THE IMPACT OF GOVERNMENT REGULATIONS AND GREEN MARKETING MIX ON GREEN PURCHASE BEHAVIOUR IN PAKISTAN

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ABSTRACT

Governments and organisations are paying more attention to green purchase behaviour (GPB) since there is a dearth of understanding, especially in consumer markets like Pakistan. The literature has shown that significant predictors of GPB include internal and external factors. So, the study aims to investigate the influence of contextual factors (government regulations, green product, green price, green place, and green promotion) and attitudinal factors (attitude towards green purchase) on GPB through a research framework based on the attitude-behaviour-context (ABC) theory and the stimulus-organism-response (SOR) model. Moreover, the relationship between attitude towards green purchase and GPB has been investigated with the moderation of green trust. This study is quantitative and descriptive, using convenience sampling and the survey method for data collection from the buyers of energy-efficient electric appliances in the top ten most populated cities in Pakistan. A total of 500 questionnaires were distributed online, of which 387 has used. Using SmartPLS3 software for PLS-SEM to statistically analyse hypothesised paths, the results revealed that government regulations, green product, and green price have a direct and indirect significant relationship through the mediation with GPB. The green promotion has not directly affected GPB but has indirectly through the mediation path. The green place, however, has no direct or indirect effect on GPB. Moreover, green trust strengthens the positive relationship between attitude towards green purchase and GPB. The study provides insight to government officials, organisations, and practitioners to comprehend the underlying factors influencing green purchase behaviour.

Keywords: Government regulations, green marketing mix, attitude towards green purchase, green trust, green purchase behaviour

ABSTRAK

Kerajaan dan organisasi memberi lebih perhatian kepada gelagat pembelian hijau (GPB) kerana kekurangan pemahaman terutamanya dalam pasaran pengguna seperti Pakistan. Sorotan kajian telah menunjukkan bahawa peramal penting GPB merangkumi faktor dalaman dan luaran. Oleh hal demikian, kajian ini bertujuan untuk mengkaji pengaruh faktor kontekstual (peraturan kerajaan, produk hijau, harga hijau, tempat hijau, dan promosi hijau) serta faktor sikap (sikap terhadap pembelian hijau) terhadap GPB melalui kerangka kajian berdasarkan teori sikap-tingkah laku-konteks (ABC) dan model rangsangan-organisma-tindak balas (SOR). Selain itu, hubungan antara sikap terhadap pembelian hijau dan GPB telah dikaji dengan penyederhanaan kepercayaan hijau. Kajian ini bersifat kuantitatif dan deskriptif dengan menggunakan pensampelan kemudahan dan kaedah tinjauan untuk pengumpulan data daripada pembeli peralatan elektrik cekap tenaga di sepuluh bandar paling ramai penduduk di Pakistan. Sebanyak 500 soal selidik telah diedar secara dalam talian, yang mana 387 boleh digunakan. Perisian SmartPLS3 untuk PLS-SEM telah digunakan untuk menganalisis laluan hipotesis secara statistik. Keputusan menunjukkan bahawa peraturan kerajaan, produk hijau dan harga hijau mempunyai hubungan signifikan secara langsung dan tidak langsung melalui pengantaraan dengan GPB. Promosi hijau tidak memberi kesan kepada GPB secara langsung, tetapi secara tidak langsung melalui laluan pengantaraan. Walau bagaimanapun, tempat hijau tidak mempunyai kesan langsung atau tidak langsung pada GPB. Selain itu, kepercayaan hijau mengukuhkan hubungan positif antara sikap terhadap pembelian hijau dan GPB. Kajian ini memberikan pandangan kepada pegawai kerajaan, organisasi dan pengamal untuk memahami faktor asas yang mempengaruhi gelagat pembelian hijau.

Kata kunci: Peraturan kerajaan, campuran pemasaran hijau, sikap terhadap pembelian hijau, kepercayaan hijau, tingkah laku pembelian hijau

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ABC	Attitude-Behaviour-Context Theory
AMA	American Marketing Association
ATGP	Attitude Towards Green Purchase
AVE	Average Variance Extracted
BCa	Bias-Corrected and accelerated
CIA	Central Investigation Authority
CMB	Common Method Bias
CMV	Common Method Variance
CO_2	Carbon dioxide
CR	Composite Reliability
CSR	Corporate Social Responsibility
FY	Financial Year
GDP	Gross Domestic Product
GGEI	Global Green Economy Index
GoP	Government of Pakistan
GPB	Green Purchase Behaviour
GPDT	Green Product
GPLC	Green Place

GPRC	Green Price
GPRM	Green Promotion
GTRG	Government Regulations
GTST	Green Trust
HTMT	Heterotrait-Monotrait
KPK	Khyber Pakhun Khuah
LV	Latent Variable
MOA	Motivation Opportunity Ability Model
MoCC	Ministry of Climate Change
NAM	Norm Activation Model
NDC	Nationally Determined Contribution
NEECA	National Energy Efficiency & Conservation Authority
PACRA	Pakistan Credit Rating Agency Limited
Pak-EPA	Pakistan Energy Protection Agency
PBC	Perceived Behavioural Control
PEB	Pro-Environmental Behaviour
Ph.D.	Doctor of Philosophy
PITCO	Pakistan Industrial Trading Corporation

PKR	Pakistani Rupee
PLS	Partial Least Square
PLS-SEM	Partial Least Square Structural Equation Modelling
SCT	Social Cognitive Theory
SEM	Structural Equation Modelling
SOR	Stimulus-Organism-Response Model
SPSS	Statistical Package for Social Sciences
S-R	Stimulus-Response Theory
STERR	Standard Error
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TCV	Theory of Consumption Value
TWh	Terra-Watt hours
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention for Climate Change
UNIDO	United Nations Industrial Development Organisation
USA	Unites States of America

USD	Unites States Dollars
VBN	Values-Beliefs-Norms Theory
VIF	Variance Inflation Factor
WHO	World Health Organisation

CHAPTER ONE
INTRODUCTION

1.1 Introduction

The chapter presents the background and issues related to the study which addresses the environmental hazards associated with green purchase behaviour in Pakistan. It shows the background of the study, and the statement of problem. This chapter further discusses research questions and objectives followed by the scope and significance of the study. The chapter ends with the conceptual definitions of terms and organisation of the thesis.

1.2 Background of the Study

Organizations and humans are currently experiencing the most modernized and advanced era of the knowledge in the history of human existence. Tremendous profitability for organizations and better human lifestyles, are the outcomes of organizational advanced manufacturing facilities, marketing activities, and innovative technologies. But in the same vein, some organizational and human activities, such as toxic wastes from manufacturing, smoke from transportation, unethical marketing practices, use of inefficient electric appliances, and excess use of natural resources have directly or indirectly caused major environmental issues (Y. Anwar & El-Bassiouny, 2020; Z. Rehman & Dost, 2013). These issues include pollutions, global warming and climate change, and shortage of natural resources (I. Khan et al., 2021; Rahbar & Wahid, 2011). Moreover, these issues resulted in many problems like life-threatening health problems for humans as well as for other living species, safe drinking water, and toxic food-related problems.

Among these problems, greenhouse gases and carbon dioxide (CO_2) emission from electricity generation and consumption are the major causes of global warming and climate change (Ritchie & Roser, 2019; Testa et al., 2016; Vainio et al., 2019) with 0.8% share of Pakistan to total global CO_2 emission (Raza & Lin, 2022). Out of total global electricity generation in 2020, about 67% was generated from combustible fuels like natural gas, oil and its products, coal, biofuels including animal products and solid biomass, as well as industrial and municipal wastes (IEA, 2020a). Similarly, the total electricity generation from combustible fuel in Pakistan was 63% of total energy production in 2020 according to International Energy Agency (IEA, 2020b). According to Global Climate Risk Index (2019), the climate change caused the death of about 526,000 people from 1998 to 2017, and resulted to loss of approximately US$ 3470 billion (Eckstein et al., 2018).

The outbreak of COVID-19, a novel coronavirus in the year 2020 has changed the operating conditions of governments, organisations, and consumers (Shahzad et al., 2020). Although, this rapid outbreak all over the globe negatively affected the economies of several countries, but due to shutdown of millions of industries and transportation facilities globally, it resulted in the decrease of CO_2 emission level in the atmosphere. Statistics showed that during this pandemic period, the CO_2 emission has decreased by 17% by the early April 2020 compared to the level of emission in the year 2019, while at their peak, the decrease of CO_2 emission by individual countries was -26% on average (Le Quéré et al., 2020). The significant decrease in level of CO_2 emission resulted to high positive effect on the natural environment. This provides the terrific opportunity for government, policy makers, and organisations to review and postulate better

environmental policies which can serve as a way of protecting the environment and last for decades (Le Quéré et al., 2020).

Consequently, environmental issues have become critical matter for the government, businesses, scholars, and societies to solve (ElTayeb et al., 2010; Sandhu et al., 2018). In the past few decades, these problems and opportunities intensified a pervasive impression that it is the right moment to take corrective measures (A. Ali & Ahmad, 2018). United Nations Framework Convention on Climate Change (UNFCCC) was founded in 1992 for making a global attempt to protect the environment. In addition to this, the Paris agreement adopted in 2015 by the nations in the UN (United Nations) with the target to lowering carbon emission and global temperature, through the commitment of world nations in Nationally Determined Contributions (NDCs). Different countries have passed laws and regulations to end the hazard impacts of different activities on the natural environment and to protect it (Groening et al., 2018). Pakistan Environment Protection Agency (Pak-EPA) was found in 1997 for implementing rules based on laws set up by Parliament to preserve human health and the environment. Ministry of Climate Change (MoCC) was found in August 2017, and responsible for law and policymaking, matters relating to sustainable development, water & sanitation, and sustainable urbanization. Moreover, the ministry is also in charge of environmental agreements under the guidelines of the UNFCCC.

In Pakistan, the government has launched different projects to protect the environment like a billion-tree project in Khyber Pakhtun Khuwah province (Sandhu et al., 2018). The former Prime Minister of Pakistan, Imran Khan, while addressing the United Nations Security Council convention held in New York in 2019, discussed the four crucial threats

faced by the world. The most essential among the issues he addressed were those of climate change and global warming showing the concern of the Pakistani government towards the environment. In line with this, the current government also showing its concern towards environmental protection. Pakistan government has planned to improve electricity generation from renewable resources to 20% by 2025 (Raza & Lin, 2022). To add, in 2016, the National Energy Efficiency & Conservation Authority (NEECA) under the Ministry of Energy has announced the policy of energy-saving labels (eco-labels) for electric appliances with respect to product electricity saving efficiency. The intention of this eco-label policy is to create consumers' awareness and supply ease to choose more energy-efficient appliances for their household consumption. Figure 1.1 shows the Pakistan energy labels for electric appliances.

Figure 1.1
Energy-Efficient Labels for Electric Appliances
Source: National Energy Efficiency and Conservation Authority (NEECA)

Furthermore, in line with government efforts, many firms are ready to acknowledge environmental safety as their social responsibility and showing their concern to the environment (Dwyer, 2009; Ramanakumar et al., 2012). A radical increase in environmental protection attitude in recent years over the globe resulted in use of green (eco-friendly) opportunities as competitive advantage by many forethoughtful companies (Sewwandi & Dinesha, 2022). Moreover, enterprises started applying green marketing to change consumers' conventional purchasing behaviour to eco-friendly or green purchasing behaviour (A. Ali & Ahmad, 2018; Y. Anwar & El-Bassiouny, 2020; Hameed & Waris, 2018).

Consequently, the companies have implemented environmental policies as their corporate social responsibility (CSR) in their operational activities such as, in product development, manufacturing and distribution networks to reduce carbon emission and to protect the environment (Su & Swanson, 2019). Many of these companies have launched green (eco-friendly) products like organic food, electric automobiles, energy-efficient electric home appliances, apparels from recycled yarns, and renewable energy solutions for homes and industries like solar panels (W. Karunarathna et al., 2017). As a result, protecting the environment has rapidly turn out to be a mainstream matter, it leads to consumers' awareness, which is depicted in their purchasing and consumption patterns of nutrition, health, food, electric appliances, and lifestyle products and it resulted in the birth of green consumers (A. Ali et al., 2011; Y. S. Chen, 2010a).

Nowadays consumers are much more educated and sensitive about their responsibility for saving environment and have more commitment to prefer a green product over a conventional one (Sandhu et al., 2019). According to Mintel consumer trends 2030

report, there is pressure on consumers to reduce their consumption of energy due to increased global population and climate changes (Crabbe et al., 2019). The findings of studies show that in developed nations, consumers have shifted to green behaviour to protect themselves and contributing to the improvement of environment (Song et al., 2019). Taking an insight globally, the market size of green product was valued at USD 200 billion in 2006 (Gupta & Ogden, 2009), while in 2016 the global green economy revenue has increased to USD 7.87 trillion, and the leading nation is United States (U.S.) with USD 1.3 trillion (Georgeson & Maslin, 2019). Moreover, 67% in the UK (United Kingdom), 53% in the US and 46% in Brazil foods and drinks consumers are eager to change their behaviour to be more eco-conscious (Zegler, 2019). Only a few regions of the world have documented this market's exponential rise for green products like the UK, US, Germany, China & Brazil in the last few years (Willer & Lernoud, 2017; Zegler, 2019). On the other hand, consumers in many developing nations are still getting their foothold of green products (Yadav & Pathak, 2017). Furthermore, there is a scarcity of research work in the context of Pakistan about green purchase behaviour (A. Ali & Ahmad, 2018).

In line with this, according to the Global Green Economy Index (GGEI) 2018 report, Pakistan is at 114th rank with 0.39 points among 130 nations. The GGEI report measures the green economic performance in four dimensions: leadership and climate change, markets and investment, efficiency sectors, and the environment (*Global Green Economy Index*, 2018). For that reason in Pakistan, companies have shifted their marketing strategies to the environmental aspect (Hameed et al., 2019). Among many other green products like organic food, solar panels, electric cars, the energy-efficient electric

appliances also considered as green (eco-friendly) products as it saves energy which results in saving natural resources and protect environment. Currently, many national and multi-national electric appliances companies in Pakistan (like PEL, Dawlance, Haier, Philips, Samsung, Kenwood, Orient, Toshiba) are offering variety of energy-efficient electric appliances and committed to environmental sustainability (S. Abid, 2021).

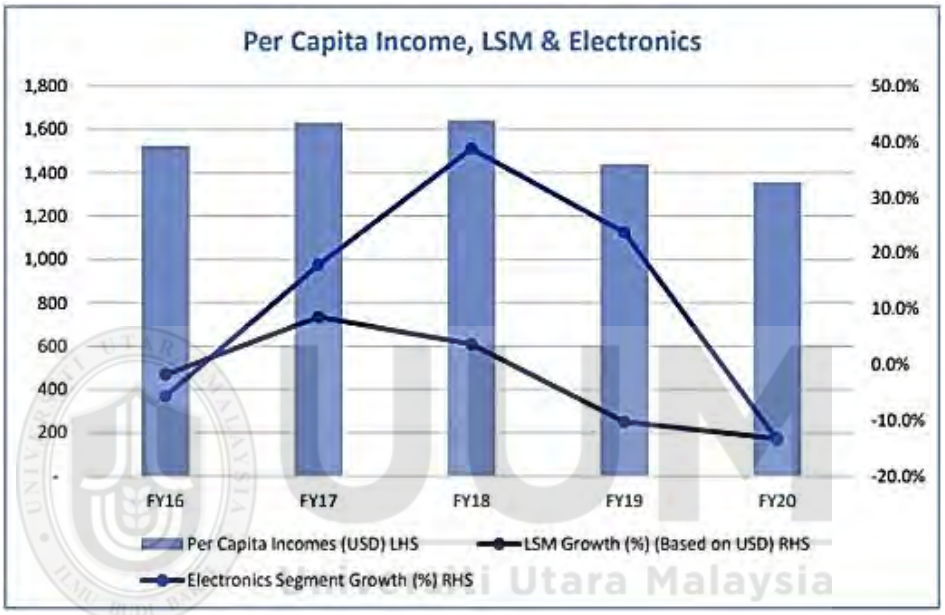

Figure 1.2
Pakistan per Capita Income, Large Scale Manufacturing (LSM), and Electronics and Electric Appliances Growth of Local Industry
Source: The Pakistan Credit Rating Agency Limited (PACRA)

But due to unfavourable macroeconomic conditions triggered by COVID-19 pandemic, the decline in Pakistan's per capita income from USD1643 (in FY2018) to UDS1439 (in FY2019) and USD1355 (in FY2020) has affected drastically to many industries including electric appliances industry in Pakistan (S. Abid, 2021) as evident in Figure 1.2. According to Dilawar (2019), the demand and growth of electric home appliances industry depends on increase in disposable income. Subsequently, due to decline in per capita income in past years (figure 1.2), consumers' buying patterns of electric appliances

are negatively affected and eventually drop consumers' green purchasing behaviour of energy-efficient electric appliances in Pakistan.

Therefore, it is vital for government to create awareness about environmental safety and the benefits of green buying behaviour with making environmental regulations and organisational support. Additionally, organizations should realize that the green marketing mix can play a significant part in marketing communications and may have a significant impact on customers' environmental purchasing (Kotler, 2011). Furthermore, Wymer and Polonsky (2015) specified that government should play its role in supporting the green marketing as it cannot perform alone without support of government for the improvement of the environment and society.

Green purchase behaviour (GPB) understanding can be beneficial for businesses to explore insights on sustainable marketing models and making sustainable marketing strategies for the businesses (Reisch & Thøgersen, 2015). The growing attention to save the natural environment has altered the buying preferences of consumers' (Kim & Chung, 2011). To study consumers' energy-related behaviours are key matters for practitioners and scholars from a broad-ranging scientific discipline (Testa et al., 2016). The consumer's green purchasing behaviour has a greater environmental impact to protect it, than reusing or recycling behaviour (Gardner & Stern, 2002). Thus, it is indispensable to study the consumer's green purchasing about electronic products (electric appliances) in the context of developing Asian countries like Pakistan (S. Ali et al., 2019).

1.3 Problem Statement

In line with the rise of global domestic electricity demand of 32% from 2019 to 2040, there is an enormous difference between average global domestic electricity consumption

(27%) and Pakistan's domestic electricity consumption (46%) at present (S. Ali et al., 2019). This much difference highlights and igniting the importance to study the energy-efficient products buying behaviour related to domestic electricity consumption (Song et al., 2019). Statistics showed that around 40% of environmental damage is the results of household consumption (Barbaro & Pickett, 2016) with a sizeable part of electricity consumed through inefficient electric appliances like air conditioners, refrigerators, and deep freezers, etc. (Antunes et al., 2012).

Additionally, scholars argued that consuming energy-efficient electric appliances can save 27% energy with the reduction of 30% carbon emission by 2030 (Parikh & Parikh, 2016). In this pursuit, the contribution of household sector through buying and consuming energy-efficient products is extremely important in protecting the nature and achieving sustainability (Testa et al., 2016), thence, vital to study energy-efficient electric appliances purchasing behaviour (Yadav & Pathak, 2017). In addition to this, a sustainable society can be achieved through the change in the patterns of household energy consumption as inefficient domestic energy consumption is among major reason for environmental damage (S. Ali et al., 2019; Sandhu et al., 2018). Moreover, the policies, strategies, and technologies from the governments and organisations to enhance consumers' green buying are still insufficient without understanding and changing the shaping factors of individuals' traditional and green purchasing behaviour (Vainio et al., 2019).

In recent times, many researchers examined the usage of household energy appliances while exploring the factors affecting the electric appliances purchase intention, but few researchers have investigated the actual purchasing behaviour of consumers (Song et al.,

2019). Scholars revealed that consumers are favouring green products with positive attitude towards green buying and having intention to buy green products (Moser, 2015; L. Zhang et al., 2018). However, this positive green attitude and intention towards buying green is still not transforming into actual purchasing behaviour and resulting in attitude-behaviour or intention-behaviour gap (Ertz et al., 2016; Sharma et al., 2022). To add, Uddin and Khan (2016) stated this gap as 30:3 syndrome, where 30% of consumers claim to buy green products but a mere 3% actually indulge in green buying behaviour.

Extensive scholarly work has been done about consumer green purchasing behaviour founded on attitude-behaviour theories about human behaviour like the theory of reasoned action (TRA), the theory of planned behaviour (TPB), the theory of consumption value (TCV), and norm activation model (NAM). In earlier research, scholars are more focused on cognitive/internal factors about consumers behavioural studies (Lee & Yun, 2015). Whilst human behaviour is a complex phenomenon and there are two very discrete approaches to understand it (Guagnano et al., 1995).

One school of thought contends and makes the understanding of human behaviour as a process of individual internal factors and cognition like attitude, beliefs, norms, and intention (Ajzen, 1991, 2001). In contrast, the other school of thought analyses behaviour as a product of external factors. Thence, applied behaviour analysts and economists suggested that the desired behavioural outcome can be controlled by external variables like government regulations, fiscal incentives, taxes, and social practices. Lee and Yun (2015) recommended study on behaviour through factors other than cognitive factors. Furthermore, Sarti et al. (2018) told that the existence of attitude-behaviour or intention-behaviour gap may be due to contextual/external factors such as information about

product or environment and product availability. Likewise, Vainio et al. (2019) argued that an integrated model of both contextual and attitudinal factors should be used to study consumers' energy-related behaviours. Hence, it is crucial to study consumer's energy-efficient electric appliances purchasing behaviour for environmental benefits. (Song et al., 2019).

Previously, green purchase behaviour has determined with numerous cognitive factors including purchase intention (Trivedi et al., 2018), willing to pay (Moser, 2015), willing to pay premium, perceived value (Yadav et al., 2018; Yadav & Pathak, 2017), perceived consumer effectiveness (Jaiswal & Kant, 2018; Y. Joshi & Rahman, 2019; Trivedi et al., 2018; H. Wang et al., 2019), willing to be environmentally friendly (Kautish et al., 2019), perceived environmental responsibility, level of trust (Minbashrazgah et al., 2017), environmental involvement, environmental consciousness (Uddin & Khan, 2016), trustworthiness belief, self-efficacy (Ashraf et al., 2019), personal norms, social environmental norms, green self-identity, past green attitude (Khare, 2015), environmental knowledge (B. Fan et al., 2018; Hong & Park, 2018; Jaiswal & Kant, 2018; Meng et al., 2019; Pan et al., 2018; S. Wang et al., 2019), environmental attitude (Chaudhary & Bisai, 2018; Hong & Park, 2018; W. Karunarathna et al., 2017; Meng et al., 2019; Trivedi et al., 2018), spirituality (Y. Joshi & Rahman, 2019), concern of risk and uncertainty (Y. Sun et al., 2019), functional value, emotional value (Harahap et al., 2018), environmental concern (Jaiswal & Kant, 2018; Trivedi et al., 2018), greenwashing (L. Zhang et al., 2018), green trust (X. Wang et al., 2019; Yadav et al., 2018).

In addition to this, literature has revealed that few contextual determinants of green purchase behaviour also examined by researchers including environmental policy and

environmental condition (Hong & Park, 2018), family influence and influence of friends (Harahap et al., 2018), market conditions and government actions (Figueroa-García et al., 2018), government initiative (W. Karunarathna et al., 2017), store environment and sales promotion (Hanaysha, 2018). Since the alarming environmental situation and problems in Pakistan, there is a need for governments, organizations, scholars, and consumers to supply lasting solutions for these environmental issues (Sandhu et al., 2018). However, green marketing mix (green product, green price, green place, and green promotion) and government regulations are still lacking in the literature as determinants of green purchase behaviour.

In search for the solution, experts suggested that governments should launch awareness programs for the public about environmental problems that may transform into their green purchasing (Karatu et al., 2013). Experts recommended that the government should concentrate on consumers behavioural approaches and deliver proper information about product eco-labelling policy and ways to minimize energy consumption for environmental safety (Testa et al., 2016). Furthermore, scholars have suggested that government and organisations must work together as environmental stakeholders for social and environmental benefits (Wymer & Polonsky, 2015). In line with this, organisations' green marketing strategies, public awareness policies and campaigns about environmental safety will be of great means to achieving environmental safety if supported by the government through its environmental policies and regulations (Khoiruman & Haryanto, 2017).

Furthermore, organizations are making their efforts through green marketing activities to cater for this serious environmental issue and to be socially responsible. Companies that

adopted green marketing strategies would pay great attention to designing, pricing, distributing, and promoting the products in a way that would advocate for environmental protection (Lai & Cheng, 2016). The future of societies depends upon the sustainable systems of production and consumption, and it can be achieved through green marketing activities (Belz & Peattie, 2012). Every single company uses its particular and favourable marketing mix, and while few of them use four P's, some use five P's and others use seven Ps of marketing mix according to their requirements and organizational setups (Mahmoud, 2019). In the current study, the researcher concentrates on the traditional four Ps of marketing about the environmental aspect which are green product, green price, green promotion, and green place.

In developing countries like Pakistan, consumers have many problems with respect to green purchase behaviour and green marketing mix elements. Consumers still prefer conventional products over green products due to different quality and less availability (S. Khan, 2016). Likewise, consumers are not considering green products as a solution to environmental problems. This is because green products price is comparatively higher, and consumers are considering the excessive cost with no specified value addition in green products (Sandhu et al., 2019). In addition to this, inefficient communication by the companies is another main reason for less awareness of green products and its advantages to the environment, while inefficient distribution channels make it difficult for consumers to conveniently have access to green products (S. Khan, 2016). Green marketing strategies should be the key focus for companies especially for electric products in an environmental context (Y. S. Chen & Chang, 2013b). Furthermore, some consumer segments in developing countries have tendency to buy green products like electric home

appliances (Testa et al., 2016) and which they buy only for money-saving benefits, but marketers can portray these products to the consumers as green, and having both money and environmental saving benefits (Rettie et al., 2012). Moreover, if an individual has knowledge about the benefits to environment which are associated with the product at the time of purchase, this will affect positively to the natural environment (Wolske & Stern, 2018).

Hashim et al. (2017) said that before influencing consumer's purchasing decisions, marketers should first focus on changing consumer's attitude towards specific purchasing behaviour. Furthermore, attitude is a powerful determinant of green purchasing and has an important part in conducting specific behaviour (Liao et al., 2020). To make consideration in the mind of consumers while buying green products, companies should create a level of trust. If companies intensify their performance about environmental aspect and efficiently convey their environmental efforts and exertions, consumers might believe that businesses are truly taking part in environmental creativeness and programs (Horiuchi et al., 2009). Green trust enhances probability of buying with maximum transaction value (Chuah et al., 2020). Without confidence and trust in the companies' environmental claims and policies, consumers are impotent to make decision about green purchasing (Y. S. Chen & Chang, 2013a). So, green trust is vital for companies in the situation of stringent global environmental policies and ubiquitous consumer environmentalism and to reduce attitude-behaviour gap (Y. S. Chen & Chang, 2013a).

According to the analysis of Global Climate Risk Index 2019, it reconfirms the prior findings of the Climate Risk Index: that underdeveloped nations are usually highly affected by climate change than the developed nations. Corresponding to this report, the

eighth extremely exposed country globally to climate change is Pakistan (Eckstein et al., 2018) but lacking in exclusive literature about green buying (A. Ali & Ahmad, 2018; S. Ali et al., 2019; Asif et al., 2018; Mahmoud et al., 2017; Yadav & Pathak, 2017). Moreover, in Pakistan most of the research work done in the context of organic food (Asif et al., 2018) and halal food sectors (Awan et al., 2013; I. Hussain et al., 2016; Salman & Siddiqui, 2011) under the concept of green products. Whereas there is a scarcity of studies focusing on electric appliances sector in Pakistan (S. Ali et al., 2019). Most of the scholarly work in the field of sustainable consumer behaviour comes from environmental economists, social geographers, sociologists, and environmental psychologists but non from marketing (Reisch & Thøgersen, 2015).

After an extensive review of literature, the researcher came on the conclusion that the literature is still lacking on the combination of the constructs. Therefore, this study will apply ABC theory (Guagnano et al., 1995), which enables researchers to examine both internal and external factors affecting behaviour. There is paucity of studies, if any that have used ABC theory to understand consumers' purchasing behaviour of energy-efficient electric appliances. Additionally, this piece of research is using Stimulus-Organism-Response (S-O-R) theory (Mehrabian & Russell, 1974) as a supporting theory for mediation path of variables in the research framework. This theory supports the path of independent variables towards the dependent variable through the mediating variable. As the independent variables (government regulations, green product, green price, green place, green promotion) in this research function as stimuli, the mediator (attitude towards green purchase) is an organism, and the dependent variable (green purchase behaviour) is the response.

Conclusively, building on ABC (Attitude Behaviour Context) theory as underpinning and SOR (Stimulus Organism Response) model as supporting theory, this research work will try to contribute to the literature on the attitude-behaviour gap and indirect as well as direct influence of contextual variables on behaviour. Therefore, this study hypothesises that the government regulations and marketing factors (green marketing mix, 4 Ps of marketing, green product, green price, green place, green promotion) may influence consumer green purchasing behaviour directly, as well as indirectly with the mediation of attitude towards green purchase. Also, the relationship of attitude towards a green purchase with green purchase behaviour is moderated by green trust.

1.4 Research Questions

In accordance with the issues covered in the study background, problem statement, and to identify the factors that impact green purchasing behaviour directly and indirectly through mediation in electric home appliances sector of Pakistan, the following research questions are important:

1. Do contextual factors (government regulations, green product, green price, green place, and green promotion) affect directly to the consumer's green purchase behaviour in electric home appliances sector in Pakistan?
2. Does attitudinal factor (attitude towards green purchase) mediate the relationship between contextual factors (government regulations, green product, green price, green place, and green promotion) and consumers green purchase behaviour in electric home appliances sector in Pakistan?

3. Does green trust moderate the relationship between attitude towards the green purchase and consumers green purchase behaviour in electric home appliances sector in Pakistan?

1.5 Research Objectives

This study intends to examine the direct and indirect factors that influence the consumer's green purchase behaviour in electric home appliances sector in Pakistan. In order to do this, the subsequent are the objectives of this research:

1. To determine the direct effect of contextual factors (government regulations, green product, green price, green place, and green promotion) on consumers green purchase behaviour in electric home appliances sector in Pakistan.
2. To determine whether attitudinal factor (attitude towards green purchase) mediates the relationship between contextual factors (government regulations, green product, green price, green place, and green promotion) and consumers green purchase behaviour in electric home appliances sector in Pakistan.
3. To determine whether green trust moderated the relationship between consumers attitude towards the green purchase and green purchase behaviour in electric home appliances sector in Pakistan.

1.6 Scope of the Study

This research aims to describe the causal relationship between consumers' green purchase behaviour and its determinants. The researcher has focused on the relationship between government regulations, green marketing mix (green product, green price, green place, and green promotion) as external/stimuli independent variables, consumers'

attitude towards green purchase as an internal/organism mediating variable, and green trust as a moderator of how these factors affect the behaviour of the consumers' purchasing energy-efficient electric appliances in Pakistan. The study has conducted in Pakistan's top 10 highly populated cities (according to the 2017 census), including Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Peshawar, Multan, Hyderabad, Islamabad, and Quetta. The respondents for this study were consumers aged more than 15 years who bought energy-efficient electric appliances in the past year. This research concentrated only on the consumer's view, as frequently in previous research concerning green purchase behaviour.

1.7 Significance of the Study

This research has significant and crucial impact on the readers insofar as the role of the consumer in the green marketing regarding the purchase of electric home appliances research to preserve the earth and its natural environment from global warming and depletion of the natural resources.

1.7.1 Theoretical Significance

The current study about government regulations, green marketing, green trust, and green purchase behaviour using ABC theory and S-O-R model, has expanded greatly in a new dimension since the research attempted to fill in the existing gaps in the literature in Pakistan. Noticeably, this study indicates the direct as well as indirect influence through the mediation of attitude towards green purchase of government regulations and green marketing mix elements (green product, green price, green promotion, and green place) on green purchase behaviour and this will meaningfully boost green literature. As a

result, it reveals the relationship's direction, which finally sheds light on the murky problem of discrepancies between earlier findings and model fragmentation.

1.7.2 Practical Significance

The current study could help the government for making eco-friendly regulations for organizations and consumers. In a similar vein, it could divulge which marketing plans and strategies that electric appliances companies should embrace to make an improved understanding of the needs of consumers in term of green electric appliances. Moreover, Masi and Karatu (2015) revealed that organizations would need to reorganise, restructure, and reinvent the majority of their processes and systems if they were to prosper in this era.

For practitioners seeking a competitive advantage in the businesses, this study is important. Organizations must guide customers through the whole product-purchasing process by educating them about the product, outlining its advantages and disadvantages, and successfully persuading them to opt for environmentally friendly options.

1.8 Conceptual Definitions of Terms

Conceptualizing the terms is an important part of the research and it will help in clearly understanding the terms by critically consider their properties. This segment conceptually defines the important terms used in this research.

a) Green Purchase Behaviour: this is the purchase and consumption of the products, which have minor influences on the environment. Such decisions include the purchase and use of products for instance electric appliances that consume less energy, hybrid cars that release less carbon dioxide, purchasing recycled products,

buying solar and wind power to produce electricity, and purchasing locally grown and organic fruits and vegetables (Khoiruman & Haryanto, 2017).

b) Government Regulations: "the extent to which government establish regulations to control production and consumption of hazardous wastes produced by organisations" (Karatu, 2015b).

c) Green Marketing: it indicates the social responsibility of the organisation, and it is an effort to build and maintain a sustainable association with stakeholders such as nature, society and consumers (Hameed & Waris, 2018).

d) Green Marketing Mix: "the effort by a company to design, price, promote, and distribute products in a manner which promotes environmental protection" (Polonsky, 2011).

e) Green Product: a product that is manufactured using toxic-free ingredients and environmentally-friendly procedures, and which is certified as such by a recognized organization" (P. Kumar & Ghodeswar, 2015).

f) Green Price: "the cost paid by consumers against the environmental benefits of a product" (Hossain & Khan, 2018; Mahmoud, 2017).

g) Green Place: "distribution gates used to deal with green products, which are appropriate for consumers, in terms of facilitating their delivery, conducting within environmental conditions and requirements" (Hossain & Khan, 2018).

h) Green Promotion: delivering genuine information and knowledge regarding the products in a manner which probably not harm the materialistic and ethical interests of consumers (Hashem & Al-Rifai, 2011).

i) Attitude Towards Green Purchase: “consumer’s cognitive and rational judgement of the value of green purchasing efforts for the evaluation of green purchase behaviour” (Jaiswal & Kant, 2018).

j) Green Trust: “a willingness to depend on a product or service based on the belief or expectations resulting from its credibility, benevolence and ability about environmental performance” (Y. S. Chen & Chang, 2013b).

k) Energy-efficient Electric Appliances: Energy-efficient electric appliances mean that the electric appliances used for household consumption which are energy-efficient, effectively conserve electricity, lessen the consumption of energy, have energy efficiency labels, and energy-saving product certificates (Song et al., 2019).

l) Global Warming and Climate Change: The rising average temperature of Earth’s climate system is called global warming, which is resulted in changes in rainfall patterns, extreme weather, arrival of seasons and more, and collectively global warming and its effects are known as climate change (“Global Warming,” 2011).

1.9 Organisation of the Thesis

This research consists of five chapters and the summary of each chapter is stated below:

Chapter one is the background of the study and provides general overview of green purchasing behaviour especially with respect to green marketing mix and government regulations. It also presents the research problem statement, research questions, research objectives, significance of the study, scope of the study, conceptual definitions of important terms and organisation of the thesis.

Chapter two is the literature review of the research, defined concept of green purchasing behaviour, green marketing mix, government regulations, and established underpinning theories of the study. This chapter also includes the detailed review of literature upon which the theoretical framework has been established. At the end of this chapter, research model and hypotheses has been developed.

Chapter three consist of the methodology of the research and details of quantitative approach that will be employed during the study. The chapter discusses the research design, population of the study, sampling procedure, data collection procedure, and the techniques through which the collected data has been analysed and validated.

Chapter four presents the analysis and findings of this research, which is well explained through descriptive and inferential statistics.

Chapter five focuses on the findings of the study concerning the stated research objectives. Moreover, the results are explained in relation to existing literature. The author also summarised the theoretical and practical implications of the thesis with some recommendations for the upcoming future areas of research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The chapter begins with the literature about green purchase behaviour, which is the dependent variable, followed by the literature of independent variables that is, government regulations, green product, green price, green place, and green promotion. Furthermore, attitude towards green purchase as a mediator and green trust as a moderator are discussed. Thereafter, the different theoretical approaches to predict behaviour under which three approaches are discussed. Afterwards, the underpinning and supporting theories are justified, subsequently the research framework is established, and the hypotheses are developed after it in the closing section of this chapter.

2.2 Green Purchase Behaviour

Understanding of green purchase behaviour (GPB) is vital for businesses due to environmental communication and scientific reasons. Nowadays, consumer awareness is increasing about environmental hazards, growth in world population, and global warming (Groening et al., 2018). From the business and marketing perspective, developing green (eco-friendly) products will not be effective unless consumers adopt green lifestyle and start purchasing green products (Jansson et al., 2010). Moreover, Thøgersen (1999) argues that environmental hazards can be reduced or even eliminate through "right" purchasing behaviour. GPB is a behaviour that is environmentally significant and can be defined as "the purchasing practices that contemplate the environmental impact of products and their production processes" (Stern, 2000). Likewise, Steg and Vlek (2009);

and Robert (1996) define the green purchasing behaviour as the purchasing behaviour that minimizes the environmental damage or even benefits the environment. According to Khoiruman and Haryanto (2017); and Tan (2011), the purchase and consumption of the products that have minor influences on the environment is considered as green purchasing behaviour. Such decisions include the purchase and use of products that is environmentally friendly, for instance, appliances that consume less energy, hybrid cars that release less carbon dioxide, purchasing recycled products, buying solar and wind power to produce electricity, and purchasing locally grown and organic fruits and vegetables.

Gardner and Stern (2002) stated that changing consumers buying behaviour usually has a greater environmental impact than changing reusing behaviour or recycling behaviour. As purchasing is also a particularly important type of behaviour in human's everyday life, therefore, it attracts not only the marketers but also the academicians to explore and explain the phenomenon of purchasing, and the factors that affect the purchasing decisions. Different sectors and markets have been analysed by researchers in the perspective of purchasing behaviour. Hence, it is evident that green consumerism is a foremost issue of the research for strategy formulation about green product development and marketing (Maniatis, 2016).

Heretofore, green purchase behaviour has determined with various psychological factors including purchase intention (Trivedi et al., 2018), willing to pay (Moser, 2015), willing to pay premium, perceived value (Yadav et al., 2018; Yadav & Pathak, 2017), perceived consumer effectiveness (Jaiswal & Kant, 2018; Y. Joshi & Rahman, 2019; Trivedi et al., 2018; H. Wang et al., 2019), willing to be environmentally friendly (Kautish et al., 2019),

perceived environmental responsibility, level of trust (Minbashrazgah et al., 2017), environmental involvement, environmental consciousness (Uddin & Khan, 2016), trustworthiness belief, self-efficacy (Ashraf et al., 2019), personal norms, social environmental norms, green self-identity, past green attitude (Khare, 2015), environmental knowledge (B. Fan et al., 2018; Hong & Park, 2018; Jaiswal & Kant, 2018; Meng et al., 2019; Pan et al., 2018; S. Wang et al., 2019), environmental attitude (Chaudhary & Bisai, 2018; Hong & Park, 2018; W. Karunarathna et al., 2017; Meng et al., 2019; Trivedi et al., 2018), spirituality (Y. Joshi & Rahman, 2019), concern of risk and uncertainty (Y. Sun et al., 2019), functional value, emotional value (Harahap et al., 2018), environmental concern (Jaiswal & Kant, 2018; Trivedi et al., 2018), greenwashing (L. Zhang et al., 2018), green trust (X. Wang et al., 2019; Yadav et al., 2018).

Furthermore, literature has uncovered that only certain contextual factors of green purchase behaviour also investigated by scholars including environmental policy and environmental condition (Hong & Park, 2018), family influence and influence of friends (Harahap et al., 2018), market conditions and government actions (Figueroa-García et al., 2018), government initiative (W. Karunarathna et al., 2017), store environment and sales promotion (Hanaysha, 2018). Since the alarming environmental situation and problems in Pakistan, there is a need for governments, organizations, scholars, and consumers to supply lasting solutions for these environmental issues (Sandhu et al., 2018). However, green marketing mix (green product, green price, green place, and green promotion) and government regulations are still lacking in the literature as determinants of green purchase behaviour.

2.2.1 Environmentally Significant Behaviour

Generally, the terms such as green, environmental, ecological, sustainable, and ethical are all considered as reflecting the same meaning of "more benefiting and less harming the natural environment" (Reisch & Thøgersen, 2015). According to Stern (2000), there are several categories of environmental behaviours: activism (for example, active involvement in environmental organizations and rallies), non-activist public sphere behaviours (for instance affiliations and memberships, supporting environmental policies), private sphere behaviours (for instance, recycling or buying energy-efficient appliances, green consumerism), and other environmentally significant behaviours inside organizations (for instance encouraging energy-efficiency). So, green purchase behaviour is the dependent variable in this research as suggested by Stern (2000), (and in a typology of environmentally significant behaviours) is a private sphere environmental behaviour (Vainio et al., 2019). Stern (2000) concluded that for a more useful contribution to behavioural science in terms of environmentally significant behaviours is advance understanding of it to help practical programs for environmental protection. For further exploration, Stern (2000) hypothesised that the more environmentally important behaviour, the less its dependency on attitudinal factors.

2.2.2 Purchase of Energy-Efficient Electric Appliances

Household appliances are the main source of carbon dioxide emission and an important mean to consume home energy (Xu, 2010). Energy-efficient electric appliances mean that the electric appliances used for household consumption which are energy-efficient, effectively conserve electricity, lessen the consumption of energy, have energy efficiency labels, and energy-saving product certificates (Song et al., 2019). These products include

air-conditioners, air-purifier, washing machines, refrigerators, microwaves, and cooking hobs (Baldini et al., 2018; Hashim et al., 2017). The use of household electric appliances increased over the past few years due to access to technology and GDP per capita increase in most of the under-developed countries (Kelly, 2012). To estimate and leveraging the factors shaping the purchase of energy-efficient electric appliances possibly be demanding because of their diverse nature (Baldini et al., 2018).

2.3 Government Regulations

Over the past years, understanding of behaviour become progressively more important for governments to develop and implement effective policies and regulations (Chatterton, 2011). The role of government is irrefutable in implementing environmental sustainability programs, to educate the people, and to initiate and promote community awareness for environmental protection (Mei et al., 2012; Sang & Bekhet, 2015). According to Sinnappan and Rahman (2011), the role of government is a good predictor of GPB. The government initiative is the most powerful precursor of green purchasing (Mei et al., 2012). Likewise, Sang and Bekhet (2015) reveals that government should intervene and make appropriate policies and regulations to support the growth of electric vehicle purchasing in Malaysia to reduce carbon emission for environment protection.

2.4 Green Marketing

In 1975, the first workshop on Ecological marketing was conducted by the American Marketing Association (AMA), and after which the notion of green marketing originated in 1980. AMA describes green marketing as “the marketing of products that are presumed to be environmentally safe, it incorporates several activities such as product

modification, changes to production processes, packaging, advertising strategies, and also increases awareness on compliance marketing amongst industries" (Yazdanifard & Mercy, 2011). Green marketing indicates the social responsibility of the organisation, and it is an effort to build and maintain a sustainable association with stakeholders such as nature, society and consumers (Hameed & Waris, 2018). Stanton et al. (1975) define green marketing as "aims to establish a new and more harmonious interaction between the firm's activities and the environment". Likewise, marketing is a powerful tool for organisations as it acts as a change agent to alter consumers purchasing behaviour, and also have an impact on amending government policies regarding green orientation (Gordon et al., 2011). Moreover, "Green marketing encompasses a wide variety of actions, such as product modification, modifications to the manufacturing process, packaging improvements, as well as adjustments to promotion and distribution so that needs and wants are satisfied with the least possible harm to the environment" (Polonsky, 1994).

Furthermore, "the process of developing, pricing, promoting, and distributing products in a way that complies with the following three requirements is known as green marketing. Customer demands are satisfied, organisational goals are reached, and the process is eco-friendly" (Fuller, 1999). Alsmadi (2007) defines "Green marketing is the practise of conducting all marketing activities in a manner that is environmentally responsible. It is also a thorough and organised process designed to sway consumer preferences in a way that will encourage them to demand environmentally friendly products and assist them in changing their consumption habits".

Most of the scholars have defined green marketing making use of variety of terms such as green marketing, ecological marketing, environmental marketing, and responsible marketing. According to Groening et al. (2018), the green marketing involves "actions aimed at all consumers and incorporating a variety of marketing initiatives (such as planning, process, production, promotion, and people) to highlight the company's objective of reducing the environmental effect of its goods and services".

Further, the environmental protection for the present and the generations to come is the end-creation of green marketing. The utilization of energy-efficient processes and products, improved control over pollution, reusable and recyclable packaging, and environmentally harmless products are all the outcome of green marketing that ultimately take the lead to sustainable development (Yazdanifard & Mercy, 2011). Hence, consumers who involved in green activities and those who come up with the preference to purchase and use green products are termed as green consumers (Hameed & Waris, 2018).

2.4.1 Green Marketing Mix

In marketing research, Kotler (1973) first explain the significance of the atmospheric environment as a "marketing tool". Marketers have to implement their green marketing strategy through green marketing mix variables (Peattie, 2012; Reisch & Thøgersen, 2015). McCarthy (1960) developed a standard marketing mix model comprising of product, price, place, and promotion, as well recognized as four Ps of marketing. Now, according to Kotler (2011), the traditional marketing mix or marketing practices (product, price, place, and promotion) should be updated to environmental perspectives such as green product, green price, green place and green promotion, to contribute in

conservation and environmental causes. Polonsky (2011) describes green marketing practices as "the effort by a company to design, promote, price, and distribute products in a manner which promotes environmental protection". However, it is now challenging for marketers to use green marketing mix in an innovative manner (Mahmoud, 2019). Similarly, different strategies and policies are required to market green products and services contrary to non-green products and services (Groening et al., 2018).

The current competitive situation and challenges in the markets such as government environmental regulations and consumers' environmental needs for green products are the motivation for this study. Also, it is suggested that there should be a framework for green marketing and green consumerism that can affect green purchasing and green consumption (Groening et al., 2018). These days, there is a shift of companies' marketing strategies in the context of environmental solutions to uncover the attitude of consumers, to meet consumers' increasing green products demands, and to provide the information about the sustainability of planet (Hameed & Waris, 2018).

Products or product features, price or cost, availability or placement, and advertisement or promotion, are the contextual or external factors that can affect consumer GPB (ElHaffar et al., 2020; P. Kumar & Ghodeswar, 2015; Stern, 2000) as these variables have used as contextual/external variables in this study.

2.4.1.1 Green Product

A green product is described as "a product that was manufactured using toxic-free ingredients and environmentally-friendly procedures, and which is certified as such by a recognized organization" (P. Kumar & Ghodeswar, 2015). Better performance of a

product offering regarding socio-environmental aspect can be achieved through a variety of aspects such as low-energy consuming appliances or low-emission automobiles. Moreover, all the way through production or service distribution features (such as recycled paper, organic food, local food or ethical banking), or from added services and attributes (such as provision for recycling end-of-life products) or improved product performance can also be attained (Peattie, 2012). Various environmental product features such as low-energy or low-emission performance, recyclability or recycled content, or a cutback in environmentally sensitive components needs their description through a design-for-environment process (C. Chen, 2001).

The product is the central part of the green marketing mix. And as well as the extremely vital element of the whole green marketing strategy. However, it should be noted that unlike the conventional product the green product, is not restricted to the ultimate outcome only, rather it comprises of all the essential components of the product, for instance the ingredients utilized to develop the product, the production process, and the packaging of the product (Devi Juwaheer et al., 2012; H. Fan & Zeng, 2011). Green product can be believed to be the "one that fulfils the same functions, as the equivalent conventional product, but causing less damage to the environment throughout its life cycle". In addition to the above, the ingredients, composition and the packaging of the green product will not harm the natural environment (Mahmoud, 2019).

2.4.1.2 Green Price

The amount paid for a product and the most crucial component of the marketing mix is generally known as the price of a product or service. Consumers usually pay an amount for a product or service if its actual value matches the perceived value in the minds of

consumers. Similarly, if consumers perceive any value-added in the product or service offered, many customers will be ready to pay an extra amount (Hossain & Khan, 2018). This value addition might be in the shape of improvement in product performance, function, design, visual appeal, or taste (N. Kumar & Kapoor, 2015). In a similar vein, environmental advantages of a product are usually a value addition, but during the purchasing process, it will habitually be the deciding feature among conventional products of the same quality and value (Singh & Gupta, 2013). According to Yazdanifard and Mercy (2011), nowadays, consumers are significantly acquainted of the environmental benefits of products and are willing to pay premium price for green products. Furthermore, if consumers take into consideration the environmental benefits and life-cycle cost associated with the environment-friendly products, then they will perceive these products often less expensive (Khare, 2015).

Conversely, it is also noted that some consumer segments are not concerned with paying extra for a product proclaimed "green". Therefore, marketers must emphasize more on the pricing strategy. Currently, the core research topic for marketing researchers is why purchasers are willing or not willing to pay a premium price for eco-friendly products, predominantly via 'willingness-to-pay' studies in marketing particularly in the perspective of green energy and organic food (Shao & Ünal, 2019).

2.4.1.3 Green Place

The planning and executing the distribution channels for physical products or sites of service has been conventionally related to the concept of the "place" in marketing mix elements. The environmental impact regarding tangible consumer goods in terms of 'place' is mostly associated to the energy and resources consumed in the distribution

channels, also the access or distance the consumers move to and from selling sites (Godfray et al., 2010). For marketing scholars and practitioners, analysing and developing eco-efficient distribution channels is a noteworthy matter of study. Although consumers are not much concerned with this issue directly, but they have a special concern regarding the influence on the distribution element of costs and prices. Reducing the time and effort to buy green products, easy access or availability, maybe more important than price (Thøgersen, 2005).

2.4.1.4 Green Promotion

Even though every aspect of marketing action tends to convey the philosophy of company to consumers and other stakeholders. Also, there is a range of specialized methods that companies utilize (mostly in integrated styles) to develop stakeholder relationships and influence consumers. Moreover, green promotion refers to delivering genuine information and knowledge regarding the products in a manner that will not probably harm the materialistic and ethical interests of consumers (Hashem & Al-Rifai, 2011). The aim is to stimulate consumers' purchase behaviour by motivating and persuading them to purchase products which will certainly not hurt the natural environment. In addition, it also directs consumers about their interest in the positive outcomes of their buying behaviour for their benefits and the natural environment (Rahbar & Wahid, 2011). In contrast, lack of clear information about environment-friendliness of any product can be a constraint for buying of green product (Phipps et al., 2013).

Green promotion complements the efforts made by companies for the communication of knowledge and information on environmental commitments to consumers. Furthermore,

this component in the green marketing mix involves several operations like public relations, advertising, direct marketing, sales promotions, and on-site promotions (H. Fan & Zeng, 2011).

2.5 Attitude Towards Green Purchase

"Attitude refers to a psychological tendency represented by a favourable or unfavourable evaluation of the natural environment" (Felix & Braunsberger, 2016). It was further recognized that the correlation of attitude–behaviour was greater when the attitude was operationalised as a particular environmental behaviour instead of a general attitude toward the environment (Hines et al., 1987). Karunarathna et al. (2017) stated that consumers have different attitudes, as some consumers care about the environment having eco-supportive behaviour and green buying. Whilst others do not show green behaviour and green purchasing even though they care about environment and awareness about environmental issues.

Contrary to models like TRA and TPB, where attitude first impact intention, which in result impact behaviour (Ajzen, 1991), ABC theory asserts that attitude has a direct impact on behaviour (Ertz et al., 2016; Geller, 1995; Steg & Vlek, 2009). In this research, the researcher considers attitude as a behaviour-specific belief, therefore, the attitude towards green purchase will be a priority for consumers. According to ABC theory, the environmentally significant behaviours that are time-consuming, expensive or difficult, strongly depend on attitudinal factors (Ertz et al., 2016; Guagnano et al., 1995; Guo et al., 2018; Stern, 2000). It indicates that the combined arrangement of contextual and attitudinal factors might help marketing managers to get a better grasp about consumers choice of purchasing (Yadav et al., 2018).

2.6 Green Trust as Moderator

Green trust is described as "a willingness to depend on a product or service based on the belief or expectations resulting from its credibility, benevolence and ability about environmental performance" (Y. S. Chen & Chang, 2013b). Consumer trust is essential for building a market including green products. It is an important factor in circumstances where the degree of risk/uncertainty is high and it has resulted in willingness and commitment to have confidence in the other party (Morgan & Hunt, 1994).

Nuttavuthisit and Thøgersen (2017) analysed a direct link between consumer trust and consumer behaviour. Green trust has a direct positive impact on GPB (Khoiruman & Haryanto, 2017). Wei et al. (2017) found that green trust has a moderating influence between green advertising scepticism and attitude towards green products. Yadav et al. (2019) claimed that green trust is an external/contextual factor that has a profound impact on green purchasing. Correspondingly, Ashraf et al. (2019) concluded that trustworthiness is an essential concept which is influential among the general public while purchasing organic food in Bangladesh. Although, it does not affect the purchase intention directly, rather it affects the purchase intention indirectly through the mediation of attitude. Thus, communicating true information about firms' green practices to the consumers will ensure the increase in consumers' trust on the firm and ultimately enhance the green purchasing behaviour (Yadav et al., 2018). Likewise, Hameed and Waris (2018) demonstrated that green trust is a vital factor in green marketing and has a significant role in consumers' acceptability of green products. Therefore, it is theorised that trust is central to all behaviours relating to exchanges e.g., consumer purchasing (Morgan & Hunt, 1994).

2.7 Theoretical Approaches to Predict Behaviour

Behaviour is an observable outcome or response of an individual in a given situation (Ajzen & Fishbein, 1977). Many researchers argue that behaviour is a function of persons' intention (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein et al., 1980; H. Sun et al., 2018; Triandis, 1980). Moreover, Sheeran (2002) observed that intention predicts 28% of the variance in behaviour. Due to this, most of the research work conducted on consumers purchasing behaviour context applied the theories like Theory of Reasoned Action (TRA) (Fishbein et al., 1980), Theory of Planned Behaviour (TPB) (Ajzen, 1991), and Theory of interpersonal behaviour (Triandis, 1980). In the aforementioned theories, the intention is the instantaneous initiator of purchase behaviour, and the determining factors influencing the intention rather than the actual behaviour. Many researchers found that one of the predictors of intention and behaviour is attitude (Ertz et al., 2016; Yadav et al., 2018; Yadav & Pathak, 2017). Similarly, it is argued that holding a favourable attitude towards a specific task predicts a specific favourable behaviour (Ajzen & Fishbein, 1977).

Human behaviour is a complex phenomenon of interacting factors (Buxbaum, 2016). In the literature, there are two very distinct approaches to understand behaviour (Guagnano et al., 1995). On one side, the psychologists' school of thought portend that the understanding of human behaviour is a process of human cognitive factors like attitude, beliefs, norms, and intention (Ajzen, 1991, 2001). In addition to this, Fishbein et al. (1980) argued that behaviour can be affected by external and demographics factors, but only indirectly. Likewise, TRA (Fishbein et al., 1980) has been modified and considered limited to personal control over behaviour (Ajzen, 1991). In this manner, it is recognized

that the perception of individuals and self-efficacy may indirectly be affected by the outer world. Moreover, these social and cognitive psychologists inclined that education and persuasion can change the undesired behaviour to the desired one (Bandura, 1986b).

On the other side, applied behaviour analysts' and economists understand the behaviour as a product of external factors. Moreover, they suggested that the desired behavioural outcome can be controlled by external variables like government regulations, fiscal incentives, taxes, and social practices. In addition to this, behaviour becomes more attractive with rewards and positive feedback (Guagnano et al., 1995). Hence, the motivational factors of behaviour are positively influenced by the availability of resources. In the same vein, the individual actively seeks feedback from peers or experts for validation of his or her behaviour. So, we can say that the actual behaviour is an outcome of a person and its environment (Egmond & Bruel, 2008).

These two distinct theoretical approaches lean individual behaviour towards either the autonomous function of social cognitive structure or a programmed mechanism of forces and policies beyond our control or understanding (Egmond & Bruel, 2008). When theories of social sciences about behaviour is applied by policymakers and economists to change behaviour, they face problems in the implementation of policies and regulations (Guagnano et al., 1995). Likewise, people having positive attitude and intention towards eco-friendly behaviour do not transform their thoughts to perform actual pro-environmental behaviour (ElHaffar et al., 2020). Therefore, a group of scientists tried to integrate these two distinct theoretical approaches and provide an integrated model of both internal and external variables to change the behaviour.

The next section briefly describes the summary of some internal factor theories, external factor theories and integrated theories about human behaviour which are mostly used by researchers for analysing green purchasing behaviour.

2.7.1 Behavioural Theories Related to Socio-Psychological Factors

From a psychological perspective, the basis of an individual's behaviour is driven by psychological factors (Guo et al., 2018). Researchers elaborate that, attitude, values, beliefs, norms, culture, self-efficacy, environmental awareness, habits, and environmental concern are the main psychological factors that directly or indirectly affect the behaviour (Ajzen, 1991; Bandura, 1986b; Guo et al., 2018). The psychological and social factors may affect the behaviour in diverse ways. Some scholars studied and analysed these psychological and social factors and put forward some behavioural theories.

The main behavioural theories based on socio-psychological factors are the theory of reasoned action (TRA), theory of planned behaviour (TPB), social cognitive theory (SCT), norm activation theory (NAM), and values-beliefs-norms (VBN) theory. Each behavioural theory has general patterns of effecting, implications, advantages, and disadvantages, which are based on different psychological factors.

According to Fishbein et al. (1980) and Ajzen (1991) behaviour is predicted by behavioural intention, as the intention is greater, there are more chances for the individual to execute the behaviour. Further, in TRA, the predictors of behavioural intention are attitude and subjective norms. Attitude towards behaviour elaborates the favourable or unfavourable judgment of the expected outcome, while subjective norms elaborate on the influence of other people regarding the behaviour. Numerous studies have been

conducted on green purchasing intention and green purchase behaviour while using the theoretical base of TRA. Sun et al. (2018) construct a theoretical framework and used TRA to display the "intention to purchase" and "behaviour to purchase" for the recycled products.

Consequently, TRA does not endorse the direct relationship between attitude and behaviour but it assigns a strong dependence of behaviour on attitude via intention (Groening et al., 2018). Whereas, frequently the relationship amongst attitude and green purchase intention is not significant (Ramayah et al., 2010). Furthermore, TRA has less explanatory power in terms of actual green purchasing behaviour (Groening et al., 2018). Therefore, it is not recommended to rely only on TRA for studying green marketing behaviour (Groening et al., 2018).

TRA was extended to TPB by Ajzen (1991) with the insertion of perceived behavioural control (PBC), affecting variable of behavioural intention and the behaviour. Consequently, the TPB is the most highly used theoretical models in behavioural researches (Nuttavuthisit & Thøgersen, 2017).

Most of the researchers analysed consumer pro-environmental/green behaviour for instance recycling, energy-efficient products, organic product consumption, green restaurants and green hotels while using TPB (Yadav et al., 2018; Yadav & Pathak, 2016). In the perspective of green purchase behaviour, several scholars have applied TPB to explain and explore the consumers' green buying behaviour (W. Karunarathna et al., 2017; Khare, 2015; Minbashrazgah et al., 2017; Soares Júnior et al., 2019; Trivedi et al., 2018) and demonstrate the importance and practical implication of TPB in predicting the behaviour of buying green products in different countries.

On the other hand, the TPB has less focus on volitional processes determining the transformation of behavioural intention to actual behaviour rather it focuses more on motivational factors determining the behavioural intention formation (Armitage & Conner, 2001; Conner & Armitage, 1998). In addition to this, the TPB has a centre of focus on intrinsic factors mainly, however, other factors also affect behaviour and behavioural process (Meng et al., 2019). Many researchers assessed the psychological/internal determinants of green purchase behaviour while using TPB as a foundation for the research framework. TPB is not appropriate to measure the behaviour of an individual but can only be used as an initial point to measure only the cognitive/internal factors affecting behaviour (Egmond & Bruel, 2008). Moreover, TPB did not consider the influence of external/situational (e.g., economic) factors, therefore, fails to explain consumers decision making about ethical and green purchasing behaviour (Y. Joshi & Rahman, 2016, 2017). Yadav et al. (2019) argued that a unified paradigm of contextual/external variables along with TPB (i.e., internal factors) may help to understand much better about the consumers' pro-environmental/green behaviour.

Furthermore, in the literature of cognitive/internal factor theories, the social cognitive theory (SCT) proposed that "the triadic reciprocity model is used to describe how human behaviour, cognition and other personal traits, and environmental events all interact to determine one another" (Bandura, 1986a). Furthermore, he added the environmental variables, for instance, social or situational effects, and these factors may impact the behaviour and can also alter the environment itself. Bandura mentions the personal, behavioural, and environmental factors as interlocking pieces that might not be considered in segregation. Consumers are therefore producers of the behaviours, and

these behaviours are the creation of their environment and the past behaviours (Bandura, 2001).

SCT acknowledged the impact of external factors on behaviour, but these external factors include mostly social factors like social learning and education, and do not consider economic or policy factors. Moreover, these factors affect behaviour indirectly only through the cognition process (Guagnano et al., 1995). SCT received very less attention from marketing scholars and however, a few studies used SCT's concepts of reciprocal determinism and self-efficacy in marketing-related studies (Phipps et al., 2013). After new elaboration of reciprocal determinism concept by Phipps et al. (2013) on the basis of SCT, some scholars used SCT and reciprocal determinism to study consumers green purchasing behaviour.

Schwartz (1977) suggested the norm activation model (NAM) and explain the psychological intrinsic mechanism of individual's pro-social behaviour. For instance, benefits to others and society like water conservation, energy-saving, environmental protection, and other environmental behaviours are some examples of pro-social behaviours. This psychological process includes social norms, personal norms, awareness of consequence, and ascription of responsibility. NAM analyses the behaviour as "a product of beliefs about the consequences of action and norms about personal responsibility to undertake specific behaviour in response" (Stern et al., 1995). But, NAM does not focus on external factors, rather it focuses only on internal moral factors to predict behaviour (Song et al., 2019).

Moreover, Stern et al. (1999) suggested the values-beliefs-norms (VBN) theory and suggested that values, beliefs and personal norms gradually affects the person's

behaviour. VBN theory consists of psychological changes about the environment, and it is a connecting chain from values to beliefs and results in the formation of personal norms and finally, these norms activate the pro-environmental behaviour of an individual (Groening et al., 2018; Guo et al., 2018). In VBN theory, an individual's environmental behaviour will take place merely when he considers that it is his responsibility to safeguard the environment. In conclusion, this model asserts that if a person holds strong altruistic and biospheric values, it is more expected to behave environment-friendly, but if a person holds stronger egoistic value then it is unlikely to behave environment-friendly (Phipps et al., 2013). However, VBN theory is effective in supporting low-cost green behaviours but have less explanatory power for expensive, difficult and inconvenient behaviours as it neglects the effect of social cost and external/situational factors (T. N. Nguyen et al., 2018).

2.7.1.1 Summary of Socio-Psychological Factor Theories of Behaviour

The socio-psychological factor theories mainly focus on psychological or cognitive factors like values, beliefs, norms, attitude, and intention, and social factors like learning from family and society that are affecting individual behaviour. Moreover, these theories are missing the effect of situational or external (economic and regulatory) factors in determining individual purchasing behaviour. Many scholars make extensions in some of the internal factor theories by adding additional factors to enhance the explanatory power of the theories. TPB extended by some scholars in pro-environmental context by adding factors like willing to pay premium price, perceived value (Yadav & Pathak, 2017), environmental concern, environmental knowledge (Yadav & Pathak, 2016), and self-identity (Carfora et al., 2017). NAM has been extended by adding environmental

concern, perceived consumer effectiveness, herd mentality, and policy and propaganda (Song et al., 2019).

Some internal factor theories considered the influence of external variables on consumer purchasing behaviour. SCT considers the effect of outer social and situational environment on behaviour, and S-O-R model have a focus on external environmental stimuli to affect behaviour. All these theories do not consider the impact of external environment on behaviour independently but only indirectly through cognitive factors like attitude or intention (Guagnano et al., 1995).

2.7.2 Behavioural Theories Related to Economic/Regulatory Factors

Traditionally, economists and policymakers tend to focus on either financial incentives and disincentives or on legislative preventions to influence behaviour and steer people into the desired path of activity (Chatterton, 2011). Skinner (1935) was the pioneer to suggest the relation among environment and individual in stimulus-response psychology theory. Economic/regulatory factor theories explain that behaviour is the outcome of factors which are present in the outer environment of the individuals. With the existence or non-existence of these factors, the behaviour may change. These influencers can play a role as supportive or barriers to the given behaviour in a situation or context to start or stop the behaviour. Additionally, the absence or presence of these factors can enhance or reduce the intensity of behaviour (Buxbaum, 2016).

The theory of demand was proposed to measure the various determinants affecting demand. Traditionally, four factors determining the demand of final consumers are, price of products, price of other products, the income of consumers and taste/quality of

products. Grounded on the theory of demand, the law of demand argues that "all things being equal, as the price of product increases, quantity demanded falls; likewise, as the price of a product decreases, quantity demanded increases. There is a reverse relationship between price and quantity demanded" (Koutsoyiannis, 1979). The demand for a product is the behaviour of consumer buying, and price affecting the demand is an external factor. For instance, the policymakers over the globe have a general agreement that if there is a rise in tobacco taxes, it will reduce the consumption of cigarette among smokers (Austria & Pagaduan, 2018). In fact, amongst the measures to control tobacco usage, "raising tobacco taxes is the most effective and cost-effective strategy for reducing tobacco consumption" (*WHO Technical Manual on Tobacco Tax Administration*, 2010). The price of cigarettes is negatively significant with its purchasing, as taxes increase the price also increases, which eventually decreases purchasing of cigarettes (Tauras, 2006). In addition to this, the increase in UK gas prices resulted in a decrease of 12% gas consumption during 2005 and 2007. On the other hand, there are indication that increase in gas price in cold season did not resulted to a decrease instead it increases the consumption of gas by household consumers but for the short period of time (Chatterton, 2011). In the same vein, many researchers found a positive significant correlation between price and purchasing behaviour with regard to environment-friendly products (Mahmoud, 2017). These opposite results are contradictory with the economic theory of demand. Therefore, it could be concluded that not only economic/external factors (e.g., price) that affect individual behaviour but there are some other cognitive/psychological factors that also affect individual behaviour.

2.7.2.1 Summary of Economic/Regulatory Factor Theories

The economic factor theory considers only the effect of external variables on behaviour while ignoring the cognitive variables. However, human behaviour cannot simply be determined by its environment or action/reaction interaction only (Buxbaum, 2016).

2.7.3 Integrated Behavioural Theories

Integrated behavioural theories take internal and external factors into account in the frameworks that affect the behaviour of an individual. Egmond et al. (2007) summarised different integrated behavioural theories and some of these theories are theory of interpersonal behaviour, motivation-opportunity-ability (MOA) theory, and attitude-behaviour-context (ABC) theory.

The integrated model of 'interpersonal' behaviour has been established by Triandis (1977) and it recognised that together emotional/internal and environmental/external factors perform a starring part in forming the behavioural intention of a person. Moreover, he also emphasized that the significance of past behaviour is influencing the present behaviour. Further, the theory of interpersonal behaviour proposed that behavioural intention is the instant precursor of behaviour as in many other behavioural models. Likewise, the habit is also the direct antecedent of the behaviour. Moreover, these two factors are moderated by the facilitating conditions. Hence, according to the theory of interpersonal behaviour, cognitive decision making (intention), automatic routines (habit), and external barriers or supporters (facilitating conditions) are contributing to the final behaviour (Chatterton, 2011).

Few scholars have applied this framework in comparison with the application of the TPB in behavioural studies. Nevertheless, it has an additional explanatory value over TPB framework by incorporating the role of beliefs and habits (Egmond & Bruel, 2008). Although in this theory, facilitating conditions and the external factors may not have any direct or indirect impact on behaviour rather, these factors only moderate the correlation between intention/habit and behaviour.

Motivation-opportunity-ability (MOA) theory explains an integrated model for consumers' behaviour suggested by Ölander and Thøgersen (1995). The concept of motivation in this theory is more likely a simplified form of TPB as behaviour is predicted by intention, and intention is predicted by the attitude towards behaviour and social norms. Moreover, the ability concept and the opportunity (facilitating conditions) as moderators that was incorporated into the model to perform an action. These moderators considerably improved the relationship between intention and behaviour when applied in environmental domains (Egmond & Bruel, 2008).

The essential structural aspect of MOA model is its effort to assimilate motivational, habitual, and situational influencers into a combined model of pro-environmental behaviour (Egmond & Bruel, 2008). Evidences abound on the importance of situational components for pro-environmental behaviours (Guagnano et al., 1995; Ölander & Thøgersen, 1995). However, the situational factors are not affecting the behaviour directly rather they moderate the relation among motivational factors and behaviour.

Adding some more literature about integrated behavioural theories, the (ABC) theory postulates that "behaviour is a function of an organism and its environment" as argued by Guagnano et al. (1995); and Stern (2000). Similarly, in ABC theory, behaviour (B) is an

interactive consequence of personal sphere attitudinal factors (A) and contextual factors (C) (Stern, 2000). This theory has been exclusively developed to clarify the sustainable consumer behaviours or environmentally significant behaviours (Reisch & Thøgersen, 2015). Further, this theory is one of the most substantial attempts to overcome the internal-external contradiction and intention-behaviour gap (Egmond & Bruel, 2008).

2.7.3.1 Summary of Integrated Behaviour Theories

The integrated behavioural theories consider the influence of both internal and external elements which determine individual behaviour. The external factors affect behaviour independently as moderator for example in the theory of interpersonal behaviour and MOA model. Similarly, these variables have a direct effect on behaviour as in the ABC theory. Currently, scholars are applying integrated theories to study pro-environmental behaviours. Therefore, in this research, the ABC theory will be applied as an underpinning theory to answer the research questions.

2.8 Underpinning Theory

Generally, the theory provides a clear and wider picture of relationships that exits among different variables/constructs to know how variables affect each other and guide us to understand the fundamentals of the research. This research, therefore, established on two theories: Attitude-Behaviour-Context (ABC) theory as underpinning theory and Stimulus-Organism-Response (SOR) model as supporting theory. Predominantly, ABC theory by Stern (2000) is applied to explain environmentally significant behaviours. The essence of ABC theory is to enhance our understanding of individuals different environmentally significant behaviours like recycling, reusing, reduced consumption and

green purchasing behaviours. Previous research has demonstrated that ABC theory outperforms a wide range of other behavioural theories in terms of environmentally significant behaviours (Ertz et al., 2016; Meng et al., 2019). Thus, this research applied ABC theory to explain and support how government regulations and green marketing mix affect consumers' green purchasing behaviour in the setting of electric home appliances. While SOR model is used as a supporting theory to consumer green purchasing behaviour as this model previously used in numerous consumer behaviour studies with respect to marketing factors affecting consumer behaviour.

2.8.1 Attitude-Behaviour-Context (ABC) Theory

Guagnano et al. (1995); Stern (2000) presented attitude-behaviour-context (ABC) theory to make a clearer thoughtfulness of human pro-environmental behaviour. According to this theory, consumers' green behaviour is the combined outcome of internal (cognitive) and external (contextual) variables (Stern, 2000). Beneficial contextual factors boost, while non-beneficial contextual factors weaken the attitude-behaviour correlation. This model has been incorporated to present the relationships of external conditions, attitude, and behaviour. Also, ABC model specifies the methods for connecting internal processes with outside circumstances This theory also explains that the environmentally significant actions are the outcome of the series of casually linked to external and internal factors. Such as, physical structure, social institutions, and economic forces (external) and general and specific attitudes and beliefs, information, and behavioural intention (internal). In other words, behaviour (B) is an outcome of combined effect of attitude (A) and context (C).

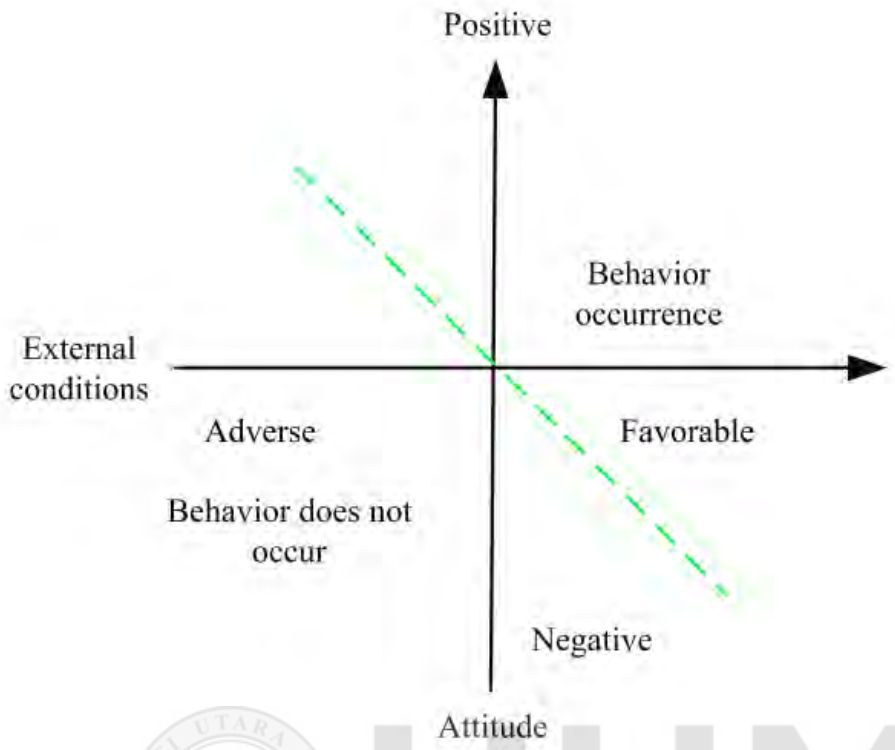

Figure 2.1
Attitude-Behaviour-Context (ABC) Model

In encouraging circumstances, individuals with weak environmental attitude act in an eco-friendly manner, although, in restricted conditions, individuals with high optimistic environmental attitude also may be dissuaded to show eco-friendly behaviour (Y. Joshi & Rahman, 2015). According to this theory, there is the strongest association or correlation between the attitude-behaviour relationship when there is no or neutral impact of contextual factors. Whereas, this relationship leads to zero when contextual factors are greatly positive or negative, essentially compelling or prohibiting the behaviour. Guagnano et al., (1995) found supportive evidence in research of curb side recycling that external conditions or factors influence behaviour directly as well as indirectly through personal beliefs. In addition to this, external factors also affect attitudinal factors independently of their direct impact on behaviour.

ABC model claims that in a population of individuals, there is distributions of attitudinal factors (A) and contextual factors (C) of any specific behaviour (B) and the occurrence of the behaviour in that population will indicate those distributions. Furthermore, if other things remain unchanged, behaviours that are difficult, expensive, or inconvenient for most of the members of population (negative C), will be rarely behaved relatively, whereas those associated with strong positive conditions like convenient to act, inexpensive, or easy (positive C) are quite common. In a similar vein, behaviours strongly supported by attitudes (positive A) of most of the individuals of the population will remain common, whereas behaviours strongly opposed by attitude (negative A) will be associated with rare actions. The essential element of this model is the calculation of values of A and C which combined itself to result in the effect value of B. Thus the successful designed strategy to induce or curtail any behaviour will depend on the magnitude of the absolute value of the sum of A and C (mathematically $|A+C|=B$) (Guagnano et al., 1995).

Although numerous research in the perspective of environmentally significant behaviour have been conducted using ABC theory (Bhuian et al., 2018; B. Fan et al., 2018; H. Wang et al., 2019). Such research include, recycling behaviour (Hong & Park, 2018), household solid waste disposal behaviour (Meng et al., 2019), green food purchase behaviour (Tanner & Kast, 2003), organic food consumption behaviour (Nie & Zepeda, 2011), recycling, saving water and energy reducing behaviours (Hong & Park, 2018), private and public environmental behaviours (Pisano & Lubell, 2017), but there are few studies on consumer green purchase behaviour.

In addition, most of the scholars that used ABC theory for green behaviour, environmentally sustainable behaviours or pro-environmental behaviours (PEB) utilised different independent variables such as environmental value, environmental knowledge, environmental concern, environmental attitude (Bhuian et al., 2018), green scepticism (Kwong & Balaji, 2016), environmental protection, local products, fair trade, moral thinking, availability of knowledge (Tanner et al., 2004), greenwashing, green word of mouth, green concern (L. Zhang et al., 2018), consequences awareness (B. Fan et al., 2018), and green product knowledge and perceived consumer effectiveness (H. Wang et al., 2019). Whilst there is a scarcity of literature regarding the application of ABC theory with the variables (green marketing mix and government regulations) that are proposed in the framework of this study. Furthermore, ElHaffar et al. (2020) claimed that sociocultural influences and elements of the marketing mix are some of the key contextual variables to study pro-environmental behaviours.

2.8.1.1 Attitudinal / Internal factors

Attitudinal factors might consist of a range of particular cognitive factors including individual beliefs, values, norms, and intentions, along with general 'pre-dispositions' to act in specific manners (Hong & Park, 2018). According to Stern et al. (1999), attitudinal factors might consist of beliefs, values, and norms. Moreover, it also includes general environmental predisposition, behaviour specific norms and beliefs, nonenvironmental attitudes, and perceived cost and benefits of action (Stern, 2000). According to Guagnano et al., (1995) the attitude can vary from extreme negative point which are related with behaviours an individual would act only under pressure. Also, to extreme positive point which are linked with things an individual would typically do unless forced otherwise.

2.8.1.2 Contextual / External factors

Contextual elements can possibly consist of a broad range of influencers such as financial incentives and costs, physical capabilities and restraints, institutional and legal factors, public policy and support, advertising, availability of service or product, interpersonal influences (Stern, 2000). Also in some situations, broader aspects of the social context, for instance, commitment to or inspired by environmental groups (Olli, 2003). Moreover, contextual factors include social attributes for instance social competence, institutional environment, physical infrastructure, and economic structure (Hong & Park, 2018). According to Guagnano et al. (1995), external circumstances are considered largely to consist of all outer sources of support or opponent to behaviour, whether physical, legal, financial, or social. These factors can vary from extremely negative (unpleasant or barriers) to extremely positive (pleasant or supportive).

Contextual influences have been conceptualized as influencing behaviour indirectly via attitudinal forces (Elworth et al., 1985). Moreover, green consumer behaviour may also be identified from both psychological and marketing viewpoints (Jansson et al., 2010). External factors include products availability, regulations, and cost (Groening et al., 2018). Likewise, Yadav et al. (2019) studied green hotel in India with an integrated model and suggested that more contextual factors should be examined in future studies. In this regard, further research work is evidently needed with the aim of enhancing the insight of green marketing and green buying of consumers towards green products (Hassan et al., 2014).

2.8.1.3 Contextual Factors, Attitudinal Factors, and Green Purchase Behaviour

ABC theory has the ability to bring together contextual/external factors with internal/attitudinal factors in a unique way that both environment and person interact and provides a thorough lenses of environmentally significant behavioural antecedents (Ertz et al., 2016). Contextual variables may affect behaviour in several ways as they affect behaviour directly, they may also affect behaviour indirectly via their interface with attitudinal factors (Steg & Vlek, 2009).

However, there may be three ways through which contextual factors may influence behaviour. First, contextual factors might directly influence behaviour. Such as, one may not go by bus when there is no bus service that is available. But, free bus ticket for travel perhaps result in an upsurge in bus travel (Bamberg & Schidt, 1999; Fujii & Kitamura, 2003). Second, the relationship among contextual elements and behaviour might be mediated by motivational/internal factors, for instance attitudes or personal norms (Ertz et al., 2016). Perhaps, introducing the recycling services might result in additional positive attitudes about recycling (e.g., since it is more accessible), and positive attitudes may, consequently, result in increased recycling levels. Third, contextual elements may moderate the relationship between motivational/internal factors and behaviour. Also, the effect of these contextual factors on behaviour may depend on personal factors (Geller, 1995). For instance, the environmental concern might only cause a decrease in the use of car when reasonable replacements are accessible, and recycling services may encourage recycling only among those high in environmental concern. Thus, the interaction between contextual and attitudinal factors is a vital aspect of ABC theory (Salonen & Åhlberg, 2012).

In current study, the researcher is going to study the direct influence of government regulations and green marketing mix (green product, green price, green place, and green promotion) as a contextual factor on GPB as well as indirect impact of green marketing mix on green purchase behaviour through the mediation of attitude towards green purchase. Moreover, green trust moderates the relationship between attitudinal factor and green purchase behaviour.

2.8.2 Stimulus-Organism-Response (S-O-R) Model

The most appropriate theoretic foundation for the basic psychological concept is the S-O-R (stimulus-organism-response) created by Mehrabian and Russell (1974), an extension of the behaviouristic Stimulus-Response (S-R) interpretation that was suggested by Skinner in 1935 (Liu et al., 2019). The S-R model presented by Skinner (1935) was criticised by many scholars as the theory viewed individuals as machines reacting to stimulus automatically (Kawaf & Tagg, 2012). However, the effect of the environment on individuals can never be neglected. Scholars suggested that there is one missing link between stimulus and response which is the organism itself, from where human beings are different from machines. Therefore, SOR model intimated that when an individual subjected to some stimuli, inner cognition of organism perceived it and create response as behaviour (Mehrabian & Russell, 1974). The SOR model postulates the relationship between environment as a stimulus and consumer behaviour as a response of the organism (Mehrabian & Russell, 1974). In this milieu, the organism infers to as internal cognitive, perceptual, psychological and emotional procedures within the mind between external stimulus and consumer behaviour (Barros et al., 2019). From a marketing

perspective, SOR is a theory of information-processing-behavioural response (C. C. Tan et al., 2019).

In the traditional S-O-R model, the stimulus is described as those elements that influence internal circumstances of a person and can be conceptualized as an impact that stimulates the person. Organism implies the internal and psychological procedures and structures interfering between external stimuli to the individual and the ultimate actions, reactions, or responses produced. It is a psychological concept that shows functions of the organismic elements which involve perception, thinking, emotion, judgment, and motivation (Buxbaum, 2016). This cognitive process mediates the association between stimulus and response. Response in the S-O-R theory signifies the final results and the ultimate judgments of consumers, that can be in the form of achieving behaviours, for instance, making a purchase, or avoidance behaviours like less consumption of electricity (Changa et al., 2011).

Object stimuli and social psychological stimuli are the two different categories of stimuli described in the literature (Arora, 1982). Object stimuli may consist of product attributes, price, time consumption and complexity, whereas the surroundings of environment (like store atmosphere) and availability of information are the social psychological stimuli. According to this perspective, green product and green price are the object stimuli, whereas green place, green promotion and government regulations are the social psychological stimuli. So, this study will use both object and social psychological stimuli to analyse consumer green purchasing behaviour.

SOR model is broadly used in marketing research in the perspective of consumer behaviour. Specifically, in traditional store environment, online shopping, and organic

food purchasing, scholars investigated the store environment on consumer buying preferences (Changa et al., 2011; Kawaf & Tagg, 2012; Lee & Yun, 2015; Peng & Kim, 2014). Lee and Yun (2015) applied SOR model to provide a foundation to the research framework, and to reveal how organic food attributes (stimuli) leads to consumers attitude (organism) and behavioural intention to purchase organic food (response) amongst buyers in the USA. Barros et al. (2019) analysed the effect of store atmosphere (stimulus) on positive emotional response (organism) and consumers impulsive behaviour (response) while applying the SOR model to research framework. In addition to this, situational characteristics moderates the association between positive emotional response and consumers impulsive behaviour.

According to Bagozzi, (1986) when the behaviour of consumers is described within an S-O-R system, the stimuli are outside to the individual and consist of both marketing mix elements and other environmental inputs. Moreover, C. C. Tan et al. (2019) applied the SOR model and used the marketing mix as a stimulus in the research framework. In this study, this theory supports the mediation path of independent variables towards green purchase behaviour.

2.9 Theoretical Framework

The concepts and assessment of the literature on the topic of this study have been useful for the development of a research framework. Figure 2.2 illustrates the research framework for this study, which shows the dependent variable (green purchase behaviour), independent variables (government regulation, green product, green price, green place, green promotion), mediator (attitude towards green purchase), and moderator (green trust). Government regulation, green product, green price, green place,

and green promotion are expected to have direct relationship with green purchase behaviour of electric home appliances. In addition to this, attitude towards green purchase is expected to have a direct link with green purchase behaviour of electric home appliances, as well as acts as a mediator and expected to mediate the relationship between government regulation, green product, green price, green place, green promotion, and green purchase behaviour. Green trust function as moderator and is supposed to moderate the relationship between attitude towards green purchase and green purchase behaviour of electric home appliances.

Previously, R. Ahmed et al. (n.d.); and Matin et al. (2022) has analysed the relationship of government regulations on consumers' green purchase intention. Besides, A. K. P. Karunarathna et al. (2020); and W. Karunarathna et al. (2017) has also examined the influence of green marketing mix on green purchase intention and green purchase decision respectively. On the other hand, the current study has established the research framework and analysed the impact of government regulations and green marketing mix on consumers' actual green purchasing behaviour. In line with this, the research model is primarily based on attitude-behaviour-context (ABC) theory, which is the underpinning theory. In addition to this, stimulus-organism-response (SOR) model is applied as supporting theory. It supports the mediation path of variables from independent variables to the dependent variable through a mediator as shown in the research model in figure 2.2.

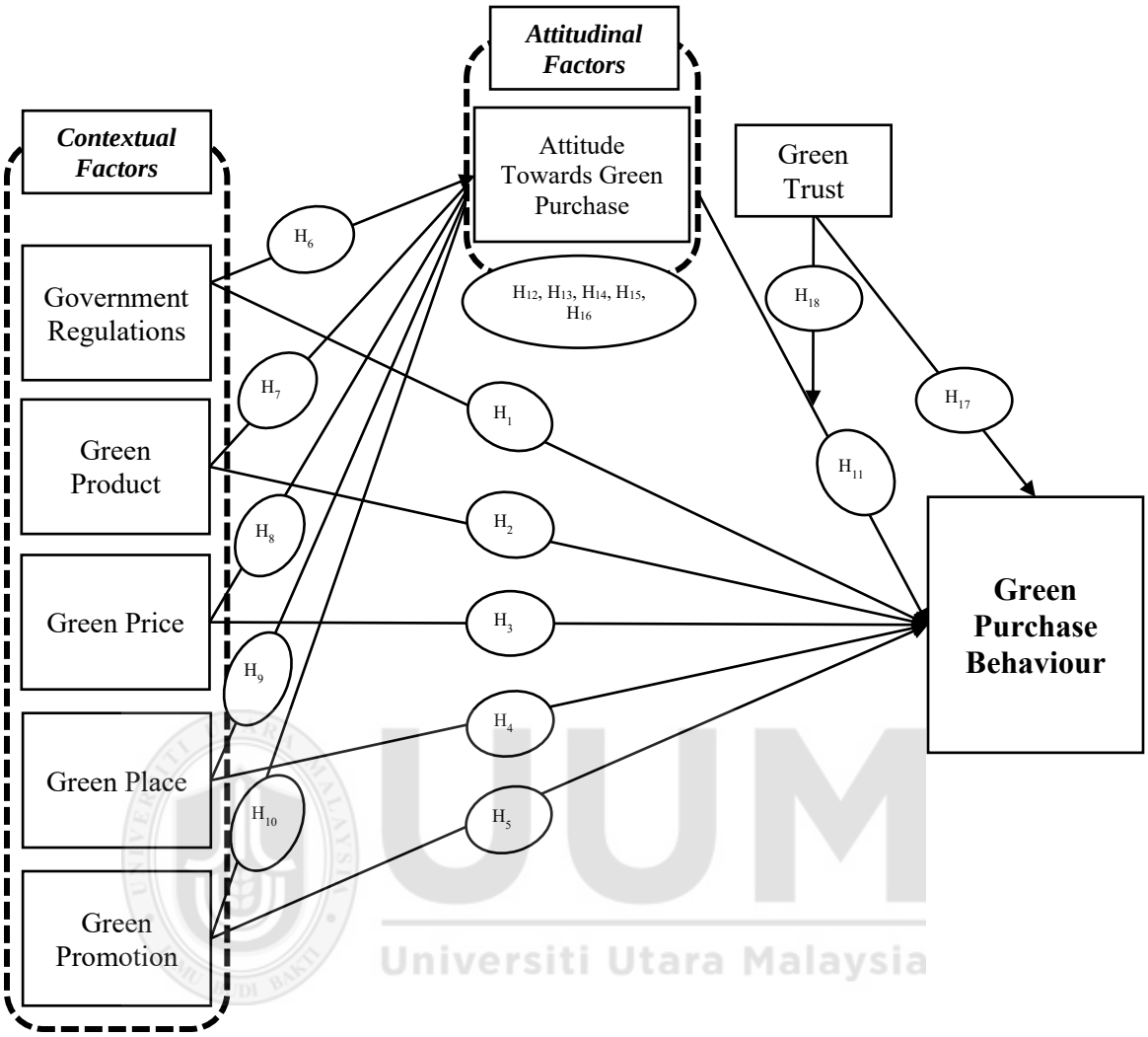

Figure 2.2
The Research Framework

This research work is the first to study the direct impact of government regulations, green marketing mix (green product, green price, green place, and green promotion) as contextual factors determining green purchase behaviour applying ABC theory. Moreover, attitude towards the green purchase as attitudinal/organism factor also mediating the relation between contextual/stimulus factors and green purchase behaviour (response). Thus, applying both ABC theory and SOR model together is a unique combination and contribution to the literature. Also, the current research work will

contribute to the above theories by using the moderating role of green trust between attitudinal/organism factor and green purchase behaviour (response).

2.10 Hypotheses Development

Based on the above literature review and the theoretical framework, the following segment elaborates the hypotheses development of this research.

2.10.1 Government Regulations

By addressing the determinants of energy-efficient electric appliances, governments should improve the electric-efficient labelling campaigns and efficiency standards (Baldini et al., 2018). Moreover, the government should promote the consumption of energy-saving electric appliances and the consequences of using non-energy-saving electric appliances to the environment (Song et al., 2019). There is a substantial increase in the emission of carbon dioxide due to the failure of efficient and effective policy measurements (Kelly, 2012). However, researchers asserted that consumers are now believing that the government must play a role in building and supporting green purchasing. It has been stated that government regulation has significant influence on consumers green buying (R. Ahmed et al., 2022). Similarly, government regulation has a great influence on the time of buying green products (Matin et al., 2022). Besides, Geetha (2022) argued government regulations play a vital role in environmental behaviours. Upon these arguments, the following hypothesis has developed.

H_1: *A significant and positive relationship exists between government regulations and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.2 Green Product

Hossain and Khan (2018) concluded that green product is an important element of the green marketing mix and has strong significant impact on consumers green purchasing in Bangladesh. Similarly, the green product is an essential and significant contributing factor to consumers green purchasing (Boztepe, 2012; Mahmoud, 2017). Additionally, A. K. P. Karunarathna et al. (2020) stated that the elements of green marketing mix including green product is a good determinant of green purchase behaviour. Hence, the following hypothesis has been established.

H_2: *A significant and positive relationship exists between green product and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.3 Green Price

Few extant research propagates the notion of environmental products as luxuries that demand over price. Alternatively, the conventional products are comparatively normally priced. Some researchers found a significant positive relationship of green price with consumers green purchasing (Ansar, 2013; Boztepe, 2012; Mahmoud, 2017). Scholars have revealed that price of green products is a vital and deciding factor for buying green and a determining factor of consumers' green buying (A. K. P. Karunarathna et al., 2020). Hence, it is hypothesised that:

H_3: *A significant and positive relationship exists between green price and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.4 Green Place

Green distribution is an overly complicated procedure. The environmental nature of the product needs to be maintained and customers must be guaranteed for it. A superior level of conformity is required for bringing out the distribution of green products (Yazdanifard & Mercy, 2011). Researchers found a positive significant relationship among green place and consumers green purchasing (Mahmoud, 2017). Contrary to this, few scholars have found insignificant relationship of green place with consumers' green buying (A. K. P. Karunarathna et al., 2020). But due to the nature of green place and its importance in green marketing mix elements, researcher has developed the following hypothesis.

H_4: *A significant and positive relationship exists between green place and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.5 Green Promotion

Researchers suggested that through a good promotional campaign, marketers can increase consumers awareness about green products and can enhance consumers green buying, because there is a significant relationship between green promotion and consumers green purchasing in Bangladesh (Hossain & Khan, 2018). Other researchers also reported a positive significant relationship between green promotion and consumers green purchasing (Ansar, 2013; Boztepe, 2012; Mahmoud, 2017).

H_5: *A significant and positive relationship exists between green promotion and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.6 Attitude Towards Green Purchase

The literature elaborated that attitude towards green purchase is a good determinant of GPB (Hong & Park, 2018; Y. Joshi & Rahman, 2015; Soares Júnior et al., 2019; Uddin & Khan, 2016). Also, there are few studies showing insignificant relationship between attitude and green purchase behaviour (Moser, 2015). However, according to Ashraf et al. (2019), attitude fully mediated the relationship between the determining factors of GPB. Similar evidence has been found in the study of Riskos et al. (2021) that shows the mediating relationship of attitude between green purchasing behaviour and its determinants. Moreover, consumer green attitude also have mediating role between green marketing mix and green purchase intention (Kartawinata et al., 2020). Likewise, A. K. P. Karunarathna et al. (2020) has analysed that attitude towards green has mediating influence between green marketing mix and green buying. Therefore, the following hypotheses has been established.

H_6: *A significant and positive relationship exists between government regulations and the consumer's attitude towards green purchase while buying electric appliances in Pakistan.*

H_7: *A significant and positive relationship exists between green product and the consumer's attitude towards green purchase while buying electric appliances in Pakistan.*

H_8: *A significant and positive relationship exists between green price and the consumer's attitude towards green purchase while buying electric appliances in Pakistan.*

H_9: *A significant and positive relationship exists between green place and the consumer's attitude towards green purchase while buying electric appliances in Pakistan.*

H_{10}: *A significant and positive relationship exists between green promotion and the consumer's attitude towards green purchase while buying electric appliances in Pakistan.*

H_{11}: *A significant and positive relationship exists between the consumer's attitude towards green purchase and green purchase behaviour while buying electric appliances in Pakistan.*

H_{12}: *Attitude towards green purchase mediates the relationship between green product and green purchase behaviour while buying electric appliances in Pakistan.*

H_{13}: *Attitude towards green purchase mediates the relationship between green price and green purchase behaviour while buying electric appliances in Pakistan.*

H_{14}: *Attitude towards green purchase mediates the relationship between green place and green purchase behaviour while buying electric appliances in Pakistan.*

H_{15}: *Attitude towards green purchase mediates the relationship between green promotion and green purchase behaviour while buying electric appliances in Pakistan.*

H_{16}: *Attitude towards green purchase mediates the relationship between government regulations and green purchase behaviour while buying electric appliances in Pakistan.*

2.10.7 Green Trust

The attitude-behaviour gap in environmental researches has persuaded researchers to examine different other elements which can perhaps moderate this relationship, for

instance habits and lifestyles, convenience, cost, and performance (Peattie, 2001) or other contextual factors. Bhuian et al. (2018) used religiosity, a contextual factor, as a moderator for the attitude-behaviour relationship while using (ABC) theory. As stated earlier, there are mixed results of attitude towards green purchase (attitudinal variable). In addition to this, green trust has a moderating influence on green buying with its determinants (Wei et al., 2017). Similarly, Chuah et al. (2020) has also found the moderating influence of green trust for green buying behaviour. Therefore, the use of green trust as a moderator between attitudinal variables and green purchase behaviour in this study is justified and following hypotheses has been developed.

H_{17}: *A significant and positive relationship exists between green trust and green purchase behaviour while buying electric appliances in Pakistan.*

H_{18}: *Green trust strengthen the relationship between attitude towards green purchase and green purchase behaviour while buying electric appliances in Pakistan.*

2.11 Literature Gaps

Table 2.1:
Literature Review Summary

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
1.	Moser (2015)	Daily consumer goods	Germany	Green purchasing behaviour	Attitude; Norm; Willing to pay (WTP)			TPB	SEM	Attitude was insignificant resulting attitude-behaviour gap; WTP strongest predictor followed by norm	Attitude-behaviour gap should be studied further to identify factors to cover this gap;
2.	Hossain and Khan (2018)		Banglades h	Green buying decision	Green product; Green price; Green place; Green promotion;				Linear regression;	G. product sig. G. price insig. G. place insig. G. promo sig.	Moderating effect must be studied to this construct
3.	Yadav and Pathak (2017)	Green products in urban areas	India	Green purchase behaviour	Attitude; Subjective norm; Perceived behavioural control; Perceived value; Willing to pay premium;	Intention		TPB	SPSS; SEM with AMOS	All sig. except WPP; due to price sensitive society. Successful inclusion of construct in TPB.	Must focus on different sectors of green products especially electric appliances and organic food.
4.	Kautish et al. (2019)		India	Green purchase behaviour	Perceived consumer effectiveness		Recycling intention (RI);	TPB	SEM with AMOS	All sig. except PBC to	Inclusion of more moderating

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
					(PCE); Perceived behavioural control (PBC); willingness to be environmentally friendly (WEF)		Environmental consciousness (EC)			GPB was insig. PBC*EC to GPB insig. PBC*RI to GPB was insig.	variables to study GPB was recommended.
5.	Minbashrazgah et al. (2017)	Green chicken	Iran	Green Purchase Behaviour	Perceived environmental responsibility, Level of trust in labelling, Organic food beliefs, Subjective norm	Intention	Price transparency b/w intention and behaviour	TPB	PLS-SEM with SmartPLS	All sig. except SN to intention	N/A
6.	Kumar and Ghodeswar (2015)	Green products	India	green purchase decision	Supporting environmental protection, Drive for environmental responsibility, Green product experience, Environmental friendliness of companies, Social appeal				SEM with AMOS	All sig.	More research needed to reveal motives behind GPB; cross cultural and cross-country analysis recomm.
7.	Uddin and Khan (2016)	Green general	India	Green Purchase Behaviour	Environmental attitude (EA), Environmental involvement (EI), Perceived effectiveness of environmental behaviour (PEEB), Environmental				EFA Multiple linear regression. Independent sample t-test.	EA & PEEB was insig.	Demographic variables must be studied Longitudinal study recomm. Cross-cultural study

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
					consciousness (EC)						
8.	Ashraf et al. (2019)	Organic food	Banglades h	Green purchase	Trustworthiness belief, Normative structure, Self-efficacy	Attitude, Subjective norms, Perceived behavioural control		TPB	SEM with AMOS	Mix results	More antecedents of attitude towards purchase must be studied. Fear to purchase must be studied
9.	Hanaysha (2018)	Retail sector	Malaysia	Green purchase decision	CSR, Social media marketing, Store environment, Sales promotion, Perceived value				SEM with AMOS	CSR +ive sig Sales promo -ive effect Social media insig.	Cultural factors and social groups must be studied
10.	Khare (2015)	Green products	India	Green Buying Behaviour	Personal norms, Social environmental norms, Peer influence, Green self-identity, Past green behaviour, Past green attitude		demographic s	TPB and Self-construal theory	Step wise regression analysis	No moderation of demographi cs among any of the variable.	Green brands, price sensitivity, trust, advertising, promotion, discounts can be examined in future
11.	Joshi and Rahman (2015)	Green products	India	Green Purchase Behaviour	Social influence Attitude towards green purchasing Perceived environmental knowledge			Reciprocal determinism theory (based on social cognitive theory)	SEM with AMOS	All sig.	Influence of product, price, promotion must be studied

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
					Recycling participation Ecolabeling Exposure to environmental messages through media						
12.	Joshi and Rahman (2017)	Sustainable products	India	sustainable purchase behaviour	Supportive behaviour for environmental organizations Subjective norms Attitude towards sustainable purchasing Perceived marketplace influence Perceived knowledge about sustainability issues Environmental concern			Reciprocal determinism theory (based on social cognitive theory)	SEM	All sig.	N/A
13.	Karunarathna et al. (2017)	Green products	Sri Lanka	Green Purchase Behaviour	Social influence Environmental attitude Environmental knowledge Government initiative Exposure to environmental messages through the media			TPB	Multiple regression analysis	all are significant	More demographic variable must be studied
14.	Joshi and	Sustainab	India	sustainable	Drive for env			social	SEM	All sig.	Man-nature

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
	Rahman (2019)	le products		purchase behaviour	responsibility Spirituality Perceived consumer effectiveness Attitude towards sustainable purchasing Perceived marketplace influence Consumer knowledge regarding sustainability related issues			cognitive theory + reciprocal determinism model			orientation and self-identity recomm.
15.	Nguyen et al. (2019)	Organic food	Vietnam	organic purchase behaviour	EC Food safety concern Health consciousness Organic food knowledge Green marketing Price barriers	Attitude towards buying organic food (for 1,2,3,4)		Alphabet theory	SEM with AMOS	Attitude insig. with purchase behaviour	Habit, scepticism on product label, lack of knowledge and availability
16.	Lee and Yun (2015)	Organic food	USA	organic food purchase intention	Nutritional Content Natural Content Ecological Welfare Sensory Appeal Price	Utilitarian Attitudes Hedonic Attitudes		Stimuli-Organism-Response (S-O-R) model	SEM	Mix results	Trust suggested as moderator
17.	Pan et al. (2018)	Tourism	Taiwan	environmentally responsible intention/ behaviour	Environmental Knowledge	Environmental sensitivity Environmental responsibility		The Hines et al. model of responsible environmental behaviour	SPSS SEM with LISREL	EK to env behaviour and intention was insig.	

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
18.	Figueroa-García et al. (2018)	Green products	Spain	sustainable consumption behaviour (SCB)	Env influence Education & information Social pressure Market conditions Govt actions				PLS-SEM with SmartPLS	All sig. except Govt. action insig. with SCB	Formative indicators with multi-group analysis of demographics recomm.
19.	Sun et al. (2018)	Recycled products	Hong Kong	Recycled products purchase behaviour	Intention (INT) Knowledge (KL) Expectation of quality (ExQ) Attitude (ATT) Concern of risk and uncertainty (RandU)			Expectance value theory + TRA	SPSS SEM with AMOS	All sig. except KL with ATT	studies should be conducted on impact of contextual factors on behaviour
20.	Harahap et al. (2018)	Green products	Indonesia	green buying behaviour	Knowledge about the product Knowledge of purchasing and using Family influence Influence of friends Social status Functional value Self-experimentation Emotional values				Multiple linear regression	Mixed results	N/A
21.	Trivedi et al. (2018)	Green products	India	Green Purchase Behaviour	Perceived Consumer Effectiveness (PCE) Ecological concern (EC) Inward			TPB	SEM with AMOS	All sig. except Media insig. with OEA; OEA insig with PI	Longitudinal study, cross-nations & cross-cultural study, effect of culture,

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
					environmental attitude (IEA) Outward environmental attitude (OEA) Attitude towards EF packaging (PKG) Purchase intention (PI) Media influence (MI)						and specific product to study recomm.
22.	Chaudhary and Bisai (2018)	green	India	Green Purchase Behaviour	Attitude, Green purchase intention Subjective norms Perceived behavioural control Green purchase behaviour Environmental concern		WPP b/w intention and behaviour	TPB	SEM with AMOS	All sig. except SN insig. with PI. EC insig. with PI	Perceived value, personal norms, green values recomm. to study
23.	Jaiswal and Kant (2018)	green	India	Green Purchase Behaviour	Environmental concern (EC) Perceived consumer effectiveness (PCE) Perceived environmental knowledge (PEK)	Attitude towards green products		The model is based on 'attitude-intention-behaviour'	SEM with AMOS	All sig. except PEK insig. with both AGP and GPI	Green brand, env. advertising, green value recomm. for future study
24	Bhuian et al. (2018)	Green products	Oman	Pro-environmental consumer behaviour	Environmental attitude Environmental knowledge		Religiosity	ABC	Multiple linear regression	all sig.	Fuzzy-set qualitative comparative analysis

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
					Environmental concern Environmental value						(FsQCA) recomm.
25	Zhang et al. (2018)	Batteries	China	Green purchase intention	Greenwashing	Green Word of mouth	Green concern	ABC	SEM; Hierarchical regression	sig.	Green scepticism, green knowledge suggested
26	Yadav et al. (2018)	Green hotel	India	Green purchase intention	Biospheric value Green trust Willingness to pay premium Attitude, subjective norms, perceived behavioural control			TPB+ABC	Sequential approach of SEM and fuzzy set qualitative comparative analysis	Mixed results	More contextual factors worth study
27	Meng et al. (2019)	Household waste	China	Residents' household solid waste (HSW) disposal behaviour	Environmental attitude Social norms Environmental knowledge & publicity and education Environmental facilities and services			TPB+ABC	SEM with AMOS	Mixed results	N/A
28	Fan et al. (2018)		China	Pro-environmental behaviour	Environmental knowledge Consequence awareness		Basic public service	ABC	Hierarchical linear model (HLM) for multi-level theoretical framework	all sig.	More cognitive and contextual factors worth study
29	Hong and Park (2018)		China	Private Env Behaviour 1. Recycling	a. Contextual factors Environmental			ABC	Multi-level regression	all sig.	Cross-nation study recomm.

S/N	Author/Year	Focus	Country	DV	IV	Mediator	Moderator	Theory	Method	Findings	FReRec
				2. reducing home energy 3. saving water 4. purchase green product 5. avoid buying certain product	condition Environmental policy Influence of civil society b. Personal factors Environmental attitude Environmental knowledge Sociodemographic characteristics				modelling		
30	Ertz et al. (2016)		Canada	Private and public sphere Pro-environmental behaviour	Contextual factors	Attitude		ABC	SEM	Context to attitude sig. Context to behaviour insig	More contextual factors worth study: attitude-behaviour gap must be studied more
31	Kwong and Balaji (2016)		Malaysia	Green purchase intention/ behaviour	Green scepticism	Env concern & env knowledge		ABC	SEM with AMOS	all sig.	Green scepticism needs more understanding; attribution theory and mean-end chain theory recomm.
32	Wang et al., (2019)	Green products	China	Green purchase intention/ behaviour	Green product knowledge	Green trust & perceived consumer effectiveness	Perceived price (for GT & PCE)	ABC	SEM with AMOS	Mixed results	Mediation of environmental values recomm.; Moderation of personal values suggested

Providently from the Table 2.1, it has been discovered that fewer studies have considered the influence of green marketing mix (green product, green price, green place, and green promotion) on consumers' green purchase behaviour. A small number of scholars have analysed the influence of green marketing mix on green purchase intention (R. R. Ahmed et al., 2022) and green purchase decision (A. K. P. Karunarathna et al., 2020; W. Karunarathna et al., 2017) but neglected the actual green purchasing behaviour. Thus, there is a paucity of literature having the influence of green marketing mix on green purchase behaviour.

Likewise, a limited number of studies has focused on the influence of government regulations and green purchasing behaviour. The literature review also revealed that most of the scholarly work has been done regarding purchase intention, fewer studied actual purchasing behaviour (Song et al., 2019). Moreover, the purchasing behaviour has been studied using cognitive theories, but it is argued that integrated behavioural theories must be the focus for analysing environmentally significant behaviours (Vainio et al., 2019). Therefore, this study used ABC theory, an integrated model for pro-environmental behaviour. Besides, stimulus-organism-response (SOR) model also used as supporting theory to develop mediation path of the variables.

Additionally, Grimmer et al. (2016) argued that further research is needed to study the impact of contextual factors on pro-environmental behaviours. So, with the argument of Yadav et al. (2018), who stated that expensive behaviours are favoured by contextual factors, this research work taken into account the importance of contextual factors as vital determinant of green purchase behaviour. Even though, Wymer and Polonsky (2015) argued that along with government regulations, green marketing strategies must be

studied for the safety of environment and society. Thus, current research work has studied government regulations and green marketing mix as contextual determinants of GPB.

Along with the impact of contextual factors on GPB, Ertz et al. (2016) stated that most of the previous work has analysed the determinants of GPB indirectly through behavioural intention. In line with this, contextual factors may affect GPB directly (Steg & Vlek, 2009) as well as to consumers' attitude regarding specific behaviour (Yadav et al., 2018). Besides, Hashim et al. (2017) argued that the determinants of GBP must also focus on altering the attitude towards specific behaviour. So, this study analysed the mediation of attitude towards green purchase between green purchase behaviour and its determining factors. Lastly, Chuah et al. (2020); and Wei et al. (2017) argued that green trust has a moderating influence for GPB and its determinants. Therefore, to enhance the attitude towards green purchase, green trust has used as a moderator. As such, to conclude, getting a sustainable society in future, enhancing the buying of energy-efficient electric appliances is vital.

2.12 Chapter Summary

This chapter discusses and reviews the past literature about green purchase behaviour. In particular, it reviews the determining factors of green purchase behaviour such as green product, green price, green place, green promotion, government regulations, attitude towards green purchase, and green trust. More so, the hypotheses were established based on the research objectives and research framework. The chapter also considers the problems regarding consumers purchasing behaviour in electric appliances sector in Pakistan and different theories about individual behaviours were specifically applied in

environmentally significant behaviours research. Furthermore, this chapter discusses the underpinning and supporting theories with a view to provoke an understanding of how green purchase behaviour can be improved. Towards the end of this chapter, the research framework is established, and hypotheses has been developed under the research framework.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology employed for this study. Amongst others, this chapter elaborates on the research design, sample design, sampling method, population frame, data collection procedures and questionnaire design adopted to conduct the research. Furthermore, operationalisation and measurement of constructs explained. Thereafter, pre-test and pilot study were elaborated before the discussion of methods of data analysis that was used for making the conclusions of the study.

3.2 Research Paradigm

The basic goal of this study is to ascertain the reality about the subject under study. To achieve this aim, several procedures were developed by specific school of thought known as research paradigm. It provides researchers' with the general framework containing key issues, beliefs, and methods to address certain problems in a particular discipline. Creswell and Clark (2011) recognized different paradigms of research, such as positivism, interpretivism, and pragmatism. The summarised characteristics of each paradigm based on the ontological, epistemological, axiological, and methodological assumptions are shown in Table 3.1 below:

Table 3.1
Philosophical Assumptions of Research Paradigms

Philosophical Assumption	Positivism/ Quantitative	Interpretivism/ Qualitative	Pragmatism/ Mixed method
Ontology: the researcher's assumptions about reality	Objective in nature, singular meaning	Socially constructed, subjective, multiple meanings	Accept views of both positivism and interpretivism
Epistemology: the researcher's view regarding the nature of knowledge and the relationship between the researcher and the subject	The researcher is independent, objectively collects data through instruments, credible data, facts. Focus on causality and generalization	The closeness of the researcher to the participants, subjective, meanings	Either or both observable phenomena and subjective meanings that provide acceptable knowledge
Axiology: the researcher's view of the role of values in research	Research conducted in a value-free way – the researcher is independent of the data and maintain an objective stance	Research is value bound. The researcher cannot be separated and subjective	Values play a significant role in interpreting results, the researcher adopting both objective and subjective views
Methodology: techniques and procedures to dig out reality	Highly structures, large samples, measurement, quantitative	Small samples, in-depth interviews, qualitative	Mixed or multiple method designs, quantitative and qualitative

Source: (Creswell & Clark, 2011)

As stated in the prior research, the positivism paradigm aligned with hypothetico-deductive method that begins with the theory from existing literature to test the hypothesis by operationalizing the variables (Park et al., 2020). Thus, this study has objective reality. The researcher quantitatively examined the influence of attitudinal (attitude towards green purchase) and contextual (green marketing mix and government regulations) factors on the consumers' green purchase behaviour regarding electric home appliances purchasing in Pakistan. Hence, the present study used a positivism paradigm by applying the quantitative method to justify the research questions and to accomplish the set objectives.

3.3 Research Design

A research design is a method for gathering and analysing data in order to better understand the issue at hand. It is a framework, method, and plan to adhere to when collecting and analysing data that gives the researcher a number of instructions throughout the whole research endeavour. Additionally, it guarantees that the research's data will, to the greatest extent feasible, provide correct answers to the research's questions (R. Kumar, 2011). Furthermore, a suitable strategy for data collection and analysis is required in order to meet the research objectives and enhance the worth of the study (S. U. Rehman et al., 2019). Therefore, it is important to suggest the study design appropriately at the outset in order to get to a convincing conclusion that aims to address the theoretical and practical problem.

Fundamentally, there are two main categories of research designs: exploratory research and conclusive research (Malhotra, 2012). Conclusive designs, which may be further subdivided into causal and descriptive subtypes, are used for purposes such as identifying, estimating, and selecting the alternate course of action (Malhotra, 2012). Researchers in causal studies seek to understand what factors brought about certain outcomes (Sekaran, 2003). In contrast, a researcher conducting descriptive study will provide detailed descriptions of one single phenomena or set of circumstances (Sekaran, 2003). Moreover, descriptive research can be classified as either cross-sectional or longitudinal. In order to achieve study aims and answer research questions, researchers might use cross-sectional research to collect data on a phenomena all at once, at a certain point in time, and sometimes over a period of days, weeks, or months (Malhotra, 2012). Instead of collecting data at discrete points in time, as is the case with cross-sectional

studies, a longitudinal design allows researchers to collect and analyse data over a longer period, allowing them to better understand the change occurred in the data and the effects of their findings. Further, in longitudinal study design, a researcher may want to compare data collected at two separate times to get insight into possible variations or improvements in two or more distinct events or behaviours (Sekaran, 2003).

For this research, the researcher has used descriptive as well as causal research design since the study already has specified the research constructs and formulated the hypotheses from the extant literature. In addition, a descriptive research strategy is preferable when both the research problem and the objectives are well specified (Sekaran, 2003). In addition, the researcher has collected all the data at once, making this a cross-sectional study. Cost-effectiveness, time constraints, and the convenience of selecting a sample representative of the complete population are the main reasons why cross-sectional research design is preferred over longitudinal research (R. Kumar, 2011). Additionally, for the most part of the studies in consumer green purchasing behaviour generally makes use of the cross-sectional technique because of its practicality and time duration.

A questionnaire was employed to conduct an adequate survey for the research. Using a questionnaire, this technique produces a numerical description of segments of the population. Also, the researcher has a better grasp of the respondents' perspectives on the research problem. Furthermore, this approach allows the researcher to gain access to theoretical and practical information regarding studies of attitudes and perceptions (Malhotra, 2012). In a similar line, the survey methodology provides insight into the demographics, behaviour, and motivations of target audiences for market researchers

(Malhotra, 2012). As a result, studies in the field of marketing frequently employ this technique.

3.4 Sampling Method

Sampling is a selection method that uses a representative subset of a population to draw conclusions about the whole. A sample is a representative subset of a larger population collected by statistical methods (Cooper & Schindler, 2014). This stage comprises choosing the sample type, size, and procedure to collect data from the selected sample (Sekaran, 2003). Additionally, the study's sample serves as the main focus of the entire research procedure (Bryman & Bell, 2011). Due to the unknown population, larger population size, difficulty of access to individual respondents in COVID-19 lockdown, and unavailability of sampling frame, this study followed the non-probability sampling methodology by employing the combination of purposive, quota, and snowball sampling method to reach the highly relevant sample. In line with this, the cities have been selected through purposive sampling while the proportion of the questionnaire has distributed using quota sampling method. In addition to this, the data has been collected through snowball sampling method.

3.4.1 Population of the Study

People, things, events, or anything else of interest to the researcher that fits a certain description are all considered to be part of the population (Sekaran & Bougie, 2016, p. 236). This may consist of a single person, or it may include multiple people who are being questioned as part of the investigation (Malhotra, 2012). An overview of the entire population from which the study's sample will be drawn is provided below.

Essentially, the population for this research work are the people/individuals who has already purchased electric home appliances in Pakistan. Studying the entire population, however, was impractical, difficult, and expensive (Sekaran, 2003). In this sense, most of the past research about consumer buying behaviours in Pakistan, the total population has been divided into geographical divisions or clusters based on provinces or total number of districts. Similarly, corresponding to the study of Sandhu et al. (2019), they have selected the big cities such as capital cities (Lahore, Karachi, Quetta, Peshawar) of each province (Punjab, Sindh, Baluchistan, Khyber Pakhtunkhwa) and a federal capital city (Islamabad) for collection of data while studying the consumers behavioural intention of organic food buying in Pakistan. Similarly, Rizwan et al. (2013) has studied the phenomena of consumers' green buying from the respondents residing in metropolitan cities in Pakistan. In addition to this, Moon et al. (2021) has gathered the data using survey questionnaire from the youngsters of urban areas in Pakistan.

Table 3.2:
Top Populated (Big) Cities in Pakistan

No.	City	Population
1	Karachi	14,910,352
2	Lahore	11,126,285
3	Faisalabad	3,203,846
4	Rawalpindi	2,098,231
5	Gujranwala	2,027,001
6	Peshawar	1,970,042
7	Multan	1,871,843
8	Hyderabad	1,732,693
9	Islamabad	1,014,825
10	Quetta	1,001,205
	Total	*40,956,323*

Source: Pakistan Bureau of Statistics (Government of Pakistan) 2017 Census

According to Pakistan Bureau of Statistics (2017) Census, there are total 160 districts in Pakistan including capital territory and federal tribal areas. Among all the districts/cities, this study focused on the ten big districts/cities (top ten populated cities according to

Pakistan Bureau of Statistics (2017) Census) for data collection from consumers of electric home appliances in Pakistan (see Table 3.2) while employing the purposive sampling method. The purpose in choosing these large urban cities was to provide a cross-sectional representation of Pakistan's most populous ethnic groups like the Punjabis, Sindhis, Pashtuns, Baluchis and others, thence, better to predict overall population responses (Hameed et al., 2019). In addition to this, it can be widely observed that the big cities in Pakistan potentially offer various purchasing options of national and international brands of electric appliances to consumers through several shopping malls, specialised stores, and markets. Furthermore, these cities attract buyers through marketers' tremendous efforts and attractive advertisements through the print as well as electronic media.

Being that the focus of this research is green marketing, the researcher expects that consumers in these urban centres have numerous options for understanding the issues regarding the environmental problems and the availability of green products in the market due to the exposure of marketers' actions. Therefore, this study has selected the ten (10) big (most populated) cities of Pakistan according to the Pakistan Bureau of Statistics 2017 Census. Table 3.2 shows the selected cities with their respective population where this study was conducted. Thus, the online survey's sample population is comprised of residents from these ten cities. The reason for conducting online data collection was due to the lockdown enforced by the Government of Pakistan to avoid social contact and spread of pandemic COVID-19 (Elmer et al., 2020; A. Hussain et al., 2021).

Since the study's primary goal is to understand consumer behaviour in relation to green marketing strategies, the researcher is making the reasonable assumption that those under

the age of fifteen will not have had a substantial amount of exposure to the topic. Moreover, the population under the age of 15 years are considered as dependent to their parents or guardians, especially for making purchasing decisions. Similarly, the statistical departments under the Government of Pakistan considers the population 0f 15-24 years as youth (Pakistan Bureau of Statistics, 2017b). Furthermore, youth is considered as catalyst in every decision-making process and the future of every nation (Gaur et al., 2021; Praise, 2021). Likewise, population above 15 years of age is considered as independent for making their own purchasing decisions. Slabá (2020) argued that age is one of the crucial factors influencing consumers' purchasing behaviour. Therefore, people above the age of 15 years and living in the aforementioned cities were the selected target population for this study. According to CIA (2017) report, 36.01% of the total population of Pakistan is under the age of fifteen. Table 3.3 shows the total population calculation in selected cities.

Table 3.3
Total Population of Selected Cities Above the Age of 15 Years

City	Total Population	Population above 15 years
Karachi	14,910,352	9,541,134
Lahore	11,126,285	7,119,710
Faisalabad	3,203,846	2,050,141
Rawalpindi	2,098,231	1,342,658
Gujranwala	2,027,001	1,297,078
Peshawar	1,970,042	1,260,630
Multan	1,871,843	1,197,792
Hyderabad	1,732,693	1,108,750
Islamabad	1,014,825	649,386
Quetta	1,001,205	640,671
Total	*40,956,323*	*26,207,950*

Source: Pakistan Bureau of Statistics (Government of Pakistan) 2017 Census

The ten representative cities Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Peshawar, Multan, Hyderabad, Islamabad, and Quetta consists of 26.2 million population which were above the age of 15 years was the target population for the current study

(Table 3.3). In addition, urbanisation leads to the enhancement of income, education, living standard, and overall development of individuals and the economy. According to the census 2017, 36.38% of the total population was reported as urbanised, and for the ten cities selected for this study, nine of them have urbanisation rates above this average except one city i.e., Quetta. For instance, Karachi 93%, Lahore 100%, Faisalabad 40.69%, Rawalpindi 38.81%, Gujranwala 59.7%, Peshawar 48.19%, Multan 39.45%, Hyderabad 83.55%, Islamabad 50.57%, and Quetta 32.63% urbanisation rate (Pakistan Bureau of Statistics, 2017 Census). Also, people living in the big cities have diverse backgrounds (such as income, qualification, household size etc.) and some of them migrated from other parts of the country. Therefore, with the issues at hand and the limitations of the resource for conducting a survey in a large area, this research work will focus on the most populated ten big cities of Pakistan.

3.4.2 Unit of Analysis

The subject under study in the research is known as the unit of analysis. In other words, "it refers to the level of aggregation of the data collected during the subsequent data analysis stage" (Sekaran & Bougie, 2016, p. 102). Moreover, the unit of analysis is determined by the research questions as it is used to find out the solution to the research problem. It can be individual, dyads, groups, organisations, or cultures (Hair, Black, et al., 2014). It is especially important for any research to identify a right unit of analysis that would be easier for researcher to gather data from the respondents. For current study, the unit of analysis is individuals of above fifteen years of age of both male and female electric appliances consumers in Pakistan.

3.4.3 Sample Size Determination

Realistic findings from multivariate analysis necessitate a substantial enough sample size (Hair, Black, et al., 2014). Krejcie and Morgan (1970) sample size table suggests a sample size of 384 when the population is greater than one million. As opined by Roscoe (1975), a simple sample larger than 30 and less than 500 would suffice for the study. In addition, surveys employing a structural equation model are suited to a sample size of 150–400 (Hair, Black, et al., 2014). Furthermore, they advocated for a minimum sample size to item ratio of 5:1, meaning that there should not be fewer than five times as many observations as there are variables. On the other hand, Hair, Black, et al. (2014) stated that a sample size based on a 10:1 ratio is considerably more suitable for most studies.

In addition, as the study's total population is greater than one million, this study opted for the 384 sample size suggested by Krejcie and Morgan (1970) after considering the aforementioned issues pertaining to sample size and the limitations in a survey conducted from consumers, widely spread out across a huge geographical area. Moreover, for further confirmation of appropriateness of the selected sample size, a further measure was taken by using statistical power test (Cohen, 1988). Therefore, the sample size was estimated by using G*Power 3.1.9 software based on four parameters of power (1-β); effect size (f^2); alpha significance level (α); and number of exogenous variables in the research model (Faul et al., 2007). In line with this, the result of sample size calculation through G*Power 3.1.9 software are shown in figure 3.1. According to the G*Power software calculation based on the recommendation of Cohen (1988), parameters of power ($1-\beta = 0.95$); effect size ($f^2 = 0.15$); alpha significance level ($\alpha = 0.05$); with 7 predictors, the sample size for this study is 153 which is deemed appropriate. However, for a larger

population of 26,207,950 for the current study, the sample size calculated by G*Power may not adequate.

Furthermore, considering Hair, Sarstedt, et al. (2014) recommendation for adequate sample size that with multivariate studies, the sample size needs to be 10 times the number of variables. In this milieu, the sample size of the current study would be 80, which is far less than 384 as denoted earlier.

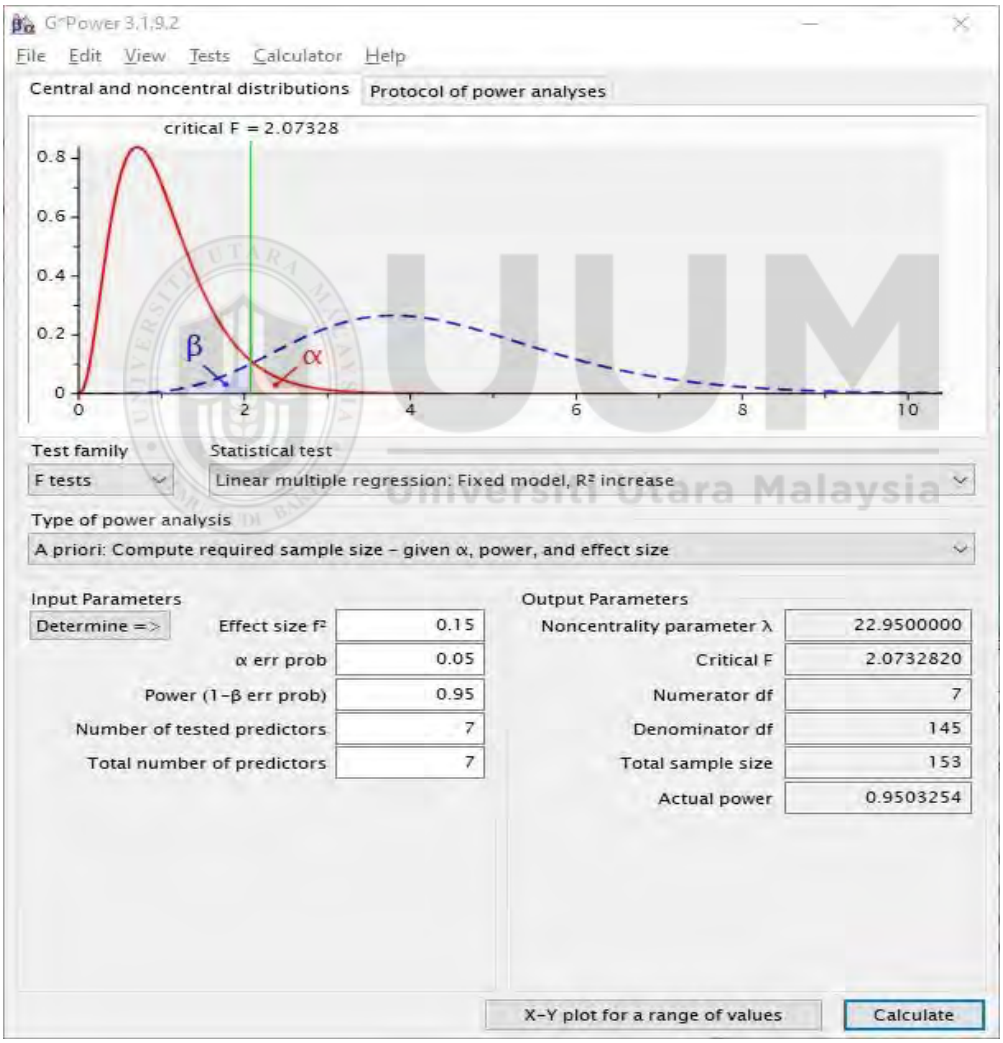

Figure 3.1:
*Sample Size Calculation Using G*Power 3.1.9 Software*

Therefore, the researcher changed back to more comprehensive recommendations of 384 sample size for this study suggested by Krejcie and Morgan (1970) as earlier mentioned. Consequently, the selected sample size is also considered as significantly adequate to accommodate the issues associated to sampling error, missing data etc. In addition to this, to maximise the representation of total population of every selected city using non-probability sampling, quota sampling technique was employed (Bryman & Bell, 2011; Cooper & Schindler, 2014; Sarstedt et al., 2018). Similarly, Babbie (2013b) argued that quota sampling resembles the probability sampling as it increases the chance of representation of respondents from selected population. Each selected city for this study has allocated a quota for number of questionnaires distribution based on the size of the population of each selected city. Thus, the sample size of 384 in this research was divided accordingly for the ten cities selected for data collection (see Table 3.4).

Table 3.4
City Wise Sample Size Distribution of Questionnaire Using Quota Sampling

City	Calculation	Quota Sample
Karachi	(9,541,134/26,207,950) *384	139.7 rounded off to 140
Lahore	(7,119,710/26,207,950) *384	104.4 rounded off to 104
Faisalabad	(2,050,141/26,207,950) *384	30.0 rounded off to 30
Rawalpindi	(1,342,658/26,207,950) *384	19.6 rounded off to 20
Gujranwala	(1,297,078/26,207,950) *384	19.0 rounded off to 19
Peshawar	(1,260,630/26,207,950) *384	18.4 rounded off to 18
Multan	(1,197,792/26,207,950) *384	17.5 rounded off to 18
Hyderabad	(1,108,750/26,207,950) *384	16.2 rounded off to 16
Islamabad	(649,386/26,207,950) *384	9.5 rounded off to 10
Quetta	(640,671/26,207,950) *384	9.3 rounded off to 9

3.5 Operationalisation and Measurement of Constructs

Operationalization is the method of transforming the variables of the research into measurement form that can be examined or quantify easily (Sekaran & Bougie, 2016). This section operationalises the variables and presents the measurement instruments

adapted from the related literature. Importantly, as in the literature, all the variables of this research are measured in unidimensional and reflective nature, which means that the measurement items are closely related. Additionally, the deletion of the items which are measured on reflective grounds do not hamper the content validity of the construct (Hair, Hult, et al., 2014). Therefore, prior studies were reviewed extensively to select the appropriate set of items to measure the variables. The operational definition of every variable and their measurement instruments were described in tables 3.5 to table 3.12.

3.5.1 Green Purchase Behaviour

The green purchase behaviour (GPB) has been measured using a combination of 11 items adapted from previous research. The eight items were selected from Abid and Latif (2015) and three items from Testa et al. (2016). Consequently, these items have been evaluated to measure green purchase behaviour in order to achieve valid results. Table shows the items of GPB.

Table 3.5:
Operationalisation and Measurement of GPB

Operationalisation	Measurement items	Source
GPB is operationalised as "purchase of environmentally friendly products which are beneficial to environment and avoiding such products which harm the environment" (Jaiswal & Kant, 2018).	1. I care about buying green products. 2. If I understand the potential damage to the environment that some products can cause, I do not purchase those products. 3. The products with green labels are more attractive to me. 4. The probability of buying products with green labels is high. 5. I am willing to pay more money for green products. 6. I have switched products for ecological reasons. 7. I have avoided buying a product because it had potential harmful environmental effect. 8. I make special effort to buy electric	Abid and Latif (2015) Cronbach's Alpha: 0.848 Testa et al. (2016) Cronbach's Alpha: 0.8618

	home appliances such as refrigerators, air conditioners, that are energy efficient. 9. When buying electric appliances, if I could choose between energy-saving and conventional product, I would prefer energy-saving products. 10. I try to buy products that save more energy. 11. I buy high efficiency electric home appliances to save energy.	

3.5.2 Government Regulations

Government regulations (GTRG) has been assessed using six adapted items from Masi and Karatu (2015). These items have relevance to this study and has been assessed, thus, adapted for this study. The items are shown in Table 3.6.

Table 3.6:
Operationalisation and Measurement of Government Regulations

Operationalisation	**Measurement items**	**Source**
GTRG is operationalised as "the extent to which government establish regulations to control production and consumption of hazardous wastes produced by organisations" (Karatu, 2015b).	12. The government should enforce environmental regulations on green practices. 13. Environmental protection is the sole responsibility of the Pakistan government. 14. The government should help to develop green consumption in Pakistan. 15. The government regulations support purchase of green products in Pakistan. 16. The Pakistan government should actively promote green marketing activities in Pakistan. 17. The government should encourage me to consume green products by providing subsidies on green.	Masi and Karatu (2015) Cronbach's Alpha: 0.807

3.5.3 Green Product

Measurement items for green product (GPDT) were adapted from the existing work of Hossain and Khan (2018). The four selected items were shown in Table 3.7.

Table 3.7:
Operationalisation and Measurement of Green Product

Operationalisation	Measurement items	Source
GPDT is operationalised as "the products that are not harmful for environment, responds to consumers environmental needs and requirements, as well as produced using toxic-free ingredients" (Hossain & Khan, 2018).	18. The energy-efficient electric appliances companies contribute to producing electric appliances resulted in less environmental pollution. 19. The quality of energy-efficient electric appliances is high. 20. The brands of energy-efficient electric appliances are credible. 21. The energy-efficient electric appliances are free of toxic materials.	Hossain & Khan (2018) Cronbach's Alpha: 0.873

3.5.4 Green Price

The measurement scale of green price (GPRC) has been adapted from Hossain and Khan (2018) and Mahmoud, Ibrahim, Ali, and Bleady (2017). Table 3.8 describes the items of green price. The first five items were adapted from Hossain and Khan (2018) in their study of green marketing mix effect on consumer purchasing decision. Whereas, the last item in the table was adapted from Mahmoud et al. (2017) in their research of the influence of green marketing mix on purchase intention.

Table 3.8:
Operationalisation and Measurement of Green Price

Operationalisation	Measurement items	Source
GPRC is operationalised as "the cost paid by consumers against the environmental benefits of a product" (Hossain & Khan,	22. Price of energy-efficient electric appliances is proportionate with their quality. 23. The quality of energy-	Hossain & Khan (2018) Cronbach's Alpha: 0.873

2018; Mahmoud, 2017).	efficient electric appliances justifies the price. 24. The price of energy-efficient electric appliances is reasonable. 25. I am willing to pay high price for energy-efficient electric appliances. 26. Price gap between energy-efficient electric appliances and conventional electric appliances is huge. 27. High price of energy-efficient electric appliances sometimes stops me from purchasing them.	(Mahmoud et al., 2017) Cronbach's Alpha: 0.786

3.5.5 Green Place

Green place (GPLC) has been measured using four items adapted from the validated work of Hossain and Khan (2018) as shown in Table 3.9.

Table 3.9:
Operationalisation and Measurement of Green Place

Operationalisation	Measurement items	Source
GPLC operationalised as "distribution gates used to deal with green products, which are appropriate for consumers, in terms of facilitating their delivery, conducting within environmental conditions and requirements" (Hossain & Khan, 2018).	28. There is more choice of energy-efficient electric appliances available in the stores. 29. It is becoming easier to get energy-efficient electric appliances in your area. 30. The energy-efficient electric appliances are available in the stores. 31. Companies that manufacture energy-efficient electric appliances are eager to work with environmentally conscious retailers.	Hossain and Khan (2018) Cronbach's Alpha: 0.873

3.5.6 Green Promotion

Green promotion (GPRM) scale includes five items, out of which three were adapted from the empirical study of Mahmoud et al. (2017) and two items from Hossain and Khan (2018). The measurement items are revealed in Table 3.10.

Table 3.10:
Operationalisation and Measurement of Green Promotion

Operationalisation	Measurement items	Source
GPRM is operationalised as "collaborating information on environmental promises and efforts made by firms to consumers in such a way that does not harm the materialistic and moral consumers' interests" (Hossain & Khan, 2018; Mahmoud et al., 2017).	32. Electric appliances companies promote energy-efficient electric appliance through green marketing campaign. 33. Electric appliances companies promote energy-efficient electric appliance through green advertising. 34. Electric appliances companies holding seminars and conferences related to the environment. 35. Electric appliances companies devote a special day for environment. 36. Electric appliances companies contribute in supporting the environmental centres.	(Hossain & Khan, 2018) Cronbach's Alpha: 0.873

3.5.7 Attitude Towards Green Purchase

This study had adapted the eight operationalised items from H. V. Nguyen et al. (2019); and T. N. Nguyen et al. (2018). Four items were adapted from each study respectively to measure the attitude towards green purchase (ATGP) as they were in relevance with this study.

Table 3.11:
Operationalisation and Measurement of Attitude towards Green Purchase

Operationalisation	Measurement items	Source
ATGP is operationalised as "consumer's cognitive and rational judgement of the value of green purchasing efforts for the evaluation of green purchase	37. Buying energy-efficient electric appliances instead of conventional electric appliances is beneficial. 38. Buying energy-efficient	H. V. Nguyen, Nguyen, Nguyen, Lobo, & Vu (2019) Cronbach's Alpha: 0.828

behaviour" (Jaiswal & Kant, 2018).	electric appliances instead of conventional electric appliances is a wise choice. 39. Buying energy-efficient electric appliances instead of conventional electric appliances make me feel good. 40. Buying energy-efficient electric appliances instead of conventional electric appliances make me feel pleased. 41. When buying electric appliances, environmental protection is a priority for me. 42. Energy-efficient appliances are important to reduce air pollution. 43. Energy-efficient appliances are essential to conserve natural resources, such as coal, gas, and oil, which are used to generate electricity. 44. If I can choose between energy efficient and conventional appliances, I prefer energy efficient.	T. N. Nguyen, Lobo, & Nguyen (2018) Cronbach's Alpha: 0.87

3.5.8 Green Trust

The measurement of green trust (GTST) was adapted and based on the scales established by Chen (2010). All items were adapted in anticipation that their reliability will be an appropriate in this study.

Table 3.12:
Operationalisation and Measurement of Green Trust

Operationalisation	**Measurement items**	**Source**
GTST is operationalised as "a willingness to depend on a product or brand based on the belief or expectation resulting from its credibility, benevolence, and ability about its environmental performance" (Y. S. Chen & Chang, 2013a).	45. I believe that this product's environmental image is generally reliable. 46. I think that this product's environmental functionality is generally dependable. 47. Overall, I believe that this product environmental claims are trustworthy.	Chen (2010) Cronbach's Alpha: 0.768

	48. This product's environmental performance meets my expectations. 49. This product keeps promises for environmental improvement.

3.6 Questionnaire Design

After years of study, experts have concluded that questionnaires are the most effective data collection tool, provided the examiner is familiar with the appropriate questions to ask and how to accurately evaluate the constructs under investigation. Additionally, this can help to attain accuracy and applicability throughout the entire survey (Adams et al., 2014). In this survey, a close-ended structured questionnaire and scale-response questions has been applied. The close-ended questions have been administered to the respondents to obtain the adequate information that will be critical to the research findings. Moreover, to quantify the responses, scale-response will be used to analyse the data (Bryman & Bell, 2011).

The purpose of the questionnaire was to measure the respondent's GPB. Selection of measurement scale and statistical test is vital for the research. There are numerous ways to measure the variables through scales. Similarly, in marketing and social science research, the most common measurement scale is the Likert scale. Hence, the Likert scale can assist the researchers to easily analyse the collected data (Adams et al., 2014; Bryman & Bell, 2011).

The Likert scale is a bipolar technique through which the researcher can measure positive or negative responses of a given question, and where the odd-numbered scale is used, the mid-point is usually neutral. Researchers argue that odd-numbered Likert scale is more

appropriate for business researches, as some respondents feel neutral about the question stated (Adams et al., 2014). Further, Malhotra (2012) stated that if the size of respondents is large then generally 5-point Likert scale is utilised to measure the response through the degree of agreement or disagreement with a particular statement. Therefore, the present study has adopted the 5-point Likert scale (1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree) to measure the response from the items in the questionnaire. This study comprised of five independent variables which are government regulations (GTRG), green product (GPDT), green price (GPRC), green place (GPLC), and green promotion (GPRM). The mediating variable is attitude towards the green purchase (ATGP), a moderating variable green trust (GTST), and one dependant variable green purchase behaviour (GPB).

The current study questionnaire is divided into three parts. The first part was the cover page, which provided a quick overview of the topic and encouraged the respondent to help by completing the questionnaire. The researcher had assured the confidentiality of respondents' information by providing the details of himself including contact number and email address. In the second part of the questionnaire is the demographics information for instance gender, age, academic qualification, marital status, etc. are listed. Moreover, it included the screening questions for respondents about their recent buying of energy-efficient electric appliances and to limit the responses only from selected top ten (10) populated cities of Pakistan.

The first filter question was about the city of residence, if respondents did not select the ten listed cities (selected for this study), rather selected "other" from the list of cities, the questionnaire form would no longer be available for next sections of the questionnaire

about the main variables of the study. Similarly, the second filter question included “have you bought any green (energy-efficient) electric appliances in past one (1) year?” Answering to the filter question, if the respondents selected “No” for this question, the questionnaire did not go further for other sections.

The main variables on which the study is focussing was covered in the last segment of the questionnaire. This segment consists of forty-nine (49) items determining the green purchase behaviour. Moreover, the last segment is divided into sub-sections, section-I composed of the measurement items of green purchase behaviour (GPB) and government regulations (GTRG), section-II composed of items related to green product (GPDT), green price (GPRC), green place (GPLC), and green promotion (GPRM), whereas, section-III having the measurement items regarding attitude towards green purchase (ATGP) and green trust (GTST).

3.6.1 Pre-Test

In this study, the content validity was conducted to ensure that what an instrument is intended to measure was measured actually. The pre-test was conducted by sending the questionnaire to four individuals, i.e., two faculty members and two practitioners, who are using green marketing and green consumer behaviour for more than a year. Overall, the experts have positive opinion about the understanding and wording of the items in questionnaire. However, the researcher got a suggestion from experts to translate the questionnaire in local language (i.e., Urdu) to make it clearer to understand for the respondents. For this purpose, the questionnaire was presented to two language experts in Pakistan for English to Urdu translation for clarity of language and conceptual consistency. After the questionnaire translation step, the questionnaire was presented

again for pre-test to get expert opinion. Though, certain items have been correctly reworded in Urdu translation to test the construct and be interpreted by prospective respondents as per scholarly and expert advice.

The researcher modified an update variant of the instrument administered for the pilot study after considering the pre-test results. The pilot research was conducted on 87 conveniently chosen consumers buying electric home appliances through the questionnaire prepared from an online google form as a mini-scale version of the study. The final version of the questionnaire is four (4) pages as attached in Appendix A.

3.6.2 Pilot Test for the Study

A pilot test is usually performed to check the reliability and validity of the instrument before distributing the questionnaire to the target population (Sekaran & Bougie, 2016). The validity of the questionnaire items refers to the degree in which the questionnaire actually measures what it tends to measure. On the other hand, a high level of reliability suggests that both the questionnaire's accuracy and the reliability of its predicted findings hold true across time and across different settings (Sekaran & Bougie, 2016). The purpose of pilot test is to analyse whether the questionnaire measures the right information from potential respondents, which it intends to measure. Similarly, the following reasons have been provided to justify pilot study: (a) to determine the validity and reliability of measurement items; (b) to assess the suitability of words, phrases, and questions asked in the questionnaire; (c) to check if the questions are structured in a way that would elicit the best and most relevant answers; and (d) to determine whether or not the responders can supply the appropriate data for the research. Hence, a pilot study helps

to identify the anticipated problems and allows the researcher to make corrections before starting the actual research.

Therefore, the following procedure was adopted for a pilot test to check the validity and reliability of the instrument. A pilot test was conducted using 87 respondents; according to the rule of thumb for the central limit theorem, at least 30 respondents were needed to approximate the sampling distribution. The participation of 87 respondents was deemed an appropriate number since usually the pilot study size range from 30-100 (Cooper & Schindler, 2014). Data for the pilot study were collected from the consumers of electric home appliances in Pakistan. Since this research was a consumer behaviour study; respondents were the consumers who bought electric home appliances in past one year. The pilot test was utilised to measure the internal consistency of the instrument of 49 items of all constructs by calculating the Cronbach's Alpha, Composite Reliability, and McDonald's Omega values of each construct.

Miltgen et al. (2016) stated that Cronbach's alpha and Composite reliability are the traditional and inconsistent reliability measures. In addition to this, in most cases, alpha underestimates while CR overestimates the actual reliability of the construct. Moreover, it has been argued that the underestimation of the construct by Cronbach's alpha is due to its assumptions of equal variance. So, Omega is a more general estimate of reliability and a better alternate to alpha with no assumption of equal variance (Hayes & Coutts, 2020). Omega measure reliability more accurately than alpha does (Green & Yang, 2009; Trizano-Hermosilla & Alvarado, 2016), thence, the recommended alternative to alpha is Omega (Dunn et al., 2014; Mcneish, 2018). For this study, researchestimatesyed all three

measures (Cronbach's alpha, composite reliability, and McDonald's omega) for internal consistency reliability estimate of pilot test.

Finally, the results of Cronbach's Alpha are consistent with the typical values, where an alpha of 0.65 or higher suggests above-average reliability and an alpha of 0.70 or higher shows excellent reliability (Hair, Sarstedt, et al., 2014; Sekaran & Bougie, 2016). Moreover, the Composite Reliability (CR) values are also in line with the standard values i.e., the values should be greater than to 0.7 (Sarstedt et al., 2019). Similarly, the obtained values from McDonald's Omega also confirms the internal consistence reliability of the scale as all values are above 0.7. The reliability test was conducted using SmartPLS3 software for Cronbach's alpha and composite reliability (CR), whereas McDonald's Omega values were calculated through a macro downloaded from http://afhayes.com/spss-sas-and-r-macros-and-code.html and installed in SPSS ver.23. The obtained results shows that all measurements have reliability indicators from 0.822 to 0.929 for Cronbach's Alpha, from 0.871 to 0.941 for Composite Reliability, and 0.826 to 0.928 for McDonald's Omega (see Table 3.13 and Figure 3.1).

Table 3.13
Reliability Statistics for Pilot Study (n=87)

	Cronbach's Alpha	**McDonald's Omega**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Attitude Towards Green Purchase (ATGP)	0.929	0.930	0.941	0.667
Green Purchase Behaviour (GPB)	0.910	0.907	0.924	0.531
Green Product (GPDT)	0.829	0.834	0.883	0.653
Green Place (GPLC)	0.828	0.833	0.884	0.659
Green Price (GPRC)	0.822	0.848	0.871	0.535
Green Promotion (GPRM)	0.876	0.877	0.908	0.665
Government Regulations (GTRG)	0.844	0.833	0.886	0.571
Green Trust (GTST)	0.903	0.904	0.928	0.722

For further validation, the discriminant validity of measurement model of pilot study was also assessed using Fornell and Larcker (1981) criteria and Heterotrait-Monotrait ratio of correlation (HTMT) as suggested by Kline (2011) while using SmartPLS3 software. The results (see Table 3.14 and 3.15) confirmed the discriminant validity of all the measures used for pilot study.

Table 3.14
Discriminant Validity (Formell & Larcker criterion) for pilot study

	ATGP	GPB	GPDT	GPLC	GPRC	GPRM	GTRG	GTST
ATGP	**0.817**							
GPB	0.581	**0.729**						
GPDT	0.422	0.469	**0.808**					
GPLC	0.368	0.364	0.502	**0.812**				
GPRC	0.528	0.498	0.632	0.545	**0.731**			
GPRM	0.408	0.334	0.42	0.703	0.515	**0.816**		
GTRG	0.663	0.714	0.526	0.384	0.454	0.4	**0.755**	
GTST	0.634	0.468	0.659	0.595	0.677	0.586	0.482	**0.85**

Table 3.15
Discriminant validity Using Heterotrait-Monotrait (HTMT) Ratio for pilot study

	ATGP	GPB	GPDT	GPLC	GPRC	GPRM	GTRG	GTST
ATGP								
GPB	0.586							
GPDT	0.447	0.527						
GPLC	0.393	0.396	0.571					
GPRC	0.568	0.574	0.743	0.641				
GPRM	0.436	0.368	0.451	0.841	0.615			
GTRG	0.717	0.776	0.617	0.487	0.536	0.489		
GTST	0.678	0.494	0.729	0.688	0.788	0.654	0.544	

The results of the pilot study revealed that all the items have a high degree of reliability. Additionally, for the purpose of better understanding by the respondents, the final version of the questionnaire was provided in both English and Urdu.

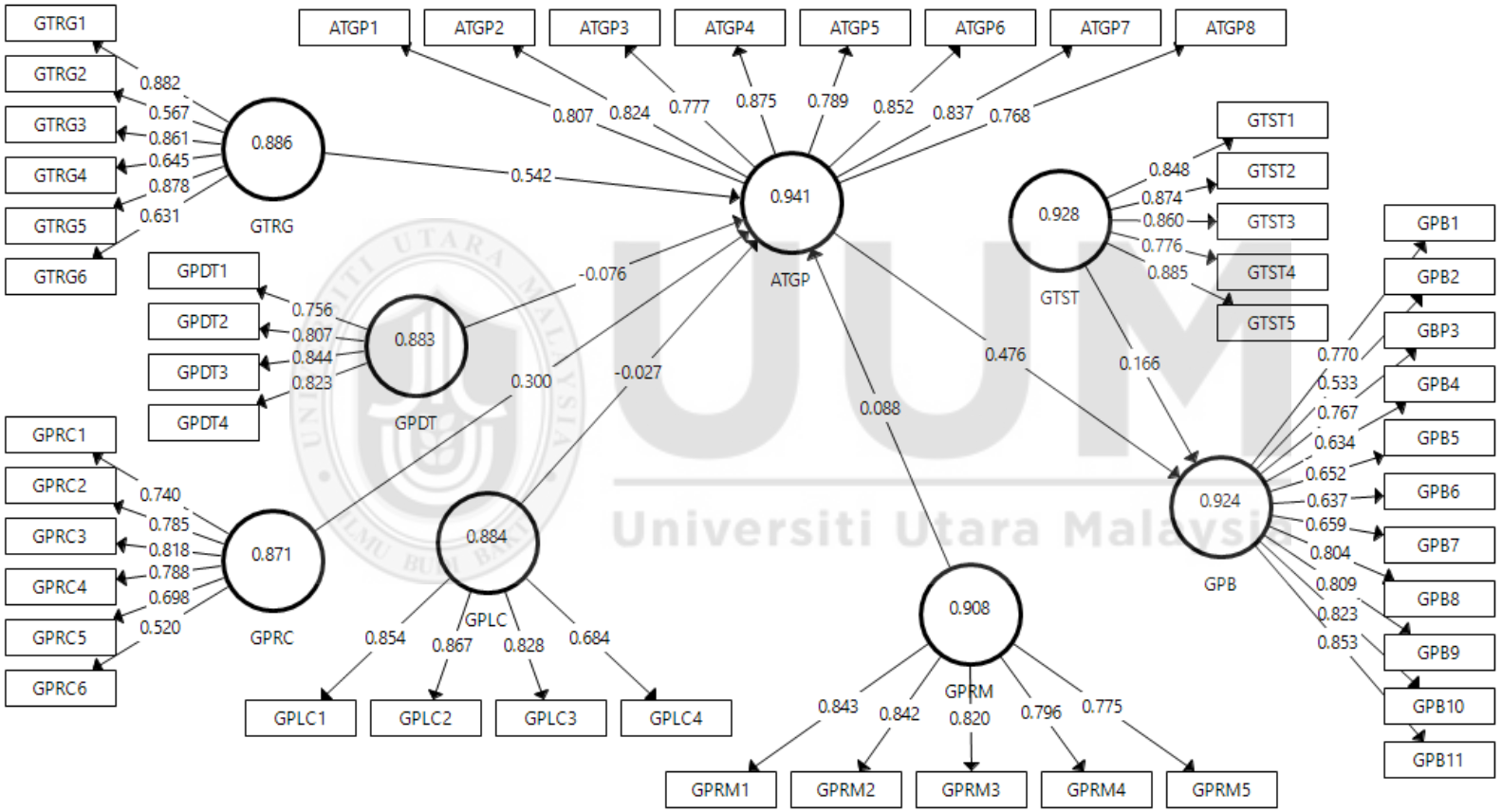

Figure 3.2
Measurement Model for Pilot Study (with CR values in circles)

3.7 Data Collection Procedure

An important part of research is the data collection phase. The act of collecting data was started to get accurate information from the unit of analysis (Malhotra, 2012). Data can be collected in a variety of ways, including via telephone, mail, e-mail, self-administered forms, or a mix of these (Cooper & Schindler, 2014).

In this study, the researcher used the snowball method for online collection of the data. More importantly, the reason for selecting online data collection was the lockdown implemented by the Government of Pakistan (GOP) to avoid the social contacts and avoid the spread of pandemic (COVID-19). In line with this, Mooi et al. (2018) stated that snowball method is a predominant technique in situations where the access of individuals is difficult. Prior researchers have employed snowball sampling while analysing consumer's environmental behaviours (Felix & Braunsberger, 2016; G. Joshi & Nulkar, 2016; Lai & Cheng, 2016). In addition, this method of data collection is effective for saving time and cost. The online data has been collected through questionnaires prepared online through Google form and sending questionnaires link via social media platforms (i.e., WhatsApp, Facebook, etc). Precisely, about five and half months to collect all the data from the respondents starting from mid of March 2021.

3.8 Method of Data Analysis

In this phase, the steps for analysing the collected data from the respondents are outlined. Tasks such as data input, data screening, and the choice of an appropriate analysis method were carried out after the data was obtained (Sekaran, 2003). A comprehensive data scan was done to look for mistakes that may have happened during data entry or in

cases where respondents declined to participate. Together descriptive and inferential statistics has been applied to investigate the collected data, using Statistical Package for Social Sciences (SPSS ver.23) and SmartPLS3. The descriptive statistics was calculated through SPSS and inferential statistics through SmartPLS3. The examination of these data has helped the researcher better grasp and make logical sense of the phenomenon (Babbie, 2013a).

3.8.1 Partial Least Square Structural Equation Modelling (PLS-SEM)

Previously, different authors defined Structural Equation Modelling (SEM) in several ways. Often depicted as a network of linear relationships between variables, it is an analysis approach used to show, estimate, and evaluate the network of relationships between measured variables and latent construct (Rigdon, 1995). Also, among different statistical models, this statistical model seeks to explain the relationship amongst multiple variables (Hair, Black, et al., 2014). It's also a widely accepted statistical method for examining the degree to which observable and latent variables are linked (Hoyle, 1995). SEM is similarly known as covariance based structural and latent variable analysis.

Moreover, it is a second-generation technique that has been applied by many scholars of social sciences discipline (Hair et al., 2019). In addition, PLS-SEM is a useful technique for utilising structural equation models and in recent times it achieved a significance usage in management, marketing and behavioural studies (Seyler, 2019). This method can be adapted to a variety of situations, and it is employed in the fields of statistical model building and forecasting (Mooi et al., 2018).

3.8.2 The Rationale for Using Partial Least Square Structural Equation Modelling (PLS-SEM)

Specifically, the current study employed the PLS method principally for the following reasons. First, it is well-established that structural equations models are superior to regressions for making estimations and for evaluating mediation (Preacher & Hayes, 2008). Additionally, it offers extremely precise estimates for mediating effects and aids in accounting for measurement errors (Chin, 1998).

Second, because it can handle complex models, PLS path modelling is being used to simulate real-world phenomena, which is capturing the interest of scholars (Hulland, 1999). In essence, the PLS approach contains a few soft assumptions that give it an advantage when estimating large and complicated frameworks (Akter et al., 2011; Hair et al., 2019). Therefore, this research examined the relationships among eight variables (i.e., government regulations, green product, green price, green place, green promotion, attitude towards green purchase, green trust, and green purchase behaviour) in the structural model and therefore used of the PLS SEM technique which is suitable for better prediction.

Thirdly, The majority of social science data are almost usually plagued by a normality problem (Osborne, 2010), but using path modelling in PLS, it is not necessarily for data to be normal (Hair et al., 2019; Wetzels et al., 2009). In summary, PLS has the ability or built-in method to address non-normal data with great care. In essence, PLS path modelling will be used in this study to prevent against any issues with normality that can arise during data analysis. This therefore connoted that PLS is free from many assumptions such as sample size, normality, multicollinearity and which in essence

indicates that tests for skewness, kurtosis, Kolmogrov-Smirov and so on are not required while running PLS SEM (Hussein & Mourad, 2014).

Fourthly, PLS SEM provides relevant and legitimate results as compared to other techniques like SPSS, as the latter's results are frequently unclear and would necessitate multiple distinct analyses (Seyler, 2019). Mooi et al. (2018) state that "SEM is one of the most powerful statistical tools in social and behavioural sciences that have the ability of assessing several relationships simultaneously".

This study therefore used SmartPLS3 path modelling for establishing measurement and structural models. Furthermore, the reliability and validity of the constructs of this study have been described by the measurement model whilst the structural model helped in conducting multivariate correlation analysis so as to establish correlations, and the effects of relationship among constructs under examination. Additionally, using the PLS mechanism of algorithm and bootstrapping, the mediating effects of ATGP on the relationship between GTRG, GPDT, GPRC, GPLC, GPRM, and GPB have been analysed. Moreover, the moderating effect of GTST between ATGP and GPB has also been analysed.

3.9 Chapter Summary

This chapter elaborates the research methodology that has been applied for performing this research. The population for current study and the sample of the study was precisely described. Moreover, it also highlights the operationalisation of the construct and the measurement items that researcher has used to gather the data. Furthermore, pre-test and

the results of pilot study was discussed. Lastly, the data analysis techniques are discussed in this chapter.

CHAPTER FOUR
DATA ANALYSIS AND FINDINGS

4.0 Introduction

The previous chapter provides an explanation about how this study was conducted. This chapter presents the results of the data analysis. The survey's response rate, data coding, and data filtration tests are presented first. Subsequently, data on the demographics (including respondents' gender, ages, incomes, occupations, levels of education, and city of residence) of the entire sample were presented. After that, the descriptive analysis of the variables conducted through SPSS is discussed. Thereafter, data normality test was carried out. Along with this, the assessment of measurement model and structural model was carried out through PLS-SEM with SmartPLS3 software. A table summarising the study's hypotheses is presented underneath.

4.1 Response Rate

The current study took almost six months for the activity of data collection, which started from March 2021 to August 2021. In this perspective, 500 questionnaires were distributed; 113 were deemed ineligible for further screening because they did not include sufficient information to be analysed. The ineligibility of the questionnaires was based on the filter questions (mentioned in previous chapter under section 3.6) about the recent purchasing of energy-efficient electric appliances and the city of residence. Moreover, the questionnaires which were incomplete also excluded for further analyses. Thus, 387 questionnaires were used for further analyses as mentioned in the table 4.1 below.

Table 4.1
Questionnaire Filled and Usable

Total Questionnaires Filled	500
Questionnaires not meeting criteria	83
Incomplete Questionnaires	30
Usable Questionnaires	387
Response Rate Percentage	100%
Usable Response Rate	77.4%

4.2 Data Coding

In the categorization of data coding, Blair (2015) pinpointed that the data coding rules have two categories. The initial step is to give each construct a unique identifier number that will be used later in the research. Second, items would emerge to identify the constructs in the research, such as how each variable should be questioned about in a variety of ways. Therefore, Table 4.2 below showed the assigned code of each construct of the present study.

Table 4.2
Variables Coding

Variable	**Code**
Government Regulations	GTRG
Green Products	GPDT
Green Price	GPRC
Green Place	GPLC
Green Promotion	GPRM
Attitude Towards Green Purchase	ATGP
Green Trust	GTST
Green Purchase Behaviour	GPB

4.3 Non-Response Bias Test

The non-response bias exists in the collected data because of the different results obtained by the researcher, particularly in the survey method (Hendra & Hill, 2019). The term "non-response bias" refers to a statistical error that occurs when there is a systematic

difference between the answers given by participants and those given by people who chose not to take part in the study (Cooper & Schindler, 2014). Usually, the findings of collected data can be highly affected in such conditions where respondents vary considerably based on demographics, personalities, and behaviours (Malhotra, 2012). Furthermore, scholars argued that non-response bias may arise if respondents did not answer correctly due to unclear options used in Likert-scale or non-clarity of the questions, which may cause return or respond to questionnaires later than expected (Hair et al., 2017). An independent sample t-test was conducted on all the variables in the current analysis of the study, including dependent, moderator, mediator, and independent variables, to determine the early and late responses (Pallant, 2016).

Table 4.3
Group Descriptive Statistics for the Early and Late Responses

Variables	Responses	N	Mean	Std. Deviation	Std. Error Mean
Government Regulations (GTRG)	Early	144	4.07	0.63	0.05
	Late	243	4.10	0.53	0.03
Green Product (GPDT)	Early	144	3.95	0.72	0.06
	Late	243	3.89	0.78	0.05
Green Price (GPRC)	Early	144	4.24	0.63	0.05
	Late	243	4.26	0.52	0.03
Green Place (GPLC)	Early	144	3.86	0.86	0.07
	Late	243	4.03	0.79	0.05
Green Promotion (GPRM)	Early	144	3.98	0.62	0.05
	Late	243	4.01	0.56	0.03
Attitude Towards Green Purchase (ATGP)	Early	144	4.10	0.55	0.04
	Late	243	4.10	0.49	0.03
Green Trust (GTST)	Early	144	3.89	0.57	0.04
	Late	243	3.86	0.60	0.03
Green Purchase Behaviour (GPB)	Early	144	4.01	0.58	0.04
	Late	243	3.95	0.55	0.03

The respondents have been split into two groups including early and late respondents. For the purpose of distinguishing between early and late responses, the eight (8) week mark has been chosen as a benchmark. It has been assumed that the period of five to six

months would be suitable for respondents to complete the questionnaires. The respondents who completed the online questionnaire from mid of March 2021 to end of May 2021 were considered as early respondents. Similarly, the respondents who completed the questionnaires after May 2021 were considered as late respondents. The early (i.e., within eight weeks) obtained responses are significantly different from those that acknowledged late (i.e., eight weeks afterwards). This time was considered appropriate as consumers of electric home appliances were potential respondents in this study who usually do not buy the electric home appliances regularly (Baczynska & Rowiński, 2020). Based on the respondents' 387 returned questionnaires, 144 were marked as early responses, and 243 were classified as late responses. After, the analysis was conducted using SPSS to analyse the disparity between early and late responses. The findings exhibited no substantial variance between early and late answers (See Table 4.3).

Moreover, another method known as Levene's test was performed on all variables; GTRG, GPDT, GPRC, GPLC, GPRM, ATGP, GTST, and GPB to analyse the variance between the early and late response.

The results of independent sample t-test for equality of means are shown in the Table 4.4, which showed that except for the GPLC construct (t-value = -2.020, $p < 0.05$), all other variables' p-values are greater than 0.05, which depicted the acceptance of the null hypothesis and rejection of the alternate hypothesis. The outcome indicated that the major issue of non-response bias did not exist in the current study.

Table 4.4
Independent Sample t-test for Equality of Means

	Levene's test		t-test for equality means						
								95% confidence interval of the difference	
	F	Sig.	t	df	Sig (2-tailed)	Mean difference	Std. Error Difference	Lower	Upper
GTRG	3.490	0.620	-0.570	385	0.568	-0.034	0.060	-0.152	0.083
			-0.540	260	0.585	-0.034	0.062	-0.158	0.089
GPDT	2.140	0.140	0.660	385	0.507	0.053	0.079	-0.104	0.210
			0.680	320	0.498	0.053	0.078	-0.100	0.207
GPRC	7.340	0.007	-0.440	385	0.655	-0.260	0.059	-0.143	0.090
			-0.420	255	0.671	-0.260	0.062	-0.143	0.096
GPLC	2.350	0.120	-2.020	385	0.044	-0.170	0.086	-0.343	-0.004
			-1.970	279	0.049	-0.170	0.088	-0.347	-0.001
GPRM	0.480	0.490	-0.620	385	0.537	-0.038	0.061	-0.159	0.083
			-0.600	277	0.547	-0.038	0.063	-0.162	0.086
ATGP	4.050	0.045	-0.005	385	0.996	-0.000	0.054	-0.106	0.105
			-0.005	274	0.996	-0.000	0.055	-0.109	0.109
GTST	0.019	0.890	0.450	385	0.652	0.028	0.062	-0.094	0.150
			0.460	310	0.649	0.028	0.061	-0.093	0.149
GPB	0.013	0.910	1.070	385	0.286	0.063	0.059	-0.053	0.180
			1.050	286	0.294	0.063	0.060	-0.055	0.182

4.4 Common Method Variance

To put it simply, common method variance (CMV) or common method bias (CMB), which is also known as mono-method bias define as "variance that is attributable to the measurement method rather than to the construct of interest" (Podsakoff et al., 2003, p. 879). The CMV can occur while collecting dependent and independent variables data at one point in the time through the same participant (Chang et al., 2020). Generally, scholars have concluded that common method bias issues occurred in a self-reported questionnaire survey (Podsakoff et al., 2003; Tehseen et al., 2017).

The present study used two remedial procedures to lower the impact of CMV (Podsakoff et al., 2012). Firstly, the researcher has avoided vague concepts from the questionnaire, and items are written in simple and precise language. Secondly, the researcher has assured the respondents' utmost privacy of responses, and there is no specific right and

wrong in the questionnaire. In addition to this procedural remedy, the present study also applied Herman's single factor test (Podsakoff et al., 2003). Using exploratory factor analysis, researchers can examine the covariance contributions of each variable and determine whether or not any one of them accounts for more than half (>50%) of it. If no variable contributes more than half (>50%) of the variance, then the CMV problem does not exist.

In the current study, all 49 items were analysed using SPSS software, and the result revealed that all the factors have below 50% variance. The result showed that maximum 34.14% variance was accounted for a single factor, which demonstrated the common method variance issue does not prevail in the current study (Lowry & Gaskin, 2014; Podsakoff et al., 2003).

Table 4.5:
Herman's Factor Analysis for CMV

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
GTRG	2.734	34.174	34.174	2.734	34.174	34.174
GPDT	1.308	16.348	50.522			
GPRC	1.033	12.909	63.431			
GPLC	0.896	11.195	74.626			
GPRM	0.799	9.982	84.608			
ATGP	0.634	7.921	92.529			
GTST	0.339	4.243	96.771			
GPB	0.258	3.229	100.000			

4.5 Initial Data Examination, Screening, and Preparation

The primary data analysis mainly consists of two methods, which are missing value analysis and descriptive statistics analysis. First, the missing value analysis has been conducted to examine the data set for the subsequent procedure of analysis. Later, the descriptive analysis estimated the data characteristics such as mean, minimum,

maximum, and standard deviation. Additionally, preliminary data examination and preparation enable the researcher to understand data for the effective results.

4.5.1 Missing Value Analysis

Data screening for missing values is an essential procedure because the PLS-SEM technique cannot be performed if the collected data has missing values (Schumacker & Lomax, 2004). There are numerous reasons for missing values in the data, such as respondents are not willing to fill the questionnaire or the inability of the respondent to understand the question (Sekaran & Bougie, 2016) since the missing value is a frequent problem that occurred in the data analysis. Although, several scholars suggested that missing values should be deleted before analysis (Peugh & Enders, 2004) because a small number of missing values can mislead the estimation in PLS regression (Nengsih et al., 2019). Thus, the present study used the "drop the case method" as suggested by Tabachnick et al. (2007). Hence, in the present study, 30 questionnaires were eliminated due to the missing values. The researcher used only those questionnaires which were fully completed and filled appropriately. Therefore, by adopting this strategy, the data seemed more consistent and reliable while doing further analysis.

4.5.2 Descriptive Analysis of Latent Construct

After data screening, the statistical description of the present study's constructs such as independent, mediator, moderator, and dependent variable was examined using descriptive analysis. According to the descriptive statistic in Table 4.6, the mean, minimum, maximum, and standard deviation values were scored using a Likert scale with a range of 1 (Strongly disagree) to 5 (Strongly agree).

Table 4.6
Results of Descriptive Statistics of the Study

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Government Regulations (GTRG)	387	1	5	4.092	0.571
Green Product (GPDT)	387	1	5	3.912	0.760
Green Price (GPRC)	387	1	5	4.256	0.564
Green Place (GPLC)	387	1	5	3.967	0.823
Green Promotion (GPRM)	387	1	5	4.003	0.586
Attitude Towards Green Purchase (ATGP)	387	1	5	4.104	0.512
Green Trust (GTST)	387	1	5	3.875	0.590
Green Purchase Behaviour (GPB)	387	1	5	3.977	0.565

Accordingly, descriptive statistics revealed that the standard deviation values vary from 0.512 to 0.823 and the mean value is between 3.875 and 4.256.

4.6 Demographic Profile of the Respondents

As may be seen in Table 4.7, the demographics of the study's participants are discussed here. In demographic, gender of the respondents depicted that 57.4% were male and 42.6% were female. In addition to this, age of the respondents depicted those respondents falling in the age bracket of 15-30 were 26.1%, whereas 33.3% belongs to 31-45 age bracket, 34.1% belonging to 46-60 age bracket which is the major bracket of respondents, and 6.5% belongs to above 60 age brackets. Likewise, another demographic variable marital status depicted that 32.6% of respondents were single and remaining 67.4% were married. The academic qualification of respondent shown that 2.6% of the respondents falls within the matriculation level, 7.2% completed intermediate, 24.8% Bachelors' degree, 50.6% Masters' degree, 14.7% were Ph.D. holders, and none of the respondents got other educational degree or diploma listed in the questionnaire.

Table 4.7
Demographic Profile of the Respondents

Variable	Items	Frequency (F)	Percentage (%)
Gender	Male	222	57.4
	Female	165	42.6
Age Group	15-30	101	26.1
	31-45	129	33.3
	46-60	132	34.1
	Above 60	25	6.5
Marital Status	Single	126	32.6
	Married	261	67.4
Academic Qualification	Metric	10	2.6
	Intermediate	28	7.2
	Bachelors' Degree	96	24.8
	Masters' Degree	196	50.6
	Ph.D.	57	14.7
	Other	0	0
Profession	Student	63	16.3
	Business	94	24.3
	Professional (Doctor etc.)	73	18.9
	Employee	100	25.8
	Other	57	14.7
Monthly Income	PKR 0-20,000	83	21.4
	PKR 20,001-50,000	57	14.7
	PKR 50,001-100,000	158	40.8
	PKR 100,001 and above	89	23.0
City	Karachi	95	24.5
	Lahore	125	32.3
	Faisalabad	31	8.0
	Rawalpindi	11	2.8
	Gujranwala	31	8.0
	Peshawar	8	2.1
	Multan	59	15.2
	Hyderabad	8	2.1
	Islamabad	15	3.9
	Quetta	4	1.0

Likewise, the profession of respondents in demographic section shown that 16.3% were students, 24.3% were into business, 18.9% were professionals, 25.8% were employees, and 14.7% falls within other profession. In the monthly income, 21.4% of respondents falls within PKR 0-20000 monthly income bracket, 14.7% falls within PKR 20001-50000 monthly income bracket, 40.8% were falls within PKR 50001-100000 income bracket,

while 23% falls within above PKR 100001 and above monthly income bracket. Furthermore, 24.5% respondents were from Karachi, 32.3% from Lahore, 8% from Faisalabad, 2.8% from Rawalpindi, 8% from Gujranwala, 2.1% from Peshawar, 15.2% from Multan, 2.1% from Hyderabad, 3.9% from Islamabad, and 1% from Quetta.

In the previous chapter, Table 3.4 elaborates the division of questionnaire among the cities using quota sampling based on the proportion of population of each selected city. The actual frequency of responses received after data collection is different from the number of questionnaires quota divided to each city (see Table 3.4 and 4.7). The reason behind this much difference is the data collection through snowball sampling method. The snowball method reduces the representativeness of the selected population as the questionnaires are distributed with the knowledge, connections, and communication of respondents (Babbie, 2013b; Cooper & Schindler, 2014; Sarstedt et al., 2018). Moreover, the flow of responses collected from online snowball method cannot be controlled fully regarding the true representation of selected cities or areas for any research.

4.7 Multivariate Skewness and Kurtosis

Before further analysis, this study assessed the multivariate skewness and kurtosis by using web power software available at https://webpower.psychstat.org/models/kurtosis as suggested by (Cain et al., 2016; Hair et al., 2017). Figure 4.1 displays that Mardia's multivariate skewness and kurtosis were $\beta = 9.193$, $p < 0.01$ and $\beta = 92.454$, $p<0.01$, respectively. These results indicate that the obtained survey data were not multivariate normal. As a result of the multivariate normality problem, PLS-SEM was employed by the researcher in the current investigation. (Hair, Sarstedt, et al., 2014). This programme was generated by SmartPLS3.

```
Sample size:  387
Number of variables:  8

Univariate skewness and kurtosis
         Skewness SE_skew  Z_skew Kurtosis SE_kurt Z_kurt
COM_GTRG   -0.839   0.124  -6.762    1.506   0.247  6.085
COM_GPDT   -0.819   0.124  -6.605    0.694   0.247  2.803
COM_GPRC   -0.514   0.124  -4.145    1.234   0.247  4.989
COM_GPLC   -0.725   0.124  -5.843    0.309   0.247  1.247
COM_GPRM   -0.662   0.124  -5.337    1.561   0.247  6.309
COM_ATGP   -1.296   0.124 -10.448    3.533   0.247 14.277
COM_GTST   -0.255   0.124  -2.060   -0.332   0.247 -1.340
COM_GPB    -0.625   0.124  -5.040    0.883   0.247  3.567

Mardia's multivariate skewness and kurtosis
                b          z p-value
Skewness  9.193394 592.973940       0
Kurtosis 92.454831   9.685083       0
```

Figure4.1
Mardia's Multivariate Skewness and Kurtosis

4.8 Assessment of PLS-SEM

Recent years have witnessed an increase in the use of a variance-based partial least square (PLS) method, also known as a component-based approach, in social sciences research falling under the umbrella of structural equation modelling (SEM) (Sarstedt et al., 2020). Initially, H. Wold introduced the PLS technique in the year 1975 with the name of "nonlinear iterative partial least square" (Haenlein & Kaplan, 2010). Moreover, PLS is a more helpful approach for complicated path model hypotheses testing in an in-depth way (F. Ali et al., 2018). Structural Equation Modelling (SEM) was used in conjunction with the statistical software package SmartPLS3 to analyse the data in this research for several reasons. Beyond the scope of standard multiple regression, the SEM

dealt with causation between variables. To be more precise, it provides a more in-depth explanation of the statistical relationships between all of the model's variables (Ryan, 2020). PLS-SEM is a second-generation approach that has been utilised in several fields, including the social sciences (Hair et al., 2019). The two most common types of models used by SmartPLS3 are the measurement (or outer) model and the structural (or inner) model (Shmueli et al., 2019).

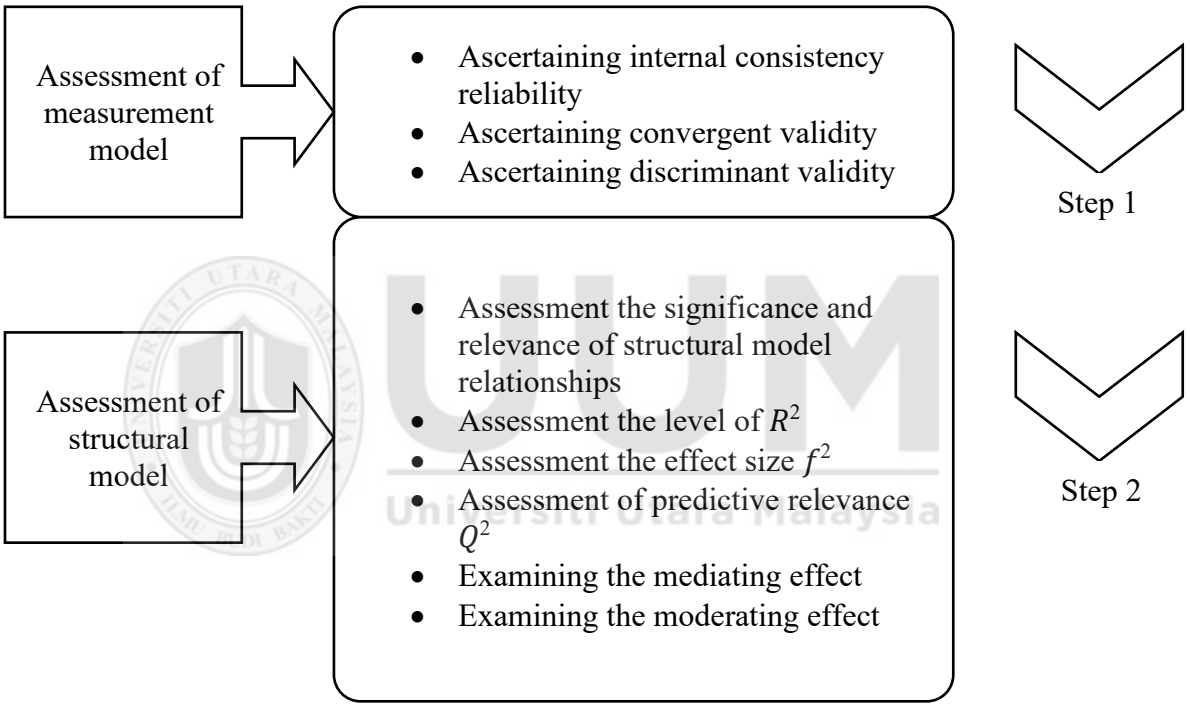

Figure 4.2
Two-Step Process of PLS Path Model Assessment
Source: (Henseler et al., 2009)

4.9 Assessment of Measurement Model

As can be seen in Figure 4.3, the measurement model is the model's outer layer that establishes the relationships between latent variables and their respective measurements. The greater focus of the measurement model is to access cross-loading, discriminate validity, and convergent validity (Ramayah et al., 2017). Figure 4.3 shows the

measurement model, which specified the causal relations between measurement items and unobserved (latent) variables. The triangular shape shows the measurement items while circle shows the latent variable of the model.

4.9.1 Internal Consistency Reliability

Examining the composite reliability (CR), Dijkstra and Henseler rho (Rho_A), and McDonald's Omega (ω) of the model will allow to gauge the internal consistency reliability. Conventionally, CR is mostly used for internal consistency reliability measure, however according to Cheah et al. (2018); Hayes and Coutts (2020), CR overestimates the internal consistence reliability. For that reason, other consistency reliability measures, such as, Dijkstra and Henseler rho (Rho_A), and McDonald's Omega (ω) were also used to assess reliability as these are considered more consistent measures to estimate internal consistency reliability. The CR and Rho_A values were measured through SmartPLS3 software, whereas McDonald's Omega (ω) values were calculated through a macro downloaded from http://afhayes.com/spss-sas-and-r-macros-and-code.html and installed in SPSS ver.23. The lowest acceptable values for all three measures are 0.6, but values range from 0.7 to 0.9 are termed as satisfactory (Hair, Hult, et al., 2014). In the present study, most of the obtained internal consistency reliability values are within the range of 0.7 to 0.9. Few of the values are below 0.7, but higher compared with the standard acceptable value of 0.60 (Bagozzi & Yi, 1988). Likewise, some of the values are greater than 0.9 range but still below the extreme unacceptable value of 0.95 (Hair et al., 2020). Table 4.7 shows the extracted values from composite reliability (CR), Dijkstra and Henseler rho (Rho_A), and McDonald's Omega (ω) of each construct.

Furthermore, the findings highlighted in Figure 4.3 that out of 49 items, only 11 items were deleted (GTRG2 with factor loading -0.512, GTRG5 with factor loading -0.531, GPRC6 with factor loading -0.232, GPRM5 with factor loading -0.130, ATGP7 with factor loading -0.064, ATGP8 with factor loading -0.118, GTST4 with factor loading 0.009, GTST5 with factor loading -0.571, GPB3 with factor loading -0.080, GPB5 with factor loading -0.033, and GPB9 with factor loading -0.050), as their loadings were less than the standard cut off value. Thus, the remaining model left with 38 items. The deleted items are above the range of 20% (Hair, Black, et al., 2014), and the rest of the constructs' loading was between the range of 0.557 to 0.922, which exceeded the required standard values. For retaining the items with factor loading 0.5 to 0.7, it is cross-checked that the AVE and CR values are exceeding required values of 0.5 and 0.7 respectively (Noor et al., 2019; Ogbeibu et al., 2021; Ramayah et al., 2018).

4.9.2 Convergent Validity

The estimation of reliability alone is not sufficient to adequately measured the instrument. The validation of every construct in the theoretical model is also required. In this study, the validity of the construct is assessed by examining both convergent and discriminant validity. The convergent validity (CV) is explained by Hair et al. (2017) as "the degree to which a latent construct explains the variance of its indicator". Moreover, 50% of the variance should be achieved by each construct (AVE $\geq$ 0.50). Table 4.8 shows that all the AVE values are higher than the cut-off values ascertaining the reliability and consistency of the present study measurement model. Table 4.8 depicted that all the loadings, CR, rho_A, McDonald's Omega, and AVE values are within the acceptable ranges.

Table 4.8
Indicator Loadings, Internal Consistency Reliability, and Convergent Validity

Construct	Items	Loadings	Composite Reliability (CR)	Dijkstra Henseler rho_A	McDonald's Omega (ω)	Average Variance Extracted (AVE)
GTRG	GTRG1	0.775	0.879	0.835	0.783	0.644
	GTRG3	0.823				
	GTRG4	0.774				
	GTRG6	0.837				
GPDT	GPDT1	0.650	0.865	0.815	0.808	0.618
	GPDT2	0.841				
	GPDT3	0.867				
	GPDT4	0.767				
GPRC	GPRC1	0.881	0.929	0.926	0.912	0.725
	GPRC2	0.880				
	GPRC3	0.827				
	GPRC4	0.817				
	GPRC5	0.850				
GPLC	GPLC1	0.922	0.842	0.792	0.815	0.579
	GPLC2	0.557				
	GPLC3	0.679				
	GPLC4	0.835				
GPRM	GPRM1	0.707	0.804	0.689	0.689	0.509
	GPRM2	0.579				
	GPRM3	0.737				
	GPRM4	0.812				
ATGP	ATGP1	0.792	0.901	0.871	0.855	0.603
	ATGP2	0.820				
	ATGP3	0.755				
	ATGP4	0.735				
	ATGP5	0.841				
	ATGP6	0.707				
GTST	GTST1	0.857	0.857	0.760	0.748	0.666
	GTST2	0.822				
	GTST3	0.767				
GPB	GPB1	0.572	0.918	0.904	0.845	0.588
	GPB2	0.833				
	GPB4	0.651				
	GPB6	0.730				
	GPB7	0.840				
	GPB8	0.873				
	GPB10	0.780				
	GPB11	0.805				

4.9.3 Discriminant Validity

Discriminating validity, which is defined as "the degree to which indicators differ across constructs," (Hamid et al., 2017) and can be determined using one of three methods:

cross-loadings, the Fornell-Larcker criterion, or the Heterotrait-Monotrait (HTMT) correlation ratio. Table 4.9 below shows the cross-loadings of overall construct.

Henseler et al. (2015); and Voorhees et al. (2016) argued that to assess a better discriminant validity, cross-loading method does not have any theoretical arguments and empirical evidence, and there is no reflection of usefulness of this approach in variance-based SEM. Therefore, in the present study, discriminant validity has been assessed by applying Fornell and Larcker criterion and Heterotrait-Monotrait ratio of correlation (HTMT). Fornell and Larcker's criteria of discriminant validity propose that constructs are not explaining the similar phenomenon. Thus, table 4.10 below shows that the square root of AVE is higher than the correlation between the latent variables indicating acceptable discriminant validity (Fornell & Larcker, 1981).

In addition, to further assess the discriminant validity, HTMT values were used, the two commonly used values were recommended by Voorhees et al. (2016) with the thresholds of HTMT .85 and HTMT .90 respectively. Table 4.11 shows that the values of the HTMT are less than the threshold, thus fulfilling the above-mentioned standard criteria of the Heterotrait-Monotrait ratio of correlation (HTMT) method and confirming that acceptable level of discriminant validity is achieved by this study.

Table 4.9
Cross-Loadings

	ATGP	GPB	GPDT	GPLC	GPRC	GPRM	GTRG	GTST
ATGP1	**0.792**	0.628	0.407	-0.031	0.094	0.340	0.217	0.095
ATGP2	**0.820**	0.638	0.408	-0.035	0.134	0.379	0.219	0.068
ATGP3	**0.755**	0.369	0.615	-0.094	0.033	0.694	0.208	-0.014
ATGP4	**0.735**	0.427	0.570	-0.078	0.045	0.618	0.297	0.015
ATGP5	**0.841**	0.666	0.434	-0.022	0.171	0.451	0.204	0.095
ATGP6	**0.707**	0.480	0.434	-0.019	-0.016	0.351	0.253	0.077
GPB1	0.377	**0.572**	0.346	-0.152	0.072	0.303	0.092	0.084
GPB10	0.563	**0.833**	0.451	-0.051	0.169	0.338	0.156	0.139
GPB11	0.609	**0.651**	0.484	-0.011	0.085	0.393	0.258	0.103
GPB2	0.416	**0.730**	0.338	-0.076	0.167	0.187	0.224	0.147
GPB4	0.545	**0.840**	0.517	-0.099	0.114	0.337	0.173	0.125
GPB5	0.530	**0.873**	0.491	-0.097	0.074	0.336	0.328	0.109
GPB7	0.554	**0.780**	0.442	-0.085	0.020	0.309	0.289	0.092
GPB8	0.581	**0.805**	0.449	-0.047	0.084	0.292	0.184	0.137
GPDT1	0.490	0.303	**0.650**	-0.130	0.071	0.611	0.094	-0.039
GPDT2	0.536	0.622	**0.841**	-0.147	-0.091	0.532	0.234	0.085
GPDT3	0.489	0.444	**0.867**	-0.117	-0.053	0.523	0.108	0.064
GPDT4	0.408	0.401	**0.767**	-0.147	0.010	0.381	0.018	0.116
GPLC1	-0.082	-0.088	-0.151	**0.922**	-0.097	-0.085	0.014	0.033
GPLC2	0.042	-0.007	-0.083	**0.557**	-0.026	0.010	0.093	0.063
GPLC3	-0.006	-0.063	-0.132	**0.679**	0.020	-0.112	0.017	0.044
GPLC4	-0.013	-0.070	-0.142	**0.835**	-0.108	-0.020	0.014	0.036
GPRC1	0.064	0.125	-0.018	-0.076	**0.881**	0.064	-0.005	0.026
GPRC2	0.108	0.136	-0.009	-0.061	**0.880**	0.048	0.123	0.040
GPRC3	0.132	0.078	-0.042	-0.059	**0.827**	0.053	0.113	0.024
GPRC4	0.043	0.091	-0.040	-0.100	**0.817**	0.019	-0.025	0.052
GPRC5	0.074	0.099	-0.030	-0.095	**0.850**	0.037	-0.040	0.023
GPRM1	0.487	0.232	0.498	-0.059	-0.105	**0.707**	0.174	-0.006
GPRM2	0.376	0.266	0.235	0.021	0.046	**0.579**	0.126	-0.043
GPRM3	0.361	0.291	0.516	-0.089	0.117	**0.737**	0.049	-0.116
GPRM4	0.497	0.372	0.573	-0.119	0.098	**0.812**	0.130	-0.044
GTRG1	0.171	0.225	0.076	0.030	0.007	0.088	**0.775**	0.077
GTRG3	0.230	0.238	0.094	-0.015	0.033	0.093	**0.823**	0.074
GTRG4	0.214	0.192	0.126	0.022	0.030	0.178	**0.774**	0.052
GTRG6	0.318	0.248	0.190	0.002	0.080	0.181	**0.837**	0.056
GTST1	0.084	0.138	0.056	0.046	0.033	-0.059	0.080	**0.857**
GTST2	0.042	0.124	0.043	0.026	-0.001	-0.076	0.042	**0.822**
GTST3	0.046	0.110	0.090	0.024	0.065	-0.034	0.073	**0.767**

Table 4.10
Discriminant Validity Matrix using Fornell & Larcker Criterion

	ATGP	GPB	GPDT	GPLC	GPRC	GPRM	GTRG	GTST
ATGP	**0.776**							
GPB	0.692	**0.767**						
GPDT	0.615	0.582	**0.786**					
GPLC	-0.060	-0.096	-0.172	**0.761**				
GPRC	0.104	0.127	-0.031	-0.088	**0.851**			
GPRM	0.610	0.411	0.650	-0.092	0.054	**0.714**		
GTRG	0.299	0.283	0.158	0.010	0.051	0.171	**0.803**	
GTST	0.072	0.153	0.075	0.040	0.038	-0.070	0.080	**0.816**

Note: All the values shown in diagonal and bolded represent the square root of average while those of the diagonal represent latent variable correlations.

Table 4.11
Heterotrait-Monotrait (HTMT) Ratio Results

	ATGP	GPB	GPDT	GPLC	GPRC	GPRM	GTRG	GTST
ATGP								
GPB	0.775							
GPDT	0.742	0.666						
GPLC	0.076	0.099	0.198					
GPRC	0.123	0.146	0.091	0.096				
GPRM	0.791	0.524	0.884	0.118	0.170			
GTRG	0.347	0.325	0.184	0.064	0.091	0.224		
GTST	0.101	0.186	0.129	0.071	0.053	0.115	0.103	

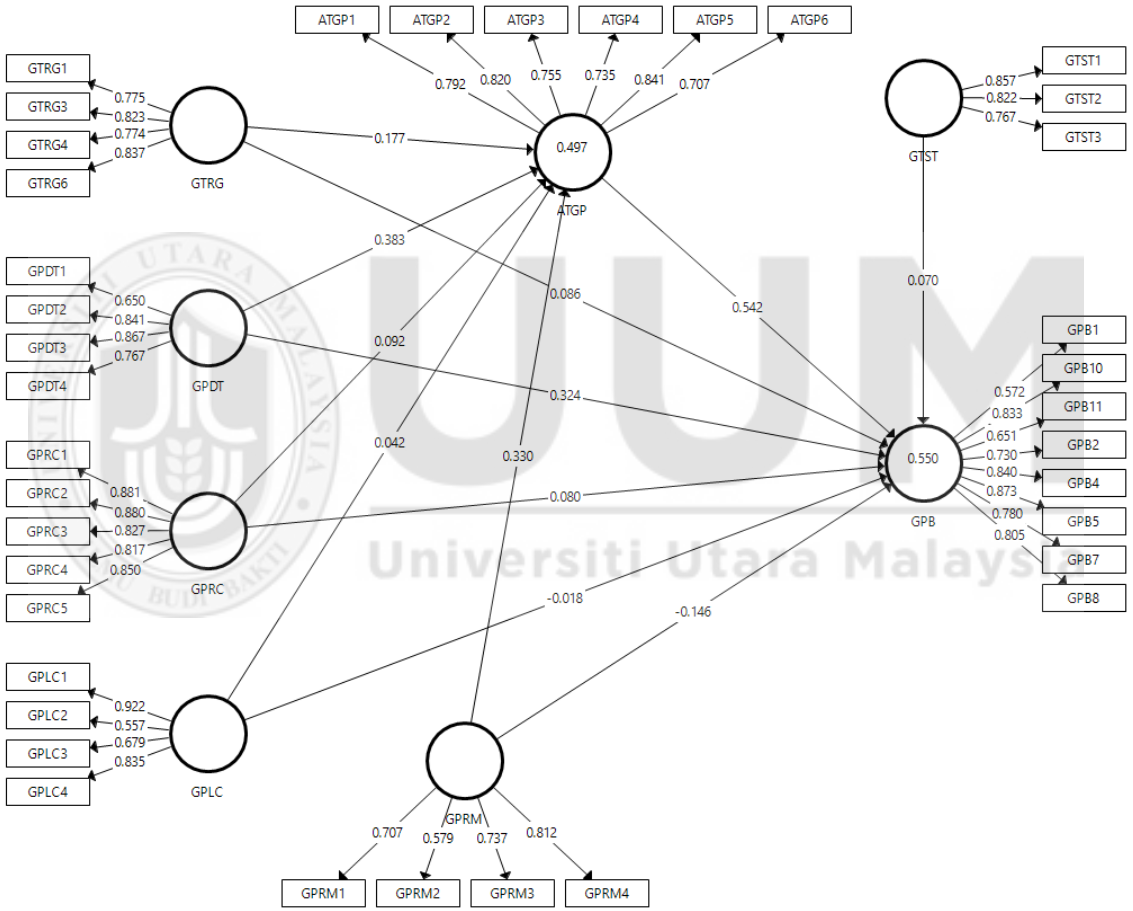

Figure 4.3
PLS Algorithm Measurement Model

4.10 Assessment of Structural Model

The inner model of the research, which connects latent variables as indicated in Figure 4.3, is assessed by multiple regression, therefore its underlying properties are crucial to the structural model assessment process. The structural model elaborates the direct effect of the hypotheses with the beta (β), t-value, P-value, R^2 values via a bootstrapping procedure with a resample of 5000 to show the significance of hypotheses (Hair et al., 2017).

4.10.1 Assessment of the Structural Model for Collinearity issue

After estimating the vertical collinearity with the help of the discriminant validity of the measurement model, lateral collinearity was measured using a structural model to prevent misleading results (Kock & Lynn, 2012). Lateral collinearity is denoted as collinearity with a predictor-criterion. The present study has calculated lateral collinearity by using the inflator variance factor (VIF) index. Moreover, it is stated that the VIF value should not exceed or higher than 5 to ascertain that there is no issue of collinearity (Hair et al., 2011). Below, table 4.12 revealed that all VIF values are lower than the standard value of 5, which shows that lateral collinearity did not exist.

4.10.2 Assessment of Significance and Relevance of the Structural Model Relationships

PLS-SEM is a multivariate non-parametric with no assumption of normality of data (Hair et al., 2019). Although, in non-normal data, the value of t-values can be inflated or deflated, which causes type I error. However, PLS-SEM used a bootstrapping technique with 5000 subsamples to calculate the standard error, which approximates the normality

of the data. In the present study, there were twelve (12) direct, five (5) indirect, and one (01) moderating hypothesis investigated through the bootstrapping technique. The study followed the bias-corrected and accelerated (BCa) confidence interval method (Hayes & Scharkow, 2013). Also, the path coefficient of each construct was evaluated on a significance level of 0.05, and the one-tailed test was applied because of the directional hypotheses of the study.

4.10.3 Assessment of Coefficient of Determination (R^2)

According to Breiman and Friedman (1985), the coefficient of determination (R^2) explains the variation of endogenous variables accounted for by independent variable constructs. Chin (1998) points out the specific ranges which are 0.19, 0.33, and 0.67, indicating that the coefficient of determination (R^2) shows weak, moderate, and substantial effect, respectively. The present study shows in Table 4.12 that the calculated values of R^2 are 0.497 (ATGP) and 0.550 (GPB), which achieved the moderate standard criteria of assessment (Chin, 1998).

4.10.4 Assessment of the Level of Effect Size (f^2)

As defined by Urbach and Ahlemann (2010), the effect size is determined by the percentage of the path's unexplained variance added to the R^2 of the latent variable (LV). Moreover, an effect size has been computed to assess the influence of unobserved exogenous factors on the study's latent endogenous variables (Hair et al., 2013). To measure the effect size of a specific model, (Cohen, 1988), provided the threshold values that are 0.02, 0.15, and 0.35 for small, medium, and substantial effect sizes, respectively.

However, Sandhu et al. (2019) cited Chin et al. (2003) and argued that even the smallest effect size (f^2 below 0.02) should be reported as it can impact the endogenous construct.

In the current study, Table 4.12 also reflected the effect size of the exogeneous constructs on endogenous constructs which showed that GPRC ($f^2 = 0.017$) and GPLC ($f^2 = 0.003$) have very small effect size on ATGP, whereas GTRG ($f^2 = 0.06$) and GPRM ($f^2 = 0.123$) have small effect size rather GPDT ($f^2 = 0.162$) has medium effect size in producing R^2 of ATGP. On the other hand, constructs including GTRG ($f^2 = 0.015$), GPRC ($f^2 = 0.014$), GPLC ($f^2 = 0.001$) and GTST ($f^2 = 0.010$) have very small effect size, whereas GPDT ($f^2 = 0.110$) and GPRM ($f^2 = 0.023$) have small effect size except ATGP ($f^2 = 0.326$) that has medium effect size on GPB.

4.10.5 Assessment of Predictive Relevance (Q^2)

The predictive relevance (Q^2) has been measured by employing a blindfolding procedure to predict path model accuracy (Stone, 1974). The acceptance level of predictive relevance (Q^2) is above zero (0), which indicates that exogenous variables have predictive significance for the model's endogenous/dependent variable (Hair et al., 2018). Thus, it can be found in Table 4.12 that both the attitude towards green purchase ($Q^2 = 0.286$) and green purchase behaviour ($Q^2 = 0.312$) values are greater than zero. Therefore, the current thesis model has significantly predictive relevance.

The results of twelve (12) direct relationship hypotheses (see Figure 4.4 and Table 4.12) are indicated below:

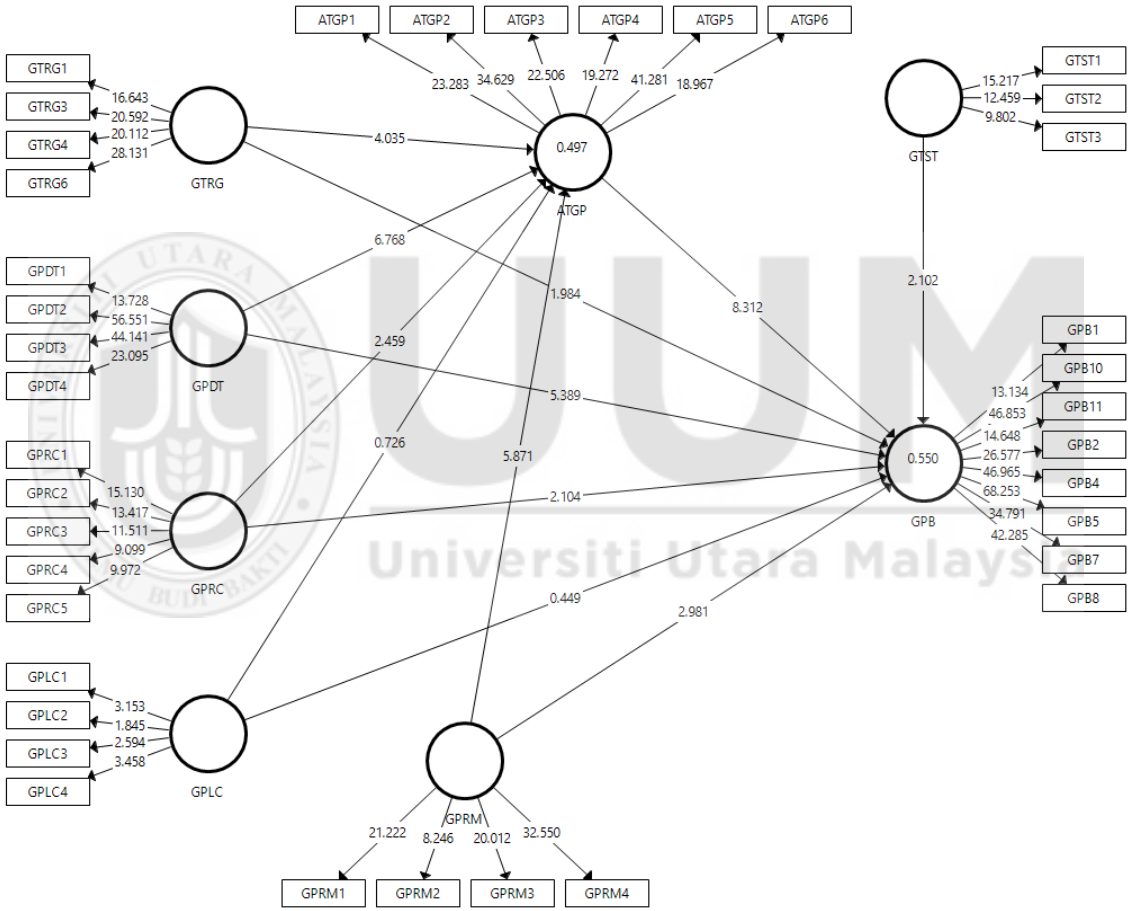

Figure 4.4
The Structural Model for Direct and Indirect Relations

Table 4.12

Results of Hypotheses Testing (Direct Effects)

No	Hypothesized Path	Path Coefficient	Standard Error (STERR)	T Value	P-Value	Decision	0.05%	0.95%	Effect Size (f^2)	VIF	R Square	R^2 Value	Q^2
H1	GTRG→GPB	0.086	0.043	1.984	0.024	Accept	0.013	0.155	0.015	1.105	GPB	0.550	0.312
H2	GPDT→GPB	0.324	0.060	5.389	0.000	Accept	0.231	0.429	0.110	2.126	ATGP	0.497	0.286
H3	GPRC→GPB	0.080	0.038	2.104	0.018	Accept	0.009	0.135	0.014	1.043			
H4	GPLC→GPB	-0.018	0.039	0.449	0.327	Reject	-0.072	0.061	0.001	1.050			
H5	GPRM→GPB	-0.146	0.049	2.981	0.001	Reject	-0.229	-0.072	0.023	2.050			
H6	GTRG→ATGP	0.177	0.044	4.035	0.000	Accept	0.109	0.253	0.060	1.038			
H7	GPDT→ATGP	0.383	0.057	6.768	0.000	Accept	0.290	0.473	0.162	1.799			
H8	GPRC→ATGP	0.092	0.038	2.459	0.007	Accept	0.031	0.153	0.017	1.023			
H9	GPLC→ATGP	0.042	0.058	0.726	0.234	Reject	-0.040	0.151	0.003	1.043			
H10	GPRM→ATGP	0.330	0.056	5.871	0.000	Accept	0.237	0.419	0.123	1.764			
H11	ATGP→GPB	0.542	0.065	8.312	0.000	Accept	0.433	0.647	0.326	1.997			
H17	GTST→GPB	0.070	0.033	2.102	0.018	Accept	0.010	0.119	0.010	1.050			

Providently, table 4.12 shows the hypotheses results of direct relationships, out of twelve (12) direct hypotheses tested, nine (9) hypotheses was supported while three (3) were not supported. Results show that government regulation has positive significant relationship with green purchase behaviour (β = 0.086, T-statistics = 1.984, p-value < 0.05) and attitude towards green purchase (β = 0.177, T-statistics = 4.035, p-value < 0.05), therefore, hypotheses H_1 and H_6, are supported. Similarly, green product found to have significant influence on green purchase behaviour (β = 0.324, T-statistics = 5.389, p-value < 0.05) as well as with attitude towards green purchase (β = 0.383, T-statistics = 6.768, p-value < 0.05), so hypotheses H_2 and H_7 are also accepted. In addition to this, hypotheses H_3 and H_8 are also supported as green price has positive significant relationship with both green purchase behaviour (β = 0.08, T-statistics = 2.104, p-value < 0.05) and attitude towards green purchase (β = 0.092, T-statistics = 2.459, p-value < 0.05).

In contrast, in hypotheses H_4 and H_9, the data analyses revealed that green place has insignificant impact on green purchase behaviour (β = -0.018, T-statistics = 0.449, p-value > 0.05), also not significant with attitude towards green purchase (β = 0.042, T-statistics = 0.726, p-value > 0.05). On the other hand, there are mixed results of green promotion with green purchase behaviour and attitude towards green purchase. In hypothesis H_5, it was discovered that green promotion has no significant and positive impact on green purchase behaviour (β = -0.146, T-statistics = 2.981, p-value < 0.05). Contrary to this, hypothesis H_{10}, revealed that green promotion has positive significant relationship with attitude towards green purchase (β = 0.33, T-statistics = 5.871, p-value < 0.05).

To add, in hypothesis H_{11}, the analysis of this study showed that attitude towards green purchase has positive significant relationship with green purchase behaviour ($\beta = 0.542$, T-statistics = 8.312, p-value < 0.05). Finally, in hypothesis H_{17}, it was found that green trust has positive significant relationship with green purchase behaviour ($\beta = 0.07$, T-statistics = 2.102, p-value < 0.05).

4.11 Mediation Analysis

Recent years have seen an uptick in the usage of PLS-SEM in social science research that employs indirect impact or mediation analysis. To understand the importance of mediating effects, the researcher needs to assume a sequence of relationships where an antecedent variable affects a mediating variable that affects the dependent variable (Nitzl et al., 2016).

Previously to analyse the mediating effect, the most commonly applied method was given by Baron and Kenny (1986) in social sciences research. This technique was referred to as Sobel Test. There is an assumption that the sampling distribution of the indirect effect should be normal to apply the Sobel test, and this was considered a major flaw in the Sobel test (Hayes, 2009). Presently, the indirect effect (mediation) is applied using a new method called bootstrapping (Preacher & Hayes, 2008). In the present study, the bootstrapping method (5000 sub-samples) was applied to calculate the indirect effect t-values. Several scholars have pinpointed that bootstrapping is a "non-parametric re-sampling procedure", which has sufficient ability to identify the required effect (Preacher & Hayes, 2008). The results of five (5) indirect relationship hypotheses are stated below in Table 4.13:

Table 4.13
Results of Mediation (Indirect Effects)

No	Hypothesized Path	Path Coefficient	Standard Error (STERR)	T Value	P-Value	2.50%	97.50%	Decision
H12	GTRG→ATGP→GPB	0.096	0.025	3.771	0.000	0.051	0.154	Accept
H13	GPDT→ATGP→GPB	0.207	0.044	4.713	0.000	0.129	0.303	Accept
H14	GPRC→ATGP→GPB	0.050	0.020	2.513	0.012	0.009	0.086	Accept
H15	GPLC→ATGP→GPB	0.023	0.032	0.726	0.468	-0.030	0.099	Reject
H16	GPRM→ATGP→GPB	0.179	0.038	4.682	0.000	0.112	0.259	Accept

In hypothesis H_{12}, the results indicate that attitude towards green purchase mediates the relationship between government regulations and green purchase behaviour ($\beta = 0.096$, T-statistics = 3.771, p-value < 0.05). Similarly, in H_{13}, it was found that attitude towards green purchase mediates the relationship between green product and green purchase behaviour ($\beta = 0.207$, T-statistics = 4.713, p-value < 0.05). Likewise, in H_{14}, it was discovered that attitude towards green purchase mediates the relationship between green price and green purchase behaviour ($\beta = 0.05$, T-statistics = 2.513, p-value < 0.05). While in H_{15}, the study revealed that attitude towards green purchase does not mediate the relationship between green place and green purchase behaviour ($\beta = 0.023$, T-statistics = 0.726, p-value > 0.05). But in H_{16}, analysis results show that attitude towards green purchase mediates the relationship between green promotion and green purchase behaviour ($\beta = 0.179$, T-statistics = 4.682, p-value < 0.05).

4.12 Moderation Analysis

In moderating analysis, the researcher used the two-stage approach (Hair et al., 2017) for creating interaction term for moderation between attitude towards green purchase and green purchase behaviour, as the aim of this study is to determine whether the moderator (green trust) exerts a significant effect on the relationship or not. Moreover, Hair et al. (2017) argued that this approach is preferred when the objective of the study is to determine whether moderator exerts a significant effect on the relationship or not. In line with this, the two-stage approach have high statistical power compared to other moderating methods like orthogonalization approach and product indicator approach (Ramayah et al., 2018). Furthermore, using SmartPLS3 software, the PLS algorithm calculated the standard beta coefficient value, and R^2 value for green trust and green purchase behaviour respectively (see below Figure 4.5). However, to calculate the T-value and p-value results, the study followed the bootstrapping procedure.

Calculating the size of moderating effect (Hair et al., 2017), the interaction term has a positive effect on GPB (0.077), whereas the simple effect of ATGP on GPB is 0.544. While elaborating this, the increase in one standard unit in moderation effect of green trust may increase the simple effect of ATGP (i.e., 0.544 + 0.077 = 0.621) and vice versa (i.e., 0.544 – 0.077 = 0.467) as shown in figure 4.6.

Table 4.14 revealed that hypothesis (H_{18}) results, that green trust significantly moderates the relationship between attitude towards green purchase and green purchase behaviour. The analysis results indicated that the moderating effect with the beta value of 0.077 is significant by having a t-value of 1.827 ($p < 0.05$). As in moderation analysis, the change in R^2 is an essential matter (Ramayah et al., 2018). For the current study, the previous R^2

for GPB (before interaction term) was 0.550, while the value of R^2 for GPB (after interaction term) became 0.554. this change of 0.004 indicates that with the addition of interaction term, the R^2 had got additional variance of about 0.4%. The effect size (f^2) of moderating relationship is calculated through the effect size (f^2) equation below. The result of effect size ($f^2 = 0.010$) is medium as per guidelines of Aguinis et al. (2005) and Kenny (2018) regarding effect size (f^2) of moderation analysis (i.e., 0.005, 0.01, 0.025 for small, medium, and large respectively). Hence, the moderating analysis (table 4.14) and positively gradient interaction slop (figure 4.6) revealed that the positive relationship between attitude towards green purchase and green purchase behaviour will be stronger for higher green trust.

$$\text{Effect size (f2)} = \frac{\text{R2 (included)} - R2\ (excluded)}{1 - \text{R2 (included)}}$$

$$\text{Effect size (f2)} = \frac{0.554 - 0.550}{1 - 0.554}$$

$$\text{Effect size (f2)} = \frac{0.554 - 0.550}{1 - 0.554}$$

$$\text{Effect size (f2)} = 0.010$$

Table 4.14
Result of Moderating Effect

No.	Hypothesized Path	Path Coefficient	Standard Error (STERR)	T-Value	P-Value	Decision
H18	ATGP*GTST→GPB	0.077	0.042	1.824	0.034	Accept

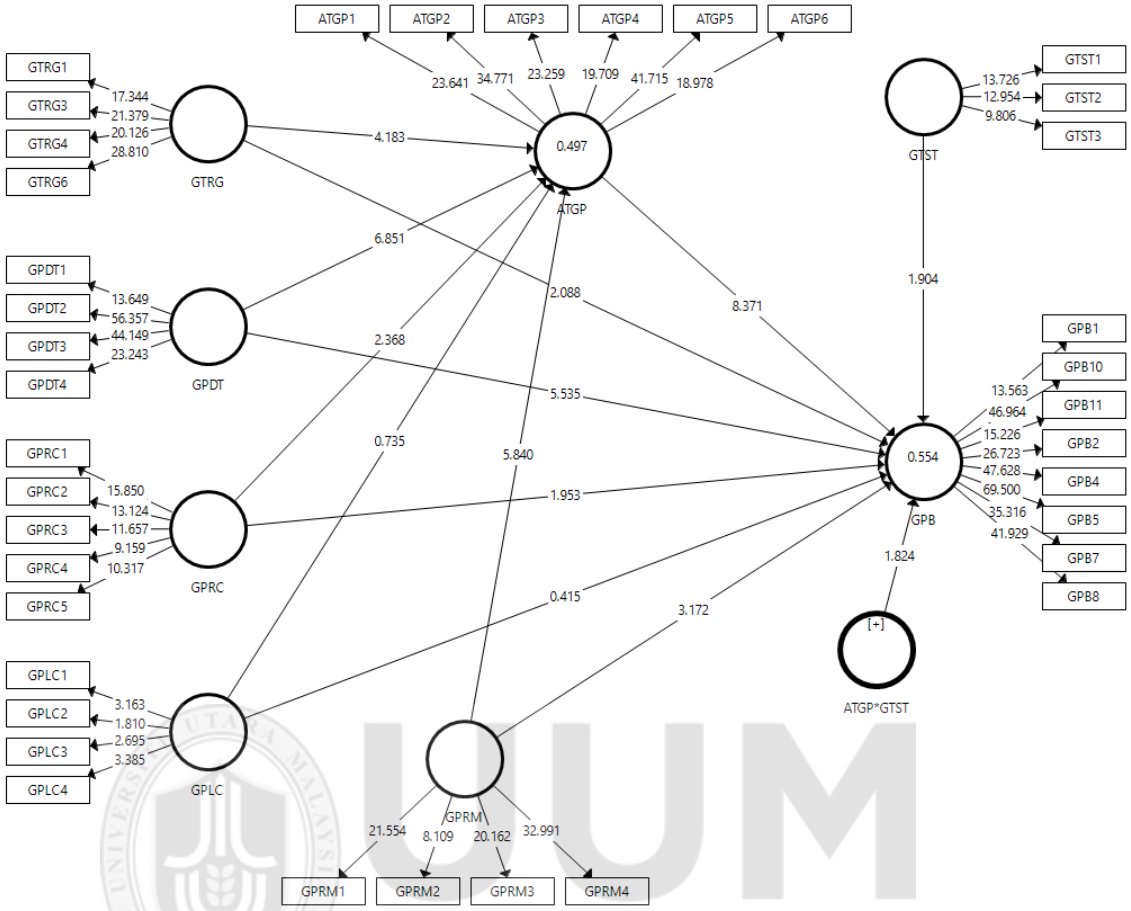

Figure 4.5
Assessment of Moderating Effect

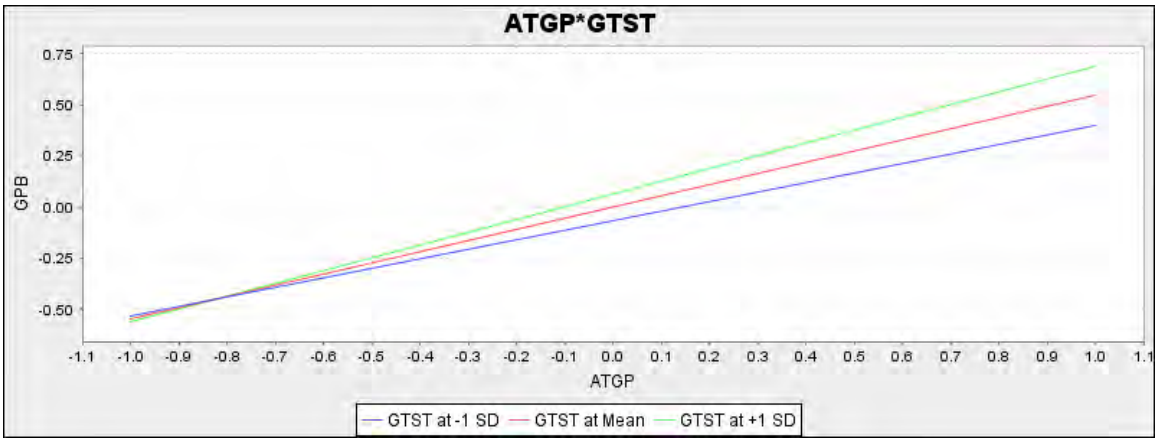

Figure 4.6
Interaction Effect of Moderator

4.13 Summary of Hypotheses

Conclusively, table 4.15 elaborates the summary of hypotheses after the data analysis.

Table 4.15
Summary of Hypotheses

H_1	A significant and positive relationship exists between government regulations and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_2	A significant and positive relationship exists between green product and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_3	A significant and positive relationship exists between green price and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_4	A significant and positive relationship exists between green place and green purchase behaviour while buying electric appliances in Pakistan.	Not Supported
H_5	A significant and positive relationship exists between green promotion and green purchase behaviour while buying electric appliances in Pakistan.	Not Supported
H_6	A significant and positive relationship exists between government regulations and attitude towards green purchase while buying electric appliances in Pakistan.	Supported
H_7	A significant and positive relationship exists between green product and attitude towards green purchase while buying electric appliances in Pakistan.	Supported
H_8	A significant and positive relationship exists between green price and attitude towards green purchase while buying electric appliances in Pakistan.	Supported
H_9	A significant and positive relationship exists between green place and attitude towards green purchase while buying electric appliances in Pakistan.	Not Supported
H_{10}	A significant and positive relationship exists between green promotion and attitude towards green purchase while buying electric appliances in Pakistan.	Supported
H_{11}	A significant and positive relationship exists between attitude towards green purchase and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_{12}	Attitude towards green purchase mediates the relationship between government regulations and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_{13}	Attitude towards green purchase mediates the relationship between green product and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_{14}	Attitude towards green purchase mediates the relationship between green price and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_{15}	Attitude towards green purchase mediates the relationship between green place and green purchase behaviour while buying electric appliances in Pakistan.	Not Supported
H_{16}	Attitude towards green purchase mediates the relationship between green promotion and green purchase behaviour while buying electric appliances	Supported

	in Pakistan.	
H_{17}	A significant and positive relationship exists between green trust and green purchase behaviour while buying electric appliances in Pakistan.	Supported
H_{18}	Green trust strengthens the relationship between attitude towards green purchase and green purchase behaviour while buying electric appliances in Pakistan.	Supported

4.14 Chapter Summary

The data screening and preparation phase came first in the analysis process. This was accomplished by performing non-response bias and common method bias test. Moreover, the missing value analysis of the data was checked before PLS-SEM analysis.

The second aspect of the data analysis was performed by using SmartPLS3 software. This analysis was conducted in two steps. The measurement model was evaluated in the first step to measure the reliability and validity of the model. In the second step, assessment of coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) were assessed under the heading of structural model assessment to test research hypotheses. Furthermore, mediation and moderation analyses were performed to analyse the influence of the latent variables. The next chapter deals with the results obtained in this chapter to address the research objectives outlined in Chapter 1.

CHAPTER FIVE
DISCUSSION AND CONCLUSION

5.0 Introduction

The chapter starts with the summary of this study and discussion of independent (government regulations, green product, green price, green place, green promotion), mediator (attitude towards green purchase), moderator (green trust), and dependent (green purchase behaviour) variables. The last part of this chapter elaborates conclusion of the study, implications, limitations, recommendations, and suggestions for future research.

5.1 Recapitulation of the Study

Primarily based on attitude-behaviour-context (ABC) theory and stimulus-organism-response (SOR) model, the focus of the current study is to determine the direct as well as indirect influence of contextual factors (government regulations, green product, green price, green place, green promotion) through attitude towards green purchase on consumers' green purchase behaviour. The framework of this study as depicted in chapter three also include the moderating effect of green trust between attitude towards green purchase and consumers' green purchase behaviour. A revisit of objectives of the current study are presented below:

> The first objective of this research work is to examine the direct influence of contextual factors (government regulations, green product, green price, green place, and green promotion) on consumers' green purchase behaviour in energy-efficient electric appliances sector in Pakistan.

The second objective is to determine the indirect influence of contextual factors (government regulations, green product, green price, green place, green promotion) on consumers' green purchase behaviour through the mediation of attitudinal factor (attitude towards green purchase) in energy-efficient electric appliances sector in Pakistan.

The last, the objective is to determine the moderation effect of green trust between attitude towards green purchase and consumers' green purchase behaviour.

Subsequently, in order to collect responses from the participants, a questionnaire survey was constructed based on a five-point Likert scale, and the scale items were adapted from literature through the evaluation of related research works. The items of the questionnaire were validated through content validity and through conducting a pilot study. The study's primary data came from respondents in a few selected cities across Pakistan once this validation was complete. The SPSS and SmartPLS3 software were used for screening and establishing convergent along with discriminant validities of the collected data as a compulsion for suitability of the measurement model. Moreover, as part of the structural model evaluation, the model's effect size and predictive relevance were analysed. In line with this, the current study achieved R^{2s} 49.7% for attitude towards green purchase and 55% for green purchase behaviour.

In this research, the PLS algorithm and bootstrapping techniques were used to assess each hypothesis. The PLS algorithms were intended to produce path coefficients whilst bootstrapping was applied to produce t-statistics and p-values for deciding about statistical significance of hypotheses paths. Following this, the significance of the relationships discovered between the study's independent (government regulations, green

product, green price, green place, green promotion), mediator (attitude towards green purchase), moderator (green trust), and dependent (consumers' green purchase behaviour) variables has been discussed considering the stated research objectives. As described in Table 4.15, page (pg. no. 139) in chapter four, fourteen (14) hypotheses were accepted while the remaining four (4) were not supported. The following part discusses the relationship between the study objectives and the significant and insignificant hypotheses.

This piece of research work tried to contribute to the body of knowledge through shedding light on some existing gaps in the literature regarding consumers' green purchasing behaviour (GPB). Song et al. (2019) argued that most of the scholarly work has been done regarding energy-efficient electric appliances (EEEA) purchase intention, fewer studied actual purchasing behaviour. Moreover, the green purchasing behaviour has been studied using cognitive theories like theory of planned behaviour (TPB), theory of reasoned action (TRA), and other cognitive factor theories (Sharma et al., 2022) but Vainio et al. (2019) argued that it must be studied through integrated behavioural theories. Thence, this study used ABC theory, an integrated model to study pro-environmental behaviour. Furthermore, Grimmer et al. (2016) stated that more research is needed to study the impact of contextual factors on environmental behaviours. In line with this, Sang and Bekhet (2015) indicated that government regulations are important to study GPB while Wymer and Polonsky (2015) argued that along with government regulations, green marketing strategies must be studied for the safety of environment and society. Therefore, in light of these advice, and the argument of Yadav et al. (2018), which stated that expensive behaviours, like buying of energy-efficient electric

appliances, are favoured by contextual factors, this research work studied government regulations and green marketing mix as contextual determinants of GPB.

Along with the impact of contextual factors on GPB, Ertz et al. (2016) stated that most of the previous work has analysed the determinants of GPB indirectly through behavioural intention. To add, contextual factors may affect GPB directly (Steg & Vlek, 2009) as well as to consumers' attitude regarding specific behaviour (Yadav et al., 2018). Likewise, Hashim et al. (2017) argued that the determinants of GBP must also focus on altering the attitude towards specific behaviour. For that reason, this study also analysed the mediation of attitude towards green purchase between GPB and its determinants. Lastly, Chuah et al. (2020); and Wei et al. (2017) argued that green trust has a moderating influence for GPB and its determinants. Hence, to enhance the attitude-behaviour relationship, green trust tested as a moderator between attitude towards green purchase and green purchase behaviour.

5.2 Discussion of the Study

The objectives of the present investigation and its relation to the testing of hypotheses are discussed below.

5.2.1 Objective 1: Direct effect of contextual factors (government regulations, green product, green price, green place, and green promotion) on consumers green purchase behaviour

The first objective is to determine the direct effect of contextual factors (government regulations, green product, green price, green place, and green promotion) on consumers

green purchase behaviour in electric home appliances sector in Pakistan. This objective one (01) consists of five (05) hypotheses.

5.2.1.1 Direct Influence of Government Regulations on Green Purchase Behaviour

The first hypothesis (H_1) postulated that government regulation has a positive significant influence on green purchase behaviour. The outcomes of the study confirm that government regulations significant influence on green purchase behaviour ($\beta = 0.086$, T-value = 1.984, and p-value < 0.05). Hence the hypothesis was accepted. Currently, the role of government for legislating the environmental regulations for organisations and customers is vital. Particularly in supporting the organizations for eco-friendly product development and designing a green marketing strategy for providing energy-efficient electric appliances to consumers in Pakistan. Additionally, Li et al. (2015) argued that the government incentives provided by government have a vital role in the societies for promoting the culture of buying green products. The significant direct influence of government regulations on green purchase behaviour uncovered that there are strict government regulations established to focus on consumers to buy energy-efficient electric appliances. In line with this, consumers with no environmental attitude are also encouraged to pay for energy-efficient electric appliances.

The Government of Pakistan (GoP) is trying to promote environmentally significant behaviours like planting trees, reduced plastic use, and support the buying of green products. Consequently, government regulations are immensely helpful for consumers in buying green products like energy-efficient electric appliances. Previous research also found similar finding of significant relationship of government regulations with consumers' green buying (R. Ahmed et al., 2022; Geetha, 2022; Matin et al., 2022).

5.2.1.2 Direct Influence of Green product on Green Purchase Behaviour

Likewise, the second hypothesis (H_2) empirically confirms that green product has a significant positive relationship with green purchase behaviour ($\beta = 0.324$, T-value = 5.389, and p-value < 0.05). So, the hypothesis was accepted. Product is the central part of every marketing strategy and is the actual thing or material consumers' buy. The significant result in the current study revealed that buying of energy-efficient electric appliances is better for environmental safety. The environment friendly features of energy-efficient electric appliances are making it a green product and the consumers in Pakistan are already buying these products to avoid hazardous effect on natural environment (J. Zhang et al., 2022). Past findings also revealed the significant influence of green product on consumers' green buying (Nugroho & Irena, 2017).

5.2.1.3 Direct Influence of Green price on Green Purchase Behaviour

Similarly, the third hypothesis (H_3) postulated that the green purchase behaviour has positively significant influenced by green price. The empirical results shows that this hypothesis is accepted ($\beta = 0.080$, T-value = 2.104, and p-value < 0.05). Normally, the prices of energy-efficient electric appliances are higher compared to other conventional electric appliances in Pakistan. But sometimes there are price discounts offered by the companies and the energy-efficient electric appliances are available on low prices for sale to the consumers. Furthermore, government subsidies on green products are also an attraction for buyers to purchase green products (Yuan et al., 2021). For that reason, consumers who do not have environmentally favourable attitude still purchase energy-efficient electric appliances on discounted prices. This result is consistent with several preceding studies confirming that consumers are willing to pay high price for green

purchasing (Yadav & Pathak, 2017). Whereas, it is not consistent with Hossain and Khan (2018) that shows insignificant relationship of green price with consumers' green purchase behaviour.

5.2.1.4 Direct Influence of Green place on Green Purchase Behaviour

Contrary to the above hypotheses, the findings of the fourth hypothesis (H_4) revealed that green place does not have a positive significant influence on green purchase behaviour (β = -0.018, T-value = 0.449, and p-value > 0.05). Therefore, this hypothesis was empirically rejected. Whilst the place is an important "P" for every company's marketing plan. Additionally, placement strategy has much importance for the companies to make product available and easily accessible to the consumers. But differing from the importance of place in marketing strategy, the analysis of the current study uncovered that it does not have significance for the consumers' green buying behaviour. Whether the accessibility of energy-efficient electric appliances is easy for consumers or not, it has no importance for consumers.

The reason for its triviality may be as there is no or less concept of green stores or green shops for selling energy-efficient electric appliances that fulfil consumers' environmental requirement. In a similar vein, although there are outlets of few companies selling only energy-efficient electric appliances, but most of the stores in Pakistan sell conventional as well as EEEA products simultaneously. Moreover, the other reason for its irrelevance is because of difficulty for the enterprises to have a green supply chain management system or green transportation system for products delivery which have zero or low carbon footprints specifically in the countries like Pakistan. Therefore, inefficient green place is not directly significant with consumers' green purchase behaviour. Consistency with

prior results is seen here with Hossain and Khan (2018) confirming the insignificant relationship of green place with consumers' green purchase behaviour. Likewise, A. K. P. Karunarathna et al. (2020) has also found insignificant relationship of green place with consumers' green buying.

Another reason for insignificancy of this relationship may be due to the lockdown imposed by the government for the duration of the COVID-19 spread during the data collection period. Mostly, people did not have a physical access to the marketplaces physically for green products especially for energy-efficient electric appliances. But during the late data collection period, government has allowed the markets to open for a specific time during the day. That is why there is also a difference in means of early and late responses of the respondents (see Table 4.3 for constructs mean values of early and late responses).

5.2.1.5 Direct Influence of Green promotion on Green Purchase Behaviour

Similarly, the results of fifth hypothesis (H_5) also revealed that green promotion does not have a positive significant impact on green purchase behaviour (β = -0.146, T-value = 2.981, and p-value < 0.05). Empirically, this hypothesis was also rejected. Though, companies have specially designed promotional activities to boost up their sales, but in this current study, consumers do not purchase energy-efficient electric appliances directly through promotional strategies. In addition to this, most of the companies in Pakistan promote energy-efficient electric appliances as money saving products instead of environmental saving products. For this reason, the consumers who do not have positive attitude towards saving the environment, do not prefer to buy EEEA. Similarly, the promotional activities of the companies are not much environmentally attractive that it

cannot pursue the consumers with non-environmental attitude to buy EEEA in Pakistan. Which means that companies do not have effective promotional strategies for consumers to buy energy-efficient electric appliances in Pakistan. In line with this, according to this study, there is no direct link between green promotion and green purchase behaviour. This result is also not consistent with several previous studies that revealed the significant relationship of green promotion with consumers' green purchase behaviour (Hossain & Khan, 2018; A. K. P. Karunarathna et al., 2020).

5.2.2 Objective 2: Mediation of attitudinal factor (attitude towards green purchase) between contextual factors (government regulations, green product, green price, green place, and green promotion) and green purchase behaviour

The second objective of this study was to determine the indirect influence of contextual factors (government regulations, green product, green price, green place, and green promotion) on green purchase behaviour through the mediation of attitude towards green purchase. There are eleven (11) hypotheses come under this objective.

5.2.2.1 Government Regulations and Attitude towards Green Purchase

The hypothesis six (H_6) which is postulates that the government regulations have a positive significant influence on attitude towards green purchase is accepted ($\beta = 0.177$, T-value = 4.035, and p-value < 0.05). Which means that, the environmental rules, regulations, and policies of the government are helpful to modify the consumers' attitude towards buying green products. Government policies like eco-labelling, industrial standards for environmental safety, are modifying factor for the consumers' conventional attitude of buying less energy-efficient electric appliances towards buying more energy-

efficient electric appliances. Moreover, it is essential for the government to promote awareness and educate the public regarding environmental safety rules and regulations (Yuan et al., 2021). In line with this, government must also create awareness and support consumers for buying green products, especially the buying of energy-efficient electric appliances in Pakistan.

5.2.2.2 Green Product and Attitude towards Green Purchase

The hypothesis seven (H_7) conjectures that the green product has a positive significant influence on attitude towards green purchase ($\beta = 0.383$, T-value = 6.768, and p-value < 0.05) and was accepted. Accordingly, green product features are good influencers to consumers' attitude towards green purchase. Moreover, energy saving feature of EEEA is more attractive for consumers having positive environmental attitude and environmental awareness. Contrary to this, the energy saving feature for environmental safety is not attractive to those consumers having negative environmental attitude and less environmental knowledge. But energy-efficient feature is more attractive to conventional attitude consumers as a money-saving benefit. Therefore, companies must focus not only on energy-saving benefit, but also on highlighting other product features like eco-label and product warranties to attract more consumers. Likewise, companies must highlight green features to create awareness among conventional attitude consumers. In this milieu, energy-efficient feature of EEEA and other attractive feature of electric appliances like quality and designs are effective aspects to alter the conventional attitude of consumers to green attitude. Kartawinata et al. (2020) studied that elements of green marketing mix are the determinants of green attitude.

5.2.2.3 Green Price and Attitude towards Green Purchase

The eighth hypothesis (H_8) postulates that the green price has a positive significant influence on attitude towards green purchase. The data analysis results ($\beta = 0.092$, T-value = 2.459, and p-value < 0.05) has confirmed the acceptance of this hypothesis. Previously, Kartawinata et al. (2020) examined that elements of green marketing mix are the influencers of green attitude. Along these lines, consumers are willing to pay the mentioned price of green products. It is very crucial for the companies to set prices of green products that exceeds the consumers' expectations. Generally, the prices of green products or energy-efficient electric appliances are higher than the conventional electric appliances. Likewise, consumers with environmental awareness and positive green attitude are willing to pay higher prices of green products due to their eco-friendly feature. In return, consumers are expecting higher benefit of green products than the cost they are paying. Contrary to this, negative environmental attitude consumers do not buy green products due to its higher price compared to the conventional one.

5.2.2.4 Green Place and Attitude towards Green Purchase

The hypothesis nine (H_9) postulates that the green place has a positive significant influence on attitude towards green purchase. Contrariwise, the empirical evidence shows ($\beta = 0.042$, T-value = 0.726, and p-value > 0.05) the insignificance relationship between green place and attitude towards green purchase. Therefore, this hypothesis was rejected. Green place involves the clean and green supply chain, green transportation and shipment of green products, and green stores. This task is particularly important for every organisation but also exceedingly challenging to manage its eco-friendliness. This green

placement concept is not really existing in Pakistan; therefore, consumers do not believe the clean and environment friendly supply chain and shipment of green products.

Furthermore, the government-imposed lockdown during the duration of the COVID-19 spread during the time of data collection may be the cause of the relationship's lack of significance. Most consumers lacked physical access to the markets for green goods, particularly for electric appliances that were energy efficient. However, the government has permitted the markets to open for a set length of time each day during the late data collection period. Because of this, the respondents' methods for early and late responses vary (see Table 4.3 for non-response bias test). Additionally, there is a massive increase in online shopping among Pakistani consumers' during the COVID-19 lockdown, but still there is an issue of trust at online stores and online buying (Bhatti et al., 2020). Likewise, consumers' are still lacking the trust for buying expensive products like EEEA through online selling platforms as there is high financial and product risk involved in online buying (U. Anwar et al., 2021).

5.2.2.5 Green Promotion and Attitude towards Green Purchase

The tenth hypothesis (H_{10}) postulates that the green promotion has a positive significant influence on attitude towards green purchase. The findings confirm the significance relationship between green promotion and attitude towards green purchase ($\beta = 0.330$, T-value = 5.871, and p-value < 0.05) and confirming that the hypothesis is accepted. In the literature, Kartawinata et al. (2020) has emphasised that green marketing mix elements are the key determinants of green attitude. Accordingly, green promotion is one of the best tools to shape consumers attitude towards green purchase. Through an effective and informative promotional strategy, companies can create awareness, appeal to consumers

by highlighting the effective green features and environmental benefits of green products and these can reshape the consumers' attitude to buying green products.

5.2.2.6 Attitude towards Green Purchase and Green Purchase Behaviour

The empirical findings of hypothesis eleven (H_{11}) showed that the attitude towards green purchase has a positive significant influence on green purchase behaviour ($\beta = 0.542$, T-value = 8.312, and p-value < 0.05). so, this hypothesis was accepted. Several past studies also revealed that attitude is the powerful determinant of green purchase behaviour (e.g., Joshi & Rahman, 2016). If a person/consumer have strong and positive attitude towards any specific behaviour, there will be more chances for that person/consumer to behave environment friendly as attitude influenced. More elaborately, Pakistani consumers of energy-efficient electric appliances have positive attitude towards buying green products. This outcome supports a number of earlier research that found a strong link of attitude towards green purchase with consumers' green purchase behaviour (Azila et al., 2012; Cheung & To, 2019; Y. Joshi & Rahman, 2017, 2019; N. T. Nguyen et al., 2021; Riskos et al., 2021).

5.2.2.7 Mediation of Attitude towards Green Purchase between Government Regulations and Green Purchase Behaviour

Government regulations are vital for environmental safety, through modification of consumers' attitude towards green purchasing and enhancing green purchasing behaviour. These significant findings revealed from hypothesis twelve (H_{12}) which postulates that the attitude towards green purchase mediates the relationship between government regulation and green purchase behaviour ($\beta = 0.096$, T-value = 3.771, and p-

value < 0.05). Hence the hypothesis was accepted. Government pro-environmental regulations can enhance the green purchasing culture through supporting and creating awareness among consumers and societies. Also, governments can alter conventional consumer attitude to enhance green buying by facilitating the green awareness campaigns by the organisations.

5.2.2.8 Mediation of Attitude towards Green Purchase between Green product and Green Purchase Behaviour

Likewise, the hypothesis thirteen (H_{13}) postulates that the attitude towards green purchase mediates the relationship between green product and green purchase behaviour. The findings revealed that this relationship is significant (β = 0.207, T-value = 4.713, and p-value < 0.05) and this hypothesis was accepted. Elucidating further, the green features of green products like energy-efficiency feature of electric appliances are attractive to consumers who are environmentally conscious and willing to buy green products to benefit the environment in Pakistan. Moreover, having green attitude towards green purchasing, consumers are buying energy-efficient electric appliances for environmental safety.

5.2.2.9 Mediation of Attitude towards Green Purchase between Green price and Green Purchase Behaviour

The findings of hypothesis fourteen (H_{14}) reveals that the attitude towards green purchase mediates the relationship between green price and green purchase behaviour (β = 0.050, T-value = 2.513, and p-value < 0.05). Which means that the prices of energy-efficient electric appliances are acceptable to the consumers. Furthermore, consumers are willing

to pay high prices of green products. In line with this, consumers are fully aware of environmental benefits of energy-efficiency of electric appliances and therefore, the cost that consumers are paying to get environmental benefit of green products is justified.

5.2.2.10 Mediation of Attitude towards Green Purchase between Green place and Green Purchase Behaviour

The fifteenth hypothesis (H_{15}) postulates that the attitude towards green purchase mediates the relationship between green place and green purchase behaviour. Evidence from this study showed that the mediation of attitude towards green purchase between green place and green purchase behaviour is not significant ($\beta = 0.023$, T-value = 0.726, and p-value > 0.05), based on this, the hypothesis is rejected. The reason for this insignificant result could be attributed to the fact that the availability of energy-efficient electric appliances is not far and wide, and it is not easy to access green products in all places in Pakistan. Moreover, the green supply chain and eco-friendly shipment of green products does not exist, and so, green place do not have any significance influence on green purchasing behaviour.

5.2.2.11 Mediation of Attitude towards Green Purchase between Green Promotion and Green Purchase Behaviour

Likewise, the sixteenth hypothesis (H_{16}) postulates that the attitude towards green purchase mediates the relationship between green promotion and green purchase behaviour. The empirical analysis showed that the hypothesised path is significant, ($\beta = 0.179$, T-value = 4.682, and p-value < 0.05) and the hypothesis is accepted. This finding enlightened the fact that promotion is vital for modifying consumers' attitude and

enhancing the green purchase behaviour. Moreover, with effective green promotion by the companies, to create green awareness, and to highlight environmental benefits of green products to the environment, will ultimately result in enhancement of green purchasing behaviour. Karunarathna et al., (2017); Naik et al. (2022) and A. K. P. Karunarathna et al. (2020) have revealed the similar findings of significant relationship.

5.2.3 Objective 3: Moderation of green trust between attitude towards green purchase and green purchase behaviour

Analysing the moderating role of green trust between attitude towards green purchase and green purchase behaviour in energy-efficient electric appliances sector in Pakistan is the final objective of this study. This objective formulates two (2) hypotheses (H_{17} and H_{18}).

5.2.3.1 Green Trust and Green Purchase Behaviour

The hypothesis seventeen (H_{17}) postulates that the green trust has a positive significant influence on green purchase behaviour. The hypothesis is accepted as the empirical evidence of this research showed that green trust has positive influence on green purchase behaviour ($\beta = 0.070$, T-value = 2.102, and p-value < 0.05). The result also revealed that the trust has already been built in the minds of consumers in Pakistan. Furthermore, this trust is translated as the companies in Pakistan are manufacturing and offering green products as well as following and working under the government environmental regulations. This result is consistent with several past studies confirming the significant relationship of green trust with consumers' green purchase behaviour (M. Abid & Latif, 2015; Khoiruman & Haryanto, 2017; Nuttavuthisit & Thøgersen, 2017). In line with the significant relationship, Yadav et al. (2018) analysed the similar results.

5.2.3.2 Moderation of Green Trust between Attitude towards Green Purchase and Green Purchase Behaviour

Whilst the hypothesis eighteen (H_{18}) postulates that the green trust strengthens the relationship between attitude towards green purchase and green purchase behaviour. The findings of this hypothesis ($\beta = 0.077$, T-value = 1.827, and p-value < 0.05) revealed that green trust work together with attitude towards green purchase, and eventually enhances the green purchase behaviour of energy-efficient electric appliances in Pakistan. Therefore, this hypothesis is also accepted. Likewise, if there is a trust in the consumers' minds and an optimistic attitude towards green purchase, the more chances to purchase energy-efficient electric appliances. In line with this, the finding also confirms that the green trust will boost the green purchasing habit in Pakistan. This result is consistent with Chuah et al. (2020) confirming the moderation effect of green trust in the relationship between attitudinal factor and sustainable behaviour. Moreover, G. Li et al. (2021) and Rehman et al. (2019) have also revealed the similar results of moderation effect of green trust.

5.3 Implication of the Study

Fundamentally, the results of this study have various management ramifications as well as major theoretical and methodological advances. In the parts that follow, the discussion will go deeper into these topics.

5.3.1 Theoretical Contribution of the Study

The current study adds to the existing body of knowledge by collectively underpinning the attitude-behaviour-context (ABC) theory and stimulus-organism-response (SOR)

model to the marketing and government factors as combined contextual determinants of green purchase behaviour. This application of the theories is line with the argument of Vainio et al. (2019) who argued that the behavioural studies especially individual behaviours related to the energy must be studied under integrated behavioural theories (i.e., theories that must study both psychological as well as external factors together as the determinants of behaviour). The findings thus assure the appropriateness of ABC theory and SOR model to study green purchase behaviour. Furthermore, this study also supports the strong green attitude-behaviour relationship. However, fewer past studies have shown week, negative or insignificant relationship between environmental attitude and green behaviour.

Further, the current research work also enlightened the green purchasing behaviour of consumers as most of the research work conducted previously on green purchase intention as discussed by Song et al. (2019). Likewise, this study focused on the green behaviour related to energy-efficient electric appliances purchasing in Pakistan. In addition to this, Yadav et al. (2019) argued that the expensive behaviours (like electric appliances purchasing) are highly influenced by contextual factors and less favoured by psychological factors. In line with this argument, the current study used green marketing mix and government regulations as external factors influencing the green purchase behaviour. Correspondingly, the attitude towards green purchase as a psychological factor mediating the relationship between the external factors and green purchase behaviour.

Furthermore, in this study, green products, green price, green place, green promotion (green marketing mix) and government regulations together as influencers of the green

purchase behaviour is a unique combination to analyse. As the combination of these factors are suggested by Wymer & Polonsky (2015) and these factors has been studied separately in previous research. In line with this, the combination of government regulations and green marketing mix factors in this study are collectively termed as 5G's of green marketing (government regulations, green product, green price, green place, and green promotion). This unique combination is lacking in the literature as per best knowledge of the researcher. Moreover, the relationship between attitude towards green purchase and green purchase behaviour is moderated by green trust. In literature, generally green trust was studied as the determinant or serve as a mediator among determinants of green purchase behaviour. Fewer studies suggested or tested the influence of green trust as a moderator among behavioural studies (Chuah et al., 2020; G. Li et al., 2021).

Along with this, the current study established the path of contextual factors to influence environmentally significant behaviour through the mediation of attitudinal factors. This path is theoretically supported and based on stimulus-organism-response (SOR) model. Furthermore, the introduction of theoretical support of SOR model to this path is a theoretical addition and further extension to attitude-behaviour-context (ABC) theory with the combination of stimulus-organism-response (SOR) model as this is rare in the literature.

5.3.2 Practical Contribution of the Study

The current research work would assist in providing practical contribution to the government, organisations, and society.

5.3.2.1 For Government and Policy Makers

Government is a key player in achieving sustainability goals. The role of government is vital not only for businesses, but also for consumers and societies. Since 2020, Pakistan's Ministry of Environment has outlawed the use of plastic bags in the nation's capital, Islamabad. Likewise, billion tree project shows that the government is keenly concern about the measures taken for environmental safety. These environmental policies of the government help to develop public trust on the government. In addition to this, it also creates awareness among the societies about environmental problems the world is facing. To focus on creating more awareness about environmental problems and benefits of green buying, government must hold seminars and campaigns specifically on "Earth Day" or any other specific day announced by the government for environmental awareness.

The role of NGO's is vital concerning the matter of creating awareness among the societies and to the public through awareness building workshops. In line with this, NGO's can support policy makers and government authorities to set minimum energy performance standards for electric appliances that will guide appliances users about energy efficiency. Likewise, electric appliances (fan, bulbs, tube lights, etc.) replacement programs in government, health, and education facilities will be a great step towards achieving sustainability goals. Accordingly, energy star labelling policy must be strictly implemented on manufacturers and there must be some strict environmental regulations and punishments for violating the environmental regulations and eco-labelling policy.

For achieving the sustainability goals, government can do a lot more. Government regulations for environmental safety must be supportive for organisations to manufacture

green products. Moreover, government authorities must provide technical assistance to appliances manufacturing companies regarding latest technology adoption for energy-efficient electric appliances parts and manufacturing. Likewise, government must discourage the import of less-energy-efficient appliances and its manufacturing parts under the set energy efficiency standards. In the same vein, government environmental regulations must also encourage the green purchasing behaviour among the consumers by subsidising green product. Lastly, youngsters are the future of every nation. To get a sustainable future, government along with NGO's must focus on educating the young generation about environment issues through adding lessons in academic books and holding seminars about green behaviour and its long-lasting benefits.

5.3.2.2 Managerial Implications

Multiple practical marketing implications for businesses can be drawn from the present study. It apprises about the importance and influence of marketing mix element on green purchase behaviour of consumers in Pakistan. Organisations must be very keen and vigilant to develop a sustainable relationship with all its stakeholders including investors, suppliers, distributers, customers, users, and most important the nature. In value-chain of a business, there must be a great focus on adding environmental value at every step involved throughout this process from suppliers to end users. Moreover, every marketing strategy of the company must be aligned with its environmental vision and goals.

As the focus of the current study is green marketing mix (green product, green price, green place, and green promotion) and its impact on consumers' green purchasing behaviour. The findings of this study revealed that green product, green price, and green promotion are important predictors of green purchase attitude and green purchase

behaviour. This implies that marketers can enhance green purchase behaviour by developing effective product, price, and promotional strategies. Energy-efficiency of appliances is a value addition feature to the product that will result in saving nature and reducing monthly electricity consumption with money-saving benefit as well. This must be encouraged through effective promotional campaigns though mainstream media (TV, newspapers, magazines) and social media. A trained and committed salesforce is necessary for a smooth and careful supply of green products to consumers. This salesforce will also be helpful in educating and selecting the green distribution channels for the companies. Moreover, pricing must be set carefully because the people of Pakistan are highly price sensitive. Price discounts and related sales promotions can be remarkably effective strategy to enhance buying of energy-efficient electric appliance.

Furthermore, efforts must be done to sensitise consumers' attitude towards energy-efficient electric appliances buying through impactful marketing campaigns. Hence, organisations must create more awareness among the people of Pakistan with effective promotional strategy for modification of consumers' attitudes and pursue them to buy these green products for environmental benefits. Similarly, organisations must focus on developing the trust among the consumers to enhance green purchasing. Green trust is an essential determinant of green purchase behaviour. It must be done by way of promising high quality green products, avoiding green washing, and developing strong green attitudes among consumers. For this purpose, green marketing campaigns can focus on creating trust by highlighting corporate social responsibility and motivating the consumers to behave green and buy green.

In line with this, careful selection of suppliers and distributers is also a major decision for organisations. Deeply committed to environmental safety and trustworthy suppliers and distributers must be designated for the business. Furthermore, every business which is committed to environmental goals must have a green audit department. This department must be responsible for keeping an eye regarding eco-friendliness of each and every step of raw material from suppliers to finished product to end user though all distributing channels.

5.3.2.3 For Consumers and Society

In conclusion of the empirical results of this study, it has been found that consumers in Pakistan possess somewhat positive attitude towards buying green products. Likewise, consumers are rather vulnerable to the influence of their purchasing behaviours on environment and society. They must be more eco-sensitive and should focus on changing from conventional buying behaviour to green purchase behaviour (buying energy-efficient electric appliances) in every aspect of purchasing. Additionally, societies must follow government environmental regulations and must respond greatly to the marketing campaigns of different organisations. Hence, it is highly recommended that energy-efficient electric appliances be purchased and used for household users to benefit the environment.

5.3.3 Methodological Implications of the Study

Most of the past studies projected the reliability of the construct under study through Cronbach's alpha or composite reliability in the convergent validity measures. Though these reliability measures are not much authentic for estimating the reliability as

Cronbach's alpha underestimates and composite reliability overestimates construct (Hayes & Coutts, 2020). Therefore, as per suggestion of Hayes and Coutts (2020), this study also used McDonald's omega for reliability estimation. This reliability calculation has been conducted through a macro downloaded from http://afhayes.com/spss-sas-and-r-macros-and-code.html and installed in SPSS.

5.4 Limitations and Future Recommendation

Although the current research work enlightened several new aspects to the green purchase behaviour, nevertheless, the study is not without limitations. The data has been collected only from top ten (10) populated cities (Karachi, Lahore, Faisalabad, Rawalpindi, Gujranwala, Peshawar, Multan, Hyderabad, Islamabad, and Quetta) of Pakistan. Whereas all cities other than selected ten (10) cities are the homeland of more than 80% of total population of Pakistan. Hence, future studies may focus on different cities and countries. Demographics influence on green buying behaviour is neglected in the current study; therefore, future studies can analyse the influence of demographic variables like age, gender, academic qualification, and income level. Moreover, the overall empirical findings revealed that the level of awareness regarding environmental problems among the selected population is high, but it is a great possibility that the population resides in other cities might not have such elevated level of awareness regarding environmental problems and green purchasing. Consequently, there might be a lower level of green purchasing in those areas. Future studies can find the level of awareness among residents of other cities.

Moreover, the current study collected data from the buyers of energy-efficient electric appliances and focused only on this sector in Pakistan. Whereas many other green sectors

(like electric vehicles, organic food, solar energy production, green hotels, and hospitality management etc.) have been neglected. Future research can replicate this model on different segment or industry to analyse whether the results still stand. Likewise, this study only focused on green purchasing behaviour, which is an important sustainability behaviour. In this regard, other sustainability behaviours like waste management behaviour and green consumption behaviour, have not been considered in this study. Similarly, this study is conducted based on individual consumers' data rather social groups or organisational green behaviour data. In future, scholars can focus on other environmentally significant behaviours like consumption behaviour, energy-saving behaviour, recycled products buying behaviour, product reuse behaviour, reducing buying behaviour, and avoiding certain product buying behaviour.

Adding to this, the contributing factor of green purchase behaviour studied in this research are broadly divided into two groups; contextual and attitudinal factors conceptually established on ABC theory. The contextual factors are further divided into two, government (government regulations) and organisational (green product, green price, green place, green promotion) factors. Whereas there could be many other contextual (government organisational, and social) factors which has not been analysed in this research. Similarly, only attitude towards green purchase has been analysed as attitudinal factor affecting sustainable behaviour, there must be many other cognitive factors like green knowledge and green awareness which are the important determinants of green behaviour has been neglected in this study.

To add, the study used non-probability sampling method for representation of total population of the study, which may lead to biased results. Other studies can use

probability sampling method for more generalized and unbiased results. In addition to this, using the quantitative approach, this study used survey method and questionnaires-based data collection which give rise to self-reported responses, another way to bias analyses outcomes. However, researchers may go for qualitative approach using interview method for data collection. The data has been collected at one time under cross-sectional method, but future studies may work on collecting data on more than one point of time using longitudinal research method. Through this method, researchers can find the change in behaviours of respondents over time. Consequently, for those reasons mentioned above, there is an issue of generalisability of this research.

5.5 Conclusion

There are over 215 million people living in Pakistan, making it the world's fifth-most populous country, and is highly affected by the adversities of environmental damages. Pakistan's latest flood in summer 2022 provides further evidence of the effects of climate change on the country. Although it is also a big consumer market with an immense potential for green products. Nevertheless, sustainable companies face difficulties in persuading and promoting their green products in Pakistan due to very less information available concerning to their green purchasing behaviour patterns. The current study examines the governmental factors and organisational marketing factors influencing energy-efficient electric appliances purchasing behaviour in Pakistan.

Even though the current study got mixed results with some limitations as well, but at the same time the current study was able to meet all research objectives of the study. Results acquired using PLS-SEM indicate that contextual factors are important predictors of consumers' green purchasing behaviour. Likewise, the empirical analysis of the

hypotheses of direct influence of contextual factors show that government regulations, green product, and green price are positively significant with green purchase behaviour while green place and green promotion are not. Moreover, these findings of the study discovered the influencing factors of customers' green buying who do not have green attitude. Result outcomes revealed that consumers do not prefer green products by considering their green features rather they prefer green products due to some other benefiting features. These factors might include government strict environmental policies, products beneficial features other than green features like design, quality, brand image, and price incentives. These findings and they buy green products with the benefit other than green.

Similarly, the hypotheses of indirect influence of contextual factors through attitudinal factor show that attitude towards green purchase mediates the relationship between green purchase behaviour and its determining factors. Moreover, the analyses outcomes revealed that attitude towards green purchase is the powerful determinant of green purchase behaviour. Likewise, government regulations, green product, green price, and green promotion have positive significant influence on green purchase behaviour through the mediation of attitude towards green purchase. Whilst green place is not significant with green purchase behaviour in meditation path. The analyses outcomes suggest that by altering the consumers' attitude through contextual factors, green purchasing can be enhanced among Pakistani consumers of energy-efficient electric appliances.

Furthermore, the current study revealed that green trust is positive significant with green purchase behaviour. Additionally, as a moderator green trust enhances the positive relationship of attitude towards green purchase and green purchase behaviour, hence,

reducing the attitude-behaviour gap. To add, businesses need to work on gaining customers' trust in green products through effective marketing campaigns as trust enhance the probability of buying. Governments must monitor the credibility of green promotional campaigns through effective government regulations and legal measures to make sure that the consumers' trust is not breached.

The primary results of this study are consistent with those of earlier studies that have examined the relationship between attitudes-behaviour and contextual determinants of green purchase behaviour. These findings may demonstrate valuable and better insight thereby empowering policy makers and marketers to design effective government environmental regulations and marketing activities for a better and sustainable future. Moreover, this study can assist to develop appropriate interventions to encourage green purchase behaviour among Pakistani consumers. Additionally, the current study emphasises the advantages of utilising and purchasing green items for the environment, particularly through the use of energy-efficient electric appliances.

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Appendices

Appendix A: Questionnaire

Dear respondents, the products that are not harmful to the environment, fulfils consumers' environmental needs, and produced/manufactured using toxic-free ingredients or materials are known as Green Products. This data collection is for Ph.D. research and the main goal of this study is to explore "THE IMPACT OF GOVERNMENT REGULATIONS AND GREEN MARKETING ON CONSUMER'S GREEN PURCHASE BEHAVIOR IN PAKISTAN".

Your answers will help researchers, organizations, and government officials to understand the perception and expectations of consumers to make green (environmentally friendly) policies. We estimate that it will take about 10 minutes of your precious time to complete the questionnaire. You are free to contact the researcher to discuss the survey.

گرین مصنوعات سے مراد وہ مصنوعات ہیں جو ماحول کے لئے نقصان دہ نہیں ہیں، خریدار کی ماحولیاتی ضروریات کو پورا کرتی ہیں، اور زہریلے مواد سے پاک اجزاء یا مواد کا استعمال کرتی ہیں۔ یہ ڈیٹا جمع کرنے کا مقصد پی ایچ ڈی کی تحقیق کے لئے ہے، جس کا مقصد گورنمنٹ کے قواعد و ضوابط اور گرین مارکیٹنگ کا خریداری کے گرین خریداری رویے پر اثر کا جائزہ لینا ہے۔

آپ کے جوابات محققین، تنظیموں اور حکومتی اہلکاروں (پالیسی سازوں) کو صارفین کے سبز (ماحول دوست) پالیسیوں کے بارے میں تصور اور توقعات کو سمجھنے میں مدد دیں گے۔ ہمارے اندازے کے مطابق آپ کو سوالنامہ مکمل کرنے کے لئے تقریباً دس (۱۰) منٹ درکار ہوں گے۔ آپ اس سروے کے بارے میں کسی بھی سوال کے لئے مجھ سے رابطہ کر سکتے ہیں۔

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Section II: Demographics

Gender جنس:

☐ Male مرد ☐ Female عورت

Age Group عمر کا گروپ:

☐ 15-30 ☐ 31-45 ☐ 46-60 ☐ above 60

Marital Status ازدواجی حیثیت:

☐ Single غیر شادی شدہ ☐ Married شادی شدہ

Academic Qualification تعلیمی قابلیت:

☐ Metric میٹرک ☐ Intermediate انٹرمیڈیٹ

☐ Bachelors' degree بیچلرز ڈگری ☐ Masters' Degree ماسٹرز ڈگری

☐ PhD پی ایچ ڈی ☐ Other کوئی اور

Profession پیشہ

☐ Student طالب علم ☐ Business کاروبار

☐ Employee ملازمت ☐ Other کوئی اور

☐ Professional (Doctor, Professor etc.) پیشہ ور (ڈاکٹر، پروفیسر)

Monthly Income (in PKR) ماہانہ آمدن (پاکستانی روپے میں):

☐ 0-20,000 ☐ 20,001-50,000

☐ 50,001-100,000 ☐ 100,001 and above

City شہر

☐ Karachi کراچی ☐ Lahore لاہور

☐ Faisalabad فیصل آباد ☐ Rawalpindi راولپنڈی

☐ Gujranwala گوجرانوالہ ☐ Peshawar پشاور

☐ Multan ملتان ☐ Hyderabad حیدرآباد

☐ Islamabad اسلام آباد ☐ Quetta کوئٹہ

☐ Other کوئی اور

Have you bought any green (energy efficient) electric appliances in the past one (1) year? کیا آپ نے گزشتہ ایک (۱) سال میں ماحول دوست (مثلاً، کم بجلی استعمال کرنے والے) الیکٹرک آلات خریدے ہیں؟

☐ *Yes* ☐ *No*

Section III

Strongly Disagree = 1; Disagree = 2; Neutral = 3; Agree = 4; Strongly Agree = 5
(سخت غیر رضامند)۱(غیر رضامند)۲(غیر جانبدار)۳(رضامند)۴(سخت رضامند)

Green purchase behaviour

No	Statement	SD	D	N	A	SA
1	I care about buying green products. میں گرین مصنوعات خریدنے کی فکر کرتا ہوں	1	2	3	4	5
2	If I understand the potential damage to the environment that some products can cause, I do not purchase those products. اگر میں سمجھتا ہوں کہ کچھ مصنوعات ماحول کو ہونے والے ممکنہ نقصان کے بارے میں جانتا ہوں تو ان مصنوعات کو نہیں خریدتا ہوں۔	1	2	3	4	5
3	The products with green labels are more attractive to me. گرین لیبل والی مصنوعات میرے لئے زیادہ پرکشش ہیں۔	1	2	3	4	5
4	The probability of buying products with green labels is high. گرین لیبل والی مصنوعات کی خریداری کا امکان زیادہ ہے۔	1	2	3	4	5
5	I am willing to pay more money for green products. میں گرین مصنوعات کے لئے زیادہ رقم ادا کرنے کو تیار ہوں۔	1	2	3	4	5
6	I have switched products for ecological reasons. میں نے ماحولیاتی وجوہات کی بنا پر مصنوعات کی خریداری میں تبدیلی کی ہے۔	1	2	3	4	5
7	I have avoided buying a product because it had potential harmful environmental effect. میں نے ایک پروڈکٹ خریدنے سے گریز کیا ہے کیونکہ اس کا ممکنہ ماحولیاتی نقصان دہ اثر ہے۔	1	2	3	4	5
8	I make special effort to buy electric home appliances such as refrigerators, air conditioners, that are energy efficient. میں بجلی سے چلنے والے گھریلو الیکٹرانکس جیسے ریفریجریٹرز، ایئر کنڈیشنر، جو توانائی سے موثر ہے کی خریداری کی خصوصی کوشش کرتا ہوں۔	1	2	3	4	5
9	When buying electric appliances, if I could choose between energy-saving and conventional product, I would prefer energy-saving products. بجلی سے چلنے والے گھریلو الیکٹرانکس خریدتے وقت، اگر مجھے توانائی بچانے والی اور روایتی مصنوعات کے درمیان انتخاب کرنا ہوتا، میں توانائی بچانے والی مصنوعات کو ترجیح دوں گا	1	2	3	4	5
10	I try to buy products that save more energy. میں ایسی مصنوعات خریدنے کی کوشش کرتا ہوں جن سے زیادہ توانائی بچتی ہو۔	1	2	3	4	5
11	I buy high efficiency electric home appliances to	1	2	3	4	5

	save energy. میں توانائی بچانے والے برقی آلات خریدنے کو ترجیح دوں گا۔					

Government regulations

No	Statement	SD	D	N	A	SA
12	The government should enforce environmental regulations on green practices. حکومت کو سبز طریقوں (green practices) سے متعلق ماحولیاتی ضوابط و اقدامات نافذ کرنے چاہئیں۔	1	2	3	4	5
13	Environmental protection is the sole responsibility of the Pakistan government. ماحولیاتی تحفظ صرف حکومت پاکستان کی ذمہ داری ہے۔	1	2	3	4	5
14	The government should help to develop green consumption in Pakistan. حکومت پاکستان میں سبز کھپت کو فروغ دینے میں مدد کرنی چاہیے۔	1	2	3	4	5
15	The government regulations support purchase of green products in Pakistan. حکومتی ضوابط و اقدامات پاکستان میں سبز مصنوعات کی خریداری میں مددگار ہیں۔	1	2	3	4	5
16	The Pakistan government should actively promote green marketing activities in Pakistan. حکومت پاکستان کو پاکستان میں سبز (ماحول دوست) مارکیٹنگ کی سرگرمیوں کو فعال طور پر فروغ دینا چاہئے۔	1	2	3	4	5
17	The government should encourage me to consume green products by providing subsidies on green. حکومت کو سبز مصنوعات کے استعمال پر سبسڈی دے کر میری حوصلہ افزائی کرنی چاہیے	1	2	3	4	5

Green product

No	Statement	SD	D	N	A	SA
18	The energy-efficient electric appliances companies contribute in producing electric appliances resulted in less environmental pollution. توانائی بچانے والے برقی آلات بنانے والی کمپنیاں ایسے برقی آلات تیار کرنے میں حصہ ڈالتی ہیں جس کے نتیجے میں ماحولیاتی آلودگی کم ہوتی ہے۔	1	2	3	4	5
19	The quality of energy-efficient electric appliances is high. توانائی بچانے والے برقی آلات کا معیار بلند ہوتا ہے۔	1	2	3	4	5
20	The brands of energy-efficient electric appliances are credible.	1	2	3	4	5

	توانائی بچانے والے برقی آلات کے بنانے میں ماحول دشمن مواد استعمال نہیں ہوتا۔					
21	The energy-efficient electric appliances are free of toxic materials. توانائی بچانے والے برقی آلات زہریلے مواد سے پاک ہیں۔	1	2	3	4	5

Green price

No	Statement	SD	D	N	A	SA
22	Price of energy-efficient electric appliances is proportionate with their quality. توانائی بچانے والے برقی آلات کی قیمت ان کے معیار کے مطابق ہے۔	1	2	3	4	5
23	The quality of energy-efficient electric appliances justifies the price. توانائی بچانے والے برقی آلات کا معیار ان کی قیمت کے برابر ہے۔	1	2	3	4	5
24	The price of energy-efficient electric appliances is reasonable. توانائی بچانے والے برقی آلات کی قیمت واجبی ہے۔	1	2	3	4	5
25	I am willing to pay high price for energy-efficient electric appliances. میں توانائی بچانے والے برقی آلات کے لئے زیادہ قیمت ادا کرنے کو تیار ہوں۔	1	2	3	4	5
26	Price gap between energy-efficient electric appliances and conventional electric appliances is huge. توانائی بچانے والے برقی آلات اور روایتی برقی آلات کے درمیان قیمت کا فرق بہت زیادہ ہے۔	1	2	3	4	5
27	High price of energy-efficient electric appliances sometimes stops me from purchasing them. توانائی بچانے والے برقی آلات کی زیادہ قیمت کبھی کبھار مجھے انکی خریداری سے روکتی ہے	1	2	3	4	5

Green place

No	Statement	SD	D	N	A	SA
28	There is more choice of energy-efficient electric appliances available in the stores. اسٹورز (دکانوں) میں توانائی بچانے والے برقی آلات کا زیادہ انتخاب موجود ہے	1	2	3	4	5
29	The energy-efficient electric appliances are getting easy in locality. توانائی بچانے والے برقی آلات علاقے میں آسانی سے میسّر ہو رہے ہیں۔	1	2	3	4	5
30	The energy-efficient electric appliances are available in the stores. توانائی بچانے والے برقی آلات اسٹورز میں دستیاب ہیں۔	1	2	3	4	5
31	The energy-efficient electric appliances	1	2	3	4	5

	companies are keen to deal with dealers friendly to the environment. توانائی بچانے والے بجلی کے آلات بنانے والی کمپنیاں ماحول دوست ڈیلروں سے کاروبار کرنے میں دلچسپی رکھتی ہیں۔					

Green promotion

No	Statement	SD	D	N	A	SA
32	Electric appliances companies promote energy-efficient electric appliance through green marketing campaign. الیکٹرک اپلائنسز کمپنیاں گرین مارکیٹنگ مہم کے ذریعے توانائی بچانے والے برقی آلات کو فروغ دیتی ہیں۔	1	2	3	4	5
33	Electric appliances companies promote energy-efficient electric appliance through green advertising. الیکٹرک اپلائنسز کمپنیاں گرین اشتہاری مہم کے ذریعہ توانائی بچانے والے برقی آلات کو فروغ دیتی ہیں	1	2	3	4	5
34	Electric appliances companies holding seminars and conferences related to the environment. الیکٹرک اپلائنسز کمپنیاں ماحولیات سے متعلق سیمینار اور کانفرنسیں منعقد کرتی ہیں	1	2	3	4	5
35	Electric appliances companies devote a special day for environment. الیکٹرک اپلائنسز کمپنیاں ماحول کے لئے ایک خاص دن وقف کرتی ہیں۔	1	2	3	4	5
36	Electric appliances companies contribute in supporting the environmental centres. الیکٹرک اپلائنسز کمپنیاں ماحولیاتی مراکز کی حمایت میں تعاون کرتی ہیں۔	1	2	3	4	5

Attitude towards green purchase

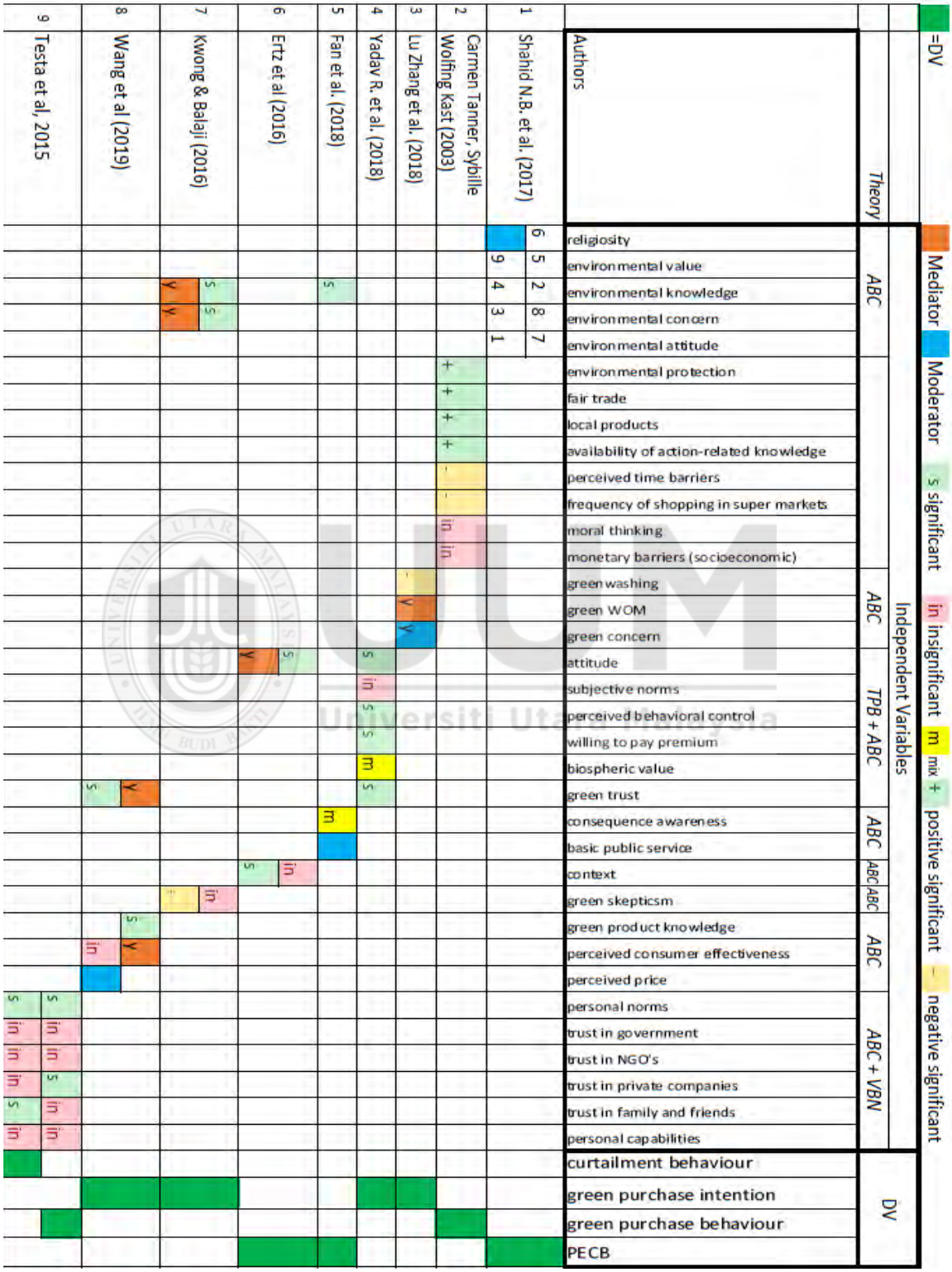
No	Statement	SD	D	N	A	SA
37	Buying energy-efficient electric appliances instead of conventional electric appliances is beneficial. روایتی بجلی کے آلات کی بجائے توانائی بچانے والے بجلی کے آلات خریدنا فائدہ مند ہے۔	1	2	3	4	5
38	Buying energy-efficient electric appliances instead of conventional electric appliances is a wise choice. روایتی بجلی کے آلات کے بجائے توانائی بچانے والے بجلی کے آلات خریدنا دانشمندانہ انتخاب ہے۔	1	2	3	4	5
39	Buying energy-efficient electric appliances instead of conventional electric appliances make me feel good. روایتی بجلی کے آلات کی بجائے توانائی بچانے والے بجلی	1	2	3	4	5

	کے آلات خریدنے سے مجھے اچھا محسوس ہوتا ہے۔					
40	Buying energy-efficient electric appliances instead of conventional electric appliances make me feel pleased. روایتی بجلی کے آلات کے بجائے توانائی بچانے والے بجلی کے آلات خرید کر مجھے خوشی محسوس ہوتی ہے۔	1	2	3	4	5
41	Environmental protection is important to me when making purchases of appliances. برقی آلات کی خریداری کرتے وقت ماحولیاتی تحفظ میرے لئے اہم ہوتا ہے۔	1	2	3	4	5
42	Energy-efficient appliances are important to reduce air pollution. توانائی بچانے والے آلات فضائی آلودگی کو کم کرنے کے لئے اہم ہیں۔	1	2	3	4	5
43	Energy-efficient appliances are important to save natural resources that would be used for producing energy, e.g. coal, gas, oil etc. توانائی بچانے والے برقی آلات قدرتی وسائل کو بچانے کے لئے اہم ہیں جو توانائی پیدا کرنے میں استعمال ہوتے ہیں ، جیسے کوئلہ ، تیل ، گیس وغیرہ۔	1	2	3	4	5
44	If I can choose between energy efficient and conventional appliances, I prefer energy efficient. اگر میں توانائی بچانے والے برقی آلات اور روایتی آلات کے درمیان انتخاب کر سکتا ہوں تو ، میں توانائی بچانے والے برقی آلات کو ترجیح دیتا ہوں۔	1	2	3	4	5

Green trust

No	Statement	SD	D	N	A	SA
45	I believe that this product's environmental image is generally reliable. مجھے یقین ہے کہ اس پروڈکٹ کا ماحولیاتی تشخص عام طور پر قابل اعتماد ہے۔	1	2	3	4	5
46	I think that this product's environmental functionality is generally dependable. میں سمجھتا ہوں کہ اس پروڈکٹ کی ماحولیاتی کارکردگی عام طور پر قابل اعتبار ہے۔	1	2	3	4	5
47	Overall, I believe that this product environmental claims are trustworthy. مجموعی طور پر ، مجھے یقین ہے کہ اس پروڈکٹ کے ماحولیاتی دعوے بھروسہ مند ہیں۔	1	2	3	4	5
48	This product's environmental performance meets my expectations. اس پروڈکٹ کی ماحولیاتی کارکردگی میری توقعات پر پورا اترتی ہے۔	1	2	3	4	5
49	This product keeps promises for environmental improvement. یہ پروڈکٹ ماحولیاتی بہتری کے وعدوں کو برقرار رکھتی ہے۔	1	2	3	4	5

Appendix B: Attitude-Behaviour-Context (ABC) Theory Literature Summary



Appendix C: Literature Summary Table for ABC Theory

Author(s) & Journal	Year	Country & Sector	Objective	Methodology & data sample	Findings	
					Context	Attitude
Bhuian et al.; Journal of Consumer Marketing	2017	Oman;	The purpose of this study is to examine the predictabilities of five intra-personal factors to predict pro-environmental consumer behavior (PECB) and the moderating role of religiosity in Oman.	survey questionnaire; 306 respondants; Analysed with SPSS	sig	sig
Tanner & Cast; Psychology and Marketing	2003	Switzerland; Green food	This study attempts to uncover personal and contextual barriers to consumers' purchases of green food and to strengthen knowledge about fostering green purchases.	Survey questionnaire 547; Analysed with multiple regression analysis;	m	sig
Nie, Zepeda; Appetie	2011	USA; Organic food	Conceptualising the food related lifestyle (FRL) model for US citizens using ABC theory.	Survey questionnaire 956; Analysed with cluster analysis Using R;	sig	sig
Yadav et al.; International Journal of Hospitality Management	2018	India; Green Hotel	The study addresses this research gap by developing and testing an integrated model of green hotel behavior in an emerging market of India.	Survey questionnaire 347 ; Analysed with SEM	p-sig	p-sig
Zhang et al.; Journal of cleaner production	2018	China; Battries	Based on the attitude-behaviour-context theory, this study explored whether and how consumers' greenwashing perceptions influence their green purchasing intentions by integrating the mediating role of green word-of-mouth (WOM) and the moderating role of green concern.	Survey 553 questionnaires; Analysed with SEM	n-sig	n-sig
Meng et al.; Resource, conservation, & Recycling	2019	China; Household waste management	The aim of this study is to investigate the decision-making mechanism of residents' HSW disposal behaviors by merging the theory of planned behavior and the Attitude-Behavior-Condition theory.	709 questionnaires; analysed with PLS-SEM	m	m

Auther(s) & Journal	Year	Country & Sector	Objective	Methodology & data sample	Findings	
					Context	Attitude
Fan, Yang, & Han; International Society	2018	China; General Society	This study emphasizes how basic public service affects Pro-Environmental Behaviour.	survey 11153 questionnaires; Multi-level modelling; analysed with HLM approach	sig	sig
Wang, Ma, & Bai; Sustainability	2019	China; Green products	The study aims to determaine the effect of green product knowledge, green trust and PSE on green purchase intention.	Online surver questionnaire; 236 valid responses were analysed with SEM using AMOS	sig	sig
Kwong & Balaji; Journal of cleaner production	2016	Malaysia; Retail businesses	aims to investigate the role of skepticism in green purchase behaviors.	303 responses; Analysed with SEM	sig	sig

Appendix D: Literature Summary Table for SOR Model

Auther(s) & Journal	Year	Country & Sector	Objective	Methodology & data sample	Findings	
					Stimuli	Organism
Peng & Kim; Journal of Internet Commerce	2014	Korea; Online shopping	To examine how consumers' reasons for shopping and website stimuli affect their attitudes toward online shopping, their ability to regulate their emotional purchases, and their repurchase intentions.	survey questionnaire; 416 respondants; Analysed by PLS-SEM;	p-sig	p-sig
Min, Chang et. al. Fashion and Textiles	2019	USA	To examine the influence of advertisement and publicity through attitude towards celebrity brand endorsement on buying intention	Survey questionnaire; 120 female Millennial consumers; Analysed 105 usable questionnaires with multiple regression analysis;	sig	sig
Cui & Lai PACIS	2013	Hong Kong; Online auction	Technology effectiveness, network effect, and product diversity are determinants proposed to influence customers' brand perceptions, which in turn, affect e-loyalty.	Online questionnaire; adapted; 449 bidders; Analysed with SEM; CFA; through LISREL	sig	sig
Barros et. al.; International Journal of Retail & Distribution Management	2019	Germany & Brazil; Retail fashion brands	The purpose of this paper is to investigate the influence of store atmosphere on consumers' positive emotional responses and impulsive purchase behaviour. In addition, it analyses the moderating role of culture characteristics and situational variables on this influence.	Survey 313 questionnaires; Analysed with PLS-SEM	sig	sig
Kim, Lee, and Jung; Journal of Travel Research	2018	virtual reality tourism	This study developed a theoretical framework including authentic experience, cognitive and affective responses, attachment, and visit intention with VR tourism using a stimulus-organism-response (SOR) theory.	2034 online questionnaires; 1756 used to analyse with PLS-SEM	sig	sig
Anisimova, Maondo, & Wiess; Journal of Marketing and Communication	2017	Australia; Organic food	This study examines the mediating effects of consumers' perceived clarity of organic food-related communication, trust for, and perceived health benefits of organic foods in the relationship between controlled and uncontrolled communication stimuli and organic food purchases	15,615 online surveys were sent; 1011 completed responses were analysed with SEM using AMOS	sig	sig