beliefs and stimulation of environmental concern and responsibility make take a long time (McDonald et al., 2015). In such situation, integrated efforts are required from all stakeholders to change the mindset of consumers till the stage arrived when the whole society start realizing the effects of environmental degradation issues on future generations and every one of us is responsible for such destruction.

5.6 Study Limitations and Future Research Avenues:

Like other studies, there were several limitations which were taken in to consideration while addressing the conceptual model of the study empirically. These limitations could be an opportunity for researchers which are interested to explore the area of green marketing.

First, it should be noted that emphasis of current research was to measure and explain the variables which might influence the consumers' environmental concern and ultimately their green purchase intentions. Intentions are only considered the proximal of actual behavior and therefore results might be different when consumers are provided an opportunity to make a decision in real world. To overcome this gap, longitudinal studies might be helpful to observe the original behaviors of customers.

Second, current study has used most widely used survey method in social science i.e. questionnaire for data collection. However, future studies may use

alternative survey methods such as observation (Chan, 2001; Young et al., 2010), focus group, interviews or experimental design in order to identify the natural behavior of customers to overcome social desirability bias. Such findings may be helpful for marketing managers in developing effective green marketing strategies to reduce the attitude-behavior gap. The future studies could also be qualitative in nature followed by quantitative techniques to provide better understanding and practical implications for marketing managers.

Third, multiple scales with different items were found in literature to measure the environmental beliefs and environmental concern of consumers. Future studies may focus on developing generalized scales which can be used in different countries and cultures to increase the generalizability of results.

Fourth, in future studies, the weak association between environmental beliefs and green purchase intentions warrant further attention in future studies. Researchers may identify and explore the role of other moderating and mediating variables which are hindering the direct effect of environmental beliefs on green purchase intentions.

Fifth, the relationship between environmental concern and green purchase intentions is found quite significant. It might be that environmental concern has been taken as mediating variable between the relationship of environmental beliefs and green purchase intentions. There are studies in which authors have reported environmental concern as a weak predictor of green purchase intentions. Future studies may identify the role of certain mediating variable between environmental concern and green purchase intentions to highlight the hidden patterns of human behavior.

Sixth, current study has not taken in to the consideration the acceptance of context specific products. The perceptions of certain environmental issues could vary

with respect to geographical boundaries. Future research, therefore, could give attention to explore that what strategies could be adopted in order to increase the acceptance of certain green products in relations with the environmental issues which are felt more severe by population as compare to others.

Seventh, cross-cultural studies are very important to identify the difference in consumer response towards the green marketing campaigns. Such findings may also be helpful to increase the generalizability of finding from different geographical regions.

Eighth, exploring the moderating or mediating role of personality traits, cultural values and/or personal values in conceptual models could be helpful in identifying different consumer segments in the markets. Such findings could be useful in developing and executing the effective green marketing campaigns to change the environmental beliefs, to raise the environmental concern and responsibility.

Ninth, future studies could explore that how a fit between environmental problem and green brand could be established in order to attract the maximum number of consumers.

5.7 Conclusion:

Many organizations around the globe are in pressure to take in to account the interest of the society and environment while developing and introducing the products and services in market place. Becoming green may be considered to be an expensive decision if the response of consumers might not be controlled through proper communication strategies. The argument is supported by many recent studies in which

the authors are continuously highlighting a gap between predicted and actual demand of the green products in the real markets known as attitude-behavior gap. The current study was an effort to enrich the existing pool of knowledge on green marketing by exploring the mediating role of environmental concern between environmental beliefs and green purchase intentions. In addition to this, the current study also explored the role of environmental responsibility between environmental beliefs and environmental concern.

The conceptual model was developed based on the theory of reasoned action and cognitive consistency theory. The research model was tested by using the two statistical techniques which constitute Structural Equation Modeling and bootstrapping technique suggested by Preacher and Hayes. The result of current study reveals that environmental concern fully mediates the relationship between environmental beliefs and green purchase intentions. Likewise, moderating role of environmental responsibility between was also proved environmental beliefs and environmental concern.

The findings suggest that the initial focus of the marketing activities might be on creating the awareness of environmental issues and their effects on existing population, children and future generations. Such type of campaigns could bring the environmental beliefs of consumers at a stage where it could raise their environmental concern. As a result, such consumers would become more inclined towards the purchase of green products. It could also be inferred from this research that consumer with higher level of environmental responsibility could be more concerned regarding the environment. Such consumers could be attractive market segment for introducing the certain green products. The role of government could not be overlooked in any case for promoting the green consumption behaviors. Government can use "stick and

carrot" policy to make sure the implementation of environmental rules and regulations in true letter and spirit to meet the national and international obligations. On the other hand, the organizations need to expand the scope of research and development activities so that there should be something significant for consumers in green products which can justify their expenditure and opportunity cost. Through meeting the expectations of consumers, the organizations can build their confidence in green products and ultimately make them a supporter to enhance the acceptance of their green brands in the market place.

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Appendix A

International Islamic University
Faculty of Management Sciences
Department of Management

Questionnaire

Dear Participant!

My name is Israr Ahmad. As a research scholar of PhD at International Islamic University Islamabad I am collecting data for my dissertation entitled — The Relationship between Environmental Beliefs and Green Purchase Intentions: Exploring the Mediating Role of Environmental Concern and Moderating Role of Environmental Responsibility.

I am soliciting your participation in this study. I hope that you agree to take about 10-15 minutes of your time to complete this survey. I assure you that data will be strictly kept confidential and will only be used for academic purposes.

It is further informed that resulting data will be summarized on a general basis and not on an individual basis. It is important that all the questions be answered. Return of the questionnaire will be considered your consent to participate.

Thanks in advance for your cooperation!

Israr Ahmad.

1= Strongly Disagree	2= Somewhat Disagree	3= Slightly Disagree	4= Neutral	5= Slightly Agree	6= Somewhat Agree	7= Strongly Agree

Please indicate the extent to which you are "Agree" or "Disagree" with the following statements according to the given scale:

Environmental Beliefs

1	Many types of pollution are rising to dangerous levels.	1	2	3	4	5	6	7
2	Some living things are being threatened with extinction	1	2	3	4	5	6	7
3	Continued use of chemicals in agriculture will damage the environment	1	2	3	4	5	6	7
4	Shortages of some important resources will occur in the near future	1	2	3	4	5	6	7
5	Global warming is becoming a problem	1	2	3	4	5	6	7
6	Ozone depletion is an environmental problem	1	2	3	4	5	6	7
7	The availability of clean water will become a problem in the future	1	2	3	4	5	6	7

1= Strongly Disagree	2= Somewhat Disagree	3= Slightly Disagree	4= Neutral	5= Slightly Agree	6= Somewhat Agree	7= Strongly Agree

Environmental Concern

1	I am very concerned about the environment	1	2	3	4	5	6	7
2	I am emotionally involved in environmental protection issues in Pakistan	1	2	3	4	5	6	7
3	I am worried about the worsening of the quality of environment in Pakistan	1	2	3	4	5	6	7
4	I often think about how the environmental quality in Pakistan can be improved	1	2	3	4	5	6	7
5	It frightens me to think that much of the food I eat is contaminated with pesticides	1	2	3	4	5	6	7
6	I become angry when I think about harm being done to environment by pollution	1	2	3	4	5	6	7
7	When I think of the ways industries are causing pollution, I get frustrated and angry	1	2	3	4	5	6	7

1= Strongly Disagree	2= Somewhat Disagree	3= Slightly Disagree	4= Neutral	5= Slightly Agree	6= Somewhat Agree	7= Strongly Agree

Environmental Responsibility

1	Environmental protection starts with me	1	2	3	4	5	6	7
2	I should be responsible for protecting our environment	1	2	3	4	5	6	7
3	I think I have responsibility in protecting the environment in my country	1	2	3	4	5	6	7
4	I have taken responsibility for environmental protection since I was young	1	2	3	4	5	6	7
5	Everyone is responsible for protecting the environment in their everyday life	1	2	3	4	5	6	7
6	We should recognize the need to protect the environment today so that future generations will not suffer the consequences	1	2	3	4	5	6	7

1= Strongly Disagree	2= Somewhat Disagree	3= Slightly Disagree	4= Neutral	5= Slightly Agree	6= Somewhat Agree	7= Strongly Agree

Green Purchase Intentions

1	I would consider buying those products that are environmental friendly	1	2	3	4	5	6	7
2	I would intend to buy those products that are less polluting	1	2	3	4	5	6	7
3	I would buy those products that are not harmful to the environment	1	2	3	4	5	6	7
4	I would intend to switch other brands for ecological reasons	1	2	3	4	5	6	7

Please provide the following information:

Gender	Male		Female		
Age (Years)	< 25	25-32	33-40	41-48	> 48
Marital Status	Married		un-Married		
Educational Qualification	12 years	14 years	16 years	18 years	> 18 Years
Working experience (Years)					
Monthly Income (Rs.)	< Rs. 25,000	25,000 to 50,000	51,000 to 75,000		
	76,000 to 100,000	> 100, 000			

THANK YOU VERY MUCH FOR SPARING YOUR PRECIOUS TIME