

Exploring and predicting South African consumers' intended behaviour towards selecting green hotels: Extending the Theory of Planned Behaviour

by

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DECLARATION

I, Duane De Freitas hereby declare that the MCS research dissertation entitled:

**Exploring and predicting South African consumers' intended behaviour towards
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ABSTRACT

Although South African consumers are reflecting increased green purchasing intentions, the factors that will lead to their intended behaviour to select green hotels have yet to be researched. Accordingly, the research proposes to explore the predictive ability of the Theory of Planned Behaviour (TPB) and then further modify and develop extended model structures surrounding the TPB, to identify and confirm an independent theoretical model that will effectively and comprehensively be able to predict South African consumers' intended behaviour towards selecting green hotels. To answer the aim and objectives set, the research positioned itself within a non-experimental quantitative paradigm. An online questionnaire was distributed to South African consumers that stayed at a hotel at least once within a 12-month period. A total of 402 completed and error-free responses were used for statistical analysis.

Descriptive statistical analysis was used to assess, derive and understand the demographic profile of the respondents and determine the respondent's characteristics as South Africans who intend to stay at or visit hotels. Structural equation modelling (SEM) revealed that Azjen (1991)'s original TPB is a strong predictor of behavioural intention, indicating its applicability to the domain of South African consumers' behavioural intention towards selecting green hotels. In addition, it was found that South African consumers' intended behaviour towards selecting green hotels can statistically be best explained by expanding on the original TPB model to include emotive and non-cognitive predictor variables, namely anticipated regret (AR) and perceived moral obligation (PMO), as direct constructs to behavioural intention as well as by including environmental knowledge (EK) as a direct predictor variable to attitude (ATT). Furthermore, it found that the relationship between behavioural intention and perceived behavioural control (PBC) was the strongest and most significant, followed by subjective norm (SN), ATT, PMO and AR. Lastly, the findings revealed that PBC, ATT, SN, PMO and AR can all act as positive and highly significant intermediaries between EK and behavioural intention.

The study contributed towards theory by identifying and assessing the psychographic factors that will best explain the consumer decision-making processes leading to behavioural intention in context to green hotel selection. The study further extends its contribution by adding value to environmental sustainable literature in context to an emerging economy, namely South Africa. Although South African consumers are reflecting increased green purchasing intentions, the psychological factors that will lead to the intended behaviour towards selecting green hotels have not received much attention in research. It was, therefore, important and theoretically valuable to not only investigate the predictive ability of the original TPB, but to also modify, develop and extend model variations surrounding the TPB to thoroughly explore the predictive ability for South African consumers' intention to select green hotels.

KEYWORDS:

Green
Hotels
Ecotourism
eco-friendly
green consumerism
consumer behaviour
South African consumers
environmental consciousness
consumer decision-making process
Theory of Planned Behaviour (TPB)

ABBREVIATIONS:

Behavioural intention	- IN
Attitude	- ATT
Subjective norms	- SN
Perceived behavioural control	- PBC
Perceived moral obligation	- PMO
Anticipated regret	- AR
Environmental knowledge	- EK
Environmental concern	- EC

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To you all, my sincere thanks and I wish you all strength in your endeavours - may people be as caring and helpful as you've been to me.

DEDICATION

Dedicated to my brother.

Clive Bruce De Freitas

- Forever in my memory -

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CHAPTER 1

INTRODUCTION

Chapter 1 introduces the background to and overview of the current research within the context of green consumerism and delineates the challenges and benefits associated with the green hospitality industry within South Africa. In addition, the section highlights the focus of research relative to extending the Theory of Planned Behaviour going on to present the problem statement, purpose of the study and the aim and objectives of the research. The section concludes with an outline of the chapters to follow within the research dissertation.

1.1 BACKGROUND AND MOTIVATION

Over the past few decades, society has been progressively acknowledging the seriousness of environmental degradation, extending their concerns for the environment beyond conscious reflection (Gifford & Nilsson 2014; Newman & Fernandes 2015; and Skogen, Helland & Kaltenborn 2018). Consequently, changes in society's attitude and consumption behaviours towards businesses offering environmental friendly products and/or services have become notably prevalent. Studies have revealed that consumers are more likely to exhibit a positive and favourable attitude towards companies that are sensitive to environmental matters (Afonso, Gavilan, Garcia-Madariaga 2018; and Leonidou, Christodoulides & Thwaites 2016). Consumers subsequently start to search for and purchase green products and/or services over alternatives, sometimes even paying more for such (Anvar & Venter 2014; Cheah & Phau 2011; Kang, Stein, Heo & Lee 2012; and D'Souza, Taghian & Khosla 2007). In turn, the green movement propelled both product- and service-positioned businesses to modify purchasing methods, manufacturing processes, operation and marketing procedures to meet the green consumer demand (D'Souza & Taghian 2005; Maniatis 2016; and Paul, Modi & Patel 2016).

With respect to the service sector, environmental concerns have stimulated a growing niche market, namely the green hotel industry (Chan & Hsu 2016). Concern for the environment stems from the hotel industry's efforts against releasing emissions into the air, water and soil and also by reducing excessive consumption of non-durable goods, energy and water (Bohadanowicz, Zientara & Novatna 2011; Chen & Tung 2014; and Ogbeide 2012). Consequently, hotels have steadily begun to embrace global environmental initiatives to become green (Kang et al. 2012; and Rahman, Park & Chi 2015). Hotel marketing and operational procedures have, in turn, become proactive towards following green practices and developing environmental initiatives in their efforts to protect the environment and to meet the consumer demand in this regard (Chan 2013; Chan & Wong 2006; and Han & Yoon 2015).

A factor relating to the growth and support of the green hotel sector stems from the increasing interest and awareness towards sustainable tourism (Chan & Hsu 2016; and Lu & Nepal 2009). The United Nations World Tourism Organisation (UNWTO) (2017) defines sustainable tourism as, “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”. Southern Africa, compared to its international counterparts, is not as progressive within the sustainable tourism movement due to its poverty and equality challenges. However, much potential is foreseen especially within one of the region’s wealthiest and most bio-diverse countries, namely South Africa, where the sustainability concern is not only focused on environmental protection, but rather aimed at reducing poverty for the nations’ people and to promote equality while growing the economy (Amusan 2017; Rogerson & Sims 2012; and Swilling, Musango & Wakeford 2015).

According to a study issued by PricewaterhouseCoopers (PwC) in 2017, South Africa is a popular tourist destination where foreign overnight visitors increased by 12.8% in 2016. Tourism in South Africa is one of the fastest growing sectors of the economy that contributed 10% to South Africa’s GDP in 2016, up from 9% in 2015. With respect to the hotel industry, revenue from accommodation increased by 12.2% in 2016 (PwC 2017). Against these favourable economic benefits, there are challenges that currently stagnate the potential growth within the green hotel market. Despite the implementation of a national policy commitment to encourage environmental sustainability within South Africa’s tourism economy (Department of Tourism 2011), there exists a low level of national government support, absence of government regulatory measures, and a lack of responsible tourism initiatives within the hotel industry (Rogerson & Sims 2012; and Van Der Merwe & Wocke 2007). Furthermore, although international studies, as early as 1993, have examined pro-environmental management, practices, strategies, policies, as well as behavioural intentions and attitudes towards green practices in context to the hospitality industry (Chan & Hsu 2016), limited research has been documented in South Africa.

With respect to the long-standing challenge of eradicating poverty and equality issues, the focus on green consumerism in South Africa only, in the last decade, became a topic of research interest (Anvar & Venter 2014; Bisschoff & Liebenberg 2016; Brits 2015; Dubihlela & Ngxukumeshe 2016; Ferrreira 2014; Hamilton 2014; Hughes, McEwan & Bek 2015; Mkhize & Ellis 2018; Moller 2018; Nkosi & Dikgang 2016; Scott & Vigar-Ellis 2014; Sonnenberg 2014; Synodinos 2014; and Taljaard 2015). Prior to this era, the demand for research on green consumerism in South Africa was mainly emanated from international research studies that have cited factors influencing the growth of green consumer behaviour and that have relevance to South Africa (Rogerson & Sims 2012; and Saunders & Barden 2007).

Research relative to South African green hotels has essentially focused on the demands, attitudes, management as well as the sustainable practices of green hotels (Gaibee 2014; George & Fray 2009; Mbasera 2015; Rogerson & Sims 2012; Spenceley 2008; and Van der Merwe & Wocke 2007). However, the investigation around the different psychological factors that will lead to the intended behaviour of South African consumers to select green hotels has yet to be considered. Such investigations, in context to the hotel industry, will allow stakeholders to understand the antecedents which will affect green hotel decision-making processes (Barber 2014; Berezan, Raab, Yoo & Love 2013; Chen & Tung 2014; Gao & Mattila 2014; Han, Hsu, Lee & Sheu 2011; Han & Kim 2010; Huang, Lin, Lai & Lin 2014; Kang et al. 2012; Miao & Wei 2013; Rahman & Reynolds 2017; Susskind 2014; and Verma & Chandra 2017). This understanding, within the South African context, will conceivably initiate the provision in developing hotel environmental programs and initiatives, to more effectively incorporate marketing and service strategies that induce positive decisions for consumers to select green hotels, and potentially add value as well as benefit South Africa's economy.

To effectively predict and explore South African consumers' intended behaviour towards selecting green hotels, Ajzen (1991)'s Theory of Planned Behaviour (TPB) was adopted as the theoretical framework for the current research. The TPB is one of the most widely researched and consistent models used by social psychologists to predict ecological behavioural intentions (Chen 2016; Chen & Hung 2016; Chen & Tung 2014; Han & Kim 2010; Han, Hsu & Sheu 2010; Kim, Njite & Hancer 2013; Moser 2015; Paul et al. 2016; and Yadav & Pathak 2016). According to Ajzen (1991), the TPB is open to the inclusion of additional variables on condition that the modifications increase the explained variance in behavioural intentions. Within the green hotel context, Chen and Tung (2014), Han et al. (2010), and Han and Kim (2010) among others, have confirmed that extending the TPB did present statistically powerful models in explaining consumers' intended behaviour towards selecting green hotels. Therefore, we deem it plausible within this context, to not only explore the predictive ability of the original TPB, but to also develop and investigate the extended TPB model variations, modified from significant variables derived from previous research studies. The investigation will further identify and refine a model that will most favourably explain the predictive ability of South African consumers' intended behaviour towards selecting green hotels.

The variables to be investigated within the research include the primary TPB components, namely attitude, subjective norms and perceived behavioural control (Ajzen 1991), as well as the proposed ecologically defined psychographic variables, namely anticipated regret, perceived moral obligation, environmental concern and environmental knowledge (Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Kim et al. 2013). The following sections present the problem statement, the purpose as well as the aim and objectives of the research.

1.2 PROBLEM STATEMENT

Increased public concern and awareness towards environmental sustainability has compelled public and private sectors to modify operational practices and procedures, not only to protect the environment and to reduce operating costs but also to remain competitive in the progressive developing green market (Afanso et al. 2018; Maniatis 2016; and Paul et al. 2016). Accordingly, research investigating the decision-making processes surrounding green consumer behaviour has become increasingly important and requires regular investigation (Groening, Sarkis & Zhu 2018; and Oztek & Cengel 2013). With respect to understanding the psychographic determinants within consumer behaviour, the Theory of Planned Behaviour (TPB), derived by Ajzen (1991), is considered one of the most powerful and consistent frameworks for predicting behavioural intention. Although the TPB has been applied within various ecological research contexts (Chen & Hung 2016; Moser 2015; Paul et al. 2016; and Yadav & Pathak 2016), limited research has adopted the TPB within context to green hotels. In addition, attempting to modify and develop models surrounding the TPB within a green hotel context has been very rare. Ultimately, utilising the TPB to understand green consumerism more effectively within the global hotel industry still requires exploration.

As a result of past political challenges as well as due to the lack of government support, measures, initiatives and commitment to encourage environmental sustainability, the focus on green consumerism research in South Africa only recently became a topic of research interest (Anvar & Venter 2014; Bisschoff & Liebenberg 2016; Brits 2015; Christie 2018; Dubihlela & Ngxukumeshe 2016; Ferreira 2014; Hamilton 2014; Hughes, McEwan & Bek 2015; Mkhize & Ellis 2018; Moller 2018; Nkosi & Dikgang 2016; Scott & Vigar-Ellis 2014; Sonnenberg 2014; Synodinos 2014; and Taljaard 2015). Although South African consumers are reflecting increased green purchasing intentions, the factors that will lead to behavioural intention to select green hotels have yet to be researched. It will, therefore, be important and valuable to not only investigate the predictive ability of the original TPB, but to also modify and develop extended model variations surrounding the TPB to thoroughly explore the predictive ability of South African consumers' intended behaviour towards selecting green hotels.

1.3 PURPOSE OF THE STUDY

Foregoing investigating the predictive ability of the Theory of Planned Behaviour (TPB), modifying and developing model structures surrounding the TPB could further assist in detecting differences between attitudes, subjective norms, perceived behavioural control, perceived moral obligation, anticipated regret, environmental concern, and environmental knowledge with respect to green hotel selection intention among South African consumers.

The findings of the study could be used to assist marketers, operations, regulatory authorities and government to more effectively understand the decision-making process involved within the green hotel context. This, in turn, will enable the effective development of hotel environmental programs and initiatives, improve policies, and more effectively incorporate marketing and service strategies that will induce South African consumers to select green hotels. Such an understanding and movement could significantly contribute towards South Africa building international relationships where corporate sustainability lead markets, for both the hospitality and tourism sectors. Subsequently, active sustainable practices within the hospitality and tourism sector may also have the potential to alleviate poverty in South Africa by channelling money into the economy and creating sustainable employment opportunities.

1.4 RESEARCH AIMS AND OBJECTIVES

The aim of the research is to first explore the predictive ability of the Theory of Planned Behaviour (TPB) and then modify and develop extended model structures surrounding the TPB, in order to identify and confirm an independent theoretical model that will effectively and comprehensively predict South African consumers' intended behaviour towards selecting green hotels. In order to achieve this aim, the following objectives were formulated:

- 1) To describe and determine the relative ability for the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC), to predict South African consumers' intended behaviour (IN) in selecting green hotels.
- 2) To evaluate whether including anticipated regret (AR) and perceived moral obligation (PMO) into the TPB, as direct predictor variables to behavioural intention (IN), would influence the predictive ability of green hotel selection within South Africa.
- 3a) To examine whether the relationships between environmental concern (EC) and all the proposed behavioural intentions' direct predictor variables (ATT, SN, PBC, AR and PMO) will contribute towards or enhance the predictive ability for South African consumers to select green hotels (IN).
- 3b) To examine whether the relationship between environmental knowledge (EK) and attitude (ATT) will contribute to or enhance the predictive ability for South African consumers to select green hotels (IN).
- 4) To refine, compare and identify a theoretical model which will best explain South African consumers' intended behaviour towards selecting green hotels.

1.5 RESEARCH METHODOLOGY

To effectively answer the research aim and objectives set for the current study, it was of value for the research to be positioned within a non-experimental quantitative paradigm. The non-experimental and quantitative aspect of the research intended to establish and confirm the derived psychographic variables' relationships surrounding the Theory of Planned Behaviour (TPB), through statistical analysis. Furthermore, the research design undertaken employed a cross-sectional correlational research design, as each variables' magnitude and direction within a set of relationships at a given point in time was assessed.

To obtain valuable results within a limited time frame, an online questionnaire was distributed to a sample population that was selected by using non-probability convenience sampling. A total of 402 completed and error-free responses were used for statistical analysis. The research instrument was confirmed to have a satisfactory level of reliability and exploratory and confirmatory factor analysis techniques were used to confirm the validity of the research.

Descriptive statistics was used to assess, derive and understand the demographic profile of the respondents, determine the respondent's characteristics as South Africans who intend to stay at or visit green hotels, as well as provide a descriptive view of each psychographic variables' performance within the research. Structural Equation Modelling (SEM) concluded the data analysis of the research by assessing the measurement and structural models of each of the three developed and modified TPB, to determine whether the models fit the data as well as test the hypotheses set for the current research.

1.6 ORGANISATION OF THE DISSERTATION

The research project will be presented in six chapters that are organized and follow each other sequentially as described below:

Chapter 1: Introduces the background to and overview of the current research in context to green consumerism and delineates the challenges and benefits associated with the green hospitality industry within South Africa. In addition, the section highlights the focus of research relative to extending the Theory of Planned Behaviour, furthermore presenting the problem statement, purpose of the study and the research aim and objectives of the research.

- Chapter 2:** Discusses the relevant literature pertaining to the green hotel industry, the green movement within South Africa, as well as the literature relevant to understanding behavioural intention within the context of green consumerism that will lead the theoretical framework of the current study. The Theory of Planned Behaviour (TPB) and the proposed psychographic variables that will surround the TPB is furthermore derived within the theoretical framework discussion of the chapter. Lastly, the hypotheses and the three TPB model variations was derived against which the research objectives will be assessed.
- Chapter 3:** Provides the methodological approach of the study by delineating and discussing the paradigmatic assumptions and perspectives of the current study, the research design, the sampling strategy, the data collection processes, the validity and reliability analysis, as well as the data analysis process and ethical considerations that the research project will follow to ethically achieve the research aim and objectives set.
- Chapter 4:** Presents the analysis and findings of the demographic data collected from the questionnaires. Data screening and management processes were first evaluated to ascertain that the data utilised in the research is acceptable for both descriptive and inferential data analysis. Descriptive analysis included deriving the demographic profile of the sample population, determine the sample's characteristics as South Africans who intend to stay at or visit a hotel, and gain a descriptive view of each psychographic variables' performance.
- Chapter 5:** Presents the inferential data analysis used to assess the measurement scales and the variations of the measurement and structural models to test the hypotheses set for the research. The results of the measurement scales used to test the reliability and validity of the predictor variables was assessed. Structural Equation Modelling was performed to evaluate the relationships between each TPB model variations' predictor variables and test the hypotheses. Finally, a structural model was refined to determine whether the predictive ability of the TPB within context to green hotels can be improved.
- Chapter 6:** Concludes the study by discussing the summarised outcomes of the research objectives set, presents a summary of the major findings derived within the research, discusses the theoretical and practical implications as well as the recommendations of the research, presents the contributions of the study, and finally provides the limitations and avenues for future research.

1.7 CHAPTER SUMMARY

Chapter one presented the background and justification of the study to further delineate the problem statement, the purpose of the study, as well as the research aim and objectives set to successfully explore and explain South African consumers' intended behaviour towards selecting green hotels by extending the Theory of Planned Behaviour (TPB). It was firstly noted that the green hotel industry movement in South Africa appears less progressive than its international counterparts, but the industry is receiving increasing recognition despite South Africa's past and present political and regulatory challenges. Attaining more knowledge respective to green consumerism within a South African hotel context could assist marketers, businesses, regulatory authorities and government to effectively develop environmental programs, initiatives, policies and strategies that will induce positive decisions for South African consumers to select green hotels and thus add value towards tourism and the South African economy in general. A step towards attaining this goal is to explore the predictive ability of the Theory of Planned Behaviour (TPB) as well as to modify and develop extended model structures surrounding the TPB, in order to identify and confirm an independent theoretical model which will effectively and comprehensively predict South African consumers' intended behaviour to select green hotels. To fully comprehend the context of the research, the next section will introduce the literature pertaining to green hotel consumption behaviour from a national and international perspective, and lastly introduce the TPB with its respective and derived extended components or variables.

CHAPTER 2

LITERATURE REVIEW

Chapter 2 presents a literature review of the study in three sections. The first section introduces the literature pertaining to the green hotel industry and discusses the green movement within South Africa. This section further highlights the green consumerism principle that provides the rationale behind examination of South African consumers' behavioural intention to select green hotels. The second section presents the study's theoretical framework based on Ajzen's Theory of Planned Behaviour (TPB) and introduces the predictor extensions to the TPB model through which behavioural intentions to select green hotels may be collectively analysed to achieve the set research aim and objectives. The last section delineates the hypothesis and supporting TPB model variations of the study.

2.1 INTRODUCTION TO THE GREEN HOTEL INDUSTRY

The term "green" is alternatively known as eco-friendly, environmentally friendly, pro-environmental or sustainable (Haden 2009; and Young, Hwang, McDonald & Oates 2010). Within the hospitality context, the Green Hotels Association (2018) defines green hotels as "pro-environmental lodging properties which implement different green practices such as saving water and energy, reducing solid waste, and recycling and reusing durable service items to protect the earth we live in". From a corporate social responsibility outlook, green hotels are considered to operate in a responsible manner towards its employees, the local community, the economy, the local culture, and the surrounding ecology (Kasim 2004; and Luu 2017). Essentially, these definitions conclude that green hotel establishments strive to improve environmental conditions and to operate within a socially responsible manner.

The green business concept emerged at the end of the 20th century due to increasing public concern over the sustainability of economic development, the ongoing depletion of natural resources and the deterioration of environmental quality (Gifford & Nilsson 2014; Newman & Fernandes 2015; and Skogen et al. 2018). Consequently, the green movement propelled both product- and service-positioned sectors to modify purchasing methods, manufacturing processes, operation and marketing procedures to meet the public's demands (D'Souza & Taghian 2005; Maniatis 2016; and Paul et al. 2016). Consumers, in turn, acknowledge that the product and service attributes of the tourism and hotel industry do play a major role in environmental damage, which further rely on the preservation of the environment to attract environmentally conscious consumers (Butler 2008; and Han & Yoon 2015). Accordingly, understanding how the green hotel industry was developed, will be relevant to investigate.

A factor relating to the growth and support of the green hotel sector stems from increasing interest and awareness towards sustainable tourism (Chan & Hsu 2016; Lu & Nepal 2009; and Manaktola & Jauhari 2007). In the 1990's, environmental issues became increasingly prevalent with respect to deforestation, energy use, reduction in toxins and, climate and water management (Mair & Jago 2010). Accordingly, tourism developers began to acknowledge the importance of sustaining the environment as air, water, weather, flora, fauna, scenic areas and natural resources all contribute towards and benefit the economics of tourism (United Nations Environment Programme 2015). Such interest and concern over sustainable tourism has, in turn, been translated into a movement for green management in the tourism industry. According to Spenceley (2008) as well as Walker and Walker (2011), green management in the tourism industry serves to protect natural resources to benefit the tourists who respect the local environment as they gain increasing awareness of environmentally friendly practices. Although each component of tourism may contribute to environmental damage, environmental concerns have received much attention within the largest tourist component, namely the hospitality industry.

The hospitality industry comprises businesses that provide accommodation, food, beverage, leisure, conference, entertainment, events, transportation and travel spaces to tourists, travellers and residents. As reflected in Figure 1, hospitality is a rather broad, multi-disciplinary construct that extends beyond basic food and shelter (Ottenbacher, Harrington & Parsa 2009). Each sector of hospitality further contributes its own share towards polluting land, air and water bodies and, thus, climate change. The significant contributions of the hospitality industry towards tourism directs focus on the industry's impact on the environment (Chan & Hsu 2016).



Figure 1: Hospitality core components (Ottenbacher et al. 2009)

Within the accommodation sector, hotels are an important component of the hospitality industry that contributes towards environmental damage. Therefore, green management extended its focus to the hotel industry in order to protect local and natural resources from its effects (Chan & Hsu 2016; and Walker & Walker 2011). This green management was introduced in hotels in Europe and North America where the focus on becoming green was centred around complying with government regulations and saving money by reducing waste and energy usage (Lee, Hsu, Han & Kim 2010; and Shieh 2012). Hoteliers began to realise that the hotel industry does exert a significant impact on global resources and this realisation set the precedent for the development of green hotels (Chen & Tung 2014; Graci & Dodds 2008; and Kang et al. 2012). In turn, hoteliers became more proactive towards following green practices to protect the environment (Chan 2013; and Han & Yoon 2015).

The most common practices implemented by green hotels to improve their efforts towards environmental sustainability include saving water, saving energy, reducing solid waste and cleaning the air. Energy efficiency refers to activities that reduce the use of energy while providing the same level of energy service. Common methods of saving energy in hotels include the controlling of temperature and retrofitting lighting (Hsieh 2009; and Kilic & Altun 2017). Water conservation refers to reclaiming wastewater for different purposes and reducing the usage of water. Common methods to save and conserve water within hotels are to use low flow water fixtures, efficiently detect leaks and drips, using grey water for non-consumption purposes, and installing water desalination plants as well as extracting water from boreholes (Barberan, Egea, Gracia-Renteria & Salvador 2013; Heish 2012; and Tsogo Sun 2018). Solid waste management refers to the efforts made to reduce and/or recycle solid waste and includes practices such as recycling, composting and refilling amenities (Phu, Hoang and Fujiwara 2018). Lastly, air quality control aims to reduce the direct and indirect emissions of carbon caused by hotel operation factors. The use of low volatile organic compounds in petrol, and incorporating adequate air filtration are common methods to control the air quality constituted by hotels (Chan, Lee, Hon, Liu, Li & Zhu 2015; and Moreo 2008).

In addition to environmental protection, such green practices employed by a hotel can further improve economic and corporate conditions by reducing operational costs, promoting higher satisfaction and positive word of mouth, attracting new and retaining customers, and establishing more motivated employees (Deraman, Ismail, Arifin & Mostafa 2017; and Han & Yoon 2015). As a result, adapting green practices should assist hotels in establishing a new niche for environmentally concerned customers, that is, *green* consumers that, in turn, could sustain long-term sales and profits while protecting the environment. Due to the growing recognition in relation to supply and demand, the study of green consumers has propelled researchers to engage in understanding their behaviour in the hotel industry.

From a consumer's perspective, an increasing concern and awareness surrounding environmental protection has increased the global number of consumers willing to select green hotels. This increasing demand for green hotels has proven to be consistent across research studies (Barber 2014; Berezan et al. 2013; Chan & Hsu 2016; Chen & Tung 2014; Gao & Mattila 2014; Han & Kim 2010; Han & Yoon 2015; Huang et al. 2014; Kang et al. 2012; Miao & Wei 2013; Rahman & Reynolds 2017; Susskind 2014; and Verma & Chandra 2017). Despite the growing concern and awareness consumers have towards green hotels, there are countries that embrace the green concept more readily than other countries. Developed countries are more green-focused than emerging economies, mainly due to the availability of resources and the national support they generally receive (Jayanti & Gowda 2014).

Sweden, Denmark, Norway and Finland, representing the Nordic countries, as well as other European countries including Slovenia, Spain and Portugal, which all have developed economies, are listed in the top ten countries that are globally recognised for their environmental sustainability principles and approaches. In contrast, Egypt, Pakistan and Mongolia with emerging economic statuses are ranked as countries being the least concerned with environmental sustainability (Smith 2017; Sustainable Brand Index 2018; and World Economic Situation Prospects 2018). Although almost all countries in Africa, Asia, Latin America and the Caribbean have emerging economic statuses, there are countries that significantly contribute towards the world economy and, thus, have the potential to develop and improve their environmental sustainable stance. Emerging economies that do play a role in the world economy include Argentina, Brazil, the Russian Federation and South Africa (Organisation for Economic Co-operation and Development 2017). These countries are confronted with challenges as they must compete with developed economies to remain competitive and, thus, advancements towards sustainable development is required (Pop 2013). Although South Africa has the potential to develop its sustainability approach, limited research has been conducted within context to the green hospitality industry.

2.2 THE GREEN HOSPITALITY MOVEMENT IN SOUTH AFRICA

Apartheid and the era of exclusion, from 1948 to 1994, stifled the potential for the South African tourism sector to expand over this period due to the prevalence and implementation of restrictive laws that limited the emergence of a black middle class. Consequently, investments in hotel development in the country were unlikely (Rogerson & Sims 2012; and Saunders & Barben 2007). However, since 1994 and the end of apartheid, South Africa experienced a remarkable growth in international tourism as well as changes in the nature of domestic tourism (McKelly, Rogerson, Huysteen, Maritz & Ngidi 2017; and Rogerson & Lemon 2017).

A study by PricewaterhouseCoopers (PwC) revealed that in 2016 room revenue in South Africa rose by 12.2% while that from foreign overnight visitors increased by 12.8%- the income contributed 10% to South Africa's Gross Domestic Product, up from 9% in 2015. Furthermore, the occupancy rate edged up, surpassing the 60% level to reach 61.2% in 2016. This should continue as the number of available hotel rooms will rise at a 0.9% compounded annual rate from 61200 in 2016 to 63900 in 2021 (PwC 2017). Despite these favourable economic indicators, the responses relating to the "greening" of the hotel sector in South Africa is a topic that has so far been overlooked in local research (Rogerson & Visser 2004; and Visser 2011).

From a national regulatory perspective, the promotion of responsible tourism, since 1996, has been anchored within the South African tourism policy with the aim to encourage environmental responsibility through sustainable use in the tourism industry (Department of Tourism 2018). As from 2009, the policy commitment was reinforced when a separate National Department of Tourism was established. Despite the implementation of this environmental sustainability commitment, a low level of national government support, absence of government regulatory measures, and a lack of greening initiatives for responsible tourism initiatives exists especially within the hotel sector. Although policy support, regulatory measures and commitment to governmental initiatives is required, having a clearer conceptual understanding of green consumerism within a South African context can contribute towards the implementation, development and commitment of an effective national hospitality environmental responsibility policy (George 2017; Rogerson & Sims 2012; Sims 2011; and Van Der Merwe & Wocke 2007).

Relative to the long-standing challenge of eradicating poverty and equality issues, the research focus on green consumerism in South Africa only, within the last few years, have received increasing recognition (Anvar & Venter 2014; Bisschoff & Liebenberg 2016; Brits 2015; Christie 2018; Dubihlela & Ngxukumeshe 2016; Ferrreira 2014; Hamilton 2014; Hughes et al. 2015; Mkhize & Ellis 2018; Moller 2018; Nkosi & Dikgang 2016; Scott & Vigar-Ellis 2014; Sonnenberg 2014; and Taljaard 2015). Although the above-mentioned studies have focused on green consumerism in South Africa, an investigation has yet to be considered concerning the different psychological factors that contribute to the intended behaviour for South African consumers to select green hotels. This conceptual understanding will provide a modest contribution towards the green market not only for South Africa's benefit, but also for potential green global markets where the topic is respectively limited. Accordingly, the understanding could significantly contribute towards building international relationships where corporate sustainability should lead markets, not only in the hospitality industry but also within the global tourism sector (Chen, Zhang, Xu 2018; Dodds & Joppe 2017; and Walsh & Dodds 2017).

Investigating South African consumers intended behaviour to select green hotels will conclusively allow marketers, businesses, regulatory authorities and government to more

effectively understand South African consumers' green hotel decision-making process. This understanding will allow stakeholders to be more proactive in following green practices, develop environmental programs and initiatives, develop effective marketing and service strategies for green hotels, and lastly, potentially add value to as well as benefit the South African economy (Chen & Tung 2014; Gao & Mattila 2014; Han & Kim 2010; Han & Yoon 2015; Huang et al. 2014; Kang et al. 2012; Miao & Wei 2013; Rahman & Reynolds 2017; Teng, Wu and Liu 2013; and Verma & Chandra 2017). In order to gain a background understanding of the behavioural antecedents within literature, the next section introduces the green hotel consumer decision-making process and subsequent behaviour.

2.3 GREEN CONSUMERISM AND BEHAVIOURAL INTENTION

The study of consumer behaviour focuses on the consumer decision-making process (CDP) of purchasing, using, and disposing of goods and services (Kardes, Cronley & Cline 2014; and Loudon & Bitta 2009). As reflected in Figure 2, the CDP model is the standard model which is central to all consumer-behaviour models and thus is broadly used in consumer behaviour research (Kardes et al. 2014; and Smit 2013). The model consists of five stages, namely: needs recognition and problem awareness; information search; evaluation of alternatives; actual purchase and lastly, the post-purchase evaluation. This model is based on several studies including those derived from Engel, Kollat and Blackwell (1968), Howard and Sheth (1969) and Nicosia and Mayer (1976), as first outlined by Kotler (1998). Accordingly, this section aims to discuss the respective processes within the CDP model in order to gain a conceptual understanding of behavioural intention within green hotel consumerism.



Figure 2: The five stages of the Consumer Decision-making Process (Kardes et al. 2014)

The first step involves the *problem recognition* or need recognition and awareness of the purchase or selection problem that must be solved for the needs and/or wants to be fulfilled. Once a consumer recognises and admits to having an unsolved problem, it must be defined in such a way that the consumer can take further steps towards proceeding with the purchasing or selection process (Kardes et al. 2014; and Schiffman & Wisenblit 2015).

With respect to the context of the current research, problem recognition starts with establishing the need and/or want for consumers to stay at or visit a green hotel. The hotel selection

component is primarily based on whether a consumer should stay at or visit a hotel for corporate or leisure purposes (Yavas & Babacus 2005). With respect to the green principle, more awareness of the environment at this stage can contribute and improve consumers choices that favour green purchase behaviour (Schiffman & Wisenblit 2015). Essentially, once a consumer has an understanding of the need and/or want to stay at or visit a hotel and further attains enough awareness of the environment, they will generally begin to search for more information on green hotels.

The *information search* stage of the CDP is concerned with the internal and external information sources of a product or service, in this case green hotels (Kardes et al. 2014). When searching for information internally, the consumer will remember relevant information from previous green hotel experiences. In contrast, external information searching is concerned with seeking information about green hotels from other consumers, commercial sources and public sources (Oke, Kamolshotiros, Popoola, Ajagbe & Olujobi 2016). The internet has become the most important channel and source of information for hotel consumers (Sun, Law, Luk & Fong 2017; and Vila, Vila, Gonzalez & Brea 2018) which further extends itself to include the presence of green hotel information and booking websites such as BookDifferent (2018), GreenHotelWorld (2018) and TripAdvisor GreenLeaders Program (2018). With respect to green attributes, advanced and additional external search activities by consumers are commonly required as a result of instances of greenwashing. Greenwashing misleads consumers about the environmental benefits of a product or service for promotional and marketing purposes (Pickett-Baker & Ozaki 2008; and Leonidou & Skarmeas 2017), which have become increasingly prevalent within the green hotel sector (Rahman, Park & Chi 2015; and Yoon & Chen 2017). Once sufficient and reputable information about green hotels have been gathered, the consumer then begins to compare its options filtered.

The search for information leads to the pre-purchase *evaluation of alternatives* where consumers compare and choose the green hotel that best fulfils the need or solves the problem (Kardes et al. 2014; and Schiffman & Wisenblit 2015). The evaluation process for hotels are regarded as challenging to investigate as the environment in which decisions are made is intangible within the service itself (Teare 1998). The evaluation of options for hotels are based on the service's characteristics, quality, price, facilities, location and reputation, among many others (Jannach, Gedikli, Karakaya & Juwig 2012; and Verma & Chandra 2017). Such evaluation options are commonly referred to over peer review sites which, in turn, are characterised by a growing importance on the impact of the hotel decision-making process (Gavilan, Avello & Martinez-Navarro 2018; and Lee, Hu & Lu 2018).

In addition to considering the evaluation options for hotels, the green attributes of hotels essentially make the evaluation of alternatives more challenging for a consumer to assess. A

green hotel is defined as a hotel which operates in a responsible way towards society, community, the local culture and the environment (Green Hotels Association 2018). Therefore, more alternative options must be considered by consumers other than just environmental protection of hotels. To mediate this respective challenge, certification programs, such as Ecotel (2018) and Green Globe (2018) among others, have developed grades for the level of green efforts or practices incorporated by hotels (Verma & Chandra 2017), which consumers can evaluate against. In preparation towards making a purchase decision, the consumers will weigh which of the hotel and green attributes will give them more relevance and satisfaction related to their own personal values, needs and preferences (Baruca & Civre 2012).

When the preferred green hotel has been selected, the *purchase decision* is reached (Kardes et al. 2014; and Schiffman & Wisenblit 2015). The consumer will assess the selected green hotel and determine whether they are delighted, satisfied or unsatisfied with staying at or visiting the establishment based on the performance of each multi-attribute product or service alternative (Baruca & Civre 2012; and Kotler & Keller 2009). Finally, the CDP is completed as a *post-purchase evaluation* that explains the degree of the assessment made during staying at or visiting a green hotel (Kardes et al. 2014; and Schiffman & Wisenblit 2015). If consumers are fully satisfied, this might result in an intention to select a green hotel over a conventional hotel once again in the future or become loyal to the specific green hotel brand and most likely spread positive word of mouth through peer review websites (Baruca & Civre 2012; Gavalin et al. 2018; Lee et al. 2018; and Oke et al. 2016).

Conclusive to the CDP process, the factors which affect a consumer's behaviour towards selecting green hotels can be challenging to investigate as the decision-making factors must consider those factors relative to both hotel and green attributes. These challenges and growing demand for green hotels do however, stimulate the need for ongoing investigation (Chen & Tung 2014; and Marras 2017). As such, the interest within this research is to identify and assess the factors which are subsequently transformed by cognitive processing into behavioural intention from a green hotel perspective. Socio-demographic and psychographic criteria are mainly used to explain consumer behaviour (Chan 1996; and Schiffman & Wisenblit 2015). However, to analyse consumers' pro-environmental behaviour, several authors argue that psychographic variables provide more relevant insight into green consumer behaviour (Akehurst, Afonso & Goncalves 2012; Banerjee & McKeage 2004; Kassarijan 2007; and Verma & Chandra 2017). Therefore, the research will specifically identify and assess the psychographic variables that will best explain the consumer decision-making processes leading to behavioural intention of green hotels.

The outcomes of behavioural intention is to have consumers recommend and spread positive feedback about the product or service to others, becoming a loyal customer with repurchase

intent, be willing to spend more on the establishment and become less price sensitive (Hawkins & Mothersbaugh 2013). In the context of green consumerism, Joshi and Rahman (2015) states that green purchase intention is the probability and willingness of an individual to give preference to green products over conventional products in their purchase considerations. Thus, taking the above into consideration, green hotel behavioural intention can be concluded to be the likelihood of a hotel consumer to visit or stay at a green hotel over its conventional counterparts, engage in positive word-of-mouth behaviour, become loyal by having the intention to revisit a green hotel and have the willingness to pay more for green hotels. In order to examine and explore whether South African consumers have the ability to reach these favourable behavioural intended outcomes in context to green hotels, the identification and assessment of the psychographic variables which will best explain the intended behaviour to select green hotels must be explored, as previously concluded.

Thorough theoretical explanations within the domain of green hotel consumerism are, however, globally limited. A study conducted by Han et al. (2010) was one of the first to examine American customers' green hotel decision-making processes through the use of the Theory of Planned Behaviour. The theoretical framework was further applied by Han and Kim (2010), Chen and Peng (2012), Chen and Tung (2014) as well as Verma and Chandra (2017) to understand the green hotel decision formation within context to American, Chinese, Taiwanese and Indian consumers, respectively. Within Africa, such investigations are further limited. Thus, for the purpose of research validity and reliability in that the framework is based on an accredited theory which has been used and verified in various other study fields (Bohdanowicz 2006; Chan & Baum 2007; and Millar & Baloglu 2011), the current study adapts and reverts to the most utilised and consistent behavioural intention framework, namely the Theory of Planned Behaviour (TPB) (Ajzen 1991

According to Ajzen (1991), the TPB is open to the inclusion of additional variables on condition that the modifications increase the explained variance in behavioural intentions. Within the green hotel context, Chen and Tung (2014), Han et al. (2010) and, Han and Kim (2010) have confirmed that extending the TPB did present statistically powerful models in explaining consumers' behavioural intention towards selecting green hotels. Therefore, we deem it plausible in this research context, to not only explore the predictive ability of the original TPB, but to also develop and investigate extended model structures surrounding the TPB, modified from significant psychographic variables derived from previous research studies. The next section introduces the Theory of Planned Behaviour and further delineates the direct and augmented ecologically defined psychographic variables within the framework.

2.4 THEORETICAL FRAMEWORK: THEORY OF PLANNED BEHAVIOUR

The Theory of Planned Behaviour (TPB), an extension model of the Theory of Reasoned Action (Ajzen 1991; and Ajzen & Madden 1986), is one of the most researched and influential theories for predicting social behaviour (Collins & Carey 2007; Fielding, Terry, Masser & Hogg 2008; and Ravis, Sheeran & Armitage 2009). From a green behavioural intention perspective, many researchers also take the TPB as an important theoretical basis to understand whether consumers intend to perform eco-friendly behaviour (Bamberg & Schmidt 2001; Chen 2016; Chen & Tung 2014; Groening et al. 2018; Han et al. 2010; Kim et al. 2013; and Yadav & Pathak 2016). As reflected in Figure 3, the behavioural intention is, in turn, determined by three direct factors related to the behaviour, namely the consumers' attitude, subjective norms, and perceived behavioural control (Ajzen 1991).

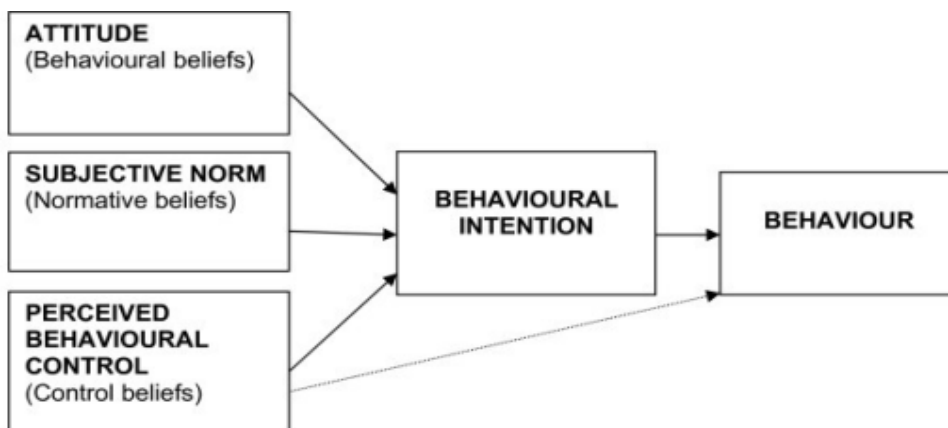


Figure 3: Theory of Planned Behaviour (TPB) model (Ajzen 1991)

The current study applies the TPB to understand South African consumers' intended behaviour towards selecting green hotels. Furthermore, the TPB model will guide the extended model variations of this study in the context of green hotels. Ajzen and Fishbein (2000) recommend that the measurement of behavioural intention assumes predictive power for the future, with the focus on behavioural intention rather than actual behaviour. Therefore, the research will adapt the TPB leading to behavioural intention instead of proceeding through to actual behaviour. This approach is further supported by various research studies that utilised the TPB in context to green hotels (Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; Manaktola & Jauhari 2007; Teng et al. 2013; and Verma & Chandra 2017). The section to follow discusses each of the respective direct TPB psychographic predictor variables within the context of green hotel selection intention, and to then further derive the research hypotheses that will form the basis of meeting the proposed research's aim and objectives set.

2.4.1 ROLE OF ATTITUDE (ATT) WITHIN THE TPB

The first important determinant of behavioural intention is attitude, which is defined by Ajzen (1991) as, “the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question”. Attitude toward behaviour is believed to be a function of one’s behavioural beliefs that represent the perceived consequences of the behaviour and his/her evaluation of the significance of the consequence. When determining whether to perform the behaviour, a person is likely to assess the benefits and costs resulting from the behaviour. Attitude has an impact on the intention to perform or not to perform a behaviour so that the more favourable the attitude, the stronger will be the intention to perform that very behaviour (Ajzen 1991; Hill & Lynchehaun 2002; and Smith & Paladino 2010). Studies have established that attitude specifically acts as an important antecedent towards behavioural intention (Everson, Daley & Ussher 2007; Kelly, Mason, Leiss & Ganesh 2006; Manaktola & Jauhari 2007; and Rhodes, Macdonald & McKay 2006).

From a green perspective, studies have revealed that the relationship between attitudes and environmental behavioural intention is more complicated. In some studies, attitudes have a significant relationship with environmental behaviours (Chen & Peng 2012; Han et al. 2010; Han & Kim 2010; and Manaktola & Jauhari 2007) while in others, attitudes do not explain the significant variance associated with predicting such intended behaviours (Chen & Chai 2010; Tanner & Kast 2003; and Vermeir & Verbeke 2008). The reason for these discrepancies could lie in the fact that certain behaviours are driven by habit. Research has proved that if behaviour is performed repeatedly, it may become habitual and be triggered automatically by specific situational cues (Grankvist & Biel 2007; Padel & Foster 2005; and Thøgersen & Olander 2003). It is for this reason that attitudes should be coupled with other direct and indirect factors to enhance and accurately predict behavioural intention.

In view of the aforementioned, various studies have utilised the TPB framework in the context of green hotel selection where attitude towards behaviour was evidently assessed. Such studies include those by Han et al. (2010) which aimed to explain the formation of American hotel customers’ intention to visit a green hotel by analysing the data obtained from 428 web-based survey responses. Furthermore, Choi et al. (2009) utilized data collected from a survey of 200 Greek and American university students to examine consumer attitudes and behaviour intentions toward the environmentally responsible practices of hotels. In addition, Chen and Peng (2012) assessed the survey responses of 181 residents from Beijing, Shanghai, and Guangzhou to examine the factors that contribute to Chinese tourists’ choice of green hotels when visiting Europe. Han and Kim (2010) focused on incorporating service quality, customer satisfaction, overall image, and frequency of past behaviour in the TPB in order to determine American consumers’ intention to revisit a green hotel, from 434 web-based survey responses.

Lastly, Verma and Chandra (2017) aimed to include moral reflectiveness and conscientiousness into the TPB framework in order to predict young Indian consumers' intention to visit green hotels, based off 295 survey responses. These studies all found attitude to exert a significant positive effect on behavioural intention within the TPB framework. Accordingly, the following hypothesis is formulated:

H₁. Attitude will have a positive and significant influence on South African consumers' intention to select green hotels.

2.4.2 ROLE OF SUBJECTIVE NORM (SN) WITHIN THE TPB

Within the TPB model, the subjective norm is postulated as a second determinant of behavioural intention. While attitude refers to a personal factor, subjective norm is categorised as social factors that influence an individual's behaviour. Respectively, subjective norm is defined as "the perceived social pressure to perform or not to perform the behaviour" (Ajzen 1991). In other words, subjective norm is the perceived opinions of significant others who are important to an individual and who influence his/her decision-making (Hee 2000; and Ravis et al. 2009). Subjective norm is represented as a function of a person's normative beliefs about what salient referents think the person should or should not do, and the person's motivation to comply with those referents (Ajzen & Fishbein 2000). The important role of subjective norm as a determinant of behavioural intention is well documented in various contexts of marketing and consumer behaviour (Cheng, Lam & Hsu 2006; Ham, Jeger & Ivkovic 2016; Lee 2008; and Wan, Shen & Choi 2017). With respect to the context of green hotels, studies, as those presented with attitude in the previous section, found subjective norm to also have a positive significant effect on behavioural intention (Chen & Peng 2012; Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Verma & Chandra 2017). Thus, taking the above into consideration, the following hypothesis is formulated:

H₂. Subjective norm will have a positive and significant influence on South African consumers' intention to select green hotels.

It is important to add that subjective norm matters more in collectivist countries because of the stronger need for conformity. Thus, for the purchase of eco-friendly products and services, subjective norm rather than attitude can be seen to exert a stronger influence on generally collectivist consumers. Conversely, attitude rather than subjective norm exerts a stronger influence on individualistic consumers' green purchasing intention, though subjective norm still influences intentions and behaviour (Ajzen 2001; Frank, Enkawa & Schvaneveldt 2015; and

Han et al. 2010). In South Africa, there are many different cultures, religions, ethnicities and races that are not homogenous but diverse, which is reflected in South Africa's individualism score of 65, that suggests South Africa is an individualistic society (Hofstede Insights 2018). Thus, taking the above into consideration, it will be insightful to explore whether subjective norms for South African consumers will have a significant influence towards the intention to select green hotels and to thereby confirm South Africa's individualistic or collectivism stance.

2.4.3 ROLE OF PERCEIVED BEHAVIORAL CONTROL (PBC) WITHIN THE TPB

The third determinant of behavioural intention is perceived behavioural control, defined by Ajzen (1991) as, "the perceived ease or difficulty of performing the behaviour". Perceived behavioural control is determined to be a function of control beliefs that refer to one's perception of the presence or absence of resources/opportunities for the achievement of outcomes. Both intention and perceived behavioural control can directly predict behavioural achievement positively. Perceived behavioural control includes factors such as the availability of time and money or the possession of required skills and the person's self-confidence in his/her ability to perform the act (Ajzen & Fishbein 2000; Ajzen & Madden 1986; Armitage & Conner 2001; and Han & Kim 2010). A number of studies, in context to green consumer behaviour, have demonstrated that intention is positively and significantly influenced by a consumer's self-confidence in their ability to perform the behaviour (Hsu, Chang & Yansritakul 2017; Kim et al. 2013; Paul et al. 2016; Yadav & Pathak 2016; and Zhu, Li, Geng & Qi 2013). Within the green hotel setting, perceived behavioural control was found to exert a significant positive affect towards behavioural intention (Chen & Peng 2012; Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Verma & Chandra 2017). Accordingly, the following hypothesis is formulated:

H₃. Perceived behavioural control will have a positive and significant influence on South African consumers' intention to select a green hotel.

Conclusive to this section, attitude, subjective norm and perceived behavioural control are the three main components of the Theory of Planned Behaviour which has proven to be consistent towards predicting behavioural intention within general, green and green hotel settings. As such, the current study expects that South African consumers' attitude, subjective norm, and perceived behavioural control will have a positive and significant influence on the intention towards selecting green hotels. In addition, behavioural intention of the study will assume predictive power for the future, with the focus on behavioural intention rather than actual behaviour (Ajzen and Fishbein 2000). According to Ajzen (1991), the TPB is in principle open to modification by altering and expanding paths within the model. Researchers' efforts to expand

the theory were successful in predicting human behaviour within a given context, capturing a greater proportion of the variance in behavioural intention not sufficiently accounted for by the original TPB (Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Manaktola & Jauhari 2007). Under the premise that developing and extending model structures surrounding the TPB could possibly enhance the understanding of South African green hotel decision-making, the next section introduces the psychographic predictor variables that will augment the original TPB within the context of green hotel selection.

2.5 DERIVATION OF THE EXTENDED TPB COMPONENTS

In attempting to explain green consumer behavioural intention, many psychographic factors were proposed as determinants. Among others, these include altruism (Shen 2017; and Teng et al. 2013); knowledge, concern and awareness of environmental problems and alternative products (Maichum, Parichatnon & Peng 2016; Paul et al. 2016; and Yadav & Pathak 2016); perceived personal relevance (Kang, Liu & Kim 2013); perceived consumer effectiveness (Kang et al. 2013; Kim 2011; Roberts 1996; and Straughan & Roberts 1999); and skepticism (Leonidou & Skarmeas 2017; Goh & Balaji 2016; and Matthes & Wonneberger 2014). However, testing of psychographic variables within the context of green hotel selection intention is a relatively new concept in literature and still has many facets to explore.

Where the TPB is open to the modification and inclusion of predictor variables (Ajzen 1991), research attempts have been made to explore the effectiveness of including such psychographic variables within the TPB to more favourably predict behavioural intention within the green hotel context. Accordingly, findings from previous research studies suggest that anticipated regret, perceived moral obligation, environmental concern and environmental knowledge are significant predictors within the green hotel decision-making process. These can and have been independently and individually integrated into the TPB to powerfully predict consumers' intention to visit green hotels (Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Manaktola & Jauhari 2007). Therefore, the current study will explore these respective psychographic variables in order to test their predictive ability surrounding the TPB.

2.5.1 ANTICIPATED REGRET (AR)

Investigating the role of emotion in consumer decision-making has been limited. However, its importance cannot be overlooked as incorporating emotion in decision-making models can greatly increase their explanatory power by influencing information processing, responses to persuasive appeals, initiation of goal setting, and enactment of goal-directed behaviours (Fisher & Ashkanasy 2000; Hodgkinson & Healey 2008; and Loewenstein & Lerner 2003). In relation to the TPB, research has criticised the model for ignoring emotional determinants of behaviour (Armitage & Conner 2001; and Yousafzai 2012). This is particularly so in relation to ecological behaviour that cannot be considered as a mere result of rational choice but rather as an emotional appeal towards what is wrong and right (Rozin, Markwith & Stoess 1997). Ultimately, in order to more accurately predict and explain ecological decision-making and behaviour, non-cognitive and affective aspects of behaviour also need to be taken into account (Schneider, Zaval, Weber & Markowitz 2017).

According to Ravis et al. (2009), anticipated regret is defined as “the prospect of feeling positive or negative emotions after performing or not performing a behaviour”. Bui (2009) further states that anticipated regret is a counterfactual emotion that is experienced in the current situation when imagining the results of future outcomes. Research has further revealed that anticipated regret is a significant predictor of behavioural intention (Brewer, DeFrank & Gilkey 2016; Ha 2018; Kim et al. 2013; and Liao, Lin, Luo, Chea 2017). For this purpose, it can be said that if consumers become increasingly aware that their actions can lead to negative feelings, they will most likely abandon these behaviours. As such, it is expected that consumers may feel regretful for selecting a conventional hotel over a green hotel as they may realise during their stay or visit that the conventional hotel does produce unnecessary waste, which will potentially lead to negative environmental consequences.

The above is supported by a study conducted by Kim et al. (2013) who augmented the TPB with anticipated regret in context to eco-friendly restaurant selection intention. Their findings, from the responses of 411 American students who participated in the administered survey, suggested that the inclusion of anticipated regret to the TPB improved its predictive power of consumer behavioural intentions. Based on the above literature, it is believed that anticipated regret may have a positive contributory effect in explaining consumers’ intention to select a green hotel, thus formulating the following hypothesis:

H₄. Anticipated regret will have a positive and significant influence on South African consumers’ intention to select green hotels.

2.5.2 PERCEIVED MORAL OBLIGATION (PMO)

Perceived moral obligation is an emotion of responsibility that is experienced when performing a specific moral behaviour when a person is faced with an ethical situation (Beck & Ajzen 1991). Moral obligation is further considered as an individual's conviction that acting in a certain way is inherently right or wrong regardless of their personal or social consequences (Manstead 2000). When people know the consequences of their actions and are willing to take responsibility for the consequences, the moral norm is activated (Merrigan & Bailey 2008). Concurrent to the TPB being criticised for insufficient consideration of emotive influences, criticism towards the insufficient capturing of normative or moral influences on behaviour has also been documented (Armitage & Conner 2001; and Sparks & Shepherd 2010). Subsequently, studies have revealed that moral obligation can be a useful addition into the TPB model and, thus, play a prominent role in predicting behavioural intention (Beck & Ajzen 1991; Cronan, Mullins & Douglas 2018; Kaiser & Scheuthle 2003; Manstead 2000; Ravis et al. 2009; and Shin & Hancer 2016).

In the green context, Chan and Bishop (2013); Han (2015); Kaiser (2006); and Leeuw, Valois, Ajzen and Schmidt (2015) concluded that moral obligation has a positive and significant effect towards predicting consumers' conservation behavioural intention. This is supported by a study by Chen and Tung (2014) who confirmed that perceived moral obligation does indeed exert a direct positive effect on the intention to select green hotels, established on the data obtained from 559 Taiwanese citizens' web-based responses. Based on the above findings, it was assumed that a person's perceived moral obligation may have a positive contributory effect in explaining consumers' intention to select a green hotel, thus formulating the following hypothesis:

H₅. Perceived moral obligation will have a positive and significant influence on South African consumers' intention to select green hotels.

2.5.3. ENVIRONMENTAL CONCERN (EC)

According to the Theory of Planned Behaviour, it is the indirect predictor variables such as beliefs about certain behaviours that contribute towards influencing behavioural intention (Ajzen 1991; and Ajzen & Madden 1986). With respect to green consumerism, it is argued that these beliefs should focus on protecting of the environment and assess consumers' concern for the environment (Dunlap, Van Liere, Mertig & Jones 2002). Accordingly, environmental concern is considered to be the general attitude towards environmental protection, which is an important determinant of making consumers change their behaviour to become more environmentally friendly. Environmental concern can be considered as an attitude towards facts, one's own behaviour or other's behaviour that have consequences for the environment (Aman, Harun &

Hussein 2012; Bamberg 2003; Hansla, Gamble, Juliusson & Garling 2008; and Stern 1992). Although an array of studies supports the positive relationship between attitude and environmental concern (Basha, Mason, Shamsudin, Hussain & Salem 2015; Hartmann & Apaolaza-Ibanez 2012; Khaola, Potiane & Mokhethi 2014; Shin, Im, Jung & Severt 2017; and Yadav & Pathak 2016), other studies have found that environmental concern also positively effects subjective norms and perceived behavioural control (Ajzen & Fishbein 2000; Bamberg 2003; Chen & Tung 2014; Maichum et al. 2016; and Paul et al. 2016).

Within the green hotel context, Chen and Tung (2014), found that environmental concern had a positive effect not only on attitude, subjective norm and perceived behavioural control but also on perceived moral obligation. Where anticipated regret is also augmented within the TPB as a direct predictor variable to behavioural intention, its emotional/affective determinant within the green context makes it valid to also include environmental concern within its direct relationship. With respect to the above, the following hypotheses are formulated:

H_{6a}. Environmental concern will positively affect attitude on selecting green hotels.

H_{6b}. Environmental concern will positively affect subjective norm on selecting green hotels.

H_{6c}. Environmental concern will positively affect perceived behavioural control on selecting green hotels.

H_{6d}. Environmental concern will positively affect anticipated regret on selecting green hotels.

H_{6e}. Environmental concern will positively affect perceived moral obligation on selecting green hotels.

2.5.4 ENVIRONMENTAL KNOWLEDGE (EK)

Environmental knowledge is defined by Fryxell and Lo (2003) as, “a general knowledge of facts, concepts, and relationships concerning the natural environment and its major ecosystem”. Similarly, D’Souza et al. (2007) defines environmental knowledge as, “what people know about the environment and the beliefs that they hold about key environmental aspects or impacts”. Environmental knowledge forms the basis of environmental awareness and beliefs which suggest that environmental knowledge will directly influence attitudes towards behaviours (Fryxell & Lo 2003; D’Souza et al. 2007; and Polonsky, Vocino, Grau, Garma & Ferdous 2012). In this regard, studies have concluded that knowledge of issues and of behaviour strategies are

important moderators as to whether or not attitude predicts behaviour (Levine & Strube 2012, Cheah & Phau 2011, Gupta & Ogden 2009; Maichum et al. 2016; Mostafa 2007; Polonsky et al. 2012; Rokicka 2002; Synodinos 2014; and Wells, Ponting & Peattie 2011). Essentially, environmental knowledge can be regarded as the pre-requisite to a consumer's environmental attitude and, in turn, environmental attitudes have been commonly found to be a significant influencing factor towards environmental behaviour.

Within the green hotel context respective to the TPB framework, environmental knowledge has yet to be investigated. However, based on the above literature, it is believed that environmental knowledge may have a positive contributory effect in explaining consumers' attitudes towards selecting a green hotel, thus leading to the formulation of the following hypothesis:

H₇. Environmental knowledge will positively affect attitude on selecting green hotels.

The body of literature discussed in this section introduced the Theory of Planned Behaviour (TPB) as the central research framework upon which the study was based. The subsequent direct variables of the TPB was discussed, namely attitude, perceived behavioural control and subjective norm, as well as the ecological psychographic variables were derived to which will extend the framework which surrounding the TPB. Therefore, anticipated regret and perceived moral obligation are included into the framework as direct predictor variables to behavioural intention, whereas environmental concern to attitude as well as environmental knowledge to all direct variables to behavioural intention.

2.6 RESEARCH HYPOTHESES AND MODEL VARIATIONS

Based on support from the aforementioned literature, the following section highlights the research objectives and supporting hypotheses of the research and further presents the three model structures surrounding the Theory of Planned Behaviour (TPB) that will be statistically analysed to answer the research objectives and hypotheses set:

2.6.1 RESEARCH OBJECTIVE 1:

To determine and describe the relative ability of the TPB predictor variables; namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC) in predicting South African consumers' intended behaviour (IN) in selecting green hotels.

In relation to the literature discussed, this research objective will be answered according to the analysis of the following derived hypotheses:

- H₁**. Attitude will have a positive and significant influence on South African consumers' intention to select green hotels.
- H₂**. Subjective norm will have a positive and significant influence on South African consumers' intention to select green hotels.
- H₃**. Perceived behavioural control will have a positive and significant influence on South African consumers' intention to select a green hotel.

As previously mentioned in Section 2.4, the research will adapt the TPB leading to behavioural intention instead of proceeding through to actual behaviour. Accordingly, Figure 4 reflects the first model variation which represents the Theory of Planned Behaviour (TPB) model, namely Model A, which will be independently statistically analysed in order to answer research objective 1.

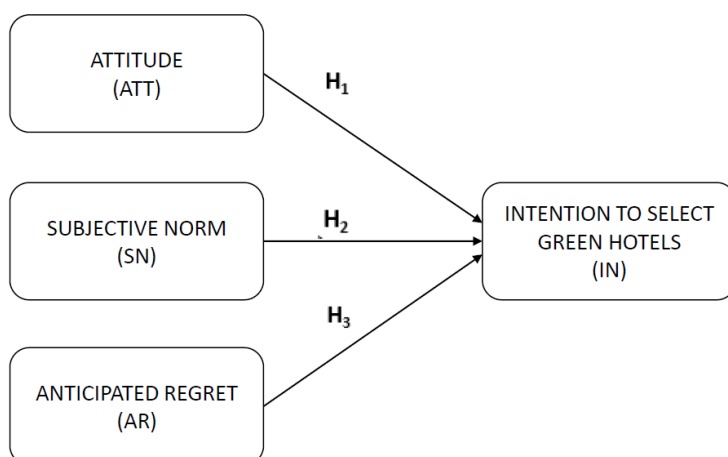


Figure 4: Model A: ATT, SN and PBC as direct predictors to IN.

2.6.2 RESEARCH OBJECTIVE 2:

To evaluate whether including anticipated regret (AR) and perceived moral obligation (PMO) into the TPB, as direct predictor variables to behavioural intention (IN), would influence the predictive ability of green hotel selection within South Africa.

Against the literature discussed, the research objective will be answered on the analysis of the following hypotheses:

H₄- Anticipated regret will have a positive and significant influence on South African consumers' intention to select green hotels.

H₅- Perceived moral obligation will have a positive and significant influence on South African consumers' intention to select green hotels.

Figure 5 reflects Model B, the second model structure surrounding the TPB, which includes the predictor variables anticipated regret (AR) and perceived moral obligation (PMO) that will be collectively assessed in order to answer research objective 2.

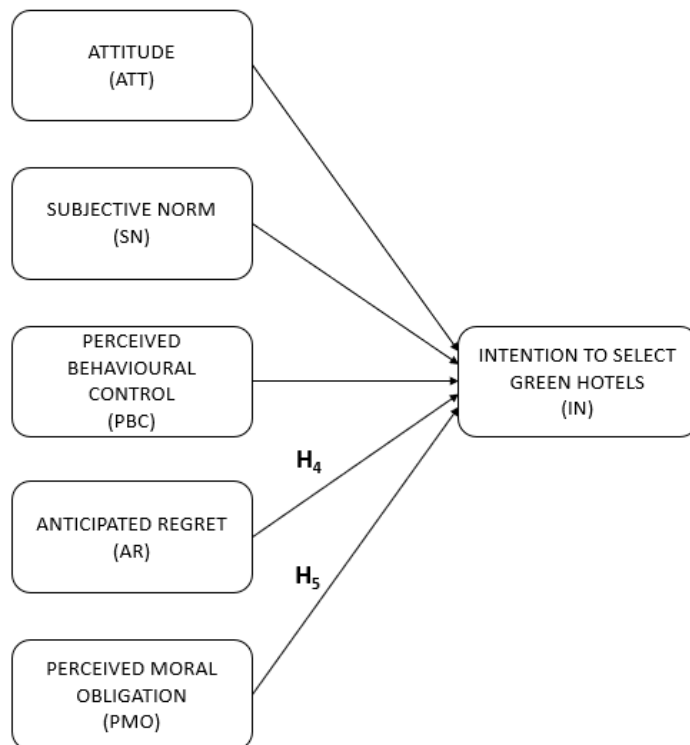


Figure 5: Model B: Includes AR and PMO as direct predictors to IN.

2.6.3 RESEARCH OBJECTIVE 3:

2.6.3.1. Research Objective 3a:

To examine whether the relationships between environmental concern (EC) and all the proposed behavioural intentions' direct predictor variables (ATT, SN, PBC, AR and PMO) will contribute or enhance the predictive ability for South African consumers to select green hotels (IN).

Against the literature discussed, the research objective will be answered according to analysis of the following hypotheses:

- H_{6a}- Environmental concern will positively affect attitude on selecting green hotels.
- H_{6b}- Environmental concern will positively affect subjective norm on selecting green hotels.
- H_{6c}- Environmental concern will positively affect perceived behavioural control on selecting green hotels.
- H_{6d}- Environmental concern will positively affect anticipated regret on selecting green hotels.
- H_{6e}- Environmental concern will positively affect perceived moral obligation on selecting green hotels.

2.6.3.2. Research Objective 3b:

To examine whether the relationship between environmental knowledge (EK) and attitude (ATT) will contribute or enhance the predictive ability for South African consumers to select green hotels (IN).

- H₇- Environmental knowledge will positively affect attitude on selecting green hotels.

Figure 6 reflects Model C, the final model structure surrounding the TPB, which includes the predictor variables environmental knowledge (EK) and environmental concern (EC) that will be collectively assessed in order to answer research objective 3.

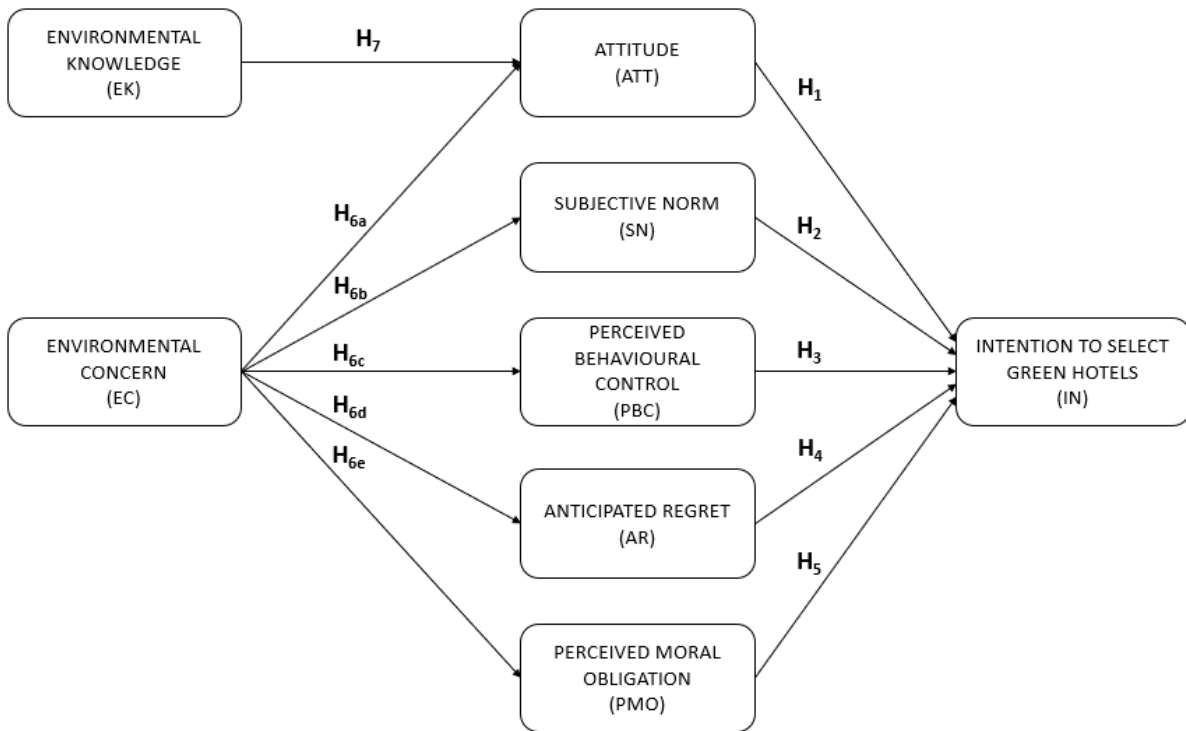


Figure 6: Model C: Includes EK and EC as indirect predictors to IN.

2.6.4 RESEARCH OBJECTIVE 4:

To refine, compare and identify a theoretical model which will best explain South African consumers' intended behaviour towards selecting green hotels.

The research objective will be answered by exploring the predictive ability of Model A, B and C independently. The respective investigation will identify and confirm a model structure which will most favourably exert the highest variance in predicting behavioural intentions within a South African green hotel context. Figure 7 depicts a graphical summary of the competing models.

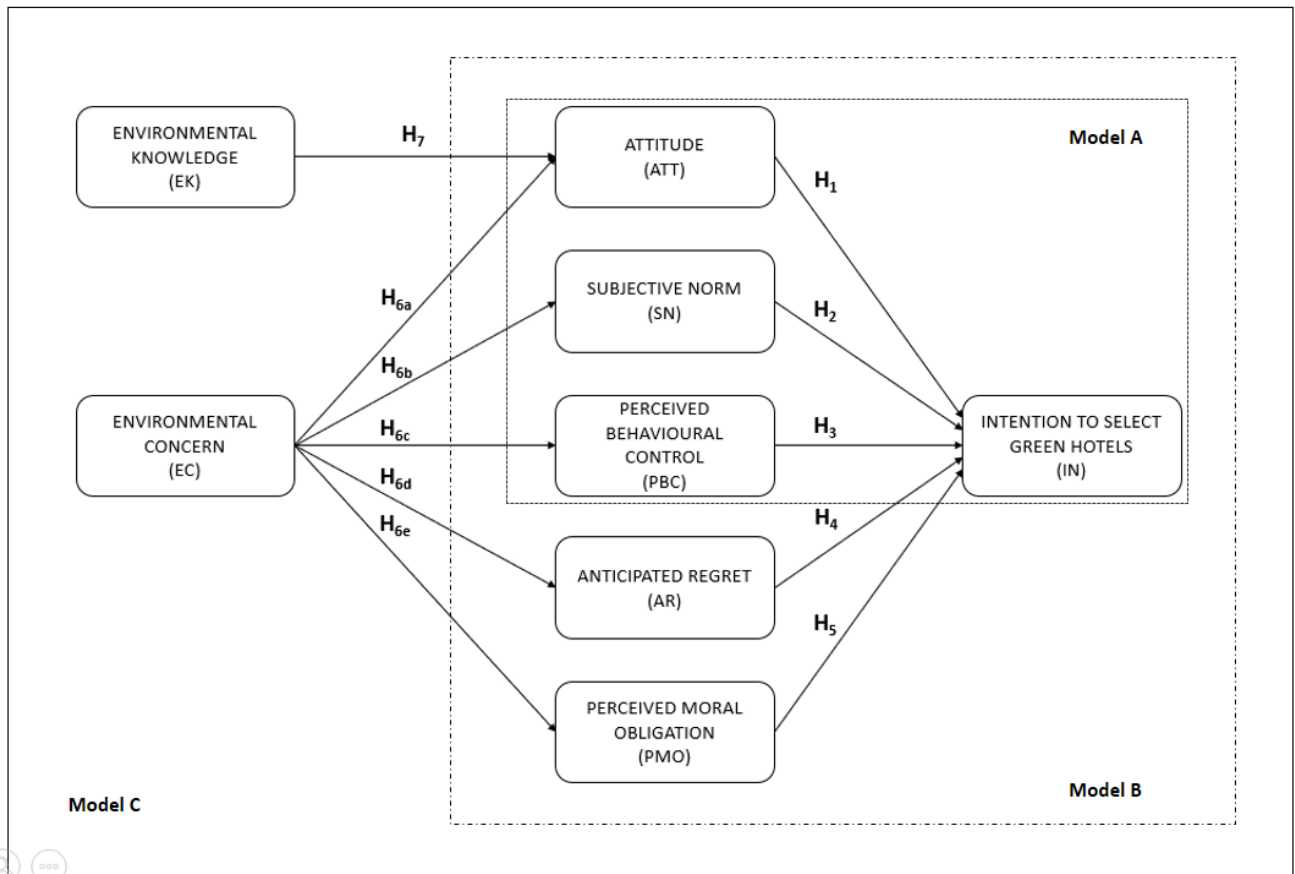


Figure 7: Summary of the model variations reflecting hypothesized paths.

2.7 CHAPTER SUMMARY

Chapter 2 highlighted the conceptual overview and literature pertaining to green hotel consumerism from both an international and a national perspective, further introducing the theoretical framework, related objectives, and hypotheses that will lead the study. In order to examine consumer's intended behaviour as to selecting green hotels within South Africa, a psychographic theoretical framework in context to green consumerism was required for the purpose of this assessment. The Theory of Planned Behaviour (TPB) was introduced as the research framework of the study due to its logical framework, well defined methodology, and proven reliability and valid predictability from previous research presented within the green hotel context. The TPB, furthermore, allows the provision to be modified in order to enhance predictive ability and, thus, based on support from the literature, the ecological psychographic variables that will be augmented into the TPB framework include environmental concern, environmental knowledge, anticipated regret and perceived moral obligation. The research objective and hypotheses were lastly summarised further introducing and concluding the model structures surrounding the TPB that the research will explore.

CHAPTER 3

RESEARCH METHODOLOGY

The previous chapter introduced the relevant literature, proposed the theoretical framework as well as derived the aim, objectives, hypotheses and supporting models that will lead the study. Chapter 3 will examine the methodology that was applied in the research in order to achieve the research aim and objectives set. This chapter attempts to explain the research methodology by delineating the paradigmatic assumptions and perspectives of the researcher, establish the research design, present the sampling strategy and data collection process of the study, justify the validity and reliability of the research, reveal the data analysis strategies actioned, as well as support the ethical considerations that the study followed.

3.1 PARADIGMATIC ASSUMPTIONS AND PERSPECTIVES

Ontology is the study of being and is concerned with what kind of world individuals are investigating, the nature of existence, and the structure of reality as such (Neuman 2011; and Scotland 2012). Based on the aim and objectives of the study, the ontological assumption of the research adopts a realistic approach. The realistic approach follows the physical world in which the researcher assumes that the existence of a world is based on cause and effect, that reality is objective in nature and that social reality can be understood from an external point of view (Blumberg, Cooper & Schindler 2011; and Creswell 2007). Thus, there are some realities, namely attitudes, subjective norm, perceived behavioural control, anticipated regret, perceived moral obligation, environmental concern, and environmental knowledge - all of which may influence the intention for South Africans to select green hotels - that may be objectively understood and measured by an instrument.

Epistemology is a way of understanding and explaining how individuals know what is known and what counts as knowledge in the world (Cooksey & McDonald 2011; and Neuman 2011). The epistemological assumption of the research adopts a positivist stance. Positivism sees social science as an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity (Babbie 2011; Cohen, Monaion & Morrison 2000; and Daniel & Harland 2017). Research recognises the effect on the intention to select green hotels of the above-mentioned realities based on causal laws of the Theory of Planned Behaviour (TPB). Therefore, the TPB supports the positivist stance in that predictors, within the green hotel context, do have an effect on behavioural intention (Chen & Tung 2014; Han et al. 2010; Kim & Han 2010; and Verma & Chandra 2017).

The positivist approach, furthermore, declares that ideas or concepts are reduced into variables and the relationship between or among them are tested. The outcome is based on careful observation, measurement and interpretation of objective reality (Daniel & Harland 2017; Neuman 2011; and Saunders & Lewis 2012). The relationship variables include the dependent and independent variables where the dependent variable (DV) is a variable whose outcome is hypothesised as depending on one or more independent variables (IV) (Tabachnick & Fidell 2013). In relation to the current research, the establishment of the respective (in)dependent variables, in supporting the positivist approach, are three-fold:

Variable Set 1:

Independent variable: Attitude (ATT); Subjective Norm (SN); Perceived Behavioural Control (PBC); Anticipated Regret (AR); Perceived Moral Obligation (PMO).

Dependent variable: Intention to select green hotel (IN)

ATT + SN + PBC + AR + PMO → IN

Variable Set 2:

Independent variable: Environmental Concern (EC)

Dependent variable: Attitude (ATT); Subjective Norm (SN); Perceived Behavioural Control (PBC); Anticipated Regret (AR); Perceived Moral Obligation (PMO).

EC → ATT, SN, PBC, AR, PMO

Variable Set 3:

Independent variable: Environmental Knowledge (EK)

Dependent variable: Attitude (ATT)

EK → ATT

Following the conclusion of the ontological and epistemology assumptions, it was of value to apply the research within a quantitative paradigm. The realist and positivist stance requires a research methodology that is objective or detached where the importance is on measuring variables and testing hypotheses that are ultimately linked to casual explanations (Antwi & Hamza 2015; and Sarantakos 2005). Such attributes should be and are respectively embedded within the aim and objectives of the current study to confirm the relevance of the quantitative paradigm approach of the research. Quantitative research generally begins with a problem statement, includes deriving the hypotheses from literature, and contains the strategies of inquiry used to collect the data on predetermined instruments that will yield statistical data (Antwi & Hamza 2015; and Creswell 2007). The next section introduces the research design that the study followed to produce the strategies of inquiry that was pursued.

3.2 RESEARCH DESIGN

The research design forms the framework used for the planning, implementation and analysis of a study. It is the plan for answering the research hypotheses in relation to the aim and objectives of a study (Burns & Grove 2005; and Zikmund, Babin, Carr & Griffin 2010). Derived from a quantitative framework, a non-experimental research design was employed in the current research. Unlike experimental design, non-experimental designs do not involve the manipulation of the variables (Blanche, Durrheim & Painler 2007; and Creswell 2007). As such, the independent variables within each variable set, namely attitude, subjective norm, perceived behavioural control, anticipated regret, perceived moral obligation, environmental concern, and environmental knowledge, cannot be manipulated to obtain results. The aspect of manipulation of subjects within research are discussed in Section 3.7, where ethical considerations are discussed in this chapter. A non-experimental research approach was further considered as it generally studies what naturally occurs or has occurred in reality, which is relevant to the principle of theory testing (Creswell 2007) – the study accomplishes this by exploring the predictive ability surrounding the Theory of Planned Behaviour.

As the objectives of the study are set to examine the relationships between the predictor variables surrounding the TPB framework, a correlational study framework was considered suitable to adopt as its relative purpose is to explore the relationships between variables and provide estimates for their variance. Where three variable sets collectively consisting of eight (8) variables are explored, a major strength of utilising the correlational design is its ability to be used to examine these complex relations between and among variables. The correlation approach aims to identify the dependence and significance of variables on one another, as opposed to causality (Mann 2003; Polit & Beck 2017; and Tabachnick & Fidell 2013).

Correlational designs are, furthermore, typically cross-sectional where variables are identified at one point in time and the relationships between them are determined accordingly. These designs examine if changes in one or more variables are related to changes in other variables (Babbie & Mouton 2007). A benefit of cross-sectional studies is its economic advantage in that they are quick and inexpensive to implement as fewer resources are required to conduct a study (Caruana, Roman, Sanchez & Solli 2015). Essentially, a non-experimental correlational study design using a cross-sectional survey method was employed for the current research.

3.3 SAMPLING STRATEGY

The sampling strategy is a plan the researcher employs to ensure that the sample used in the research study represents the population from which the sample is drawn. Thus, the sampling strategy that the research employs identifies the target population and sample, establishes the sample size and discusses the sample methodology (De Vos 2002; and Polit & Beck 2017). These aspects of the study will be discussed in further detail in the following sections.

3.3.1 TARGET POPULATION AND SAMPLE

A target population refers to the entirety of subjects of interest to which the researcher attempts to infer the study results or findings. A sample refers to the selected group within a target population from which information is obtained (Alvi 2016). The current research title, "Exploring and predicting South African consumers' intended behaviour to select green hotels: Extending the Theory of Planned Behaviour" infers that the target population, from which the samples were drawn, included South African consumers.

The sample population is those individuals who partake in a study, whose results are then comprehended and generalised to represent the targeted population of the study (Alvi 2016). As reflected in the research title, it was envisaged that the sample population would be green hotel South African consumers. However, this assumption was waived because establishing the sample population would have presented too great a challenge for the current research. Where the population is derived from a 'developing green' country, namely South Africa (Rogerson & Sims 2012), the potential of acquiring individuals who are green product and service consumers would be daunting, especially when the research is limited as to time and resources. Therefore, the research needed to establish that the sample population included South African consumers that had stayed at a hotel at least once within a 12-month period from the time their data were collected. Reflection of an experience is more readily recalled when it has occurred within a 12-month period (Ajzen 1991; and Ajzen & Madden 1986).

To resolve the green comprehension and reflection challenge from a South African standpoint, the research included an information abstract and case scenario within the data collection instrument that the sample population could read prior to answering the questions. This information intervention, viewable in Section 3.4.3, was designed to position each respondent within a green hotel context when answering the respective questions.

3.3.2 SAMPLE SIZE

The sample size affects the accuracy and power of statistical analysis (Hair, Black, Babin, Anderson & Tatham 2010; and Kline 2015). As will be discussed in the latter section of this chapter, Structural Equation Modelling (SEM) is a data analysis strategy that the researcher employed. For SEM studies, Kline (2015) suggest that for a large or complex structural model; where the data is normally distributed with minimal missing data been present; a minimum sample size of 200 would be adequate. Where Section 4.1 confirms that the data contains no missing data and that the data is further normally distributed, the minimum sample size was deemed adequate. A total of 450 completed responses were received from the questionnaire, of which 402 responses were considered appropriate to use for statistical analysis, as reflected in Section 3.4.2 and 4.1.2 respectively.

3.3.3 SAMPLE METHODOLOGY

To achieve the aim and objectives of the proposed research, the study followed a non-probability purposive sampling methodology. Non-probability sampling is different from probability sampling in that each member of the population does not have a known non-zero chance of being included in a study (Cooper & Schindler 2003; and Saunders & Lewis 2012). Furthermore, although purposive sampling is recommended to draw up more accurate generalisations of a population, time and resource limitations required the researcher to seek a representative population sample from an online research firm, namely Springvale Online. The non-purposive nature of sampling was confirmed in that not every South African had a chance to be included in the research unless they were registered with the respective online research firm. Springvale Online is a South African company whose aim is to present innovative market research using advanced technology and quality consumer panels (Springvaleonline 2018).

Figure 8 reflects the demographics of the basic South African panel used by Springvale Online. To keep the panel balanced and representative of the South African population, Springvale Online has further implemented a panel quality management system involving ongoing panel recruitment that is periodically adjusted (Springvale Online 2018).

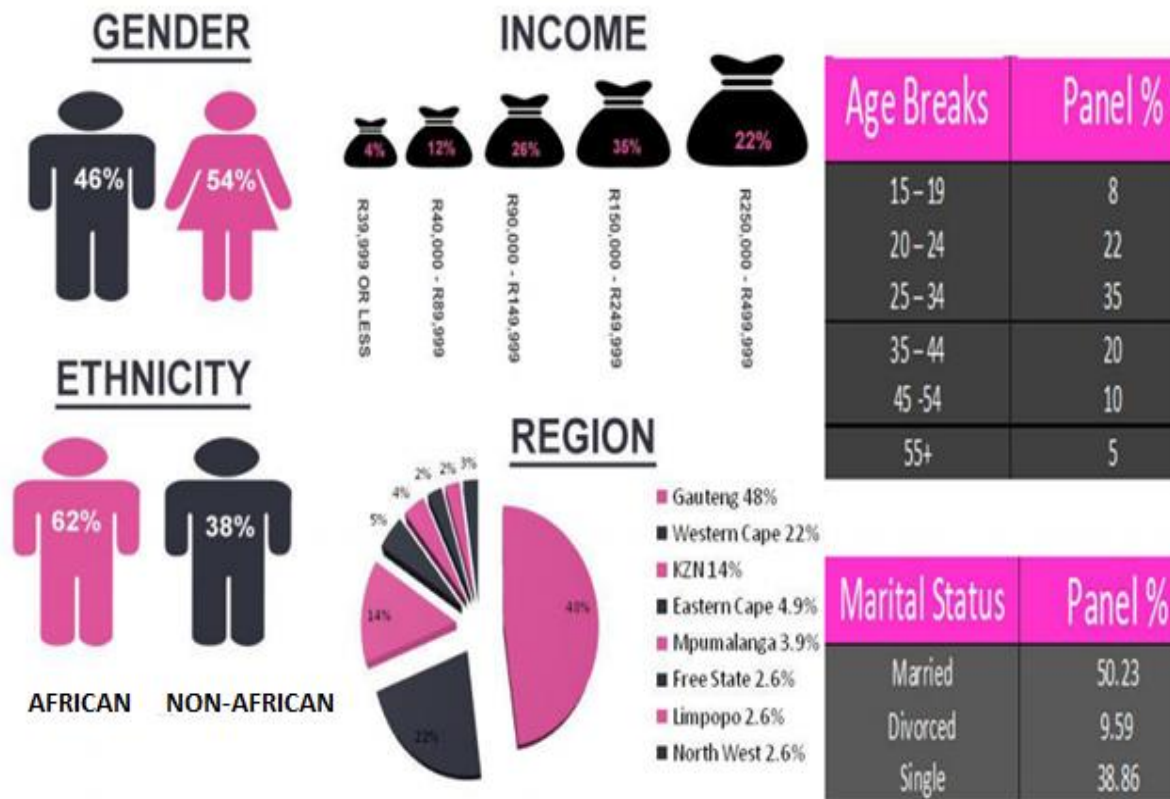


Figure 8: Demographics of the basic South African panel for Springvale online (Springvale Online 2018)

Purposive sampling was further employed within the non-probability sampling frame. Purposive sampling is a technique employed to deliberately select sample members based on certain characteristics representative of the population (Cooper & Schindler 2003; Maree 2016; and Saunders & Lewis 2012). As indicated in Section 3.3.1, the sample population for the current study included South African consumers who had stayed at a hotel at least once within a 12-month period. To access these individuals, Springvale Online randomly invited its respondents within their database of over 40 000 to partake in the online survey. Once a respondent accepted the electronic invitation, they were then introduced to the research after which they answered the screening questions. If any of the invited participants responded in the negative to any of the screening questions, they were thanked for their time and were subsequently detached from the survey. The respective data collection processes and procedures are discussed further in the following section.

3.4 DATA COLLECTION PROCESS

Data collection is the established systematic process of gathering and measuring information on variables of interest that enables one to answer the research objectives, test hypotheses and evaluate outcomes (Maree 2016). This section discusses the data collection instrument that the research adopted, as well as explains how the instrument was devised and distributed to optimally collect the data for the research.

3.4.1 DATA COLLECTION INSTRUMENT

For the proposed quantitative study, a survey was undertaken to acquire data needed to answer the research objectives, test hypotheses and evaluate outcomes. The survey took the form of an online questionnaire. The design of a questionnaire typically includes a cover letter followed by the construction of questions and response options, based on the research study's aims and objectives, to obtain information from a sample population who are willing to share their opinions (Maree 2016; and Tustin, Ligthelm, Martins & Van Wyk 2005). The online questionnaire survey was developed and hosted successfully by purchasing the advantage plan from SurveyMonkey. Founded in 1999 by Ryan Finley, SurveyMonkey is a globally renowned online survey development, cloud-based software consisting of over 4 million users (SurveyMonkey 2018). The research utilised SurveyMonkey because of its user-friendly capabilities, support structure and it's efficiency to transcribe data into a format ready for statistical analysis. The online questionnaire is viewable in Appendix A.

3.4.2 DISTRIBUTION OF THE QUESTIONNAIRE

In developing the online questionnaire, a web link was generated for participants to access the survey through any computer, smart phone or tablet device. Prior to distributing the link, the survey was first piloted and tested for clarity, coherence, functional ability and execution, by making use of supporting research academics as well as the sample population themselves. Once finalised, the web link was then sent to the appointed online research firm, namely Springvale Online, where it was further randomly distributed to its South African representative sample database. In practice, the participants would receive an email invitation from the research firm requesting their participation. The online survey was closed when, after three days, it had obtained 450 completed responses. To compensate for the potential expulsion of responses that might occur during the data cleaning phase of the research, additional responses were requested to ensure that the minimum sample size required, as established in Section 3.3.2., was met.

After the research firm submitted the invitation to take part in the questionnaire, a total of 723 respondents accessed and attempted the survey. In terms of generating a quality database, Springvale Online offers their members an incentive for successfully participating in and completing a survey. Consequently, a respondent would have successfully completed the current research survey by answering all the questions and further passing the screening and the trap questions set within the survey. Essentially, a total of 450 completed responses were received from the questionnaire, of which 402 responses were considered appropriate to use for statistical analysis. The following section discusses these questioning techniques.

3.4.3 OPERATIONALISATION OF THE QUESTIONNAIRE

The questionnaire comprises four (4) parts, totalling 51 questions. The first part of the questionnaire introduces the respondents to the study by explaining the purpose of the study, highlighting the value of the respondent's response to the research, and mentioning the instructions on how to answer the survey questions. The section further includes the three screening questions that acted as the selection medium criteria that generated the sample population, as previously mentioned. The screening questions included, "I hereby confirm that I am a South Africa citizen"; "I have read and understood the study as explained in the information above"; and lastly, "I have stayed at a hotel, boutique hotel, guesthouse, B&B, lodge or a resort within the last 12 months". It was envisaged that mentioning various accommodation types, within the last screening question, would involve the same components or cycle as staying at or visiting a hotel, and therefore allowed the respondent to be in the frame of mind of the general accommodation industry. The typical accommodation guest cycle includes the pre-arrival, arrival, occupancy and departure (Abbott & Lewry 1999; and Buenafe 2015), which essentially are the components considered with respect to assessing the decision-making processes of the general hotel industry, as discussed in Section 2.3.

If participants failed to successfully answer 'yes' to any of the three screening questions, they were automatically reverted to a new page window, compiled and signed by Springvale Online, ethically informing and explaining to the respondent that they had been disqualified from participating further in the survey. The name and contact details of both the researcher and supporting supervisors were disclosed to the respondent once the survey was successfully completed. The second part of the questionnaire was entitled, "Section 1: Acknowledging eco-friendly hotels and you as a consumer". This part of the questionnaire introduced the respondent to the eco-friendly hotel concept and its respective common practices in order for the respondent to gain a better understanding of the research context. This was achieved by featuring an information abstract explaining what an eco-friendly hotel is and highlighting the common eco-friendly practices that such hotels employ.

The information abstract is reflected in Figure 9 below and was considered to be an important feature of the survey considering that the population participating in the survey was derived from a 'developing green' country, namely South Africa (Rogerson & Sims 2012), where the green concept may not be recognized and understood by many. Part 2 of the questionnaire concluded by asking 12 demographic-based questions.

Information Abstract







WHAT IS AN ECO-FRIENDLY HOTEL?

An eco-friendly or green hotel aims to minimize or have the lowest possible negative impact on the environment during its daily operation from purchases and manufacturing to the disposal/end of products and services.

WHAT ARE THE COMMON ECO-FRIENDLY HOTEL PRACTICES?

The most common practices of hotels that offer/provide green products and services include:

Energy and Water Conservation

- Linen reuse program in guestrooms
- Use of rainwater harvesting and/or grey-water systems
- Low-flow showerheads and sink aerators; low or dual-flush toilets
- Use of mercury-free florescent lamps or LED light bulbs
- Use of heat pumps, geothermal technologies and/or solar panels

Recycling and Waste Management

- Providing guestrooms with recycler baskets/bins
- Locating recycling bins in public areas making it easily accessible

Food Service Considerations

- Purchasing and/or planting organic/ locally-grown food
- Donating leftover food to local non-profit organisations
- Providing reusable cutlery and crockery such as glass or ceramic

Eco-Conscious Purchasing

- Purchasing non-toxic cleaning and chemical products.
- Purchasing office and guest amenities that contains recycled material
- Purchasing organic, fair-trade, cruelty-free products when possible

Guest Rewards and Community Involvement

- Creating ways to reward guests for being green
- Educating the community about environment sustainability
- Offering discounted rates to sustainable living organisations
- Donating leftover/ used amenities to those less privileged

THANK YOU FOR TAKING THE TIME TO READ THROUGH THE ABOVE INFORMATION.

Figure 9: Information abstract presented within Part 2 of the questionnaire.

The third part of the questionnaire was entitled, “Section 2: Understanding your feelings and opinions about eco-friendly hotels”. This part of the questionnaire analysed the attitude (ATT) and anticipated regret (AR) predictor variables included within the developed TPB framework (Figure 7); making use of a 7-point semantic differential scale to compute responses. Concurrent to the reason for introducing an information abstract in part 2, a ‘case scenario’, reflected in Figure 10, was introduced in part 3 of the questionnaire to allow respondents to be positioned in a green hotel context so that the questions to follow were relatable and effectively understood from a non-bias position in comparison to conventional hotels.

SCENARIO:

After looking at different hotels to potentially stay at or visit within the next 12 months, you are left with two hotels to select from, namely an eco-friendly hotel or a non-eco-friendly hotel. Both hotels are located in the same area, offer the same rates, have the same facilities and service qualities that you desire. The only difference is that one supports environmental sustainability and offers eco-friendly products and services such as those briefly discussed in the information abstract in Section 1. The other hotel however; does not offer any eco-friendly products or services.

Figure 10: Case scenario presented within Part 3 of the questionnaire.

Of the 11 questions asked in part 3 of the questionnaire, 1 question was set as an attention-check question, namely question 23 which asked, “if you are not a cat, please select “*Very Foolish*” and three questions were reverse-coded questioned, namely 17, 19 and 21. According to Manning (2016), straightforward worded attention-check and reverse-coded questions are useful when situated at the beginning of questionnaires as respondents become more likely to spend time thoughtfully answering questions and are less likely to miss subsequent attention-check and reverse-coded questions. Respondents were made aware of these questioning techniques prior to answering the questions in Section 1. The questioning techniques were important to incorporate within this questionnaire in order to avoid the research limitation of potential ceiling effects from occurring, especially in this research where respondents were likely to select any answer simply to receive the offered incentive (Salkind 2010). As previously discussed, if a respondent failed to answer an attention-check question correctly, they were disqualified automatically when they proceeded to the next part of the questionnaire. The answers to reverse-coded questions were, however, assessed during the data cleaning process of the research where repetitive answers, for example selecting *Strongly Agree* throughout the survey, were monitored for potential outliers.

The last part of the questionnaire was entitled, “Section 3: Understanding your behavioural intention to stay at or visit an eco-friendly hotel” and was included to analyse the remaining psychographic variables of the developed TPB framework. These included Subjective Norm (SN), Perceived Behavioural Control (PBC), Perceived Moral Obligation (PMO), Intention to select green hotels (IN), Environmental Concern (EC), and Environmental Knowledge (EK). Answers were measured using a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”. Of the 25 questions asked, two questions were set as attention-check questions, namely question 31 and 46 and five questions were reverse-coded questioned, namely 29, 34, 40, 45 and 48. The last question of the questionnaire requested that the respondent voluntarily enters their email addresses within the space provided so that they could receive their incentive. The online research firm managed the email address database, respective incentives and further issued the respondents a copy of the research cover letter that included the contact details of the researcher and supporting academics.

The established questions for each predictor variables assessed in Part 3 and 4 of the questionnaire were derived and revised from question statements that had been used and validated in previous studies that have utilised the TPB framework. The formation of the TPB questions guided by Beck and Ajzen (1991) for the original TPB variables, namely ATT, SN and PBC, were considered. However, as adopted within Chen and Tung (2014)’s study, the question statements for ATT, SN and PBC utilised in the current research are those question statements that were further modified by Han et al. (2010) to suite the green hotel context. With respect to the predictor variables that will extend the original TPB framework (Figure 7), AR will be measured over three (3) question statements as applied by Kim et al. (2013), which was derived by Richard, De Vries and Van der Pligt (1998). PMO was assessed with two (2) question statements developed by Lam (1999) and further applied by Chen and Tung (2014)’s research in context to green hotels. In addition, eight (8) question statements were used to measure EC of which five (5) were developed by Kim and Choi (2005) and three (3) were developed by Fujii (2006), as collectively utilised within Chen and Tung (2014)’s study in context to green hotels. Lastly, the EK predictor variable was assessed over three (3) question statements developed by Sidique, Joshi and Lupi (2010) which was further adopted by Kumar (2012) in context to augmenting the TPB with a EK and ATT relationship.

As South African consumers were the targeted population for the study, sentence construction and reference modifications to the questions were made to suit most literacy standards of the respondents. This was deemed necessary to make the green concept more easily understood within a respective context and due to the literacy consideration in that South Africa has eleven (11) official languages (Nel, Valchev, Rothmann, Van de Vijver, Meiring & Bruin 2012). Table 1

concludes the data collection section of the chapter by reflecting the questionnaire statements that had been sourced from relevant green hotel or green consumerism research studies. This table also presents the modified as well as the rephrased questions asked in the questionnaire and reflects the relative relationship of all 32 variable indicators against the research objectives and hypotheses set for the current study.

Table 1: Reflection of TPB statements and scales included within the questionnaire.

VARIABLE INDICATORS (QUESTION)	QUESTIONNAIRE STATEMENT (PART 3 OF QUESTIONNAIRE)	ORIGINAL SOURCE
Attitudes Toward Selecting Green Hotels (ATT)		
<p><u>Research Objective:</u></p> <p>1) To determine and describe the relative ability for the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC); to predict South African consumers' intended behaviour (IN) in selecting green hotels.</p>		
<p><u>Research Hypotheses:</u></p> <p>H1- Attitude will have a positive and significant influence on South African consumers' intention to select green hotels.</p>		
ATT1 (Q16)	<p>Source/Author's Statement:</p> <p>For me, staying at a green hotel when travelling is Extremely bad (1)/Extremely good (7)</p>	Han et al. (2010)
	<p>Rephrased Statement:</p> <p><i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i></p> <p><u>Extremely bad (1)/Extremely good (7)</u></p>	
ATT2 (Q18)	<p>Source/Author's Statement:</p> <p>For me, staying at a green hotel when travelling is Extremely undesirable (1)/Extremely desirable (7)</p>	
	<p>Rephrased Statement:</p> <p><i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i></p> <p><u>Extremely undesirable (1)/Extremely desirable (7)</u></p>	
ATT3 (Q20)	<p>Source/Author's Statement:</p> <p>For me, staying at a green hotel when travelling is Extremely unpleasant (1)/Extremely pleasant (7)</p>	
	<p>Rephrased Statement:</p> <p><i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i></p> <p><u>Extremely unpleasant (1)/Extremely pleasant (7)</u></p>	

<p>ATT4 (Q22)</p>	<p>Source/Author's Statement: For me, staying at a green hotel when travelling is Extremely foolish (1)/Extremely wise (7)</p> <p>Rephrased Statement: <i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i> <u>Extremely foolish (1)/Extremely wise (7)</u></p>	
<p>ATT5 (Q24)</p>	<p>Source/Author's Statement: For me, staying at a green hotel when travelling is Extremely unfavourable (1)/Extremely favourable (7)</p> <p>Rephrased Statement: <i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i> <u>Extremely unfavourable (1)/Extremely favourable (7)</u></p>	
<p>ATT6 (Q25)</p>	<p>Source/Author's Statement: For me, staying at a green hotel when travelling is Extremely unenjoyable (1)/Extremely enjoyable (7)</p> <p>Rephrased Statement: <i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i> <u>Extremely unenjoyable (1)/Extremely enjoyable (7)</u></p>	
<p>ATT7 (Q26)</p>	<p>Source/Author's Statement: For me, staying at a green hotel when travelling is Extremely negative (1)/Extremely positive (7)</p> <p>Rephrased Statement: <i>If you were to stay at/visit the eco-friendly hotel, do you believe that it would be...</i> <u>Extremely negative (1)/Extremely positive (7)</u></p>	
<p>Anticipated Regret Towards Selecting Green Hotels (AR)</p>		
<p><u>Research Objective:</u> 2) To evaluate whether including anticipated regret (AR) and perceived moral obligation (PMO) into the TPB, as direct predictor variables to behavioural intention (IN), would have any influence towards the predictive ability of green hotel selection within South Africa.</p>		
<p><u>Research Hypotheses:</u> H4- Anticipated regret will have a positive and significant influence on South African consumers' intention to select green hotels.</p>		
<p>AR1 (Q17)</p>	<p>Source/Author's Statement: If I did not stay at a green hotel when travelling when I had the option to do so, afterwards I would feel: Worried (1)/Not worried (7)</p>	<p>Richard et al. (1998)</p>

	<p>Rephrased Statement: <i>If you had <u>no choice</u> but to stay at/visit the <u>non-eco-friendly hotel</u>, how would you feel <u>If you were aware</u> of the eco-friendly hotel? <u>Worried (1)/Not worried (7)</u></i></p>	
AR2 (Q19)	<p>Source/Author's Statement: If I did not stay at a green hotel when travelling when I had the option to do so, afterwards I would feel: Regretful (1)/Not regretful (7)</p> <p>Rephrased Statement: <i>If you had <u>no choice</u> but to stay at/visit the <u>non-eco-friendly hotel</u>, how would you feel <u>If you were aware</u> of the eco-friendly hotel? <u>Regretful (1)/Not regretful (7)</u></i></p>	
AR3 (Q21)	<p>Source/Author's Statement: If I did not stay at a green hotel when travelling when I had the option to do so, afterwards I would feel: Tense (1)/Relaxed (7)</p> <p>Rephrased Statement: <i>If you had <u>no choice</u> but to stay at/visit the <u>non-eco-friendly hotel</u>, how would you feel <u>If you were aware</u> of the eco-friendly hotel? <u>Tense (1)/Relaxed (7)</u></i></p>	
Subjective Norm (SN)		
<p>Research Objective: 1) To determine and describe the relative ability for the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC); to predict South African consumers' intended behaviour (IN) in selecting green hotels.</p>		
<p>Research Hypotheses: H2- Subjective Norm will have a positive and significant influence on South African consumers' intention to select green hotels.</p>		
SN1 (Q41)	<p>Source/Author's Statement: Most people who are important to me think I should stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>Most people <u>who are important to me</u> would <u>personally feel and think</u> that I should stay at/visit an eco-friendly hotel. <u>Strongly disagree (1)/Strongly agree (7)</u></i></p>	Han et al. (2010)
SN2 (Q28)	<p>Source/Author's Statement: Most people who are important to me would want me to stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p>	

	<p>Rephrased Statement:</p> <p><i>Most people <u>who are important to me</u> would <u>insist</u> and would <u>want me</u> to stay at or visit an eco-friendly hotel.</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	
SN3 (Q36)	<p>Source/Author's Statement:</p> <p>People whose opinions I value would prefer that I stay at a green hotel when travelling</p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p> <p>Rephrased Statement:</p> <p><i>Those people whose <u>opinions I value</u> when it comes to making moral decisions would <u>prefer</u> that I stay at or visit an eco-friendly hotel.</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	
Perceived Behavioural Control (PBC)		
<p>Research Objective:</p> <p>1) To determine and describe the relative ability for the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC); to predict South African consumers' intended behaviour (IN) to select green hotels.</p>		
<p>Research Hypotheses:</p> <p>H3- Perceived behavioural control will have a positive and significant influence on South African consumers' intention to select green hotels.</p>		
PBC1 (Q32)	<p>Source/Author's Statement:</p> <p>Staying at a green hotel when travelling, compared to a non-green hotel, is completely up to me</p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p> <p>Rephrased Statement:</p> <p><i>If I have a choice, staying at/visiting the eco-friendly hotel is a decision which <u>is completely up to me</u>.</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	Han et al. (2010)
PBC2 (Q43)	<p>Source/Author's Statement:</p> <p>I am confident that if I want, I can stay at a green hotel when travelling, compared to a non-green hotel</p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p> <p>Rephrased Statement:</p> <p><i>I am <u>confident</u> that if I had a choice, I will be able to stay at or visit the eco-friendly hotel</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	

<p>PBC3 (Q37)</p>	<p>Source/Author's Statement: I have resources, time, and opportunities to stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I can agree that I have the <u>resources, time and opportunities</u> to stay at/visit the eco-friendly hotel.</i> Strongly disagree (1)/Strongly agree (7)</p>	
<p>Intention to Visit Green Hotels (IN)</p>		
<p>Research Objective: 1) To determine and describe the relative ability for the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC); to predict South African consumers' intended behaviour (IN) in selecting green hotels.</p>		
<p>Research Hypotheses: H1+ H2 + H3 + H4 + H5 + H6</p>		
<p>IN1 (Q27)</p>	<p>Source/Author's Statement: I am willing to stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I am <u>willing</u> to stay at/visit the hotel that offers eco-friendly products and services.</i> Strongly disagree (1)/Strongly agree (7)</p>	<p>Han et al. (2010)</p>
<p>IN2 (Q47)</p>	<p>Source/Author's Statement: I plan to stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I <u>plan</u> to stay at/visit a hotel based on the <u>condition</u> that it offers eco-friendly products or services.</i> Strongly disagree (1)/Strongly agree (7)</p>	
<p>IN3 (Q38)</p>	<p>Source/Author's Statement: I will make an effort to stay at a green hotel when travelling Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I will <u>make an effort</u> to stay at/visit a hotel that offers eco-friendly products or services.</i> Strongly disagree (1)/Strongly agree (7)</p>	

Perceived Moral Obligation (PMO)

Research Objective:

2) To evaluate whether including anticipated regret (AR) and perceived moral obligation (PMO) into the TPB, as direct predictor variables to behavioural intention (IN), would have any influence towards the predictive ability of green hotel selection within South Africa.

Research Hypotheses:

H5- Perceived moral obligation will have a positive and significant influence on South African consumers' intention to select green hotels.

PMO1 (Q42)	<p>Source/Author's Statement: Everybody is obligated to treasure natural resources Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I believe that everybody is <u>obligated</u> to <u>treasure and look after</u> the earth's natural resources.</i> Strongly disagree (1)/Strongly agree (7)</p>	Lam (1999)
PMO2 (Q33)	<p>Source/Author's Statement: Everybody should save natural resources because they are limited Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: <i>I <u>believe</u> that everybody should <u>save</u> the earth's natural resources because <u>they are limited</u>.</i> Strongly disagree (1)/Strongly agree (7)</p>	

Environmental Concern (EC)

Research Objective:

3a) To examine whether the relationships between environmental concern (EC) and all the proposed behavioural intentions' direct predictor variables (ATT, SN, PBC, AR and PMO) will contribute or enhance the predictive ability for South African consumers to select green hotels (IN).

Research Hypotheses:

- H6a-** Environmental concern will positively affect attitude on selecting green hotels
- H6b-** Environmental concern will positively affect subjective norm on selecting green hotels
- H6c-** Environmental concern will positively affect perceived behavioural control on selecting green hotels
- H6d-** Environmental concern will positively affect anticipated regret on selecting green hotels

H6e- Environmental concern will positively affect perceived moral obligation on selecting green hotels		
EC1 (Q29)	Source/Author's Statement: I am extremely worried about the state of the world's environment and what it will mean for my future Strongly disagree (1)/Strongly agree (7)	Kim and Choi (2005)
	Rephrased Statement: (Reverse worded) <i>I am <u>not</u> worried about the state of South Africa's environment and what it will mean for my future.</i> Strongly disagree (1)/Strongly agree (7)	
EC2 (Q34)	Source/Author's Statement: Mankind is severely abusing the environment Strongly disagree (1)/Strongly agree (7)	
	Rephrased Statement: (Reverse worded) <i>I <u>believe</u> that mankind is <u>not</u> abusing the environment.</i> Strongly disagree (1)/Strongly agree (7)	
EC3 (Q39)	Source/Author's Statement: When humans interfere with nature it often produces disastrous consequences Strongly disagree (1)/Strongly agree (7)	
	Rephrased Statement: <i>I <u>believe</u> that when mankind <u>interferes</u> with the natural state of the environment, it will most likely produce <u>disastrous consequences</u>.</i> Strongly disagree (1)/Strongly agree (7)	
EC4 (Q44)	Source/Author's Statement: The balance of nature is very delicate and easily upset Strongly disagree (1)/Strongly agree (7)	
	Rephrased Statement: <i>I <u>believe</u> that the balance of the natural environment is very <u>delicate</u> and can be easily <u>unsettled/upset</u>.</i> Strongly disagree (1)/Strongly agree (7)	
EC5 (Q45)	Source/Author's Statement: Humans must live in harmony with nature in order to survive Strongly disagree (1)/Strongly agree (7)	
	Rephrased Statement: (Reverse worded) <i>I <u>believe</u> that mankind <u>does not</u> need to live in harmony with the natural environment in order to <u>survive</u>.</i> Strongly disagree (1)/Strongly agree (7)	
EC6	Source/Author's Statement: I think environmental problems are very important	Fujii (2006)

(Q48)	<p>Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement: (Reverse worded)</p> <p><i>I <u>believe</u> that environmental problems in South Africa are <u>not</u> very important</i></p> <p>Strongly disagree (1)/Strongly agree (7)</p>	
EC7 (Q49)	<p>Source/Author's Statement:</p> <p>I think environmental problems cannot be ignored</p> <p>Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement:</p> <p><i>I <u>believe</u> that environmental problems <u>cannot be ignored</u> and should be taken <u>seriously</u> in South Africa.</i></p> <p>Strongly disagree (1)/Strongly agree (7)</p>	
EC8 (Q50)	<p>Source/Author's Statement:</p> <p>I think we should care about environmental problems</p> <p>Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement:</p> <p><i>I <u>believe</u> that South Africans should <u>care more</u> about environmental problems.</i></p> <p>Strongly disagree (1)/Strongly agree (7)</p>	
Environmental Knowledge (EK)		
<p><u>Research Objective:</u></p> <p>3b) To examine whether the relationship between environmental knowledge (EK) and attitude (ATT) will contribute or enhance the predictive ability for South African consumers to select green hotels (IN).</p>		
<p><u>Research Hypotheses:</u></p> <p>H7- Environmental knowledge will positively affect attitude on selecting green hotels.</p>		
EK1 (Q30)	<p>Source/Author's Statement:</p> <p>Using environmentally sustainable products is a primary means to reduce pollution.</p> <p>Strongly disagree (1)/Strongly agree (7)</p> <p>Rephrased Statement:</p> <p><i>I <u>believe</u> that staying at/visiting an eco-friendly hotel is an <u>important way to reduce air, water and soil pollution.</u></i></p> <p>Strongly disagree (1)/Strongly agree (7)</p>	Sidique et al. (2010)
EK2 (Q40)	<p>Source/Author's Statement:</p> <p>Using environmentally sustainable products is a substantial approach to reduce wasteful use of natural resources.</p> <p>Strongly disagree (1)/Strongly agree (7)</p>	

	<p>Rephrased Statement: (Reverse worded)</p> <p><i>I <u>believe</u> that staying at/visiting an eco-friendly hotel is <u>not</u> a good approach to reduce wasteful use of natural resources.</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	
EK3 (Q35)	<p>Source/Author's Statement:</p> <p>Using environmentally sustainable products is one great approach to conserve natural resources.</p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	
	<p>Rephrased Statement:</p> <p><i>I <u>believe</u> that staying at/visit an eco-friendly hotel is <u>a good</u> approach to conserve earth's natural resources.</i></p> <p><u>Strongly disagree (1)/Strongly agree (7)</u></p>	

Where the collection, distribution and operationalisation of the research instrument is concluded in this section, the next section discusses the measures that the research employed to confirm the research instruments' level of reliability and validity.

3.5 RELIABILITY AND VALIDITY OF THE RESEARCH INSTRUMENT

The aim and objectives of the research are answered based on the results of the derived hypotheses tested. However, before the hypotheses can be tested, the research must first have a satisfactory level of reliability and validity. Accordingly, each of the derived 32 variable indicators was individually and collectively assessed to determine overall internal consistency of the research instrument. Additionally, subjective reviewing and factor analysis was conducted in order to confirm the validity of the predictor variables and corresponding variable indicators used in the questionnaire. Ultimately, this section discusses the measures that were employed in the research to confirm the research's level of reliability and validity.

3.5.1 RESEARCH RELIABILITY

Measuring a research instrument's reliability is an important criterion for assessing quality and adequacy. Reliability measures the consistency of the questionnaire to ensure that the respective instrument will provide consistent results when measuring its subjects repeatedly under similar circumstances (Hair et al. 2010; and Saunders & Lewis 2012). Scale reliability analysis was performed to assess the internal consistency of the research instrument. For the current research, Cronbach's Alpha (α) test of reliability was performed as it is the most widely reported consistency index and furthermore it is the most adopted measure to examine scale reliability in cross-sectional studies (Cortina 1993; and Zikmund et al. 2010).

Relative to the results obtained from Cronbach's Alpha test; Hinton, Brownlow, McMurray and Cozens (2004) proposed 4 (four) degree levels of the reliability scale, namely: excellent (0.90 and above); high (0.70 to 0.90); high moderate (0.50 to 0.70) and low (0.50 and below). However, reliability is deemed to be acceptable when the Cronbach Alpha value obtained is above a minimum value of 0.70 (Hair et al. 2010; Kline 2015; Nunnally & Bernstein 1994; and Trobia 2008). For the current research, Cronbach's Alpha test of reliability was computed using the Statistical Package for the Social Sciences (SPSS) software. The results for the measurement scale reliability analysis are presented in Section 5.1.1 of the dissertation.

Where the Cronbach's Alpha reliability coefficient assumes unidimensionality and the variable indicators are equally related to the predictor variables (Yang & Green 2011), Composite Reliability (CR) takes into consideration the factor loading of each predictor variable when measuring internal consistency. Therefore, CR was also calculated in order to conclude the overall internal consistency of the research instrument. The CR results should reflect a value greater than 0.70 to be considered acceptable (Fornell & Larcker 1981; and Hair et al. 2010). The CR results are reflected in Section 5.1.2.2. of the dissertation, and were derived by computing the following formula:

$$\text{Composite reliability} = \frac{\left(\sum_{i=1}^n \lambda_i \right)^2}{\left(\sum_{i=1}^n \lambda_i \right)^2 + \left(\sum_{i=1}^n \delta_i \right)}$$

Where: n = total number of items; λ_i = standardized factor loadings; and δ_i = error variance term.

3.5.2 RESEARCH VALIDITY

Validity in quantitative studies is the extent to which a data collection method accurately measures what it claims to measure and that the research findings reflect what they claim to reflect (Saunders & Lewis 2012). Validity further contributes to the legitimacy in interpreting the study outcome. Without validity, measurement error can result leading to inconsistencies in measurements and improper interpretation (Fraenkel & Wallen 2006). There are two main types of validity measures considered for cross-sectional studies - content validity and construct validity. Construct validity further consists of convergent and discriminant validity, all of which were considered for the research.

3.5.2.1. Content Validity

Content validity refers to the extent to which the research instrument adequately covers all the content that it should with respect to assessing the predictor variables (Heale & Twycross 2015). Zikmund et al. (2010) further stated that content validity is the subjective agreement among professionals so that a scale logically appears to reflect accurately what it purports to measure. In relation to the current research, it could be questioned whether the questionnaire adequately covers and interprets all the predictor variables and respective variable indicators to successfully analyse and explain South African consumers' intended behaviour towards selecting green hotels. Although there is no statistical test to conclusively determine if a measure adequately covers a content area, content validity is said to rely on the judgement and endorsement of experts who provide gold standard for other researchers to adopt (Hair et al. 2010; and Saunders & Lewis 2012). Accordingly, it can be confirmed that the questionnaire was revised and piloted by academics who specialise in consumer behaviour and who have worked with or supervised or co-authored research relative to the Theory of Planned Behaviour. Furthermore, the questions based on each variable indicator used in the questionnaire was adapted and revised from previous studies, as concluded in Table 1. These factors, thus, conclude that content validity for the research was supported.

3.5.2.2. Construct Validity

Construct validity is the extent to which a set of variable indicators reflects the theoretical predictor variable those items are designed to measure. Convergent and discriminant validity are components of construct validity which provides the researcher with the assurance that the research's instrument truly measures what is intended to be measured (Campbell & Fiske 1959; Hair et al. 2010; and Kline 2015). As discussed in the next section, the data analysis tool that is often associated with assessing construct validity stems from factor analysis. According to Bartholomew, Knott and Moustaki (2011), factor analysis is used to examine the interrelationships among the variable indicators to identify clusters of items that share sufficient variation to justify their existence within a specific predictor variable. Therefore, the current research examined construct validity through convergent and discriminant validity, by applying the Exploratory (EFA) and Confirmatory (CFA) Factor Analysis techniques.

3.5.2.2.1 Convergent validity

Convergent validity assesses the extent to which variable indicators are thought to be representative of one predictor variable, which should converge or share a high proportion of variance in common with one another (Hair et al. 2010; and Straub, Boudreau & Gefen 2004).

In other words, convergent validity measures if the variable indicators load high on their hypothesized factors and do not load high on other predictor variables (Bagozzi & Yi 2012). During EFA, convergent validity is supported when the factor loadings for each indicator variable within their respective factor structures, derived from the extracted pattern matrix, is greater than 0.40 (Field 2009). As for CFA, Composite Reliability (CR) and Average Variance Extracted (AVE) calculations and results were taken into consideration when determining convergent validity. According to Hu and Bentler (1999), AVE measures the amount of variance that is captured by the predictor variable in relation to the amount of variance due to measurement error. Together with CR's acceptable minimum value of 0.70, the AVE estimation should be greater than 0.50 to show adequate convergent validity (Fornell & Larcker 1981; and Hair et al. 2010). The CFA statistical assessment of convergent validity reflecting the CR and AVE results are reflected in Section 5.1.2.2 of the dissertation. The AVE estimation value was derived by computing the following formula:

$$\text{Average variance extracted (AVE)} = \frac{\sum_{i=1}^n \lambda_i^2}{n}$$

Where: n = total number of items; and λ_i = standardized factor loadings.

3.5.2.2.2 Discriminant validity

Discriminant validity measures whether a predictor variable is highly different from other predictor variables in a model (Fornell & Larcker 1981; Hair et al. 2010; and Straub et al. 2004). Discriminant validity is supported during EFA when cross-loadings between the variable indicators are larger than 0.20, and when the correlations between the factors do not exceed 0.70; as derived from the pattern matrix and the factor correlation matrix (Field 2009; and Hair et al. 2010), as further elaborated in Section 3.6.4.1. Predictor variables demonstrate discriminant validity during CFA when the square root of their AVE is higher than any inter-factor correlation between the predictor variables. As reflected in Section 5.1.2.2. of the dissertation, the Maximum Shared Variance (MSV) was also assessed to determine discriminant validity. For a model to conclude overall satisfactory discriminant validity, the correlations of a predictor variable must be lower than the square root of the AVE and lastly, the MSV value must be lower than the AVE value ($MSV < AVE$) (Fornell & Larcker 1981; Hair et al. 2010; Hair, Sarstedt, Hopkins & Kuppelwieser 2014; and Kline 2015).

Once the research instrument has confirmed a satisfactory level of reliability and validity, the hypotheses of the research can then be tested in order to answer the aim and objectives set for the research. Accordingly, the next section discusses the data analyses strategies the research employed in order to successfully derive the results of the hypothesis tested.

3.6 DATA ANALYSIS STRATEGIES

Data analysis is the process of examining, categorizing, grouping, or otherwise recombining collected raw data with the aim of finding answers to the research objectives and hypotheses set (Maree 2016). The data analysis strategies discussed in this section firstly include deriving the scale of measurement and statistical approach the research will follow; secondly, examine the data screening and management processes the research will employ; and lastly, review the descriptive and inferential statistical techniques the research will engage in.

3.6.1 DERIVING THE SCALE OF MEASUREMENT AND STATISTICAL APPROACH

Determining the type of measurement scale a research instrument purports to measure is a crucial step towards establishing, justifying and validating the descriptive and inferential statistical approach the respective research should employ. However, determining whether the statistical approach towards testing the research hypotheses should stem from parametric or non-parametric testing, must first be confirmed (Ali & Bhaskar 2016; and Creswell 2009).

The main difference between parametric and non-parametric statistics is their assumptions made about the population parameter. Parametric tests assume that data follow a normal distribution where their central tendency of means can be analysed through interval and ratio scales of measurement. Concurrently, non-parametric tests make no assumptions about the data and the central tendency of medians are analysed using nominal and ordinal scales of measurement (Altman & Bland 2009; Bewick, Cheek & Ball 2004; and Singh, Roy & Tripathi 2013). Ordinal and interval scales of measurement are commonly used in correlational research, as with this study, to scale data pointed out to a description of comparison. Ordinal data are primarily concerned with order and ranking where sequences on a scale is not uniform and furthermore places emphasis on the position on a scale. Interval data, on the other hand, focuses on the difference of value within two consecutive values, places emphasis on the value difference of two values in a scale, and establishes that two factors in interval are uniform (Ali & Bhaskar 2016; and Vaus & Vaus 2013). With respect to the above, Likert scales are granted as true ordinal scales, however, literature has presented counter-intuitive views.

Although establishing a statistical approach for a research can be candid in many cases, those which measure data using Likert scales are becoming increasingly obscure, as with this research. Research controversies based on whether Likert scales should follow parametric or non-parametric statistical testing, has become a topic of dispute. The debate within literature is further supported by the assumptions made towards the scale of measurement Likert scales purports to adapt, namely ordinal or interval scales of measurement. A number of studies have argued or assumed that Likert items should be considered as ordinal scales and should be analysed through non-parametric means accordingly (Allen & Seaman 2007; Jakobsson 2004; Jamieson 2004; Nahm 2016; and Norman 2010). On the other hand, several studies have shown that Likert scales can indeed be analysed effectively as interval scales (Brown 2011; Maurer & Pierce 1998; and Vickers 1999).

In view of the fact that the correct employment of a statistical approach can mediate the quality and adequacy of a research (Creswell 2009), the contradiction between establishing whether Likert scales are ordinal or interval within literature has convinced the researcher to conclude a point which best supports the research. The researcher supports the assumption that Likert scales, specifically for this research, can be measured as interval scales (parametric statistical testing) based on the following conclusions drawn: Firstly, most of the research in context of the Theory of Planned Behaviour (TPB) have analysed Likert data through parametric statistical testing (Chen & Tung 2014; Han et al. 2010; Kim et al. 2013; Leung & Chen 2017; Paul et al. 2016; Yadav & Pathak 2016; Teng et al. 2013; and Verma & Chandra 2017). Secondly, as derived in Section 4.1, the research concluded that the data obtained from the Likert scales, through minor justifiable and acceptable adjustments, are virtually normally distributed, which is an assumption criterion for parametric statistical tests (Altman & Bland 2009; Bewick et al. 2004; and Singh et al. 2013). Lastly, the Likert items (variable indicators) are collectively assessed to analyse a respective Likert scale (predictor variable), which conclude that the Likert items are indeed added together to form a new scale and such a scale is deemed to become interval in nature (Brown 2011; and Malhorta 2010).

The purpose of utilising the TPB in research is to predict behavioural intention explained over a number of predictor variables (Ajzen 1991). Therefore, the parametric Structural Equation Modelling (SEM) technique will be considered the most suitable statistical method to employ, as further elaborated in Section 3.6.5. Deriving the scale of measurement and statistical approach of the research was successfully examined in this section. To conclude the section, Table 2 reflects the data analysis steps as well as the respective techniques the research will follow. Furthermore, the section will conclude with presenting the data analysis software the research will use in order to successfully implement the data analysis strategies and techniques.

Table 2: Data analysis steps and purpose

STEPS	ANALYSIS	PURPOSE
STEP 1	Data screening and management	<ul style="list-style-type: none"> - Assess missing data. - Investigate and resolve univariate normality. - Investigate and resolve multivariate normality.
STEP 2	Descriptive analysis	<ul style="list-style-type: none"> - Determine the demographic profile of sample population. - Determine the sample population's characteristics as South African consumers who intend to stay at or visit hotels.
STEP 3	Measurement scale analysis	<ul style="list-style-type: none"> - Evaluate the reliability (internal consistency) of the research instrument. - Evaluate construct validity (convergent & discriminant) for each of the three TPB model variations.
STEP 4	Structural Equation Modelling (SEM)	<ul style="list-style-type: none"> - Assess the measurement model, of all three developed TPB model variations, in order to determine individual Goodness-of-fit (GOF) indices (Model fit). - Assess the structural model, of all three TPB model variations, in order to test whether the hypothesised paths are supported or rejected. - To determine and compare the overall variance explained (R^2 of IN) and GOF values of each TPB model variation.
STEP 5	Model refinement	<ul style="list-style-type: none"> - Adjust or add paths to the most favourable compared TPB model, to generate a nested model that potentially generates a better predictor model.

In order to effectively and accurately conduct the above statistical analysis, the research utilised Version 23.0 of the Statistical Package for the Social Sciences (SPSS) software, as well as its supplement AMOS. The current research utilised SPSS as a statistical analysis and data management programme to store the data collected from the questionnaire, to screen and manage data, to derive the descriptive statistics, to determine some factors of validity and reliability of the research instrument, and to conduct exploratory factor analysis.

The supplement AMOS was used to confirm the validity of the research instrument as well as to draft the measurement and structural models, for each TPB model variation, in order to determine model fit, test hypothesis and establish the explained variance from a SEM approach. However, before any statistical analysis could take place, the data attained from the questionnaire was first screened for any measurement and distribution errors, as discussed in the section to follow.

3.6.2 DATA SCREENING AND MANAGEMENT

Data screening is a process of ensuring that data is usable and free from error prior to conducting any statistical analysis. One of the first steps in screening for data is to confirm whether there are any missing values (Mertler & Vannatta 2004; and Tabachnick & Fidell 2013). For the current research, no missing values were present within the datasets. As mentioned in Section 3.4.2, in order for a respondent to successfully complete the questionnaire and receive their incentive, they had to effectively answer all questions. In general, once missing data issues were resolved, data was then screened for univariate and multivariate normality.

3.6.2.1. Univariate Normality

Normality refers to the probability distribution of data for a particular variable indicator and its relative correspondence to normal distribution (Hair et al. 2010). For this study, data normality must be examined as the statistical analysis utilising parametric Structural Equation Modelling (SEM) assumes that the data are normally distributed (Hair et al. 2010; and Weston & Gore 2006). Violations of normality for SEM analysis can affect estimations and the results of the study (Kline 2015) and, thus, to adequately assess univariate normality, each variable indicator's outlier and level of distribution had to be examined. The outliers of each predictor variable were inspected through generated z-scores and data distribution was examined from the variables' skewness and kurtosis results, as concluded in Section 4.1.1.

3.6.2.1.1 Univariate Outliers

Outliers are data entries generated from the questionnaire that are very different from the data entry values obtained for most respondents, for a particular case or question. Outliers can also occur as a result of data entry errors made by either the respondent or the researcher (Hair et al. 2010; and Mertler & Vannatta 2004). A univariate outlier specifically focuses on an unusual value on a single case. It is important to identify and resolve outliers as statistical tests are very sensitive to outliers and can exert a great deal of influence on the results (Kline 2015).

As actioned by the current research, outliers can be screened out from the z-scores of the variables obtained which were simply generated through the use of the SPSS software package. Outliers were identified when the z-score values were less than -3.29 or higher than 3.29 (Mertler & Vannatta 2004; and Tabachnick & Fidell 2013). Once the outliers were identified, the research assigned raw scores to the offending variables to a less extreme value. For example, from a 7-extremely agree to 6-strongly agree value, or from 1-extremely disagree to 2-strongly disagree value (Kline 2015, and Tabachnick & Fidell 2013). Although the method has been criticized in that it may result in obtaining a bias conclusion, Tabachnick and Fidell (2013) argued that the action is acceptable in a self-reported Likert scale because the reported strength of an item is artificial, similar to the points predefined in the scale. The relative method was applied to the dataset as reflected in Section 4.1.1.1 of the dissertation.

3.6.2.1.2 Skewness and Kurtosis

Skewness and kurtosis are two common statistical components which depict a variable's level of normality or distribution at the univariate level. Skewness reflects the symmetry of a variable's distribution and kurtosis reveals the peakedness of the distribution. For a variable to be as normally distributed as possible, both the skewness and kurtosis values should be close to zero. A variable is regarded as negatively skewed when the distribution has a long-left tail in its distribution, and positively skewed with a long-right tail. Positive kurtosis reflects a variable having a higher peak and heavier tail than normal; and a negative kurtosis variable illustrates a flatter peak and lighter tail than the normal. The acceptable range for skewness should be below 2.0 and above -2.0 and kurtosis should be below 7.0 and above -7.0 (West et al. 1995). Data transformation should be considered if the data are not normally distributed, especially when significant skewness is found (Kline 2015; and Tabachnick & Fidell 2013). As reflected in Section 4.1.1.2, the values of both skewness and kurtosis were generated using the SPSS software. Although skewness and kurtosis were initially identified in 2 of the 32 variable indicators (Appendix B), resolving the univariate outliers fortunately resolved the univariate distribution of the data concerned.

3.6.2.2 Multivariate Normality

Where univariate outliers focus on an unusual value in a single case, multivariate outliers focus on an unusual combination of case values for a number of variables. A multivariate outlier illustrates that the combination of a case's scores on two or more variables deviate from the norm (Kline 2015; and Tabachnick & Fidell 2013). The multivariate outliers for the current research were detected by inspecting the Mahalanobis distance, where results were generated using the SPSS software.

The Mahalanobis distance refers to the extent to which a case deviates from the centroid of the remaining cases (Todeschini, Ballabio, Consonni, Sahigara & Filzmoser 2013). The Mahalanobis distance point was attained through reference of the chi-square value at the 0.001 significance level. The degree-of-freedom (*df*) of the chi-square value is the same as the number of the measured indicators within the study (Mertler & Vannatta 2004). As the current study analysed 32 indicators, the critical value of the chi-square for evaluating the cases' Mahalanobis distance was set to 62.49 (Appendix C). Accordingly, if a case's Mahalanobis distance was greater than 62.49, the case was considered a multivariate outlier in the examined dataset. A common solution for reducing the impact of these multivariate outliers is to remove the cases from the sample, as concluded in Section 4.1.2 of the dissertation.

3.6.3 DESCRIPTIVE STATISTICS

In the current study, once data reached a satisfactory level of distribution normality, descriptive and inferential data analysis was employed. Descriptive statistical analysis aims to provide an overall and coherent picture of a large amount of data to describe a specific characteristic in summary (Copper & Schindler 2003; and Zikmund et al. 2010). The descriptive statistical approaches assessed in the current research include measuring the mean (M), standard deviation (SD), minimum (min) and maximum (max) scale values as well as the median (m) (Brown 2011; and Struwig & Stead 2001). As such, the descriptive findings of the research aim to determine the demographic profile of the sample population, determine the sample's characteristics as South Africans who intend to stay at or visit hotels, as well as gain a descriptive view of each psychographic variables' performance within the context to the research. The descriptive data analysis findings are discussed in the next chapter. Upon concluding the descriptive findings of the research, inferential data analysis followed, as reflected in Chapter 5, to confirm the reliability and validity of the research instrument, as well as to test the hypothesised developed TPB models to answer the set research objectives.

3.6.4 MEASUREMENT SCALE ANALYSIS

The analysis of the measurement scales includes the assessment of the predictor variables and their respective variable indicators, for each TPB model variation, in order to confirm the reliability and validity of the research. The assessment firstly determined the overall reliability of each variable indicator within its respective predictor variable, as previously discussed in Section 3.5.1. Secondly, Exploratory Factor Analysis (EFA) was conducted to test and confirm each of the three TPB model variations' factor structure, to test for certain discriminant and convergent validity factors, as well as test their appropriateness of data adequacy.

Lastly, the three TPB model variations proceeded to conclude their validity by undergoing Confirmatory Factor Analysis (CFA) assessment. Both the CFA and EFA techniques have been useful in assessing the dimensionality and validity of Likert items in questionnaires (Baglin 2014; and Garrido, Abad & Ponsoda 2013). Once the research instrument has presented a satisfactory level of reliability and validity, Structural Equation Modelling (SEM), for each model surrounding the TPB, can be carried out to effectively answer the research objectives set for the study.

3.6.4.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is a factor analysis technique used to uncover complex patterns within the factor structures of models. Thus, EFA is used when the researcher wants to discover the number of factors influencing variables and to analyse which variable indicators are meant to be grouped together to form a predictor variable (Child 2006; DeCoster 1998; and Kline 2015). The variable indicators for the current research are pre-grouped into respective predictor variables, for example, IN1, IN2 and IN3 variable indicators are grouped in the IN variable. In addition, the new content usage, development and the extension of the Theory of Planned Behaviour (TPB) within a new South African population scope supports the applicability of exploratory interest for the research to conduct an EFA.

For the current research, the SPSS software was used to conduct EFA. The analysis included an examination of each of the three TPB model variations' pattern matrix by means of Maximum Likelihood extraction and Promax rotation. The Maximum Likelihood extraction method was selected as this is the same factor extraction method that is commonly used in Structural Equation Modelling (Kline 2015). Promax rotation was selected as previous studies extending the TPB have used the same rotation method (Han et al. 2010), and furthermore it is an appropriate rotation method to use when the research has a large dataset (Gorsuch 1983; and Yong & Pearce 2013). The pattern matrix illustrates how the variable indicators group and load into factors and depicts their loading strength within each factor structure.

The pattern matrix was also examined for convergent and discriminant validity. Convergent validity was supported when the factor loadings for each variable indicator was higher than 0.40. Discriminant validity was supported when cross-loadings between variable indicators were larger than 0.20. Another method used to confirm discriminant validity is to examine the factor correlation matrix. Correlations between factors should not exceed 0.7 (Field 2009; and Hair et al. 2010). As suggested by Tabachnick and Fidell (2013), if the variable indicators do not comply to the respective validity criteria as discussed, the research can consider omitting the offending variable indicators from the respective tested model.

Furthermore, a KMO and Bartlett's test of sphericity was conducted to test the factorability of the pattern matrix to ensure that the data within each of the TPB model variations are appropriate to conduct factor analysis on. A KMO correlation above 0.60 to 0.70 and a Bartlett's test of sphericity reflecting a significant chi-square output is considered adequate for analysing the EFA output (Coakes 2005; and Pallant 2011). The EFA analysis for each TPB model variation is reflected in Section 5.1.2.1 of the dissertation.

3.6.4.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is the statistical technique used to confirm the factor structure extracted from the EFA. CFA is assessed by generating a measurement model, for each TPB model variation, which specifies the relationships that suggest how measured variables represent a construct that is not measured directly (Byrne 2010; and Hair et al. 2010). Although the assessment of the measurement model derived during SEM is discussed in the next section, a CFA model must be compiled at this stage to assess the measurement item scales' validity within the respective TPB model variation. The measurement models were drawn using a SEM software, namely the Analysis of Moment Structures (AMOS 23.0). As previously discussed, in order to determine convergent and discriminant validity, the Average Variance Extracted (AVE) values must be obtained. Inclusive of also determining Composite Reliability (CR), both AVE and CR calculations require the standardized factor loadings. The standardised factor loadings as well as the correlations value are generated from the CFA measurement model using AMOS 23.0, which are required to effectively assess and confirm overall construct validity. The CFA analysis respective to assessing each of the three TPB model variations' validity, is reflected in Section 5.1.2.2.

3.6.5 STRUCTURAL EQUATION MODELLING (SEM)

Once the measurement models of all three of the TPB model variations provided satisfactory reliability and validity results, the structural models for each of the respective models were tested to assess the direct relationships between the variable predictors and thus, test the hypothesis set for the current research. The respective testing of the models was done using Structural Equation Modelling (SEM) which is described as a multivariate technique used to test models proposing causal relationships between their variables that generally consist of both a measurement and structural model (Kline 2015; and Malhotra 2010). A measurement model represents the theory and specifies how the measurement scale items come together to represent their constructs. The structural model represents the theory specifying how constructs are related to others within a specified model (Hair et al. 2010).

In summary, the measurement model assesses the relationship between the measurement scales and the constructs within a model; whereas the structural model assesses the relationship between constructs within a model. As a result, SEM allowed the researcher to establish the predictive ability or strength for each of the three TPB model variations.

3.6.5.1 Measurement Model Assessment

The measurement model, which specifies the relationships that suggest how measured variables represent a construct that is not measured directly, was assessed using the Goodness-of-Fit (GOF) index to test model fit (Hair et al. 2010). The basic metrics of the GOF test include Chi-square (X^2) statistics, Degree-of-Freedom (df), and significance level (p -value). Moreover; Byrne (2010), Hair et al. (2010), Hu and Bentler (1999), and Kline (2015) recommend considering the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Goodness-of-Fit Index (GFI), Tucker Lewis Index (TLI), and the Incremental-Fit Index (IFI), when assessing model fit.

Hu and Bentler (1999) suggest that a model is conceived to fit data well when the CFI, IFI, TLI and GFI value is higher than 0.95. A RMSEA value of less than 0.05 has excellent fit, a 0.08 value has reasonable fit, and a model with a RMSEA higher than 0.10 has poor fit (Browne & Cudeck 1993). Most importantly, the factor loadings of the measurement scale items were used to assess the measurement model. The higher the value is closer to 1.00, the stronger the evidence is that the measurement scale items represent the respective construct (Bollen 1989). According to Hair et al. (2010), factor loadings should be greater than 0.50 to deem acceptable. The assessment criteria of the model fit indices utilised in the research are reflected in Table 3.

Table 3: Measurement model assessment criteria

GOF TEST	REQUIREMENT
GFI	> 0.90
TLI	> 0.90
IFI	> 0.90
CFI	> 0.90
RMSEA	< 0.08
Factor Loadings	> 0.50

3.6.5.2 Structural Model Assessment

Once the relationship between the measurement scale items and their predictor variables have been successfully assessed, the structural model can be developed to test the hypothesised theoretical models or the relationships between its predictor variables (Hair et al. 2010). By using the graphical interface of AMOS 23.0, the structural models were developed by replacing the double-headed arrows, representing the correlations between the predictor variables for the measurement models, with single-headed or casual arrows. These casual arrows represent the directional relationships between the predictor variables. Although the process is rather detailed to get to the structural model component of the research, the testing of each competing models' hypotheses was unequivocal (Babin & Svensson 2012). The procedure of the assessment of the structural models included an inspection of the model fit indices and the standardised path coefficients to conclude whether the hypothesised relationships are supported or not. For hypothesised relationships to be supported, the standardised path coefficient are required to be significant from the $p < 0.05$ level and greater than 0.10 to be considered meaningful (Byrne 2010; and Suhr 2008). The results of the structural model assessment for each of the TPB model variations is reflected in Section 5.2.

3.6.5.3 Model Refinement

Model refinement is a method of improving structural models to more adequately fit the study data and results by adding or deleting subsystems (Minas & Inman 1990). A structural model can be modified by including new paths to the model, removing existing paths, or reversing the direction of an existing path (Hatcher 2002). The process is commonly known as hierarchical analysis and it will produce new models called nested models. A nested model is a copy of an initial structural model where new paths between the predictor variables have been added or removed (Garson 2006). Foregoing the aim to specifically answer the forth research objective of the study, the three TPB model variations will be assessed separately to establish which of the models will be the strongest predictor of green hotel selection. Therefore, a comparison between the three TPB models' model fit, by means of computing the X^2 difference test, will be considered. The most favourable structural model will then be refined to increase its predictive ability and ultimately finalise a model which will best describe South African consumers' behavioural intention towards selecting green hotels. The model refinement process is concluded in Section 5.2.4.

3.7. ETHICAL CONSIDERATIONS

Research ethics refers to the moral principles governing research from inception through to completion and publication of results and beyond the study itself (Burns & Grove 2005). The trust in research rests on the trust in the integrity of researchers and the reliability of the results of their scientific work. The outcome and interpretation of their research can be verified by the scientific community but cannot be verified by the public for which the new knowledge is intended. Therefore, if science is to remain trustworthy, researchers must observe basic moral principles in their work and they must be people of integrity and honesty (Neuman 2011). Ethical considerations within this consumer behaviour-related research involving human participants are contained in Part 2 of the Unisa Research Ethics Policy which focuses on ethical issues such as informed consent, privacy, anonymity and confidentiality as well as communication of results (Unisa 2016). The principle implementation of ethical consideration and factors relevant to the current study is discussed in the following section.

3.7.1 PRIVACY, CONFIDENTIALITY AND ANONYMITY

When the sample participants of this study allowed the researcher to undertake research in the form of collecting data using an online questionnaire, an agreement of terms was established. Participants provided consent that the information obtained was to be used only by the researcher and only in particular ethical ways. The provided information was private and offered voluntarily and anonymously to the researcher in confidence. Privacy is defined in terms of having control over the extent, timing, and circumstances of sharing oneself physically, behaviourally, or intellectually with others (Israel & Hay 2006). The ethical duty of confidentiality refers to the obligation of an individual or organization to safeguard entrusted information (Burns & Grove 2003). The researcher will, thus, ensure that obligation to protect information from unauthorized access, use, disclosure, modification, loss or theft are of priority amongst other ethical factors. Anonymity further refers to the assurance that participants are not individually identified by disguising or withholding their personal characteristics (Lewis-Beck; Bryman; and Liao 2003). Within the introductory statement and cover letter of the questionnaire, specific mention was made that the survey adhered to the principle of confidentiality and anonymity and, thus, respondents would not be identified. The database of potential respondents was further held and retained by the research firm (Springvale Online) utilised in the study. No identity-based questions were asked within the questionnaire. The study, thus, guaranteed the preservation of respondents' anonymity by protecting their rights.

3.7.2 INFORMED CONSENT

Informed consent covers a range of procedures that must be implemented in consumer behaviour research that includes human subjects. According to the Human Sciences Research Council (HSRC), subjects in research must be informed about the nature of the research, and the researcher must obtain consent prior to the human subjects' participation of the study. Informed consent is a question of basic human rights - it is intended to safeguard participants from any mental or physical harm that might befall them as a result of their participation (HSRC 2018). By proceeding with the online questionnaire, assent was given. A statement within the introductory statement and cover letter of the electronic questionnaire states that by filling the questionnaire, the participant consents to participate, but does not wave any of their rights as a research participant (O'Neil 2003).

3.7.3 COMMUNICATION OF RESULTS

Ethics should not only be taken into consideration at the beginning of research but should be applied during all stages of research including the planning, conducting and communicating the results (Carver; Dellva; Emmanuel; and Parchure 2011). The Unisa Research Ethics Policy specifically quotes that researchers may not commit plagiarism, falsification or the fabrication of results at any stage of the research. The policy further specifies that falsification and the fabrication of results, and scientific misconduct in general are regarded as serious disciplinary offences (Unisa 2016) that will be investigated by the relevant Ethics Review Committee and the findings will be reported to the University or the research sponsor. The scientific work upon which this study was based ensured adherence to creativity and openness, honesty, trust, and the obeying of ethical principles for scientific research. As a consumer behaviour researcher, ethical scientific writing was taken seriously not only for the welfare of the researcher but also for those whose academic works had been consulted.

3.8 CHAPTER SUMMARY

Chapter 3 examined the methodology that was applied in the research to effectively answer the set research aim and objectives. The chapter established that the research design of the study would follow a quantitative, non-experimental correlational design. The sample population included South African consumers that stayed at a hotel at least once within a 12-month period, derived through a method of non-probability purposive sampling. The online questionnaire of the research was successfully completed by 450 respondents of which 402 responses were error free and thus used for descriptive and inferential statistical analysis.

The questions enlisted within the questionnaire were further derived and revised from previous validated TPB studies. The validity and reliability assessment within the research was justified, confirming the statistical methods that will be computed to conclude internal reliability, content validity as well as construct validity of the research instrument. The chapter further investigated the various data analysis strategies the research attempted, to answer corresponding research questions. The scale of measurement debate led the research to confirm that parametric statistical testing can be applied to the current research. Therefore, SEM could conclude the data analysis of the research provided that the data was screened and confirmed as normally distributed and error free as well as by confirming that the research had received a satisfactory level of reliability and validity- confirmed through Factor Analysis. The next chapter analyses the demographic profile of the sample population, determines the sample's characteristics as South African who intend to stay at or visit a hotel, as well as gains a descriptive view of each psychographic variables' performance within the research.

CHAPTER 4

SAMPLE CHARACTERISTICS AND DESCRIPTIVE FINDINGS

The previous chapter presented the relevant methodology that was used to achieve the research aim and objectives set. This chapter presents the analysis and findings of the demographic data collected from the questionnaires. The data from the responses was first screened and managed to ensure that the data was acceptable for both descriptive and inferential analysis. For this chapter, descriptive data analysis was chosen as an appropriate way to analyse and determine the demographic profile of the sample population, to determine the sample's characteristics as South Africans who intend to stay at or visit a hotel, as well as to obtain a descriptive view of each identified psychographic variable's performance.

4.1 DATA SCREENING AND MANAGEMENT

Data screening was conducted on the raw data before any statistical analysis was ensued. Data screening is a fundamental step towards ensuring that the data is usable and error-free to avoid incorrect findings and results (Field 2009; Mertler & Vannatta 2004; and Tabachnick & Fidell 2013). One of the first steps in screening of data is to confirm whether there are any missing values. Having missing data is a common barrier within data analysis, especially in self-reported surveys where respondents commonly do not respond to all items in the questionnaire (Kline 2015; and Tabachnick & Fidell 2013). However, for the current research, the management of missing data was adhered to during the development of the questionnaire, thus, resulting in no missing values within the data sets. That is, in order for a respondent to successfully complete the questionnaire and receive their incentive, as discussed in Section 3.4.2., they had to answer all questions effectively. Following this, the data was then screened for univariate and multivariate normality.

4.1.1 INVESTIGATING UNIVARIATE NORMALITY

Normality refers to the probability distribution of data for a particular variable indicator and their relative correspondence to normal distribution (Hair et al. 2010). Violations of normality for parametric SEM analysis can affect estimations and the results of the study (Kline 2015) and, thus, to adequately assess univariate normality, each variable indicator's outlier and level of distribution had to be examined.

4.1.1.1 Univariate Outliers

Outliers are data entries generated from the questionnaire that are very different from the data entry values obtained for most respondents, for a particular case or question. It is important to identify and resolve outliers as statistical tests are very sensitive to outliers and can exert a great deal of influence on the results (Kline 2015; and Tabachnick & Fidell 2013). As actioned by the current research, outliers were screened out from the z-score values obtained for each variable that were generated through the use of the SPSS software package. Outliers were identified when the z-score values were less than -3.29 or higher than 3.29 (Mertler & Vannatta 2004; and Tabachnick & Fidell 2013).

Once the outliers were identified, the researcher assigned raw scores to the variables to a less extreme value (Kline 2015, and Tabachnick & Fidell 2013), as discussed in Section 3.6.2.1.1. Although this method was criticized as it may result in obtaining a biased conclusion, Tabachnick and Fidell (2013) argued that the action is acceptable in a self-reported Likert scale as the reported strength of an item is artificial, similar to the points predefined in the scale. Extreme values were found in 59 responses across 10 variable indicators, namely A5, EC2, EC3, EC4, EC5, EC6, EC7, EK1, PMO1 and PMO2. New z-scores were generated for the dataset and the results ranged from -3.27112 to 2.11575 which are considered acceptable within the z-score range of $[-3.29]$. A visual inspection of the computed SPSS box-plots confirmed that even though univariate outliers were still present, they were no longer extreme. As such, the data was considered ready to be further examined for its level of distribution by means of skewness and kurtosis testing.

4.1.1.2 Skewness and Kurtosis

Skewness and kurtosis, as discussed in Section 3.6.2.1.2, are two common statistical components which depict a variable's level of normality or distribution at the univariate level. The acceptable range for skewness should be below 2.0 and above -2.0 and kurtosis should be below 7.0 and above -7.0 (West et al. 1995). After the univariate outliers were resolved, only 2 of the 32 variables had unfavourable skewness (s) and kurtosis (k) values; namely variables EC7 (s:-2.741; k:10.211), and EC8 (s:-2.492; k:8.575) – (Appendix B). Typically, the EC variable can be transformed to generate a normally distributed dataset. However, these variables were retained at this stage in order to determine the effect they have on multivariate normality and to further justify their expulsion, instead of transformation, from the dataset as discussed in the next section.

4.1.2 INVESTIGATING MULTIVARIATE NORMALITY

Multivariate normality focuses on an unusual combination of case values for several variables. A multivariate outlier illustrates that the combination of a case's scores on two or more variables deviate from the norm (Hair et al. 2010; Kline 2015; and Tabachnick & Fidell 2013). The multivariate outliers for the current research were detected by inspecting the Mahalanobis distance through the use of the SPSS software. The Mahalanobis distance refers to the extent to which a case deviates from the centroid of the remaining cases (Todeschini et al. 2013). The Mahalanobis distance point was obtained through reference of the chi-square value at the 0.001 significance level. The degree-of-freedom (*df*) of the chi-square value is the same as the number of the measured indicators within the study (Mertler & Vannatta 2004).

As the current study analysed 32 indicators, the critical value of the chi-square for evaluating the cases' Mahalanobis distance was set to 62.49 (Appendix C). Accordingly, if a case's Mahalanobis distance was greater than 62.49, the case was considered a multivariate outlier in the examined dataset. A common solution for reducing the impact of these multivariate outliers is to remove the cases. In this study, the Mahalanobis distances of 63 cases were greater than 62.49. As determined during the skewness (S) and kurtosis (K) evaluation, EC7 and EC8 are above the recommended values of S:|2.0| and K:|7.0| (West et al. 1995). By removing these two variable indicators from the analysis, only 48 cases were tallied to be greater than the newly established Mahalanobis distance value of 59.70 for 30 *df*. For this purpose and that concluded during univariate normality assessment, EC7 and EC8 were excluded from the dataset. The final dataset of the sample, thus, equated to N=402. Consequently, the dataset of the research, at this point, is considered error-free and normally distributed. The next section, thus, presents the descriptive statistics of the research to determine the sample populations' profile, characteristics as consumers who intend to select hotels and the descriptive analysis of the predictor variables.

4.2 SAMPLE DEMOGRAPHICS

The online questionnaire of the research was completed by 450 respondents. As derived in the previous section, of these, 402 responses were considered appropriate to use for statistical analysis. Accordingly, this section aims to provide an overall and coherent picture of the respective population, namely South African consumers that had stayed at a hotel at least once within a 12-month period from the time their data were collected. The following section will describe the demographic profile of the sample population in terms of their age, gender, marital status, language, ethnicity, residency, education and employment status.

4.2.1 AGE, GENDER AND MARITAL STATUS

Table 4 reflects the respondents' age, gender and marital status. For the current study, the respondents were grouped into generation cohorts, in accordance to their ages. Generational cohorts are group of individuals which share similar experiences and unique common characteristics which thus exhibits similar attitudes and behaviours around these experiences (Beldona, Nusair & Demicco 2009; and Moore & Carpenter 2008). According to Markert (2004), the generation cohort increments include the Baby Boomers which are born between 1946-1965, the Generation X cohorts which are born between 1966-1985, and the Generation Y cohorts, commonly known as Millennials, which are born between 1986-2005. As such, the results of the study reveal majority of the respondents (more than 65%) belonged to the Generation Y cohort, followed by a quarter of the respondents belonged to Generation X, and the remainder were Baby Boomers. The table also reveals that majority of the respondents (64.4%) were female. Lastly, more than half of the respondents (56.4%) were single, divorced, separated or widowed, followed by being married or living with partner (43.6%).

The results are meaningful in that previous research has found that Generation Y cohorts are perceived to be green consumption-oriented (Borchers, Duke & Parsons 2007; Eastman & Liu 2012; Jackson, Stoel & Brantley 2011; Markert 2004; and Norum 2003). Furthermore, studies have revealed that green consumers tend to be young females (Anvar & Venter 2014; Gilg, Barr & Ford 2005; and Roberts 1996). Lastly, the social influence of consumers' important referents has shown to favourably influence green consumption behaviours (Anvar & Venter 2014; Baker and Ozaki 2008; Bartels & Hoogendam 2011; Chen & Tung 2014; and Han et al. 2010). With respect to the marital status of the respondents, it is thus interesting to note that the level of not having a partner does not significantly conform to the above-mentioned green demographic profile. However, the social influence of consumers' important referents; that is, subjective norms; will be analysed and confirmed within the next chapter of the research.

Table 4: Assessment of respondent's age, gender and marital status

AGE		Frequency	Percent (%)	Cumulative Percent
Valid	18 to 24	78	19.4	19.4
	25 to 34	193	48.0	67.4
	35 to 44	80	19.9	87.3
	45 to 54	32	8.0	95.3
	55 to 64	14	3.5	98.8
	65 to 74	5	1.2	100.0
	Total	402	100.0	

GENDER		Frequency	Percent (%)	Cumulative Percent
Valid	Male	143	35.6	35.6
	Female	259	64.4	100.0
	Total	402	100.0	
MARITAL STATUS				
Valid	Single	206	51.2	51.2
	Married/Living with partner	175	43.6	94.8
	Divorced/ Separated/ Widowed	21	5.2	100.0
	Total	402	100.0	

4.2.2 LANGUAGE, ETHNICITY AND RESIDENCY

Table 5 reflects the collective results of the respondent's home language, ethnicity and their province of residency. The results reveal that majority of the respondent's home language spoken was English (42.8%), followed by Zulu (13.9%) and Afrikaans (12.4%). The remainder (30.9%) is comprised of Northern Sotho, Southern Sotho, Venda, Tsonga, Swati and Ndebele. In terms of ethnicity, almost half of the respondents was African (48.0%) followed by White (27.4%), Coloured (12.7%); and Indian (11.7%). Only one respondent was Asian (0.2%). Majority of the respondents resided in Gauteng Province (46.0%), followed by Western Cape Province (19.7%) and Kwa-Zulu Natal Province (17.4%), respectively. The remainder 16.9% of the respondents resided in Eastern Cape Province, Mpumalanga Province, North-West Province, Limpopo Province, Free State Province and Northern Cape Province, respectively. The results pertaining to ethnicity are meaningful in that a study conducted by Anvar and Venter (2014) revealed that Africans, which compose mainly of Generation Y South Africans, do reflect favourable green purchasing intentions. However, the significance of language and residency towards green consumption behaviour requires further investigation.

Table 5: Assessment of respondent's home language, ethnicity and provincial residency

HOME LANGUAGE		Frequency	Percent (%)	Cumulative Percent
Valid	English	172	42.8	42.8
	Zulu	56	13.9	56.7
	Afrikaans	50	12.4	69.1
	Tswana	30	7.5	76.6

	Northern Sotho	26	6.5	83.1
	Xhosa	23	5.7	88.8
	Southern Sotho	11	2.7	91.5
	Venda	11	2.7	94.2
	Tsonga	9	2.2	96.4
	Swati	8	2	98.4
	Ndebele	6	1.6	100
	Total	402	100.0	
ETHNICITY		Frequency	Percent (%)	Cumulative Percent
Valid	African	193	48.0	48.0
	White	110	27.4	75.4
	Coloured	51	12.7	88.1
	Indian	47	11.7	99.8
	Other	1	.2	100.0
	Total	402	100.0	
RESIDENT PROVINCE				
Valid	Gauteng Province	185	46.0	46.0
	Western Cape Province	79	19.7	65.7
	Kwa-Zulu Natal Province	70	17.4	83.1
	Eastern Cape Province	17	4.2	87.3
	Mpumalanga Province	16	4	91.3
	North West Province	13	3.2	94.5
	Limpopo Province	11	2.7	97.2
	Free State Province	6	1.5	98.7
	Northern Cape Province	5	1.3	100
	Total	402	100.0	

4.2.3 EDUCATION AND EMPLOYMENT STATUS

Table 6 reflects the respondents' level of education and their status of employment. The results indicate that majority of the respondents were well-educated where 64.4% of the respondents at least had either a diploma, a degree or a post-graduate degree. Only 31.3% of the respondents finished their high school qualification and the remaining 4.3% not. The table also reveals that majority of the respondents were employed (86.6%), while the remainder were unemployed. The results are meaningful in that studies have revealed that green consumption behaviours are associated with well-educated and affluent consumers (D'Souza et al. 2007; Gatersleben, Steg & Vlek 2002; Lee 2009; and Sullivan & Heitmeyer 2008).

Table 6: Assessment of respondent’s highest level of education achieved and status of employment

EDUCATION		Frequency	Percent (%)	Cumulative Percent
Valid	Grade 12 + Diploma or Degree	205	51.0	51.0
	Matric/ Grade 12	126	31.3	82.3
	Post-graduate Degree	54	13.4	95.7
	Lower than matric/ Grade 12	17	4.3	100
	Total	402	100.0	
STATUS OF EMPLOYMENT				
Valid	Permanent employed	240	59.7	59.7
	Self employed	57	14.2	73.9
	Unemployed	54	13.4	87.3
	Contract/ Freelance employed	51	12.7	100
	Total	402	100.0	

4.3 SAMPLE CHARACTERISTICS WITHIN THE HOTEL INDUSTRY

This section aims to describe the sample population’s characteristics as South Africans who intend to stay at or visit hotels. Accordingly, this section determines the respondents’ preferences towards their hotel grade selection, their main purpose towards visiting a hotel, the locations commonly visited when staying at a hotel and, lastly, the sources of information on which they would most likely consult environmental issues or trends.

4.3.1 HOTEL GRADE SELECTION

Table 7 reflects the results of the respondents’ most commonly selected hotel grade. Overall 83.9% of the respondents most commonly have stayed at or visited 4-star graded hotels (37.6%), followed by 3-star hotels (32.6%) and lastly 5-star hotels (13.7%). The results also reveal that there were more respondents who aren’t sure which star-graded hotel they commonly stay at or visit (16.1%) than there were those who selected 5-star graded hotels. However, over half (51.3%) of the respondents commonly stayed at or visited 4-star and 5-star graded hotels. Where the average daily rate is generally higher for higher star graded accommodation establishments (Du Plessis & Saayman 2010), the study results confirm that the Generation Y cohort (Section 4.2.1) is affluent in that the respondents have a 51.3% preference for 4- and 5-star establishments (Lee 2008; and Sullivan & Heitmeyer 2008). The results are significant in that studies have revealed that affluent green consumers are willing to pay for green products and services (Anvar & Venter 2014; D’Souza et al. 2007).

Table 7: Assessment of respondent's hotel grade selection

HOTEL GRADE SELECTION		Frequency	Percent (%)	Cumulative Percent
Valid	3-star Graded	131	32.6	32.6
	4-star Graded	151	37.6	70.1
	5-star Graded	55	13.7	83.9
	I am not sure	65	16.1	100
	Total	402	100.0	

4.3.2 VISIT INTENTIONS

Table 8 reflects the results of the respondents' main purpose to have stayed at or visited a hotel. The results indicate that majority of the respondents (59.6%) only stayed at or visited hotels for leisure or entertainment purposes. The results also reveal that 15.7% of the respondents only stayed at or visited hotels for business or corporate purposes. In addition, 24.9% of the respondents stayed at or visited a hotel for both business and leisure purposes. The results are meaningful in that they support the expectation that the respondents are affluent in nature, as derived in 4.3.1. That is, the respondents notably had enough disposable income to support leisure activities. Furthermore, in consideration that the profile attributes of the respondents commonly reflect those of green consumers, as discussed in Section 4.2, it is envisaged that the environmental aspect of leisure locations and activities of hotels may deem important to these respondents.

Table 8: Assessment of respondent's hotel visit intentions

VISIT INTENTIONS		Frequency	Percent (%)	Cumulative Percent
Valid	None of the above	0	0	0.0
	Business/ Corporate purpose	63	15.6	15.7
	Leisure/ Entertainment purpose	239	59.5	75.2
	Both	100	24.9	100
	Total	402	100.0	

4.3.3 VISIT LOCATIONS

Table 9 reflects the results of the respondents most commonly stayed at or visited hotel locations within South Africa. Where respondents may select more than one location, a total of 681 responses were tallied. As such, majority of the sample population most commonly stayed

at or visited hotels in Gauteng (23.2%), followed by Kwa-Zulu Natal Province (19.4%) and the Western Cape Province (16.6%). The remaining 40.8% of the sample population most commonly stayed at or visited hotels in Mpumalanga Province (9.9%), Limpopo Province (9.4%), North West Province (7.3%), Eastern Cape Province (5.9%), Free State Province (4.6%), and lastly Northern Cape Province (3.7%). In consideration that the respondents commonly reflect the profile attributes of green consumers, it is envisaged that Gauteng Province, Western Cape Province and Kwa-Zulu Natal Province, from both a residency and visit location perspective, can be considered as provinces within South Africa whereby environmental consumption behaviours would most likely take place by these respondents.

Table 9: Assessment of respondent’s hotel visit locations

VISIT LOCATIONS		Frequency	Percent (%)	Cumulative Percent
Valid	Gauteng Province	158	23.2	23.2
	Kwa-Zulu Natal Province	132	19.4	42.6
	Western Cape Province	113	16.6	59.2
	Mpumalanga Province	68	9.9	69.1
	Limpopo Province	64	9.4	78.5
	North West Province	50	7.3	85.8
	Eastern Cape Province	40	5.9	91.7
	Free State Province	31	4.6	96.3
	Northern Cape Province	25	3.7	100
	Total	681	100.0	

4.3.4 ENVIRONMENTAL INFORMATION SOURCES

Table 10 reflects the results of the sources of information that the respondents would most likely consult environmental issues or trends on. Where respondents may select more than one information source, a total of 1215 responses were tallied. As such, majority of the respondents would seek green information through internet websites (22.6%), followed by television (17.7%), and social media applications (16.8%). Online and technological information sources thus contribute 57.1% of the total available sources. The remaining 42.9% of the respondents would most likely consult green information through printed media (13.8%), word-of-mouth (11.2%), radio (11.0%), billboards (6.2%) and product labels (0.7%). The results are meaningful in that previous research has found that Generation Y cohorts and green consumers, in relation to the respondents of the current research, are perceived to be technologically advanced (Borchers et al. 2007; Eastman & Liu 2012; Jackson et al. 2011; Markert 2004; and Norum 2003).

Table 10: Assessment of respondent's source of green information

GREEN INFORMATION SOURCES		Frequency	Percent (%)	Cumulative Percent
Valid	Internet websites	276	22.6	22.6
	Television	217	17.7	40.3
	Social media	205	16.8	57.1
	Printed media	169	13.8	70.9
	Word of mouth	137	11.2	82.1
	Radio	134	11	93.1
	Billboards	76	6.2	99.3
	Other (Product labels)	1	0.7	100
	Total	1215	100.0	

4.4 DESCRIPTIVE ANALYSIS OF THE MEASUREMENT VARIABLES

The previous two sections discussed the demographic profile and the hotel-orientated characteristics of the respondents. This section aims to assess and describe the psychographic measurement variables' performance within the research. Accordingly, behavioural intention (IN), attitude (ATT), subjective norm (SN), perceived behavioural control (PBC), perceived moral obligation (PMO), anticipated regret (AR), environmental knowledge (EK), and environmental concern (EC) were individually assessed in this section. The assessment includes presenting the descriptive statistics of the mean (M), standard deviation (SD), minimum (min), maximum (max) and median (m) values of each variable indicator derived from the results obtained from the questionnaire.

4.4.1 BEHAVIOURAL INTENTION (IN)

The behavioural intention outcome variable consisted of three variable indicators measured on a 7-point Likert scale varying from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. As reflected in Table 11, the mean value for each variable indicator IN1, IN2 and IN3, was 6.17, 5.87 and 6.12, respectively, indicating a positive response for this predictor variable. Amongst these, the most positive response was produced over IN1 and the least positive response was IN2. The overall high value for behavioural intention ($m=6$; $M=6.05$; $SD=0.82$) indicates that the respondents would most likely agree (from somewhat agree to strongly agree) that they are willing to, are planning to, and will make an effort to stay at or visit a green hotel.

Table 11: Descriptive statistics: Predictor variable (Intention- IN)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
IN1	I am willing to stay at/visit the hotel that offers eco-friendly products and services	4	7	6	6.17	0.77
IN2	I plan to stay at/visit a hotel based on the condition that it offers eco-friendly products or services	4	7	6	5.87	0.90
IN3	I will make an effort to stay/visit a hotel that offers eco-friendly products or services	4	7	6	6.12	0.78
IN (M)		4	7	6	6.05	0.82

4.4.2 ATTITUDE (ATT)

The attitude predictor variable consisted of seven variable indicators measured on a 7-point semantic differential scale. The scale range varied from 1, representing the extreme negative response (bad, undesirable, unpleasant, foolish, unfavourable, unenjoyable and negative), to 7, representing the extreme positive response (good, desirable, pleasant, wise favourable, enjoyable and positive), to the respondent's attitude towards what they believe it would be like to stay at or visit a green hotel. As reflected in Table 12, the mean value for each ATT variable indicator ranged from 5.72 to 6.00, indicating a positive response for this predictor variable. The most positive response was produced over ATT4 and the least positive response was ATT2. The moderately high value for attitude (m=6; M=5.84; SD=0.90) indicates that the respondents would most likely have a good, wise, desirable, pleasant, favourable, enjoyable and positive attitude towards staying at or visiting green hotels.

Table 12: Descriptive statistics: Predictor variable (Attitude- ATT)

ITEM CODE	QUESTIONNAIRE STATEMENT "If you were to stay at/visit the eco-friendly hotel, do you believe it would be:"	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
ATT1	1: Extreme bad- 7: Extremely good	4	7	6	5.97	0.90
ATT2	1: Extreme undesirable- 7: Extremely desirable	3	7	6	5.72	0.94
ATT3	1: Extreme unpleasant- 7: Extremely pleasant	3	7	6	5.77	0.85
ATT4	1: Extreme foolish- 7: Extremely wise	3	7	6	6.00	0.89

ATT5	1: Extreme unfavourable- 7: Extremely favourable	3	7	6	5.75	0.94
ATT6	1: Extreme unenjoyable- 7: Extremely enjoyable	3	7	6	5.76	0.91
ATT7	1: Extreme negative- 7: Extremely positive	3	7	6	5.93	0.88
ATT (M)		3	7	6	5.84	0.90

4.4.3 SUBJECTIVE NORM (SN)

Subjective norm consisted of three variable indicators measured on a 7-point Likert scale varying from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. As reflected in Table 13, the mean values for each SN variable indicator ranged from 5.25 and 5.68, indicating a positive response for this predictor variable. Amongst these, the most positive response was produced over SN3 and the least positive response was SN2. The moderately high value for subjective norm (m=6; M=5.48; SD=1.26) indicates that the respondents would most likely agree (from neither disagree or agree to strongly agree) that most people who are important to them and whose opinions they value when it comes to making moral decisions, would personally feel, think, want, insist and prefer that they stay at or visit a green hotel.

Table 13: Descriptive statistics: Predictor variable (Subjective norm- SN)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
SN1	Most people who are important to me would personally feel and think that I should stay at an eco-friendly hotel.	2	7	6	5.51	1.24
SN2	Most people who are important to me would insist and would want me to stay at or visit an eco-friendly hotel.	1	7	5	5.25	1.37
SN3	Those people whose opinions I value when it comes to making moral decisions would prefer that I stay at or visit an eco-friendly hotel.	2	7	6	5.68	1.17
SN (M)		2	7	6	5.48	1.26

4.4.4 PERCEIVED BEHAVIOURAL CONTROL (PBC)

The perceived behavioural control predictor variable consisted of three variable indicators measured on a 7-point Likert scale varying from 1 representing ‘Strongly disagree’ to 7 representing ‘Strongly agree’, and a neutral value of 4 indicating ‘Neither disagree nor agree’. As reflected in Table 14, the mean value for each PBC variable indicator ranged from 6.03 to 6.28, indicating a positive response for this predictor variable. The most positive response was produced over PBC2 and the least positive response was PBC3. The high value for perceived behavioural control (m=6; M=6.17; SD=0.76) indicates that the sample population would most likely agree (from agree somewhat to strongly agree) that if the choice was theirs, selecting a hotel which offers green products and services would be a decision that would be completely up to them and that they would have the ability to do so. In addition, the sample population also likely agreed that they have the resources, time and opportunities to stay at or visit a hotel that offers green products and services.

Table 14: Descriptive statistics: Predictor variable (Perceived behavioural control- PBC)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
PBC1	If I have a choice, staying at/visiting the eco-friendly hotel is a decision which is completely up to me.	4	7	6	6.20	0.77
PBC2	I am confident that if I had a choice, I will be able to stay at or visit the eco-friendly hotel.	4	7	6	6.28	0.72
PBC3	I can agree that I have the resources, time and opportunities to stay at/visit the eco-friendly hotel.	3	7	6	6.03	0.79
PBC (M)		4	7	6	6.17	0.76

4.4.5 PERCEIVED MORAL OBLIGATION (PMO)

Perceived moral obligation consisted of two variable indicators measured on a 7-point Likert scale varying from 1 representing ‘Strongly disagree’ to 7 representing ‘Strongly agree’, and a neutral value of 4 indicating ‘Neither disagree nor agree’. As reflected in Table 15, the mean value for each variable indicator PMO1 and PMO2 was 6.55 and 6.59, respectively, indicating a positive response for this predictor variable. The high value for perceived moral obligation (m=7; M=6.57; SD=0.61) indicates that the respondents would most likely agree (agree to strongly agree) that they believe that everybody is obligated to treasure and look after and save the earth’s natural resources, as it is limited.

Table 15: Descriptive statistics: Predictor variable (Perceived moral obligation- PMO)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
PMO1	I believe that everybody is obligated to treasure and look after the earth's natural resources	4	7	7	6.55	0.62
PMO2	I believe that everybody should save the earth's natural resources because they are limited	5	7	7	6.59	0.60
PMO (M)		5	7	7	6.57	0.61

4.4.6 ANTICIPATED REGRET (AR)

The anticipated regret predictor variable consisted of three variable indicators measured on a 7-point semantic differential scale. The scale range varied from 1, representing the extreme negative point (unworried, unregretful and relaxed) to 7, representing the extreme positive point (worried, regretful and tense) of the sample populations regret towards not being able to stay at a green hotel without having a choice to do so. As reflected in Table 16, the mean value for each AR variable indicator ranged from 4.33 to 4.54, indicating a positive response for this predictor variable. The most positive response was produced over AR2 and the least positive response was AR1. The overall value for anticipated regret (m=5; M=4.47; SD=1.24) indicates that the respondents would feel somewhat regretful towards not being able to stay at a green hotel without having the choice to do so.

Table 16: Descriptive statistics: Predictor variable (Perceived moral obligation- PMO)

ITEM CODE (Reversed coded)	QUESTIONNAIRE STATEMENT "If you had no choice but to stay at/visit the non-eco-friendly hotel, how would you feel if you were aware of the eco-friendly hotel?"	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
AR1	1: Extremely unworried- 7: Extremely worried	1	7	5	4.53	1.23
AR2	1: Extremely unregretful- 7: Extremely regretful	1	7	5	4.54	1.26
AR3	1: Extremely relaxed- 7: Extremely tense	1	7	4	4.33	1.22
AR (M)		1	7	5	4.47	1.24

4.4.7 ENVIRONMENTAL KNOWLEDGE (EK)

The environmental knowledge predictor variable consisted of three variable indicators measured on a 7-point Likert scale varying from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. As reflected in Table 17, the mean value for each EK variable indicator, ranged from 5.71 to 6.33, indicating a positive response for this predictor variable. The most positive response was produced over EK1 and the least positive response was EK2. The high value for environmental knowledge (m=6; M=6.12; SD=1.09) indicates that the respondents would most likely agree (from agree somewhat to strongly agree) that they believed that staying at or visiting a green hotel is a good approach and an important way to conserve the earth's natural resources as well as to reduce air, water and soil pollution and reduce wasteful use of natural resources.

Table 17: Descriptive statistics: Predictor variable (Environmental knowledge- EK)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
EK1	I believe that staying at/visiting an eco-friendly hotel is an important way to reduce air, water and soil pollution	3	7	7	6.33	0.85
EK2	I believe that staying at/visiting an eco-friendly hotel is a good approach to reduce wasteful use of natural resource	1	7	6	5.71	1.68
EK3	I believe that staying at/visiting an eco-friendly hotel is a good approach to conserve the earth's natural resources	4	7	6	6.32	0.75
EK (M)		4	7	6	6.12	1.09

4.4.8 ENVIRONMENTAL CONCERN (EC)

Environmental concern consisted of six variable indicators, that excludes the two EC variable indicators omitted during data cleaning, measured on a 7-point Likert scale varying from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. As reflected in Table 18, the mean value for each EC variable indicator ranged from 6.04 to 6.34, indicating a positive response for this predictor variable. The most positive response was produced over EC1 and the least positive response was EC3. The high value for environmental concern (m=7; M=6.17; SD=1.12) indicates that the respondents would most likely agree (from agree somewhat to strongly agree) that mankind is abusing the environment which is very delicate and can be easily upset, which will furthermore

produce disastrous consequences in the future, thus mankind must live in harmony with the natural environment to survive. In addition, the population sample is worried about the state of South Africa’s environment and what it will mean for their future as environmental problems are important to them.

Table 18: Descriptive statistics: Predictor variable (Environmental concern- EC)

ITEM CODE	QUESTIONNAIRE STATEMENT	Min	Max	Median (m)	Mean (M)	Standard deviation (SD)
EC1	I am worried about the state of South Africa’s environment and what it will mean for my future.	3	7	7	6.17	1.23
EC2	I believe that mankind is abusing the environment	3	7	7	6.20	1.15
EC3	I believe that when mankind interferes with the natural state of the environment, it will most likely produce disastrous consequences	2	7	6	6.04	1.17
EC4	I believe that the balance of the natural environment is very delicate and can be easily unsettled/upset.	2	7	6	6.15	0.95
EC5	I believe that mankind does need to live in harmony with the natural environment in order to survive	3	7	7	6.13	1.20
EC6	I believe that environmental problems in South Africa are very important	3	7	7	6.34	1.00
EC (M)		3	7	7	6.17	1.12

4.5 CHAPTER SUMMARY

Chapter 4 presented the findings of the demographic data collected from the questionnaires. The screening of respondents’ data was first managed to confirm that the data was acceptable for both descriptive and inferential data analysis. The data was confirmed to be normally distributed and free from error from a total of 402 responses, where EC7 and EC8 was further omitted from the dataset due to univariate normality concerns. The descriptive data analysis concluded in this chapter firstly analysed and determined the demographic profile of the sample population by successfully considering the age, gender, marital status, language, ethnicity, residency, education and employment status of the respondents in contrast to the demographic profile of green consumers. Secondly, the characteristics of the respondents as South Africans who intend to stay at or visit a hotel was further derived, concluding the respondents’

preferences of hotel star grade, visit intentions, visit locations and sources of environmental information. Lastly, the descriptive assessment of the psychographic predictor variables' performance within the research was concluded. Where this chapter successfully assessed the descriptive overview of the data derived from the questionnaire, the next chapter will present the inferential statistical results of the data to assess the aim and objectives set and thus test and conclude the hypotheses derived for the current research.

CHAPTER 5

DATA ANALYSIS AND RESULTS

The previous chapter presented the descriptive component of the data analysis used to assess and determine the demographic profile of the respondents, derive the sample's characteristics as South Africans who intend to stay at or visit a hotel, as well as describe each psychographic variables' performance within the research. The current chapter presents the inferential data and the analysis used to assess the measurement scales, as well as the variations of the measurement and structural models in order to test the hypotheses set for the research. Firstly, the chapter presents the details and results of the measurement scales used to test the reliability and validity of the predictor variables. Secondly, Structural Equation Modelling (SEM) was performed to evaluate the relationships between the model's predictor variables and test the hypotheses, for each of the three TPB model variations. Finally, a structural model was refined to test whether a modification can improve the predictive ability of South African consumers' intended behaviour towards selecting green hotels.

5.1 MEASUREMENT SCALE ANALYSIS

Analysis of the measurement scales includes the assessment of the predictor variables and their respective variable indicators, for each Theory of Planned Behaviour (TPB) model variation established, in order to confirm the reliability and validity of the research instrument. The assessment firstly determined the overall reliability of each variable indicator within its predictor variable. Secondly, Exploratory Factor Analysis (EFA) was conducted to test and confirm the three TPB model variations' factor structure, to test for certain discriminant and convergent validity factors, as well as test their appropriateness of data adequacy. Lastly, the validity of the three TPB model variations was tested through Confirmatory Factor Analysis (CFA) assessment. Both the EFA and CFA techniques have been useful in assessing the dimensionality and validity of Likert items in questionnaires (Baglin 2014; and Garrido et al. 2013). Once the research instrument presented a satisfactory level of reliability and validity, the three TPB model variations underwent Structural Equation Modelling (SEM) in order to effectively answer the research objectives and subsequent hypotheses set for the research.

5.1.1 RELIABILITY (INTERNAL CONSISTENCY)

As discussed in Section 3.5.1, Cronbach's alpha (α) test of reliability may be used to assess the internal consistency of the research instrument and, thus, was utilised in this current study.

In performing this analysis, the degree of reliability was assessed over four value ranges as proposed by Hinton et al. (2004), namely, excellent (0.90 and above), high (0.70 to 0.89), high moderate (0.50 to 0.69), and low (0.49 and below). For the current research, a Cronbach's alpha (α) value of 0.70 or higher was considered acceptable based on the recommendation from previous research studies (Hair et al. 2010; Kline 2015; Nunnally & Bernstein 1994; and Trobia 2008). Table 19 reveals the results derived from the Cronbach's alpha (α) test of reliability which was processed using the Statistical Package for the Social Sciences (SPSS) software.

Table 19: Cronbach's Alpha Reliability Results

PREDICTOR VARIABLES AND VARIABLE INDICATORS	CRONBACH'S ALPHA (α): PREDICTOR VARIABLES	CRONBACH'S ALPHA (α) IF VARIABLE INDICATOR IS DELETED	DEGREE OF RELIABILITY
Behavioural Intention (IN): 3 items	0.86		High reliability
IN1		0.79	
IN2		0.83	
IN3		0.81	
Attitude (ATT): 7 items	0.92		Excellent reliability
ATT1		0.91	
ATT2		0.91	
ATT3		0.91	
ATT4		0.91	
ATT5		0.91	
ATT6		0.91	
ATT7		0.91	
Subjective Norm (SN): 3 items	0.89		High reliability
SN1		0.81	
SN2		0.87	
SN3		0.86	

Perceived Behavioural Control (PBC):	0.90		
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3 items			Excellent reliability
PBC1		0.87	
PBC2		0.84	
PBC3		0.86	
Perceived Moral Obligation (PMO): 2 items	0.83		High reliability
PMO1		-	
PMO2		-	
Anticipated Regret (AR): 3 items	0.81		High reliability
AR1		0.73	
AR2		0.74	
AR3		0.74	
Environmental Concern (EC): 6 items	0.74		High reliability
EC1		0.72	
EC2		0.68	
EC3		0.73	
EC4		0.69	
EC5		0.69	
EC6		0.69	
Environmental Knowledge (EK): 3 items	0.52		High moderate pending low reliability
EK1		0.35	
EK2		0.74 ←	
EK3		0.34	

The results of the Cronbach Alpha analysis showed that seven of the eight predictor variables obtained a high to excellent reliability value, ranging from 0.74 to 0.92. The predictor variables which received an acceptable level of reliability included attitude-ATT (0.92), perceived behavioural control-PBC (0.90), subjective norm-SN (0.89), behavioural intention-IN (0.86), perceived moral obligation-PMO (0.83), anticipated regret-AR (0.81), and environmental concern-EC (0.74). The predictor variable which failed the acceptable level of reliability was environmental knowledge-EK (0.52) where its Cronbach's alpha (α) value was considered low.

To resolve this reliability concern, EK2 was suppressed from the dataset of the research so that EK1 and EK3 collectively produced a new acceptable Cronbach's alpha (α) value of 0.74, as reflected within the table. As two or more variables are required to be assessed on a multivariate measurement scale (Hair et al. 2010), no value for 'Cronbach's alpha (α) if variable indicator is deleted', can be derived for PMO. As a result, the Cronbach's alpha (α) value, with respect to the remaining 29 variable indicators, received an overall excellent reliability value of 0.93. The results indicate that the research instrument exhibited an excellent level of reliability and, thus, may proceed to be tested for its level of construct validity. Appendix D further reflects the inter-item correlations table generated to confirm the reliability of the measurement scales in terms of redundancy. The average inter-item correlation for a set of items should be between 0.30 and 0.90 to suggest that the items are reasonably homogeneous and contain sufficiently unique variance as to not be isomorphic with each other (Cohen & Swerdlik 2005; and Fitzpatrick, Davey, Buxton & Jones 1998).

5.1.2 VALIDITY

Validity in research is described as the extent to which a research instrument accurately measures what it claims to measure and that the research findings will reflect what they claim to reflect (Saunders & Lewis 2012). As discussed in Section 3.5.2, construct validity is a type of validity measure that assesses the extent to which a set of variable indicators reflect the theoretical predictor variables of those items it intends to measure (Hair et al. 2010). Factor analysis was used as the data analysis tool to examine the interrelationships between the variable indicators to identify clusters of items that share sufficient variation to justify their existence within a specific predictor variable (Bartholomew et al. 2011). Therefore, the research examined and assessed construct validity, through convergent and discriminant validity means, over a series of processes by applying the Exploratory (EFA) and Confirmatory (CFA) Factor Analysis techniques as applied in the sections to follow.

5.1.2.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is a factor analysis technique used to uncover complex patterns within the factor structures of models. Thus, as discussed in Section 3.6.4.1, EFA was used to discover the number of factors influencing variables and to analyse which variable indicators are meant to be grouped together to form a predictor variable (Child 2006; and DeCoster 1998). The SPSS software analysis included an examination of each of the three TPB model's variations' pattern matrix by means of Maximum Likelihood extraction and Promax

rotation. Each respective models' Factor Correlation Matrix was also examined to confirm convergent and discriminant validity. To validate the appropriateness of data for each TPB model variation, a KMO and Barlett's test of sphericity was first conducted to test the factorability of the pattern matrix to ensure that the data within each respective model was appropriate for factor analysis (Coakes 2005; and Pallant 2011).

5.1.2.1.1 TPB Model A- EFA Analysis

The predictor variables assessed within TPB Model A included behavioural intention (IN), attitude (ATT), subjective norm (SN), and perceived behavioural control (PBC), as previously reflected in Figure 4. In order to validate whether the data within Model A are appropriate for EFA testing, the results of the KMO and Bartlett's test of sphericity should present a minimum correlation value of above 0.70 and a chi-square output ($p < 0.001$), respectively (Coakes 2005; and Pallant 2011). As reflected in Table 20, the KMO correlation derived for Model A is a favourable 0.936, thus reflecting sample adequacy. Furthermore, the Bartlett's test of sphericity value reflected a chi-square total of 4609.63, which is highly significant at $p < 0.001$, further indicating that there were adequate relationships between the variables included in the analysis. Therefore, it is concluded that the data for Model A is appropriate for factor analysis.

Table 20: KMO and Bartlett's test results for Model A

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.936
Bartlett's Test of Sphericity	Approx. Chi-Square	4609.63
		6
	df	120
	Sig.	.000

Table 21 reflects the Pattern Matrix output for Model A and illustrates the extent to which the variable indicators group and load into factors. The pattern matrix was also examined for convergent and discriminant validity. Convergent validity was supported when the factor loadings for each variable indicator was higher than 0.40 and loaded within their respective predictor variables' factor. Discriminant validity was supported when the predictor variables loaded onto different factors, also known as cross-loadings, and if so, it should not differ less than 0.20 (Field 2009; and Hair et al. 2006). The discriminant and convergent validity assessment of Model A was satisfactory in that the variable indicators loaded into their respective predictor variables' factor. Furthermore, with no cross-loadings present, the lowest loading indicator within the pattern matrix is 0.664 for ATT7, which is acceptable.

Table 21: Pattern matrix (Model A)

	Factor			
	1	2	3	4
ATT1	.729			
ATT2	.835			
ATT3	.844			
ATT4	.746			
ATT5	.788			
ATT6	.838			
ATT7	.664			
IN1				.936
IN2				.726
IN3				.665
SN1		.897		
SN2		.824		
SN3		.834		
PBC1			.827	
PBC2			.845	
PBC3			.889	
Extraction Method: Maximum Likelihood.				
Rotation Method: Promax with Kaiser Normalization.				

Discriminant validity was further confirmed by examining the Factor Correlation Matrix extracted from the EFA output, as reflected in Table 22. This confirmed that the factors were distinct and uncorrelated as the correlation values between the factors should not exceed 0.70. The highest correlation value relative to Model A is 0.695 between components SN and PBC. Thus, the overall discriminant and convergent validity for TPB Model A, conducted through EFA, was deemed satisfactory.

Table 22: Factor correlation matrix (Model A)

Component	ATT	IN	SN	PBC
ATT	1.000	.568	.634	.629
IN	.568	1.000	.540	.617
SN	.634	.540	1.000	.695
PBC	.629	.617	.695	1.000
Extraction Method: Maximum Likelihood.				
Rotation Method: Promax with Kaiser Normalization.				

5.1.2.1.2 TPB Model B- EFA Analysis

The predictor variables assessed within TPB Model B included behavioural intention (IN), attitude (ATT), subjective norm (SN), perceived behavioural control (PBC), perceived moral obligation (PMO), and anticipated regret (AR) as indicated in Figure 5. As reflected in Table 23, the KMO correlation derived for TPB Model B was a favourable 0.927, thus reflecting sample adequacy. Furthermore, the Bartlett’s test of sphericity value reflected a chi-square total of 5561.78, which is highly significant at $p < 0.001$, further indicating that there are adequate relationships between the variables included in the analysis. It is concluded that the data for Model B is appropriate for factor analysis.

Table 23: KMO and Bartlett’s test results for Model B

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.927
Bartlett's Test of Sphericity	Approx. Chi-Square	5561.78
		1
	df	210
	Sig.	.000

The Pattern Matrix for Model B is reflected in Table 24. The discriminant and convergent validity assessment of the respective model is satisfactory in that the variable indicators loaded into their respective predictor variables’ factor. Furthermore, with no cross-loadings present, the lowest loading variable indicator within the pattern matrix was 0.655 for IN3, which was acceptable.

Table 24: Pattern matrix (Model B)

	Factor					
	1	2	3	4	5	6
ATT1	.734					
ATT2	.855					
ATT3	.862					
ATT4	.725					
ATT5	.781					
ATT6	.841					
ATT7	.671					
IN1					.919	
IN2					.732	
IN3					.655	

SN1			.913			
SN2			.802			
SN3			.827			
PBC1		.825				
PBC2		.839				
PBC3		.904				
AR1				.771		
AR2				.772		
AR3				.734		
PMO1						.801
PMO2						.885
Extraction Method: Maximum Likelihood.						
Rotation Method: Promax with Kaiser Normalization.						

Discriminant validity was further confirmed by examining the Factor Correlation Matrix extracted from the EFA output, as reflected in Table 25. The highest correlation value relative to Model B was 0.691 between components IN and AR. As a result, the overall discriminant and convergent validity for the TPB Model B conducted through EFA, was deemed satisfactory.

Table 25: Factor correlation matrix (Model B)

Component	ATT	IN	SN	PBC	AR	PMO
ATT	1.000	.634	.567	.391	.628	.445
IN	.634	1.000	.537	.228	.691	.507
SN	.567	.537	1.000	.423	.613	.349
PBC	.391	.228	.423	1.000	.391	.133
AR	.628	.691	.613	.391	1.000	.522
PMO	.445	.507	.349	.133	.522	1.000
Extraction Method: Maximum Likelihood.						
Rotation Method: Promax with Kaiser Normalization.						

5.1.2.1.3 TPB Model C- EFA Analysis

As previously reflected in Figure 6, the predictor variables assessed within TPB Model C included behavioural intention (IN), attitude (ATT), subjective norm (SN), perceived behavioural control (PBC), perceived moral obligation (PMO), anticipated regret (AR), environmental concern (EC), and environmental knowledge (EK). Table 26 indicates that the KMO correlation derived for Model C was a favourable 0.933, thus reflecting sample adequacy. Furthermore, the

Bartlett's test of sphericity value reflected a chi-square total of 6901.38, which was highly significant at $p < 0.001$, further indicating that there were adequate relationships between the variables included in the analysis. Therefore, it was concluded that the data for Model C is appropriate for factor analysis.

Table 26: KMO and Bartlett's test results for Model C

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.933
Bartlett's Test of Sphericity	Approx. Chi-Square	6901.38
		4
	df	406
	Sig.	.000

The Pattern Matrix first extracted for Model C is reflected in Table 27. The discriminant and convergent validity of the respective model was not satisfactory. Firstly, the factor loadings for EC1, EK1 and EK3 are not significant, that is, they were all below the 0.40 threshold. Secondly, the cross-loadings for EC1 and EK3 were present and differed less than 0.20. Lastly, EC3 and EC4 loaded on a different factor as from EC1, EC2, EC5 and EC6.

Table 27: Initial pattern matrix (Model C)

	Factor							
	1	2	3	4	5	6	7	8
ATT1	.741							
ATT2	.873							
ATT3	.892							
ATT4	.723							
ATT5	.779							
ATT6	.860							
ATT7	.661							
SN1			.948					
SN2			.802					
SN3			.853					
PBC1		.847						
PBC2		.844						
PBC3		.965						
AR1					.760			
AR2					.769			
AR3					.754			
PMO1						.793		
PMO2						.979		

EC1				.307		.298		
EC2				.714				
EC3								.532
EC4								.767
EC5				.799				
EC6				.518				
IN1							.929	
IN2							.752	
IN3							.642	
EK1						.230		
EK3		.267				.321		
Extraction Method: Maximum Likelihood.								
Rotation Method: Promax with Kaiser Normalization.								

Field (2009) and Hair et al. (2006) suggested that variable indicators should be deleted from the EFA model in order to rectify possible shortfalls to convergent and discriminant validity. As such, some of the variable indicators were systematically removed from Model C until favourable validity results were achieved. The variables that were removed included ATT3, ATT7, EC1, EC3 and EC4. Although ATT3 and ATT7 loaded consistently above the 0.40 threshold, these variables specifically produced cross-loadings which differed less than 0.20 when any EC variable was removed. Therefore, over a methodical elimination process, it was found that omitting the aforementioned variables would present the best option to remove the least number of variables to reach favourable validity results. Table 28 reflects the final pattern matrix derived from the EFA output for the respective model. The discriminant and convergent validity assessment of Model C was satisfactory in that the variable indicators now loaded into their respective predictor variables' factor. Furthermore, with no cross-loadings present, the lowest loading indicator within the pattern matrix is 0.481 for EC6, which was acceptable.

Table 28: Revised pattern matrix (Model C)

	Factor							
	1	2	3	4	5	6	7	8
ATT1	.725							
ATT2	.840							
ATT4	.711							
ATT5	.800							
ATT6	.851							
SN1			.941					
SN2			.783					

SN3			.821					
PBC1		.800						
PBC2		.851						
PBC3		.944						
AR1				.765				
AR2				.773				
AR3				.745				
PMO1							.826	
PMO2							.853	
EC2					.674			
EC5					.776			
EC6					.481			
IN1						.936		
IN2						.716		
IN3						.624		
EK1								.654
EK3								.622
Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.								

Discriminant validity was further confirmed by examining the Factor Correlation Matrix extracted from the EFA output, as reflected in Table 29. The highest correlation value relative to Model C was 0.687 between components SN and EC. As a result, the overall discriminant and convergent validity for the respective model conducted through EFA, was deemed satisfactory.

Table 29: Factor correlation matrix (Model C)

Component	ATT	SN	PBC	AR	PMO	EC	IN	EK
ATT	1.000	.632	.573	.413	.365	.628	.443	.586
SN	.632	1.000	.541	.234	.400	.687	.515	.665
PBC	.573	.541	1.000	.424	.127	.614	.365	.530
AR	.413	.234	.424	1.000	.125	.390	.144	.269
PMO	.365	.400	.127	.125	1.000	.409	.583	.463
EC	.628	.687	.614	.390	.409	1.000	.526	.630
IN	.443	.515	.365	.144	.583	.526	1.000	.622
EK	.586	.665	.530	.269	.463	.630	.622	1.000
Extraction Method: Maximum Likelihood. Rotation Method: Promax with Kaiser Normalization.								

In summary, the EFA assessment conducted in this section confirmed the factor structures as well as the preliminary construct validity of each of the three TPB model variations. Model A and Model B both presented favourable initial results in that both their variable indicators loaded into their respective predictor variables' factor with no cross-loadings being present. The initial assessment of Model C was more complex in that factor structures did not group effectively, and cross-loadings were also present. To resolve these latter validity issues, the systematic removal of the variable indicators, i.e. ATT3, ATT7, EC1, EC3 and EC4 were undertaken, until Model C achieved favourable validity results. The EFA assessment was important to apply for the analysis to proceed to CFA testing as discussed in the next section.

5.1.2.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is the statistical technique used to confirm the factor structures extracted from the EFA for each of the TPB model variations. As discussed in Section 3.6.4.2, CFA is assessed by generating a measurement model which specifies the correlational relationships that suggest how measured variable indicators represent a predictor variable that is not measured directly (Byrne 2010; and Hair et al. 2010). Although the assessment of the measurement models is generally established during SEM analysis, the measurement models were compiled at this stage to assess and conclude the validity within each developed TPB model. In order to determine convergent and discriminant validity as well as to confirm internal consistency through CFA, the Average Variance Extracted (AVE) and Composite Reliability (CR) values were obtained. Therefore, both the AVE and CR calculations required the input of standardized factor loadings. These, including the correlation values were, in turn, generated from the CFA measurement model, as assessed next.

5.1.2.2.1 TPB Model A- CFA Analysis

The Composite Reliability (CR) and Average Variance Extracted (AVE) results for each TPB model variation were taken into consideration when determining convergent validity. As such, the CR value should be greater than 0.70 to be considered acceptable. Furthermore, the AVE estimation should be greater than 0.50 to show adequate convergent validity. Discriminant validity is first acknowledged when the square root of the AVE is higher than any inter-factor correlation between the predictor variables. Secondly, the Maximum Shared Variance (MSV) is the square root of the highest correlation coefficient between the predictor variables and should be lower than AVE, that is, $MSV < AVE$. Lastly, for a model to conclude satisfactory discriminant validity, the correlations of a construct must be lower than the square root of AVE (Fornell & Larcker 1981; Hair et al. 2010; Hair et al. 2014; and Kline 2015).

Table 30 indicates that all composite reliability (CR) values for Model A favourably exceeded the minimum criterion of 0.70. In addition, the Average Variance Extracted (AVE) for each predictor variable exceeded the recommended limit of 0.50. The table further reveals that all the square roots of AVE (diagonal bold cells) were higher than the correlations between the predictor variables and that the MSV values are smaller than the AVE. Altogether, these results supported the overall convergent and discriminant validity requirements of Model A.

Table 30: Convergent and discriminant validity for CFA model (Model A)

	CR	AVE	MSV	IN	ATT	PBC	SN
IN	0.866	0.683	0.561	0.827			
ATT	0.921	0.627	0.456	0.675	0.792		
PBC	0.900	0.751	0.561	0.749	0.654	0.867	
SN	0.895	0.740	0.426	0.653	0.587	0.565	0.860

5.1.2.2.2 TPB Model B- CFA Analysis

Table 31 indicates that all composite reliability (CR) values for Model B favourably exceeded the minimum criterion of 0.70. In addition, the Average Variance Extracted (AVE) for each predictor variable exceeded the recommended limit of 0.50. The table further reveals that all the square roots of AVE were higher than the correlations between the predictor variables and that the MSV values were smaller than the AVE. Altogether, these results favoured and supported the overall convergent and discriminant validity requirements of Model B.

Table 31: Convergent and discriminant validity for CFA model (Model B)

	CR	AVE	MSV	ATT	PBC	SN	IN	AR	PMO
ATT	0.922	0.627	0.454	0.792					
PBC	0.900	0.751	0.560	0.654	0.867				
SN	0.895	0.741	0.428	0.588	0.565	0.861			
IN	0.866	0.684	0.560	0.674	0.748	0.654	0.827		
AR	0.807	0.583	0.181	0.402	0.256	0.426	0.402	0.763	
PMO	0.834	0.715	0.305	0.455	0.523	0.374	0.552	0.142	0.845

5.1.2.2.3 TPB Model C- CFA Analysis

Table 32 indicates that all the square roots of AVE were higher than the correlations between the constructs and that the MSV values were smaller than the AVE, indicating adequate discriminant validity for Model C. However, as highlighted in red within the table, there are convergent validity issues within the respective model. Firstly, the CR value for EC was lower

than the minimum criterion value of 0.70, namely 0.691. In addition, the AVE value for EC was also below the recommended limit of 0.50, namely 0.427. According to Hair et al. (2010), if convergent validity issues exist during CFA, this indicates that the variable indicators do not correlate with each other within their predictor variable. Taking into consideration that issues with the EC variable indicators also became prevalent during the EFA analysis, it was decided that EC would be removed from Model C in order to rectify the convergent validity issue. The omission of ATT3 and ATT7 during EFA is however, still supported.

Table 32: Convergent and discriminant validity for CFA model (Model C)

	CR	AVE	MSV	EC	SN	PBC	IN	AR	PMO	ATT	EK
EC	0.691	0.427	0.383	0.654							
SN	0.895	0.741	0.428	0.173	0.861						
PBC	0.900	0.751	0.560	0.434	0.565	0.867					
IN	0.866	0.683	0.560	0.456	0.654	0.748	0.827				
AR	0.807	0.583	0.183	0.147	0.428	0.256	0.402	0.763			
PMO	0.835	0.718	0.507	0.619	0.366	0.518	0.548	0.145	0.847		
ATT	0.894	0.628	0.461	0.386	0.592	0.643	0.679	0.426	0.441	0.792	
EK	0.749	0.600	0.537	0.572	0.570	0.733	0.716	0.281	0.712	0.647	0.774

The CFA results for the revised Model C, which excludes the EC predictor variable, is reflected in Table 33. The results revealed that convergent validity was met as all CR and AVE values for each predictor variable exceeded the minimum recommended value of 0.70 and 0.50, respectively. Furthermore, all the square roots of AVE were higher than the correlations between the predictor variables and that the MSV values are smaller than the AVE, thus concluding adequate discriminant validity for the revised Model C.

Table 33: Convergent and discriminant validity for CFA model (Model C)- Revised

	CR	AVE	MSV	ATT	SN	PBC	IN	AR	PMO	EK
ATT	0.894	0.628	0.461	0.792						
SN	0.895	0.741	0.428	0.591	0.861					
PBC	0.900	0.751	0.560	0.643	0.565	0.867				
IN	0.866	0.684	0.560	0.679	0.654	0.748	0.827			
AR	0.807	0.583	0.181	0.426	0.426	0.256	0.402	0.763		
PMO	0.835	0.718	0.510	0.443	0.368	0.520	0.550	0.144	0.847	
EK	0.749	0.600	0.537	0.647	0.570	0.733	0.717	0.281	0.714	0.774

In summary, CFA was successfully conducted in this section to assess the multi-dimensionality and the validity of the predictor variables for each developed TPB model. Both Model A and Model B presented favourable initial convergent and discriminant validity results. Although

discriminant validity was satisfactory for Model C, there were convergent validity issues. As issues were previously present during the EFA assessment derived from the same predictor variable, namely EC, the construct was, thus, removed from Model C completely. The revised model was then reassessed for discriminant and convergent validity and the results then produced favourable values. In confirming the research's reliability and the validity, the structural models was assessed in order to answer the research hypotheses set.

5.2 STRUCTURAL EQUATION MODELLING (SEM)

As the CFA (measurement) model of all three of the TPB model variations provided satisfactory reliability and validity results, the structural models for each of the respective TPB model variations can be tested to assess the relative proportion of variance explained and finally, to test the hypotheses set for the research. As discussed in Section 3.6.5, the respective testing of the structural models was achieved by using Structural Equation Modelling (SEM). The structural models were developed through the use of the AMOS graphical interface software.

5.2.1 TPB MODEL A VARIATION: SEM ANALYSIS

The results of the SEM analysis for Model A are reflected in Tables 34 and 35. Furthermore, Figure 11 illustrates the structural model and the results of the respective model variation. The data within Table 34 reflects the factor loadings and the relative proportion of variance explained (R^2) for behavioural intention. Table 34 also reflects the Model A's goodness-of-fit (GOF) results derived from the SEM analysis. Finally, Table 35 reflects the relationship significance between the predictor variables within the respective model.

The higher the factor loading value is closer to 1.00, the stronger the evidence is that the variable indicator represent the respective predictor variable. However, factor loadings should be greater than 0.50 to be deemed meaningful (Hair et al. 2010). With respect to Model A, the lowest factor loading obtained was 0.756 (ATT4). Therefore, it is concluded that all the factor loadings reflected a relatively strong indication that the variable indicators represented their respective predictor variables. The relative proportion of variation explained for behavioural intention (IN) is considered meaningful to any value above 0.20 or 20%. The higher the variance explained value is to 1.00 or 100%, the stronger the predictive ability of the respective model (Hair et al. 2014). The results revealed that ATT, PBC and SN explained 66% of the total variance (R^2) towards the intention to select green hotels (IN). As a result, the predictive ability of Model A is considered meaningful and highly satisfactory.

In addition, Table 34 reflects Model A's goodness-of-fit (GOF) results. The model fit metrics, as discussed in Section 3.6.5.1, should fit data well when the CFI, IFI, TLI and GFI value is higher than 0.95. A RMSEA value of less than 0.05 has excellent fit, a 0.08 value has reasonable fit, and a model with a RMSEA value higher than 0.10 has poor fit (Browne & Cudeck 1993). As a result, the results reveal a satisfactory level of fit.

Table 34: SEM results (Model A)- Factor loadings, R² and GOF

CONSTRUCT/FACTOR	FACTOR LOADINGS	VARIANCE EXPLAINED (R ²)/(%)	GOODNESS-OF-FIT INDICES (MEASUREMENT MODEL)	
Behavioural Intention (IN)		0.660 (66%)	GOF Test	Values for Model A
IN1	0.819		GFI	0.954
IN2	0.802		TLI	0.984
IN3	0.858		IFI	0.987
Subjective Norm (SN)			CFI	0.987
SN1	0.929		RMSEA	0.039
SN2	0.808		Factor	X ² = 154.723; df=96
SN3	0.839		Loadings	
Perceived Behavioural Control (PBC)				
PBC1	0.834			
PBC2	0.912			
PBC3	0.852			
Attitude (ATT)				
ATT1	0.759			
ATT2	0.795			
ATT3	0.799			
ATT4	0.756			
ATT5	0.817			
ATT6	0.841			
ATT7	0.771			

Table 35 reflects the relationship significance between the predictor variables within Model A. The path coefficient results depicts whether the relationship between the predictor variables are positive and significant, which in turn, determines whether the respective hypotheses is

supported or rejected. To support the hypothesised relationships, the standardised path coefficient was required to be significant at the $p < 0.050$ level (t -value > 1.960), and greater than 0.100 to be considered meaningful (Byrne 2010; and Suhr 2008). The results revealed that the standardised path coefficients between ATT->IN, SN->IN and PBC->IN are all positive and significant. As a result, the research hypotheses **H₁**, **H₂** and **H₃** are all supported.

Table 35: Structural model results (Model A)- hypotheses testing results

PATH (HYPOTHESIS)	STANDARDISED PATH COEFFICIENT (β)	t-VALUE	HYPOTHESIS TESTING RESULT
ATT -> IN (H₁)	0.230	3.924***	Supported
SN -> IN (H₂)	0.265	5.052***	Supported
PBC -> IN (H₃)	0.448	7.562***	Supported
Model notes... *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ n.s Not Significant			

H₁- Attitude will have a positive and significant influence on South African consumers' intention to select green hotels- **Supported**.

H₂- Subjective norm will have a positive and significant influence on South African consumers' intention to select green hotels- **Supported**.

H₃- Perceived behavioural control will have a positive and significant influence on South African consumers' intention to select a green hotel- **Supported**.

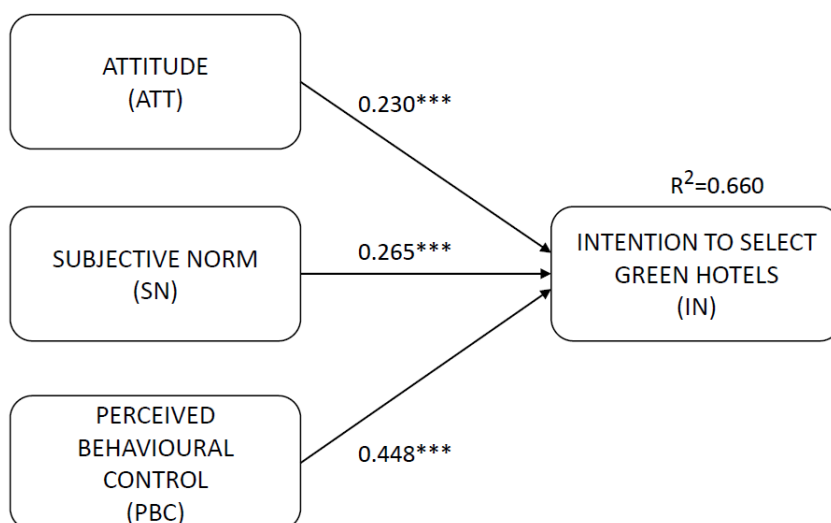


Figure 11: TPB Model A: Structural model illustration with results.

5.2.2 TPB MODEL B VARIATION: SEM ANALYSIS

The results of the SEM analysis for Model B are reflected in Tables 36 and 37. Furthermore, Figure 12 illustrates the structural model and the results of the respective model variation. The data reflected in Table 36 reveal the factor loadings, the relative proportion of variance explained (R^2) for behavioural intention as well as reflects the respective model variations' goodness-of-fit (GOF) results derived from the SEM analysis. Table 35 reflects the relationship significance between the predictor variables within the respective model.

With respect to Model B, the lowest loading factor among the variable indicators was 0.757 (ATT4). These results concluded that all the factor loadings reflected a relative strong indication that the variable indicators represented their respective predictor variables within Model B. The relative proportion of variance results revealed that ATT, PBC, SN, AR and PMO explained 69% of the total variance (R^2) towards the intention to select green hotels (IN). Accordingly, the predictive ability for the respective model variation are meaningful and highly satisfactory, more so than Model A. In addition, Model B's GOF results revealed a satisfactory level of fit. Table 37 reflects the relationship significance between the predictor variables within Model B.

Table 36: SEM results (Model B)- Factor loadings, R^2 and GOF

CONSTRUCT/FACTOR	FACTOR LOADINGS	VARIANCE EXPLAINED (R^2)/(%)	GOODNESS-OF-FIT INDICES (MEASUREMENT MODEL)	
Behavioural Intention (IN)		0.690 (69%)	GOF Test	Values for Model B
IN1	0.824		GFI	0.941
IN2	0.802		TLI	0.980
IN3	0.854		IFI	0.984
Subjective Norm (SN)			CFI	0.984
SN1	0.923		RMSEA	0.036
SN2	0.813		Factor Loadings	$X^2= 262.035;$ $df=172$
SN3	0.842			
Perceived Behavioural Control (PBC)				
PBC1	0.833			
PBC2	0.916			
PBC3	0.849			

Attitude (ATT)			
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ATT1	0.760		
ATT2	0.794		
ATT3	0.798		
ATT4	0.757		
ATT5	0.818		
ATT6	0.841		
ATT7	0.770		
Anticipated Regret (AR)			
AR1	0.773		
AR2	0.758		
AR3	0.759		
Perceived Moral Obligation (PMO)			
PMO1	0.817		
PMO2	0.873		

Table 37 reflects the hypotheses testing results for Model B. The results revealed that the standardised path coefficients between ATT->IN; SN->IN; PBC->IN; AR->IN and PMO->IN are all positive and significant. As a result, the research hypotheses **H₄** and **H₅** are supported with respect to Model B.

Table 37: Structural model results (Model B)- hypotheses testing results

PATH (HYPOTHESIS)	STANDARDISED PATH COEFFICIENT (β)	t-VALUE	HYPOTHESIS TESTING RESULT
ATT -> IN	0.157	2.756**	Supported
SN -> IN	0.220	4.111***	Supported
PBC -> IN	0.400	6.563***	Supported
AR -> IN (H₄)	0.118	2.494*	Supported
PMO -> IN (H₅)	0.172	3.488***	Supported
Model notes...			
*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ <i>n.s</i> Not Significant			

H₄. Anticipated regret will have a positive and significant influence on South African

consumers' intention to select green hotels- **Supported.**

H₅. Perceived moral obligation will have a positive and significant influence on South African consumers' intention to select green hotels- **Supported.**

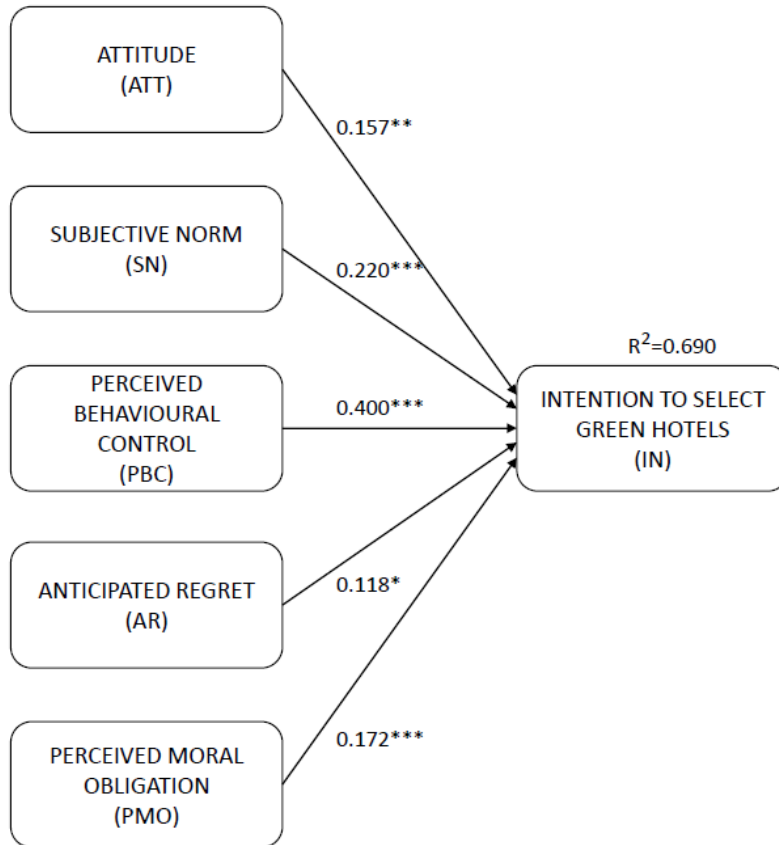


Figure 12: TPB Model B: Structural model illustration with results.

5.2.3 TPB MODEL C VARIATION: SEM ANALYSIS

The results of the SEM analysis for Model C are reflected in Tables 38 and 39. Furthermore, Figure 13 illustrates the structural model and the results of the respective model variation. The data reflected in Table 38 reveal the factor loadings, the relative proportion of variance explained (R^2) for behavioural intention as well as reflects the respective model variations' goodness-of-fit (GOF) results derived from the SEM analysis. Table 39 reflects the relationship significance between the predictor variables within the respective model.

With respect to Model C, the lowest loading factor among the variable indicators was 0.621 (EK1). These results concluded that all the factor loadings reflected a relative strong indication

that the variable indicators represented their respective predictor variables within the respective model variation. The relative proportion of variance results revealed that ATT, PBC, SN, AR, PMO and EK explained 70% of the total variance (R^2) towards the intention to select green hotels (IN) for Model C. Accordingly, the predictive ability for the respective model variation were considered meaningful and highly satisfactory, more so than Model B. In addition, Model C's GOF results revealed a satisfactory level of fit. Table 39 reflects the relationship significance between the predictor variables within Model C.

Table 38: SEM results (Model C)- Factor loadings, R^2 and GOF

CONSTRUCT/FACTOR	FACTOR LOADINGS	VARIANCE EXPLAINED (R^2)/%	GOODNESS-OF-FIT INDICES (MEASUREMENT MODEL)	
Behavioural Intention (IN)		0.700 (70%)	GOF Test	Values for Model C
IN1	0.821		GFI	0.943
IN2	0.804		TLI	0.981
IN3	0.855		IFI	0.984
Subjective Norm (SN)			CFI	0.984
SN1	0.922		RMSEA	0.034
SN2	0.813		Factor Loadings	$\chi^2= 253.210$; $df=172$
SN3	0.844			
Perceived Behavioural Control (PBC)				
PBC1	0.836			
PBC2	0.912			
PBC3	0.850			
Attitude (ATT)				
ATT1	0.759			
ATT2	0.793			
ATT4	0.754			
ATT5	0.820			
ATT6	0.842			
Anticipated Regret (AR)				
AR1	0.778			
AR2	0.749			
AR3	0.758			
Perceived Moral Obligation (PMO)				
PMO1	0.803			

PMO2	0.879	
Environmental Knowledge (EK)		
EK1	0.621	
EK3	0.723	

Table 39 reflects the hypotheses testing results for Model C. The results reveal that the standardised path coefficients between ATT->IN; SN->IN; PBC->IN; AR->IN; PMO->IN and EK->ATT were all positive and significant. The EC predictor variable was not included in the assessment and thus the hypotheses ($H_{6 [a-h]}$) was not tested due to convergent validity issues derived in Section 5.1.2.2.3. As a result, the research hypotheses H_7 is supported.

Table 39: Structural model results (Model C)- hypotheses testing results

PATH (HYPOTHESIS)	STANDARDISED PATH COEFFICIENT (β)	t-VALUE	HYPOTHESIS TESTING RESULT
ATT -> IN	0.168	2.907**	Supported
SN -> IN	0.219	4.178***	Supported
PBC -> IN	0.402	6.825***	Supported
AR -> IN	0.116	2.563*	Supported
PMO -> IN	0.170	3.349***	Supported
EK -> ATT (H_7)	0.746	11.584***	Supported
EC -> ATT (H_6)	n/a	n/a	Not tested
Model notes...			
*** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ n.s Not Significant			

H_{6a} - Environmental concern will positively affect attitude on selecting green hotels – **Not tested.**

H_{6b} - Environmental concern will positively affect subjective norm on selecting green hotels- **Not tested.**

H_{6c} - Environmental concern will positively affect perceived behavioural control on selecting green hotels- **Not tested.**

H_{6d} - Environmental concern will positively affect anticipated regret on selecting green hotels- **Not tested.**

H_{6e} - Environmental concern will positively affect perceived moral obligation on selecting green hotels- **Not tested.**

H7. Environmental knowledge will positively affect attitude on selecting green hotels- Supported.

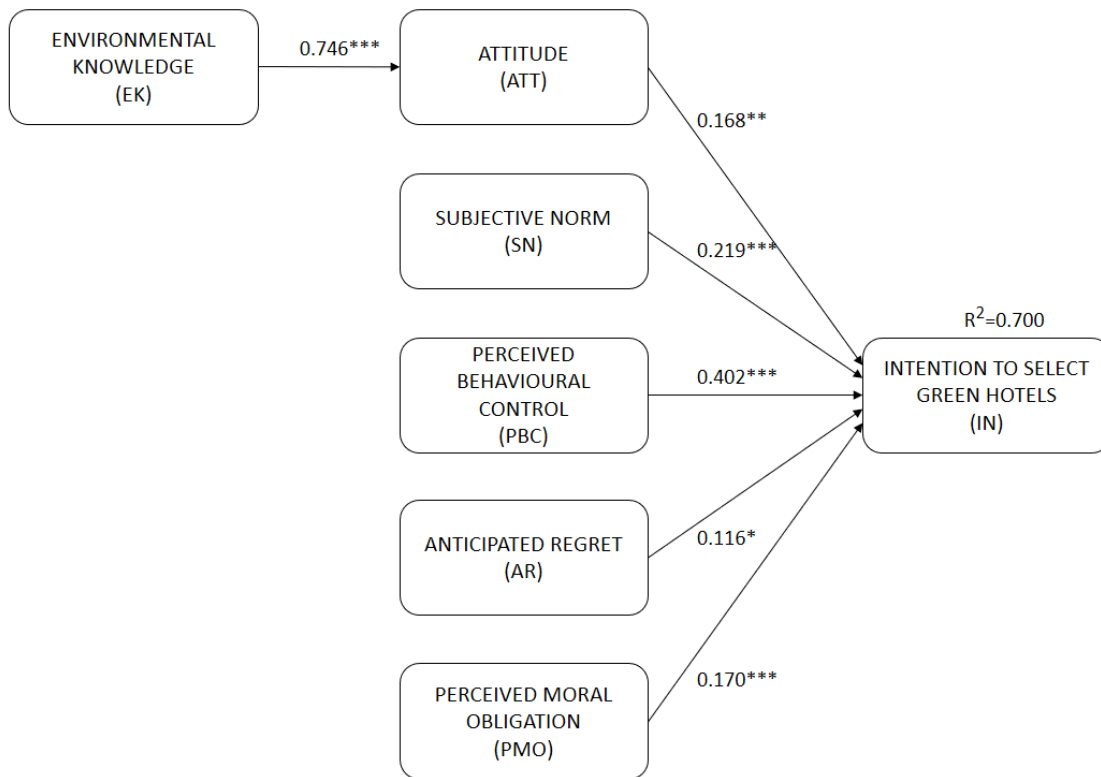


Figure 13: TPB Model C: Structural model illustration with results.

5.2.4 MODEL REFINEMENT: DERIVING THE BEST TPB PREDICTOR MODEL

Model refinement is a method of improving structural models to more adequately fit the study data and results by adding or deleting subsystems (Minas & Inman 1990). A structural model can be modified by including new paths to the model, removing existing paths, or reversing the direction of an existing path (Hatcher 2002). The process is commonly known as hierarchical analysis and it will produce new models called nested models (Garson 2006). In order to develop a nested model, the structural models for each TPB model variation derived in the previous section must first be compared to one another in order to determine which will best be able to predict and explore South African consumers' intended behaviour to select green hotels. Therefore, a comparison between the three TPB model variations' model fit by computing a X^2 difference test was considered (Kline 2015).

Table 40 reflects a summary of each of the three model's Chi-square (X^2) and Degrees of Freedom (df) values which are used to compute a X^2 difference test in order to examine whether

there was a significant difference in estimated construct covariance explained by the compared models. The results of the X^2 difference test among Model A and Model B reveal that there was a significant difference between the two models ($\Delta df=76$, $\Delta X^2=107.312$, critical value of X^2 at $df=1$ is 3.84). Therefore, Model B was considered more favourable than Model A. However, the results of the test between Model B and Model C revealed that a significant difference between the two models were also present ($\Delta df=1$, $\Delta X^2=8.825$, critical value of X^2 at $df=1$ is 3.84), of which Model C was supported and favoured. It is concluded that Model C is the best model predictor of South African behavioural intention towards selecting green hotels.

Table 40: X^2 and df values for the three TPB model variations.

	Values for Model A	Values for Model B	Values for Model C
X^2	$X^2= 154.723$	$X^2= 262.035$	$X^2= 253.210$
df	96	172	171

The structural model for Model C was therefore modified by including new paths to the model. As the relationship between EK and ATT was one of the strongest in the model with $\beta = 0.746$ and t -value = 11.584, $p < 0.001$; the inclusion of causal paths stemming from EK to each direct construct to IN, namely ATT, SN, PBC, AR and PMO, was thus imputed. The results of the model analysis for the developed nested model are reflected in Tables 41 and 42. Figure 14 illustrates the model results of the nested model. As reflected in Table 41, the nested model presented a satisfactory level of fit. Table 42 further reveals that all ten path coefficients for the nested model are statistically significant and positive and are, thus, supported. The results also revealed that ATT, PBC, SN, AR, PMO and EK collectively explained 70% of the total variance (R^2) towards the respondents' intention to select green hotels (IN).

Table 41: Nested model results- GOF values

GOF Test	Requirement	Values for Nested Model
X^2	$X^2 < df$	$X^2 = 290.518$; $df = 178$
df	> 0	178
X^2/df	< 3	1.632
GFI	> 0.90	0.933
TLI	> 0.90	0.974
IFI	> 0.90	0.978
CFI	> 0.90	0.978
RMSEA	< 0.08	0.040

Table 42: Nested model results- hypotheses testing results

PATH (HYPOTHESIS)	STANDARDISED PATH COEFFICIENT (BETA)	t-VALUE	HYPOTHESIS TESTING RESULT
ATT -> IN	0.182	3.302***	Supported
SN -> IN	0.222	4.482***	Supported
PBC -> IN	0.396	6.825***	Supported
PMO -> IN	0.159	3.159**	Supported
AR -> IN	0.107	2.511*	Supported
EK -> ATT	0.776	11.541***	Supported
EK -> SN	0.690	11.310***	Supported
EK -> PBC	0.816	12.981***	Supported
EK -> AR	0.396	6.309***	Supported
EK -> PMO	0.652	10.592***	Supported

Model notes...
 *** $p < 0.001$ ** $p < 0.01$ * $p < 0.05$ *n.s* Not Significant

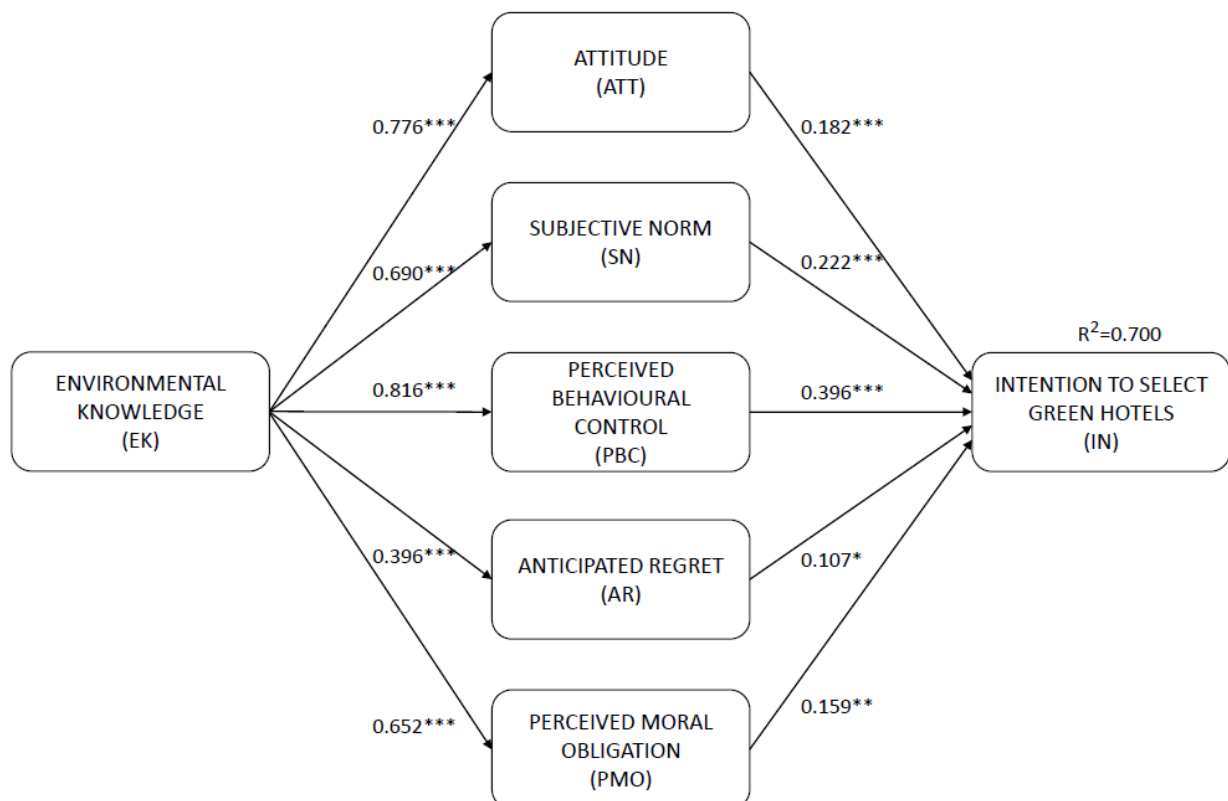


Figure 14: TPB Nested Model: Structural model illustration with results.

The X^2 difference test was lastly computed to determine whether there is a difference amongst the nested model and Model C. The results reveal that there was a significant difference between the two models ($\Delta df=7$, $\Delta X^2=37.308$, critical value of X^2 at $df=1$ is 3.84) where Model C was supported. As a result, Model C statistically remains the best predictor TPB model for South African consumers' intended behaviour towards selecting green hotels. However, the relationships derived between EK and all the direct predictor variables to IN, as reflected in Table 42 for the Nested model, is undoubtedly meaningful foregoing Model C been statistically the better model. That is, perceived behavioural control, attitude, subjective norm, perceived moral obligation and anticipated regret can all act as positive and significant intermediaries between environmental knowledge and South African consumers' intended behaviour to select a green hotel.

Conclusive to this section, Structural Equation Modelling (SEM) was used to retrieve results from the structural models of each TPB model variation in order to assess the relative proportion of variance explained (R^2), the models' goodness-of-fit (GOF) and finally, to test the hypotheses set for the current research. Ultimately, all three TPB model variations produced positive and significant relationships within their corresponding predictor variables. Therefore, all hypotheses were supported except for H_6 which was not tested as the EC predictor variable was removed due to validity issues. Finally, as derived as the best predictor model of behavioural intention amongst the three TPB model variations, Model C was refined to test whether a modification could improve the predictive ability of South African consumers' intended behaviour in selecting green hotels. Although Model C statistically remains the best predictor model, the results obtained from the Nested model also provided favourable findings for future research, that is, the relative significance and strength between EK and PBC, ATT, SN, PMO and AR respectively, is important to consider.

5.3 CHAPTER SUMMARY

Chapter 5 presented the findings from the inferential data analysis conducted in order to conclude the hypotheses and respective research objectives set for the current research. The measurement scales were first assessed to determine the overall reliability and validity of the research instrument. The results obtained through Cronbach's alpha (α) test of reliability, to determine internal consistency, indicated that the research does exhibit an excellent level of reliability on the basis that EK2 is suppressed from the dataset. To assess discriminant and convergent validity for each of the three TPB model variations, both exploratory (EFA) and confirmatory factor analysis (CFA) techniques were employed.

With a few modifications made to Model C, the EFA assessment confirmed that all TPB model variations in the end loaded favourably into their respective predictor variables' factor with no cross-loadings being present. To finalise construct validity, the CFA assessment concluded that all TPB model variations presented favourable convergent and discriminant validity values once the EC predictor variable was removed from further analysis due to validity concerns within Model C. Structural Equation Modelling was performed to evaluate and conclude the relationships between each TPB model variations' predictor variables and test the hypotheses. Finally, the structural model of Model C was refined to determine whether the predictive ability of the TPB within context to green hotels can be improved, however, Model C statistically remains the predictor model. The next chapter concludes the research by discussing the results obtained in this chapter and further providing recommendations, limitations and future considerations for the research.

CHAPTER 6

DISCUSSION AND CONCLUSION

The previous chapter presented the results obtained from inferential data analysis in order to test and confirm the hypotheses set for the current research project. Chapter 6 concludes the research by discussing the summarised outcomes of the research objectives, presenting the summary of the major findings derived within the research, discussing the theoretical and practical implications and the recommendations of the research, delineating the contributions of the study and providing the limitations of the study and avenues for future research.

6.1 DISCUSSION OUTCOMES OF THE RESEARCH OBJECTIVES

The aim of the research was to first explore the predictive ability of the Theory of Planned Behaviour (TPB) and then to modify and develop extended model structures surrounding the TPB, in order to identify and confirm an independent theoretical model that could effectively and comprehensively predict South African consumers' intended behaviour towards selecting green hotels. The study results confirmed that Model C (Figure 7) is the best predictor model for explaining South African consumers' intended behaviour towards selecting green hotels. Modifying and developing models surrounding the TPB assisted in detecting the relationship significance and the total variance explained among attitudes, subjective norms, perceived behavioural control, perceived moral obligation, anticipated regret, environmental concern, and environmental knowledge with respect to green hotel selection intention among South African consumers. As such, the following section discusses the outcomes of each research objective set based on the findings derived from both descriptive and inferential data analysis.

6.1.1 RESEARCH OBJECTIVE 1

The first research objective set for the study was to determine and describe the relative ability of the TPB predictor variables, namely attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC) to predict South African consumers' intended behaviour (IN) in selecting green hotels. The research objective was assessed according to analysis of the following three derived hypotheses (**H₁**, **H₂**, **H₃**):

Hypothesis 1. Attitude will have a positive and significant influence on South African consumers' intention to select green hotels.

Attitude towards behaviour is the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question (Ajzen 1991). From a general green perspective, studies have revealed that attitudes do exert a significant relationship with environmental behaviours while in others, no relational significance was found (Chen & Chai 2010; Tanner & Kast 2003; and Vermeir & Verbeke 2008). However, from a green hotel consumerism perspective, research has found that attitude exerts a significant positive affect on behavioural intention (Chen & Tung 2014; Han et al. 2010; Han & Kim 2010; and Manaktola & Jauhari 2007), thus, deriving the first hypothesis. For the research project, it was concluded that **H₁** was supported in that attitude does exert a positive and significant influence on South African consumers' intended behaviour towards selecting green hotels.

The descriptive performance of ATT included the assessment of seven variable indicators measured on a 7-point semantic differential scale. The scale range varied from 1 representing the extreme negative response (bad, undesirable, unpleasant, foolish, unfavourable, unenjoyable and negative) to 7 representing the extreme positive response (good, desirable, pleasant, wise, favourable, enjoyable and positive) to the respondent's attitude towards what they believe it would be like to stay at or visit a green hotel. The overall moderately high descriptive value for ATT ($m=6$; $M=5.84$; $SD=0.90$) indicates that the respondents would most likely have a wise (ATT4), good (ATT1), positive (ATT7), favourable (ATT5), enjoyable (ATT6), desirable (ATT2), and pleasant (ATT3) attitude towards staying at or visiting green hotels, respectively.

From a measurement scale perspective, all seven ATT variable indicators retrieved an excellent degree of reliability ($\alpha=0.92$). Exploratory factor analysis (EFA) revealed that all seven ATT variable indicators loaded into their respective factors for Model A and B. However, two indicators (ATT3 and ATT7) did not load effectively in Model C and were, thus, removed from the model. Overall, the five ATT variable indicators within Model C, the best predictor model, reflected a satisfactory level of construct validity. Inferential statistical analysis concluded that ATT further presented a positive and significant influence within all three TPB model variations. With respect to Model C, the relationship between ATT and IN was significant ($t=2.907$, $p<0.01$) and was higher than anticipated regret (AR) and lower than PBC, SN and PMO, respectively. Thus, it is concluded that the more a respondent has a positive attitude towards green hotels, the more likely they will have the intention to stay at or visit one.

Hypothesis 2. Subjective norm will have a positive and significant influence on South African consumers' intention to select green hotels.

Subjective norm is the perceived social pressure of significant others, who are important to an individual, which further influences his/her decision-making to perform or not to perform a certain behaviour (Ajzen 1991). The important role of subjective norm as a determinant of behavioural intention is well documented in various contexts of marketing and consumer behaviour (Cheng, Lam & Hsu 2006; Laroche et al. 2001; and Lee 2008). Within the green hotel setting, research has found subjective norm to have a positive and significant effect on behavioural intention (Chen & Tung 2014; Han & Kim 2010; Manaktola & Jauhari 2007). Accordingly, the second hypothesis was formulated as shown above and the current research concluded that H_2 was supported in that subjective norm does exert a positive and significant influence on South African consumers' intended behaviour to select green hotels.

The descriptive assessment of SN included the assessment of three variable indicators measured on a 7-point Likert scale. The scale ranged from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. The overall moderately high value for SN ($m=6$; $M=5.48$; $SD=1.26$) indicates that the respondents would most likely agree (from neither disagree or agree to strongly agree) that most people who are important to them and whose opinions they value when it comes to making moral decisions would personally prefer (SN3), feel and think (SN1), as well as want and insist (SN2) that they stay at or visit a green hotel.

From a measurement scale perspective, all three SN variable indicators retrieved a high degree of reliability ($\alpha=0.89$). The EFA revealed that all three SN variable indicators loaded into their respective factors for all model variations. Overall, the three SN variable indicators within all model variations reflected a satisfactory level of construct validity. Inferential statistical analyses further concluded that SN presented a positive and significant influence within all three TPB model variations. In respect of Model C, the best predictor model, the relationship between SN and IN was highly significant ($t=4.178$, $p<0.001$). In addition, the relationship significance between SN and IN was higher than perceived moral obligation (PMO), ATT as well as AR but lower than PBC. Thus, it is concluded that the more a respondent has a positive subjective norm towards green hotels, the more likely they will have the intention to stay at or visit one. Thus, it is concluded that South African hotel consumers are collectivist in nature and that the respondents have a stronger need for conformality and are susceptible to interpersonal influence and prestige, which are concerned with another members' evaluation, in this instance with respect to pro-environmental behaviour.

According to Frank et al. (2015), if subjective norm (SN) rather than attitude (ATT) was seen to exert a stronger influence on green purchasing intention, the respondents could be seen as collectivist in nature because of the stronger need for conformality. Conversely, if ATT rather than SN exerted a stronger influence on purchase intention, the population would be considered individualistic in nature. The collectivist nature of the respondents was supported when SN was found to have a stronger relationship and significance with behavioural intention rather than ATT. The research implications of the respective finding are further discussed in the latter section of this chapter.

Hypothesis 3. Perceived behavioural control will have a positive and significant influence on South African consumers' intention to select a green hotel.

Perceived behavioural control is the perceived ease or difficulty of performing the behaviour. In particular, it assesses the perception of how well one can control the factors that may facilitate or constrain the actions needed to perform the behaviour (Ajzen 1991). Within the green hotel setting, research has found that perceived behavioural control exerts a significant positive affect towards behavioural intention (Chen & Tung 2014; Han & Kim 2010; Manaktola & Jauhari 2007). Therefore, the third hypothesis was formulated and the current research concluded that **H₃** was supported in that perceived behavioural control does exert a positive and significant influence on South African consumers' intended behaviour towards selecting green hotels.

As with SN, the descriptive assessment of PBC included the assessment of three variable indicators measured on a 7-point Likert scale. The high value for perceived behavioural control ($m=6$; $M=6.17$; $SD=0.76$) indicates that the respondents would most likely agree (from agree somewhat to strongly agree) that if the choice is theirs, they would stay at or visit a green hotel (PBC2) and the decision would be completely up to them (PBC1). In addition, the respondents also likely agreed that they have the resources, time and opportunities to stay at or visit a green hotel (PBC3).

From a measurement scale perspective, all three PBC variable indicators retrieved an excellent degree of reliability ($\alpha=0.90$). The EFA results revealed that all three PBC variable indicators loaded into their respective factors for all three models. Overall, the three PBC variable indicators within all model variations reflected a satisfactory level of construct validity. Inferential statistical analyses further concluded that PBC presented a positive and significant influence within all three models. In respect of Model C, the best predictor model, the relationship between PBC and IN was highly significant ($t=6.825$, $p<0.001$).

In addition, the relationship significance between PBC and IN was the highest in comparison to AR, ATT, PMO and SN within all three model variations. Thus, it is concluded that the more a

respondent has a positive perceived behavioural control towards green hotels, the more likely they will have the intention to stay at or visit one. In summary, the assessment of the first research objective of the study was successfully achieved. It was concluded that ATT, SN and PBC all have a positive and significant influence towards predicting South African consumers' intended behaviour towards selecting green hotels. In addition, it was found that PBC exerts the strongest relationship with behavioural intention, followed by SN and ATT, respectively. Essentially, it was found that Azjen (1991)'s original TPB is concluded as a strong predictor of behavioural intention in context to South African green hotel selection.

6.1.2 RESEARCH OBJECTIVE 2

The second research objective set for the current study was to evaluate whether including anticipated regret (AR) and perceived moral obligation (PMO) into the TPB, as direct predictor variables to behavioural intention (IN), would influence the predictive ability of green hotel selection within South Africa. The research objective was assessed according to the analysis of the following two derived hypotheses (**H₄**; **H₅**):

Hypothesis 4. Anticipated regret will have a positive and significant influence on South African consumers' intention to select green hotels.

Anticipated regret is the prospect of feeling positive or negative emotions after performing or not performing a behaviour (Rivis et al. 2009). It is an affective reaction to bad decision outcomes and a powerful factor in motivating and giving direction to behaviour (Bui 2009). Research has revealed that anticipated regret is a significant predictor of behavioural intention and augmenting AR into the TPB has the ability to improve the predictive power of consumer behavioural intentions (Brewer et al. 2016; Ha 2018; Kim et al. 2013; and Liao et al. 2017). Therefore, the fourth hypothesis was formulated. For the current research, it was concluded that **H₄** was supported in that anticipated regret will have a positive and significant influence on South African consumers' intended behaviour towards selecting green hotels.

As with ATT, the descriptive performance of AR included the assessment of three variable indicators measured on a 7-point semantic differential scale. The scale range varied from 1 representing the extreme negative point (unworried, unregretful and relaxed) to 7 representing the extreme positive point (worried, regretful and tense) of the respondent's feelings of regret towards not being able to stay at a green hotel without having a choice to do as such.

The overall value for AR ($m=5$; $M=4.47$; $SD=1.24$) indicates that the respondents would feel somewhat regretful (AR2), worried (AR1) and tense (AR3), respectively, towards not being able to stay at or visit a green hotel without having the choice to do so.

From a measurement scale perspective, all three AR variable indicators retrieved an excellent degree of reliability ($\alpha=0.81$). The EFA revealed that all three AR variable indicators loaded into their respective factors for all three model variations. Overall, the AR variable indicators within Model C, the best predictor model, reflected a satisfactory level of construct validity. Inferential statistical analysis further concluded that AR presented a positive and significant influence within Model B and C. With respect to Model C, the relationship between AR and IN was acceptably significant ($t=2.563$, $p<0.05$). The relationship significance between AR and IN was the weakest against ATT, PMO, SN and PBC. Thus, it is concluded that the more a respondent has a positive anticipated regret towards green hotels, the more likely they will have the intention to stay at or visit one.

Hypothesis 5. Perceived moral obligation will have a positive and significant influence on South African consumers' intention to select green hotels.

Perceived moral obligation is an emotion of responsibility that is experienced when performing a specific moral behaviour when the person is faced with an ethical situation (Ajzen 1991). Research has revealed that perceived moral obligation is a significant predictor of behavioural intention and augmenting perceived moral obligation into the TPB within the green hotel context has the ability to improve the predictive power of behavioural intention (Chan & Bishop 2013; Chen & Tung 2014; Han 2015; Kaiser 2006; and Leeuw et al. 2015). As such, the fifth hypothesis was formulated. For the current research, it was concluded that **H₅** was supported in that perceived moral obligation does exert a positive and significant influence on South African consumers' intended behaviour towards selecting green hotels.

As with SN and PBC, PMO was measured on a 7-point Likert scale but over two variable indicators. The high value for perceived moral obligation ($m=7$; $M=6.57$; $SD=0.61$) indicates that the respondents would most likely agree (agree to strongly agree) that they believe that everybody is obligated to treasure and look after (PMO1) as well as save (PMO2) the earth's natural resources, as it is limited. From a measurement scale perspective, both PMO variable indicators retrieved a high degree of reliability ($\alpha=0.83$). The EFA revealed that both PMO variable indicators loaded into their respective factors for all three model variations. Overall PMO, within all three model variations, reflected a satisfactory level of construct validity.

Statistical analyses further concluded that PMO presented a positive and significant influence within Model B and C. In respect of Model C, the best predictor model, the relationship between PMO and IN was highly significant ($t=3.349$, $p<0.001$). In addition, the relationship significance between PMO and IN was higher than ATT and AR but lower than PBC and SN. Thus, it is concluded that the more a respondent has a positive perceived moral obligation towards green hotels, the more likely they will have the intention to stay at or visit one.

With respect to the second research objective, it was found that including emotive and non-cognitive predictor variables, such as AR and PMO, into the TPB can enhance the predictive ability in terms of environmental conscious behaviour. In relation to the TPB, research has criticised the model for ignoring emotional determinants of behaviour (Conner & Armitage 1998; and Yousafzai 2012). This is particularly so in relation to ecological behaviour that cannot be considered as a mere result of rational choice but rather as an emotional appeal towards what is wrong and right (Rozin et al. 1997). The relationship was supported through the model refinement process whereby it was concluded that Model B, which includes AR and PMO, is a better predictor of behaviour intention ($R^2=0.690$) than that of Model A ($R^2=0.660$), namely the original TPB framework. Furthermore, it was found that PMO exerts a stronger relationship than AR with behavioural intention; however, as reflected in Model C, SN and PBC has the strongest relationship with behavioural intention followed by PMO and AR, respectively. Lastly, to the best of our knowledge, the finding is further significant in that this is the first research to include anticipated regret into the TPB in context to green hotels.

6.1.3 RESEARCH OBJECTIVE 3

The third research objective set for the current study consisted of two sub-objectives. The first sub-objective set was to examine whether the relationships between environmental concern (EC) and all the proposed behavioural intentions' direct predictor variables (ATT, SN, PBC, AR and PMO) would contribute or enhance the predictive ability for South African consumers to select green hotels. The second sub-objective set was to examine whether the relationship between environmental knowledge (EK) and attitude (ATT) would contribute or enhance the predictive ability for South African consumers to select green hotels. The research objectives were answered according to the analysis of the following derived hypotheses (**H₆**; **H₇**):

Hypothesis 6 (a-e)- Environmental concern will positively affect attitude (a), subjective norm (b), perceived behavioural control (c), anticipated regret (d) and perceived moral obligation (e) on selecting green hotels.

Environmental concern is the general attitude towards environmental protection, which is an important determinant towards making consumers change their behaviour to become more environmental friendly (Aman et al. 2012; Bamberg 2003; Hansla et al. 2008; and Stern 1992). Studies have found that EC has an indirect positive influence towards behavioural intention through the direct positive relationships with ATT, SN and PBC acting as intermediaries, respectively (Ajzen & Fishbein 2000; Bamberg 2003; Basha et al. 2015; Khaola et al. 2014; Maichum et al. 2016; Paul et al. 2016; Shin et al. 2017; and Yadav & Pathak 2016). Furthermore, a study in the context of green hotel selection by Chen and Tung (2014) found that EC had a positive effect not only on ATT, SN and PBC but also on PMO. Where AR is also augmented within the TPB as a variable to behavioural intention, it was, thus, considered an opportunity to include AR into the relationship to derive further findings. Accordingly, the sixth hypothesis was formulated.

However, for the current research, **H₆** (a-e) was not tested due to convergent validity concerns. According to Hair et al. (2010), if convergent validity issues exist, this indicates that the variable indicators do not correlate with each other within their predictor variable and will respectively produce invalid results. As such, the EC predictor variable was removed from Model C in order to rectify the convergent validity issue within the respective model. Upon further investigation, it was found that the EC variable indicators, utilised within the current study, possess measurement scale items which were derived from the New Environmental (NEP) scale (Dunlap & Van Liere 2000). Research conducted within the South African context utilising the NEP scale has confirmed that its respective analysis has presented validity issues and concerns (Christie 2018; Sonnenberg 2014; and Taljaard 2015). As such, the research confirms that the NEP scale is not recommended to be used to assess green consumption behaviours within the South African context due to validity concerns.

Although inferential data analysis was not conducted, descriptive statistics for the EC predictor variable produced meaningful results. Environmental concern consisted of six variable indicators, excluding the two EC variable indicators omitted during data screening, which were measured on a 7-point Likert scale varying from 1 representing 'Strongly disagree' to 7 representing 'Strongly agree', and a neutral value of 4 indicating 'Neither disagree nor agree'. The high value for environmental concern ($m=7$; $M=6.17$; $SD=1.12$) indicates that the respondents would most likely agree (from agree somewhat to strongly agree) that mankind is abusing the environment (EC2) which is very delicate and can be easily upset (EC4), which will furthermore produce disastrous consequences in the future (EC3) and, thus, mankind must live in harmony with the natural environment to survive (EC5). In addition, the respondents were worried about the state of South Africa's environment and what it will mean for their future (EC1) as environmental problems are important to them (EC6).

Hypothesis 7. Environmental knowledge will positively affect attitude on selecting green hotels.

Environmental knowledge is the general knowledge of facts, concepts, and relationships concerning the natural environment that individuals will acquire to lead sustainable development (Fryxell & Lo 2003; and D'Souza et al. 2007). Although, to the best of our knowledge, no research has augmented the EK predictor variable into the TPB from a green hotel perspective, previous research has suggested that EK correlates positively with ATT (Levine & Strube 2012, Chea & Phau 2011, Gupta & Ogden 2009; Maichum et al. 2016; Mostafa 2007; Polonsky et al. 2012; Rokicka 2002; Synodinos 2014; and Wells et al. 2011). As such, the seventh hypothesis was formulated. For the current research, it was concluded that **H₇** was supported in that environmental knowledge does positively affect attitude on selecting green hotels.

The descriptive analysis of EK included the assessment of three variable indicators measured on a 7-point Likert scale. The high value for EK ($n=6$; $M=6.12$; $SD=1.09$) indicated that the respondents would most likely agree (from agree somewhat to strongly agree) that they believe that staying at or visiting a green hotel is a good approach and an important way to reduce the wasteful use of natural resources (EK2), as well as to reduce air, water and soil pollution (EK1), and to conserve the earth's natural resources (EK3), respectively.

From a measurement scale perspective, the overall level of reliability for EK was weak ($\alpha=0.52$). To resolve reliability concern, EK2 was suppressed from the dataset of the research. As such, EK1 and EK3 collectively produced a new highly acceptable reliability coefficient value of ($\alpha=0.74$). The EFA revealed that both EK1 and EK3 loaded into their respective factors within Model C. Overall, both variable indicators reflected a satisfactory level of construct validity. Inferential statistical analysis further concluded that the relationship between EK and ATT was exceptionally significant ($t=11.584$, $p<0.001$). In addition, the EK and ATT relationship was found to be the strongest within Model C. Lastly, including EK into the TPB as a direct variable to ATT, enhanced the overall predictive ability in that Model C's total variance explained with IN ($R^2=0.700$) was more favourable than that of Model B ($R^2=0.690$) which does not include the EK variable.

In concluding the assessment of the third research objective, it was found that the relationships between EC and ATT, SN, PBC, AR and PMO could not be assessed due to validity concerns within the EC variable. However, the examination of the relationship between EK and ATT produced positive and highly significant results which enhanced the predictive ability of South African consumers intended behaviour towards selecting green hotels.

6.1.4 RESEARCH OBJECTIVE 4

The last research objective assessed for the current study was to refine, compare and identify a theoretical model which will best explain South African consumers' intended behaviour towards selecting green hotels. The research objective was achieved in two parts. The first part included determining which of the three TPB model variations was deemed to be the best predictor of behavioural intention, by taking into consideration their respective Goodness-of-fit (GOF) indices as well as their respective proportion of variance explained (R^2) results. The results concluded that Model A and C obtained the most favourable GOF results. With respect to the R^2 results, Model C (0.700) obtained the highest favourable value followed by Model B (0.690) and then Model A (0.540). Taking the above GOF and R^2 results into consideration for each model surrounding the TPB, it was concluded that Model C was the best model predictor of South African behavioural intention towards selecting green hotels.

The second part towards achieving research objective four was to refine the most favourable structural model derived in the first part, namely Model C, by adding subsystems within the model (Minas & Inman 1990), to further test whether the predictive ability for South African consumers' behavioural intention towards selecting green hotels can be improved. As the relationship between EK and ATT was one of the strongest within Model C ($\beta=0.746$ and t -value=11.584, $p<0.001$); the inclusion of causal paths stemming from EK to each direct construct to IN, namely ATT, SN, PBC, AR and PMO, was imputed. To determine whether the nested (refined) model was a better predictor of behavioural intention than Model C, both the GOF and R^2 values were compared as with part 1 of this research objective. The results revealed that both Model C and the nested model obtained the same R^2 value, namely, 0.700 (70%). Model C, however, presented a more favourable model fit than the nested model. As a result, Model C statistically remains the best predictor TPB model for South African consumers' intended behaviour towards selecting green hotels. However, the significance of the relationships derived between EK and ATT, SN, PBC, PMO and AR predictor variables to IN, for the nested model produced important research implications and avenues for future research considerations as discussed in sections to follow.

In concluding this section, the outcomes of the research objectives were presented and discussed as they were analysed. The discussion included presenting the results of the hypotheses set and tested for each research objective as well as discussing how each predictor variable performed and contributed within each of the three model variations surrounding the TPB, including the derived nested model. As such, the next section summarises the main findings derived within the discussion outcomes of the research objectives.

6.2 SUMMARY OF MAIN RESEARCH FINDINGS

This section presents the summary of the important findings that were derived during the assessment of the objectives and hypotheses set, as previously discussed. The first four sets of findings were derived directly from the research objectives set for the research where the remainder are ancillary findings which were unveiled inadvertently during the investigations.

Firstly, it was found that attitude (ATT), subjective norm (SN) and perceived behavioural control (PBC), from Azjen (1991)'s original TPB, will collectively be able to predict South African consumers' intended behaviour towards selecting green hotels (Figure 11). The results show that the TPB is a strong predictor of behavioural intention, indicating its applicability to the domain of South African consumers' behavioural intention towards selecting green hotels.

Secondly, it was found that South African consumers' intended behaviour towards selecting green hotels can statistically be best explained by including anticipated regret (AR) and perceived moral obligation (PMO) as direct constructs to behavioural intention (IN), as well as by including environmental knowledge (EK) as a direct predictor variable to ATT, within the TPB model respectively (Figure 13). It was further found that the relationship between IN and PBC was the strongest and most significant, followed by SN, ATT, PMO and AR, respectively.

Thirdly, it was found that PBC, ATT, SN, PMO and AR can all act as positive and highly significant intermediaries between EK and behavioural intention (Figure 14). The inclusion of the respective relationships can further enhance the overall predictive ability of the TPB.

Fourthly, it was found that including emotive and non-cognitive predictor variables, such as AR and PMO, into the TPB can enhance the predictive ability in terms of environmental conscious behaviour. To the best of our knowledge, the finding is further significant in that this is the first research to include AR into the TPB in context to green hotels as well as establish that a significant relationship exists between AR and EK.

A fifth finding confirms that the measurement scale items of the EC variable, derived from the New Environmental (NEP) scale, is not recommended to be used to assess green consumption behaviours within the South African context due to validity concerns, as previously confirmed by Christie (2018); Sonnenberg (2014) and Taljaard (2015).

The sixth finding of the research concludes that South African hotel consumers are collectivist in nature, that is, the respondents have a stronger need for conformity and are susceptible to interpersonal influence and prestige, which are concerned with another members' evaluation. The finding was supported when SN produced a stronger relationship with IN rather than ATT.

Lastly, the demographic profile as well as the respondent's characteristics as South Africans who intend to stay at or visit hotels were established. It was found that the respondents would most commonly have belonged to the Generation Y cohort, were female, were African and White, were well-educated and employed, would most likely have stayed at or visited a 3-star and higher graded hotel, would most likely have stayed at or visited hotels for leisure purposes and, lastly, the respondents would most likely have consulted environmental information through technological or online means. Additional findings reveal that the respondents will most likely have been single, would commonly have spoken English, Zulu and/or Afrikaans, and lastly, would have resided and commonly visited Gauteng, Western-Cape and Kwa-Zulu Natal Provinces within South Africa.

Although it was previously established that some of the demographic findings allude to the demographic profile and characteristics of green consumers, it can now be confirmed that all the above findings may be considered as South African green consumer characteristics as the research reveals that the South African respondents do possess green behavioural intention tendencies. In respect of the above findings, the next section discusses the implications and recommendations that the research findings will serve.

6.3 IMPLICATIONS AND RECOMMENDATIONS OF THE STUDY

The findings of the research could conclusively allow marketers, operations, regulatory authorities and government to more effectively understand South African consumers' green hotel decision-making process. This understanding will allow these stakeholders to be more proactive in following green practices, develop environmental programs and initiatives, develop effective marketing and service strategies that will induce positive decisions for consumers to select green hotels, and lastly, potentially add value to, as well as benefit, the South African economy. As such, this section discusses the implications of the findings the research will serve for the respective stakeholders.

The first implication of the study stems from the research interest to identify and assess the factors which are subsequently transformed by cognitive processing into behavioural intention. The respective factors were derived through the application and extension of the Theory of Planned Behaviour (TPB). The research, thus, confirmed that psychographic variables should be taken into consideration to optimally explain South African consumers' intended behaviour towards staying at or visiting green hotels. The respective psychographic variables would include attitude (ATT), subjective norms (SN), perceived behavioural control (PBC), anticipated regret (AR), perceived moral obligation (PMO) and environmental knowledge (EK).

Although the original TPB components, namely ATT, SN and PBC, can adequately predict South African consumers intended behaviour towards selecting green hotels, including and assessing EK as well as emotive and non-cognitive factors, such as AR and PMO, into the TPB will enhance the predictive ability in terms of environmental conscious behaviour. The applicability for the original TPB components to adequately predict behavioural intention with a green hotel setting support those studies yielded by Chen and Peng (2012), Han and Kim (2010), Han et al. (2010) as well as Verma and Chandra (2017). The results supporting the inclusion of AR, PMO and EK within the TPB to enhance the predictive ability of conscientious decision-making was confirmed by Kim et al. (2013) and Chen & Tung (2014), respectively.

With respect to identifying the psychographic variables that will positively and significantly affect South African consumers intended behaviour towards selecting green hotels, it was confirmed that the relationship between PBC and behavioural intention was the strongest and most significant, followed by SN, PMO, ATT and AR, respectively. These results are consistent with the research conducted by Chen and Tung (2014) who confirmed that the relationship between PBC and behavioural intention, within the domain of green hotel selection intention, was the most favourable from the data obtained by 559 Taiwanese citizens. Where PBC is regarded as the perceived ease or difficulty to perform the behaviour (Ajzen 1991), the relationship significance with IN implies that consumers' perception of agreeing to have the choice, authority, resources, time and opportunities to stay at or visit a green hotel are important determinants towards their intention to select a respective green hotel. Thus, if green hotels are accessible to a consumer, they would most likely have the intended behaviour to stay at or visit one. However, although South African consumers are reflecting increased green purchasing intentions and interest, only a limited number of green hotels exists nationally (Mbasera et al. 2015). While only a limited number of such hotels are available, it provides vast opportunities for this sector to go green.

In order for more green hotels to be established and to make them more accessible to consumers, it is recommended that conventional hotels be revolutionised into green hotels through simple adaptations to certain green practices and standards. Such conversions would be possible if the South African government adequately and effectively initiates the support, measures, initiatives and commitment to encourage hotels to become green. Creating the provision to offer funds and grants to hotels that want to be green is one consideration. However, the transformation should be led by a global green regulatory authority that can certify that a certain hotel meets the pre-requirements to be considered as green from an international standard. Conversely, the financial support, initiatives and commitment from government will propel hotel operators to become green. This, in turn, will contribute to the current number of

green hotels established in South Africa and, thus, making them more accessible to consumers. As South African consumers have the time, resources and opportunities to stay at or visit green hotels, their actions may, in turn, contribute towards protecting the environment and contribute towards alleviating poverty in South Africa by challenging money into the economy and creating sustainable employment opportunities.

Although the relationship between PBC and intended behaviour is the most significant, the relationship between ATT and SN with intended behaviour, in respect of the TPB, confirmed that the respondents, as South African green hotel consumers, are regarded as collectivist. That is, the respondents have a stronger need for conformity and are susceptible to interpersonal influence and prestige, which are concerned with another members' evaluation. The finding was supported when SN produced a stronger relationship with IN rather than ATT, as with those studies conducted by Han and Kim (2010) and Kim et al. (2013) with American respondents, Chen and Peng (2012) with Chinese respondents, Verma and Chandra (2017) with Indian respondents, as well as Chen and Tung (2014) with Taiwanese respondents. However, for the current research, it is interesting to note that the majority of the respondents were found to not have a significant other or partner to consult environmental decisions as to stay at or visit a green hotel. It is, thus, envisaged that the perceived social pressure of significant others who are important to the respondent and who will influence their green consumption behaviours, does not necessarily rely on significant partners, but relies more on the evaluations from other important referents such as family, friends, colleagues and media.

Marketers should, in turn, acknowledge that the persuasive influence of a respondent's family, friends, colleagues and media, will have a significant influence for consumers to consider staying at or visiting green hotels. Furthermore, highlighting the notion that green hotels are prestigious and is becoming a global trend, as a result of the respondent's collectivist nature, is another approach marketers of green hotels should consider. Where it was confirmed that the respondents are affluent and have enough disposable income for leisure activities, it is further recommended that management of hotels consider setting average to premium rates for green hotels focused on leisure to emphasise the prestige nature of such operations. The green marketing appeals should further be presented to the public through technological and online mediums. Television, online browsing and social platforms are considered the most likely sources of information the respondents would consult regarding environmental issues and trends. Lastly, where the decision to stay at a green hotel is authorised from a corporate standpoint, management of hotels can consider offering special rates or discounts to green hotels focused on the corporate market where budgetary constraints are usually considered. The above is supported by Chen and Peng (2012), who recommends green hotels to tailor their promotional efforts in order to attract consumers.

The positive and significant relationship with PMO and AR towards behavioural intention reveals that South African consumers do consider ecological decision-making as an emotional and moral appeal of what is right and wrong rather than mere rational choice. As such, emotion and non-cognitive factors must be considered as an important component within the green hotel decision-making process which will increase the explanatory power of behavioural intention. As further recommended by Kim et al. (2013), marketers should specifically channel these emotions and ecological goal-directed behaviours into persuasive appeals when consumers start to specifically search for information about green hotels. Searching for information is generally the second stage consumers experience when making a purchase or selection decision (Kardes et al. 2014). Thus, it can be envisaged that conforming the decision-making process, at an early stage, into an ecological and emotive position will contribute towards enhancing the intention for South African consumers to select green hotels.

The results of the study further confirmed the intermediary role of ATT, SN, PBC, PMO and AR on EK and behavioural intention. Accordingly, marketers, businesses, hotel management, regulatory authorities and government must understand that increasing consumers environmental knowledge will increase the level of their ATT, SN, PBC, PMO and AR which will, in turn, favourably impact their intention to select green hotels. Therefore, these stakeholders should pay attention to promoting and supporting the concept of environment protection in order to heighten the public's environmental knowledge.

Government and national authorities can increase the nation's environmental knowledge by focusing on strategies that can effectively educate and inform all of the nation's people. Although in-school training of social and environmental responsibility has been effectively implemented by the South African department of basic education (DOE) as a topic within the compulsory Life Orientation subject (DOE 2018), such knowledge should extend to life outside formal education settings. Government should create the provision to convey the importance of environmental protection freely, not only through technological and online mediums for those green South African consumers, but also through printed media, radio stations, billboards and product labels to reach and educate all South Africans. Hotel operators can, in turn, educate consumers by effectively establishing how daily hotel practices can affect the environment. For example, displays in a guest room's bathroom can inform consumers about the impact of the daily change of towels and linens has on the environment. Thus, as long as a consumer perceives a higher degree of environmental knowledge, he/she will most likely have the intended behaviour to stay at or visit a green hotel.

Lastly, the research presented additional findings that can assist marketers to induce strategies to effectively target South African consumers who intend to stay at or visit a green hotel. The

newly established South African green hotel target market would include those consumers who would most commonly belong to the Generation Y cohort, are female, are African and White, are well-educated and employed and would most likely stay at or visit 3-star and higher graded hotels. Additional findings reveal that the respective target market will most likely speak English, Zulu and/or Afrikaans, and lastly, would reside and commonly visit Gauteng, Western-Cape and Kwa-Zulu Natal Provinces within South Africa. This information is important for marketers, operations, regulatory authorities and government to consider as research in context to South African green consumerism has mainly focused on the demographical profile and characteristics of the respondents from a provincial perspective, where this research considered a national perspective. In respect the above implications and recommendations derived, the next section discusses the contributions the study will serve.

6.4 CONTRIBUTIONS OF THE STUDY

As a result of increased public concern and awareness towards environmental sustainability, research investigating the decision-making processes surrounding green consumer behaviour has become increasingly important (Groening et al. 2018; and Oztek & Cengel 2013). The factors which affect a consumer's intended behaviour towards selecting green hotels is particularly challenging to investigate as the decision-making factors must consider those factors relative to both hotel and green attributes. The respective challenges and growing demand for green hotels do, however, stimulate the need for further investigation as contributed within the current research project.

Accordingly, the current research successfully identified and assessed the psychographic factors that best explain the consumer decision-making processes leading to behavioural intention in the context of green hotel selection. This understanding was accomplished through the use of the Theory of Planned Behaviour (TPB), derived by Ajzen (1991), which is considered one of the most powerful and consistent frameworks for predicting behavioural intention. Although the TPB has been applied within various ecological research contexts (Chen & Hung 2016; Moser 2015; Paul et al. 2016; and Yadav & Pathak 2016), limited research has specifically adopted the TPB within the green hotel context. In addition, attempting to modify and develop extended models surrounding the TPB within a green hotel context, has been very rare. Ultimately, investigating and extending the model structures surrounding the TPB in the current research contributed towards understanding the decision-making process in the context of green hotel behaviour and by implication attributes to theory development.

The study further extends its contribution by adding value to environmental sustainable literature in the context of an emerging economy, namely South Africa. As a result of past political challenges as well as due to the lack of government support, measures, initiatives and commitment to encourage environmental sustainability, the focus on green consumerism in South Africa only became a topic of research interest in the last decade. Although South African consumers are reflecting increased green purchasing intentions, the psychological factors that will lead to the intended behaviour towards selecting green hotels were not, to the best of our knowledge, studied prior to this research. It was, therefore, important and theoretically valuable not only to investigate the predictive ability of the original TPB, but to also modify and develop extended models surrounding the TPB to thoroughly explore the predictive ability for South African consumers' intention to select green hotels.

6.5 RESEARCH LIMITATIONS AND AVENUES FOR FUTURE RESEARCH

The results, implications and contributions of the current study should be considered in relation to a number of limitations. The limitations to follow further sets the foundation for future research to consider. Above deriving the significant limitations during the data analysis investigations of the research, the section discusses the limitations with respect to the methodology and theoretical approaches the research employed.

The first methodological limitation stems from the sampling technique the research employed, that is, non-probability purposive sampling. As a result of time and resource limitations, the researcher aimed to obtain a South African sample population with the assistance of an online research firm. As such, the results of the research cannot be generalised to the entire South African population. Thus, in order to effectively attain the results to optimally represent the South African population, it would be of value for future research to adopt a quota sampling technique. The quota will fall under the demographic profile of the general South African population which is obtainable through South African's census results (Census 2018). That is, if 52% of the South African population is female, then the data retrieved for a potential research should obtain responses reflecting such proportions within a significant range. Although time consuming and costly, this can be managed by setting an online questionnaire to have pre-defined quota conditions.

A second methodological limitation is focused on the research design in that the current research was quantitative and cross-sectional in nature. It is recommended that a qualitative approach should also be undertaken for future research in order to gather further in-depth data surrounding this particular topic. Taking into consideration the above-mentioned sampling

limitation, it would be of value to incorporate an interview with several of the respondents representative of the sampled quota, after the online questionnaire is completed, over a pre-determined time interval, to fully understand a phenomenon, such as consumer's perceptions and post decision-making of green hotels. A mixed methodology is therefore proposed in order to achieve statistical generalisability of the results, along with an in-depth component to determine more encompassing view of the situation at hand.

A third limitation stems from the statistical approach the research adapted. Although various research studies support the assessment of Likert scales through parametric multivariate statistical analysis (CB-SEM), it would be of value for future research to include a non-parametric multivariate statistical approach (PLS-SEM). The analysis could contribute towards the controversial debate of establishing whether Likert scales should follow parametric or non-parametric testing, more so within context to the Theory of Planned Behaviour.

The last methodological limitation derives from the absence towards analysing the mediation effect between EK and IN with ATT, SN, PBC, PMO and AR. Where the current research focused on establishing that a correlation between the aforementioned variables exist, including a mediation effect analysis will contribute towards explaining how two variables are actually related through a mediator (James 2008; and Kenny 2008).

A theoretical limitation stems from the consideration that the current research did not measure the latent belief variables for each ATT, SN and PBC predictor variable as well as include the relationship between intended behaviour and actual behaviour. Although Ajzen and Fishbein (2000) confirm that the assessment of the direct ATT, SN and PBC will independently and adequately be able to explain behavioural intention and behavioural intention and, in turn, predicate power for the future, it would be of value to include such relationships for future research. These relationships could further detect in-depth relationship significances amongst psychological factors of green consumption behaviours.

Furthermore, it would be of value to consider testing additional green psychographic variables within the Theory of Planned Behaviour which has proven to retrieve significant results in respect of behavioural intention. This was proven useful when the research adapted anticipated regret which was used in context to green restaurants (Kim et al. 2013) and was found to exert a significant effect towards South African consumers' intended behaviour towards selecting green hotels. Altruism (Shen 2017; and Teng et al. 2017), awareness of environmental problems and alternative products (Maichum et al. 2016; Paul et al. 2016; and Yadav & Pathak 2016), perceived personal relevance (Kang, Liu & Kim 2013), perceived consumer effectiveness (Kang et al. 2013; Kim 2011; Roberts 1996; and Straughan & Roberts 1999) and skepticism (Leonidou

& Skarmeas 2017; Goh & Balaji 2016; and Matthes & Wonneberger 2014) are some considerations future research can consider when further modifying and developing the Theory of Planned Behaviour.

Lastly, upon further investigation, it was found that the EC variable indicators, utilised within the current study, possess measurement scale items which are derived from the New Environmental (NEP) scale (Dunlap & Van Liere 2000). Research conducted within the South African context utilising the NEP scale has confirmed that its analysis has presented validity issues and concerns (Christie 2018; Sonnenberg 2014; and Taljaard 2015). As such, the current research confirms that the NEP scale is not recommended for use in assessing green consumption behaviours within the South African context due to validity concerns. However, the importance and significance of considering concern for the environment when predicting intended behaviour cannot be overlooked (Aman et al. 2012; Ajzen & Fishbein 2000; Bamberg 2003; Chen & Tung 2014; Hansla et al. 2008; Paul et al. 2016; and Stern 1992). As such, future research should consider assessing different measurement scale items of environmental concern, when analysing environmental conscious behaviour within the South African context.

6.6 CHAPTER SUMMARY

The last chapter successfully placed the study in context by discussing the results obtained with respect to the objectives and hypotheses set for the current research. A summary of the major findings concluded were drawn. Based on these findings, theoretical as well as practical implications and recommendations were discussed and made. It was surmised that South African consumers would most likely have the intended behaviour to stay at and visit green hotels. However, the support, measures, initiatives and commitment from government, regulatory bodies, marketers and operations are required to induce such intentions. Such green consumption behaviours will, in turn, contribute towards protecting the environment and contribute towards alleviating poverty in South Africa by channelling money into the economy and creating sustainable employment opportunities. The chapter concluded with the limitations of the study and possible recommendations for future research.

“Sustainability is living on nature’s income rather than living on its capital”
- Murray Gell-Man -

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APPENDIX A: Research instrument: Online questionnaire

	MCS QUESTIONNAIRE
EXPLORING AND PREDICTING SOUTH AFRICAN CONSUMERS' INTENDED BEHAVIOUR TO SELECT GREEN HOTELS	
<p>Dear Valued Respondent</p> <p>Thank you for your willingness to complete this online questionnaire. The purpose of the questionnaire is to determine your intended behaviour towards selecting green (environmentally friendly/eco-friendly) hotels within South Africa. We are interested in understanding the intentions you have in selecting eco-friendly hotels as this will help us understand how we could assist marketers, businesses, regulatory authorities and government understand the decision-making process within the eco-friendly hotel context. This in turn will enable effective development of hotel environmental programs and initiatives, improve policies, and more effectively incorporate marketing and service strategies that induce positive decisions for South African consumers to select eco-friendly hotels and contribute towards environmental protection.</p> <p>The questionnaire should take 10 to 20 minutes to complete and you are entitled to withdraw at any time without penalty. This is a confidential and anonymous survey. You will not be identified and the answers you provide will be used for research purposes only. By completing this questionnaire, you indicate that you voluntarily participate in this research. Please answer all questions by selecting/clicking the most appropriate option from the list provided, or by selecting the desired option from the drop-down list. Your truthful and honest responses to each question will be appreciated. There are no right or wrong answers.</p> <p>* 1. I hereby confirm that I am a South African Citizen</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p>* 2. I have read and understood the study as explained in the information above</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p>* 3. I have stayed at a Hotel, Boutique hotel, Guesthouse, B&B, Lodge or a Resort within the last 12 months.</p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p>	

The previous three questions were screening questions which you have successfully passed. The questions to follow are the survey questions. We would appreciate your honest response as this research is for academic purposes.

We have systems in place to pick up negligent or falsified responses. This may interfere with your incentive is found guilty. We do encourage you to carefully read each question as they are similar in certain places. The survey will easily take you more than 10 minutes to complete.

We thank you once again for your participation and making a contribution towards research in South Africa.

Section 1: Acknowledging eco-friendly hotels and you as a consumer

Within this section, we would like to briefly introduce you to the eco-friendly hotel concept and its respective common practices in order for you to gain a better understanding of the research context. To follow, this section will furthermore ask you demographic based questions so we can understand who you are as a consumer. We kindly ask you to read through the information abstract to follow before proceeding to the questions.

Information Abstract**WHAT IS AN ECO-FRIENDLY HOTEL?**

An eco-friendly or green hotel aims to minimize or have the lowest possible negative impact on the environment during its daily operation from purchases and manufacturing to the disposal/end of products and services.

WHAT ARE THE COMMON ECO-FRIENDLY HOTEL PRACTICES?

The most common practices of hotels that offer/provide green products and services include:

Energy and Water Conservation

- Linen reuse program in guestrooms
- Use of rainwater harvesting and/or grey-water systems
- Low-flow showerheads and sink aerators; low or dual-flush toilets
- Use of mercury-free florescent lamps or LED light bulbs
- Use of heat pumps, geothermal technologies and/or solar panels

Recycling and Waste Management

- Providing guestrooms with recycler baskets/bins
- Locating recycling bins in public areas making it easily accessible

Food Service Considerations

- Purchasing and/or planting organic/ locally-grown food
- Donating leftover food to local non-profit organisations
- Providing reusable cutlery and crockery such as glass or ceramic

Eco-Conscious Purchasing

- Purchasing non-toxic cleaning and chemical products.
- Purchasing office and guest amenities that contains recycled material
- Purchasing organic, fair-trade, cruelty-free products when possible

Guest Rewards and Community Involvement

- Creating ways to reward guests for being green
- Educating the community about environment sustainability
- Offering discounted rates to sustainable living organisations
- Donating leftover/ used amenities to those less privileged

THANK YOU FOR TAKING THE TIME TO READ THROUGH THE ABOVE INFORMATION.

The following twelve (12) questions capture your demographic information which will be used to characterize you as a South African consumer. You are reminded that this is a confidential and anonymous survey. You will not be identified and the answers you provide will be used for research purposes only.

Please select/click the appropriate option from the respective list or drop-down item in each question.

*** 4. What is your gender?**

- Male
 Female

*** 5. What is your age?**

- 18 to 24
 25 to 34
 35 to 44
 45 to 54
 55 to 64
 65 to 74
 75 or older

*** 6. What is your home/first language?**

*** 7. What ethnic group do you belong to?**

- African
 White
 Coloured
 Indian

Other (please specify)

*** 8. What is your highest level of education?**

- Lower than Matric/ Grade 12
 Matric/ Grade 12
 Grade 12 + Diploma or Degree
 Post-graduate Degree

*** 9. Please indicate your marital status**

- Single
- Married/Living with partner
- Divorced/Seperated/Widowed

*** 10. Please indicate your status of employment**

- Permanent employed
- Contract/Freelance employed
- Self employed
- Unemployed

*** 11. In which province do you reside/live in within South Africa?**

*** 12. What star graded Hotel, Boutique hotel, Guesthouse, B&B, Lodge or Resort do you commonly stay or visit at?**

- 3-Star Graded
- 4-Star Graded
- 5-Star Graded
- I am not sure

*** 13. What is the main purpose to stay at or visit a Hotel, Boutique hotel, Guesthouse, B&B, Lodge or Resort?**

- Business/Corporate purposes
- Leisure/Entertainment purposes
- Both
- Other (please specify)

*** 14. In which area/s do you commonly visit or stay at a Hotel, Boutique hotel, Guesthouse, B&B, Lodge or Resort? (More than one option may be selected)**

- Limpopo Province
- North West Province
- Gauteng Province
- Mpumalanga Province
- Northern Cape Province
- Free State Province
- Kwa-Zulu Natal Province
- Western Cape Province
- Eastern Cape Province

*** 15. Please indicate the source/s of information you would most likely consult environmental issues or trends on. (More than one option may be selected)**

- Television
- Printed Media e.g Newspapers and magazines
- Radio
- Word of mouth from family, friends or co-workers
- Internet e.g Google or websites
- Social Media e.g Facebook or Twitter
- Billboards
- Other (please specify)

Section 2: Understanding your feelings and opinions about eco-friendly hotels

Within this section, we would like to explore your feelings and opinions you have about hotels that offer eco-friendly products and services. We kindly ask you to first read through the following scenario before answering the ten (10) questions to follow.

SCENARIO:

After looking at different hotels to potentially stay at or visit within the next 12 months, you are left with two hotels to select from, namely an eco-friendly hotel or a non-eco-friendly hotel. Both hotels are located in the same area, offer the same rates, have the same facilities and service qualities that you desire. The only difference is that one supports environmental sustainability and offers eco-friendly products and services such as those briefly discussed in the information abstract in Section 1. The other hotel however; does not offer any eco-friendly products or services.

The following questions make use of rating scales with 7 places. Please select the one number that best describes your feelings or opinion. Please read and answer each question carefully.

1= lowest/negative relationship
7= highest/positive relationship

* 16. IF YOU WERE TO STAY AT/VISIT THE ECO-FRIENDLY HOTEL, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Bad	Very Bad	Bad	Neither Bad or Good	Good	Very Good	Extremely Good
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 17. IF YOU HAD NO CHOICE BUT TO STAY AT/VISIT THE NON-ECO-FRIENDLY HOTEL, HOW WOULD YOU FEEL IF YOU WERE AWARE OF THE ECO-FRIENDLY HOTEL ?

Extremely Worried	Very Worried	Worried	Neither Worried nor Unworried	Unworried	Very Unworried	Extremely Unworried
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 18. IF YOU WERE TO STAY AT/VISIT THE ECO-FRIENDLY HOTEL, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Undesirable	Very Undesirable	Undesirable	Neither Undesirable nor Desirable	Desirable	Very Desirable	Extremely Desirable
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 19. IF YOU HAD NO CHOICE BUT TO STAY AT/VISIT THE **NON-ECO-FRIENDLY HOTEL**, HOW WOULD YOU FEEL IF YOU WERE AWARE OF THE **ECO-FRIENDLY HOTEL** ?

Extremely Regretful	Very Regretful	Regretful	Neither Regretful nor Unregretful	Unregretful	Very Unregretful	Extremely Unregretful
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 20. IF YOU WERE TO STAY AT/VISIT THE **ECO-FRIENDLY HOTEL**, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Unpleasant	Very Unpleasant	Unpleasant	Neither Unpleasant nor Pleasant	Pleasant	Very Pleasant	Extremely Pleasant
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 21. IF YOU HAD NO CHOICE BUT TO STAY AT/VISIT THE **NON-ECO-FRIENDLY HOTEL**, HOW WOULD YOU FEEL IF YOU WERE AWARE OF THE **ECO-FRIENDLY HOTEL** ?

Extremely Tense	Very Tense	Tense	Neither Tense nor Relaxed	Relaxed	Very Relaxed	Extremely Relaxed
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 22. IF YOU WERE TO STAY AT/VISIT THE **ECO-FRIENDLY HOTEL**, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Foolish	Very Foolish	Foolish	Neither Foolish nor Wise	Wise	Very Wise	Extremely Wise
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 23. IF YOU ARE NOT A CAT, PLEASE SELECT 'VERY FOOLISH'

Extremely Foolish	Very Foolish	Foolish	Neither Foolish nor Wise	Wise	Very Wise	Extremely Wise
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 24. IF YOU WERE TO STAY AT/VISIT THE **ECO-FRIENDLY HOTEL**, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Unfavourable	Very Unfavourable	Unfavourable	Neither Unfavourable nor Favourable	Favourable	Very Favourable	Extremely Favourable
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 25. IF YOU WERE TO STAY AT/VISIT THE **ECO-FRIENDLY HOTEL**, DO YOU BELIEVE THAT IT WOULD BE...

Extremely Unenjoyable	Very Unenjoyable	Unenjoyable	Neither Unenjoyable nor Enjoyable	Enjoyable	Very Enjoyable	Extremely Enjoyable
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 30. I BELIEVE THAT STAYING AT/VISITING AN **ECO-FRIENDLY HOTEL** IS AN **IMPORTANT WAY TO REDUCE AIR, WATER AND SOIL POLLUTION:**

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 31. PLEASE **SELECT 'AGREE SOMEWHAT'** TO PROVE THAT YOU ARE READING THROUGH THE QUESTIONS CAREFULLY AND ANSWERING HONESTLY.

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 32. IF I HAVE A CHOICE; STAYING AT/VISITING THE **ECO-FRIENDLY HOTEL** IS A **DECISION WHICH IS COMPLETELY UP TO ME:**

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 33. I BELIEVE THAT EVERYBODY SHOULD **SAVE** THE EARTH'S NATURAL RESOURCES BECAUSE **THEY ARE LIMITED:**

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 34. I BELIEVE THAT MANKIND IS **NOT** ABUSING THE ENVIRONMENT:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 35. I BELIEVE THAT STAYING AT/VISITING AN **ECO-FRIENDLY HOTEL**; IS A **GOOD APPROACH TO CONSERVE EARTH'S NATURAL RESOURCES:**

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 36. THOSE PEOPLE WHOSE **OPINIONS I VALUE** WHEN IT COMES TO MAKING MORAL DECISIONS WOULD **PREFER** THAT I STAY AT OR VISIT AN **ECO-FRIENDLY HOTEL.**

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 37. I CAN AGREE THAT I HAVE THE RESOURCES, TIME, AND OPPORTUNITIES TO STAY AT/VISIT THE **ECO-FRIENDLY HOTEL.**

Strongly Disagree Disagree Disagree Somewhat Neither Disagree nor Agree Agree Somewhat Agree Strongly Agree

* 38. I WILL MAKE AN EFFORT TO STAY AT/VISIT A HOTEL THAT OFFERS **ECO-FRIENDLY** PRODUCTS OR SERVICES:

Strongly Disagree Disagree Disagree Somewhat Neither Disagree nor Agree Agree Somewhat Agree Strongly Agree

* 39. I BELIEVE THAT WHEN MANKIND INTERFERES WITH THE NATURAL STATE OF THE ENVIRONMENT, IT WILL MOST LIKELY PRODUCE **DISASTROUS CONSEQUENCES:**

Strongly Disagree Disagree Disagree Somewhat Neither Disagree nor Agree Agree Somewhat Agree Strongly Agree

We appreciate your time in completing this questionnaire. Kindly complete the last 10 questions.

* 40. I BELIEVE THAT STAYING AT/VISITING AN **ECO-FRIENDLY HOTEL** IS **NOT** A GOOD APPROACH TO REDUCE WASTEFUL USE OF NATURAL RESOURCES:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 41. MOST PEOPLE WHO ARE IMPORTANT TO ME WOULD PERSONALLY FEEL AND THINK THAT I SHOULD STAY AT/VISIT AN **ECO-FRIENDLY HOTEL**.

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 42. I BELIEVE THAT EVERYBODY IS **OBLIGATED** TO **TREASURE** AND **LOOK AFTER** THE EARTH'S NATURAL RESOURCES:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 43. I AM **CONFIDENT** THAT IF I HAD A CHOICE; I WILL BE ABLE TO STAY AT OR VISIT THE **ECO-FRIENDLY** HOTEL.

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 44. I BELIEVE THAT THE BALANCE OF THE NATURAL ENVIRONMENT IS VERY **DELICATE** AND CAN BE EASILY **UNSETTLED/UPSET**:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 45. I BELIEVE THAT MANKIND **DOES NOT** NEED TO LIVE IN **HARMONY** WITH THE NATURAL ENVIRONMENT IN ORDER TO **SURVIVE**:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 46. PLEASE SELECT 'STRONGLY AGREE' TO PROVE THAT YOU ARE READING THE QUESTIONS CAREFULLY AND HONESTLY.

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 47. I PLAN TO STAY AT/VISIT A HOTEL BASED ON THE CONDITION THAT IT OFFERS ECO-FRIENDLY PRODUCTS OR SERVICES:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 48. I BELIEVE THAT ENVIRONMENTAL PROBLEMS IN SOUTH AFRICA ARE NOT VERY IMPORTANT:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 49. I BELIEVE THAT ENVIRONMENTAL PROBLEMS CANNOT BE IGNORED AND SHOULD BE TAKEN SERIOUSLY IN SOUTH AFRICA:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 50. I BELIEVE THAT SOUTH AFRICANS SHOULD CARE MORE ABOUT ENVIRONMENTAL PROBLEMS:

Strongly Disagree	Disagree	Disagree Somewhat	Neither Disagree nor Agree	Agree Somewhat	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



MCS QUESTIONNAIRE

THANK YOU FOR TAKING THE TIME TO COMPLETE THE QUESTIONNAIRE!

* 51. PLEASE ENTER YOUR EMAIL ADDRESSES FOR PAYMENT/INCENTIVE PURPOSES

Email Address

Email Address

APPENDIX B: Skewness and Kurtosis Results

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
A1	450	-.417	.117	-.790	.233
A2	450	-.390	.117	-.145	.233
A3	450	-.343	.117	-.251	.233
A4	450	-.458	.117	-.613	.233
A5	450	-.540	.117	.198	.233
A6	450	-.225	.117	-.568	.233
A7	450	-.572	.117	.203	.233
IN1	450	-.740	.117	.304	.233
IN2	450	-.537	.117	-.291	.233
IN3	450	-.791	.117	.287	.233
SN1	450	-.693	.117	-.146	.233
SN2	450	-.701	.117	.004	.233
SN3	450	-.876	.117	.406	.233
PBC1	450	-.683	.117	-.184	.233
PBC2	450	-.981	.117	.774	.233
PBC3	450	-.348	.117	-.518	.233
AR1	450	-.359	.117	.601	.233
AR2	450	-.344	.117	.334	.233
AR3	450	.058	.117	.088	.233
EC1	450	-1.403	.117	.747	.233
EC2	450	-1.409	.117	.954	.233
EC3	450	-1.452	.117	1.824	.233
EC4	450	-1.362	.117	1.920	.233
EC5	450	-1.282	.117	.503	.233
EC6	450	-1.444	.117	.979	.233
EC7	450	-2.741	.117	10.211	.233
EC8	450	-2.492	.117	8.575	.233
EK1	450	-1.420	.117	1.655	.233
EK2	450	-1.393	.117	.789	.233
EK3	450	-.985	.117	.291	.233
PMO1	450	-1.421	.117	1.403	.233
PMO2	450	-1.217	.117	.301	.233
Valid N (listwise)	450				

APPENDIX C: Chi-square Distribution Table

df	P = 0.05	P = 0.01	P = 0.001
1	3.84	6.64	10.83
2	5.99	9.21	13.82
3	7.82	11.35	16.27
4	9.49	13.28	18.47
5	11.07	15.09	20.52
6	12.59	16.81	22.46
7	14.07	18.48	24.32
8	15.51	20.09	26.13
9	16.92	21.67	27.88
10	18.31	23.21	29.59
11	19.68	24.73	31.26
12	21.03	26.22	32.91
13	22.36	27.69	34.53
14	23.69	29.14	36.12
15	25.00	30.58	37.70
16	26.30	32.00	39.25
17	27.59	33.41	40.79
18	28.87	34.81	42.31
19	30.14	36.19	43.82
20	31.41	37.57	45.32
21	32.67	38.93	46.80
22	33.92	40.29	48.27
23	35.17	41.64	49.73
24	36.42	42.98	51.18
25	37.65	44.31	52.62
26	38.89	45.64	54.05
27	40.11	46.96	55.48
28	41.34	48.28	56.89
29	42.56	49.59	58.30
30	43.77	50.89	59.70
31	44.99	52.19	61.10
32	46.19	53.49	62.49

APPENDIX D: Inter-item Correlations Table

	A1	A2	A3	A4	A5	A6	A7	IN1	IN2	IN3	SN1	SN2	SN3	PBC1	PBC2	PBC3	AR1	AR2	AR3	EC1	EC2	EC3	EC4	EC5	EC6	EK1	EK3	PMO1	PMO2
A1	1.00	0.65	0.64	0.57	0.60	0.61	0.55	0.43	0.44	0.49	0.42	0.36	0.39	0.46	0.44	0.41	0.26	0.25	0.24	0.28	0.12	0.11	0.19	0.21	0.28	0.36	0.40	0.31	0.28
A2	0.65	1.00	0.71	0.56	0.62	0.69	0.54	0.39	0.45	0.45	0.45	0.39	0.37	0.42	0.43	0.40	0.26	0.24	0.29	0.24	0.13	0.16	0.20	0.19	0.23	0.33	0.39	0.23	0.24
A3	0.64	0.71	1.00	0.61	0.59	0.68	0.58	0.40	0.40	0.45	0.42	0.36	0.34	0.42	0.46	0.44	0.19	0.18	0.26	0.23	0.13	0.20	0.21	0.17	0.21	0.35	0.46	0.31	0.32
A4	0.57	0.56	0.61	1.00	0.64	0.61	0.64	0.40	0.39	0.49	0.36	0.31	0.36	0.43	0.48	0.41	0.23	0.29	0.25	0.26	0.20	0.16	0.24	0.23	0.24	0.37	0.40	0.32	0.36
A5	0.60	0.62	0.59	0.64	1.00	0.70	0.70	0.41	0.44	0.50	0.46	0.39	0.42	0.44	0.49	0.43	0.24	0.28	0.24	0.30	0.16	0.20	0.25	0.25	0.25	0.41	0.45	0.33	0.34
A6	0.61	0.69	0.68	0.61	0.70	1.00	0.64	0.44	0.43	0.52	0.47	0.43	0.40	0.47	0.49	0.44	0.26	0.25	0.30	0.24	0.11	0.17	0.26	0.20	0.23	0.40	0.47	0.29	0.32
A7	0.55	0.54	0.58	0.64	0.70	0.64	1.00	0.43	0.41	0.50	0.44	0.42	0.40	0.50	0.53	0.46	0.19	0.22	0.18	0.29	0.18	0.23	0.26	0.25	0.29	0.42	0.47	0.31	0.34
IN1	0.43	0.39	0.40	0.40	0.41	0.44	0.43	1.00	0.69	0.70	0.48	0.41	0.42	0.47	0.55	0.47	0.26	0.27	0.26	0.27	0.20	0.16	0.35	0.22	0.33	0.45	0.43	0.36	0.43
IN2	0.44	0.45	0.40	0.39	0.44	0.43	0.41	0.69	1.00	0.66	0.53	0.45	0.47	0.48	0.55	0.49	0.25	0.28	0.28	0.23	0.16	0.15	0.30	0.15	0.33	0.46	0.47	0.34	0.36
IN3	0.49	0.45	0.45	0.49	0.50	0.52	0.50	0.70	0.66	1.00	0.51	0.41	0.48	0.55	0.63	0.56	0.24	0.24	0.23	0.29	0.20	0.23	0.35	0.27	0.34	0.45	0.53	0.39	0.42
SN1	0.42	0.45	0.42	0.36	0.46	0.47	0.44	0.48	0.53	0.51	1.00	0.75	0.78	0.42	0.50	0.44	0.28	0.25	0.29	0.17	0.05	0.09	0.23	0.10	0.23	0.41	0.41	0.31	0.29
SN2	0.36	0.39	0.36	0.31	0.39	0.43	0.42	0.41	0.45	0.41	0.75	1.00	0.88	0.33	0.40	0.37	0.37	0.31	0.34	0.10	-0.06	0.02	0.08	0.02	0.16	0.32	0.35	0.24	0.20
SN3	0.39	0.37	0.34	0.36	0.42	0.40	0.40	0.42	0.47	0.48	0.78	0.68	1.00	0.39	0.44	0.43	0.28	0.28	0.26	0.17	0.02	0.10	0.18	0.08	0.19	0.37	0.43	0.30	0.29
PBC1	0.46	0.42	0.42	0.43	0.44	0.47	0.50	0.47	0.48	0.55	0.42	0.33	0.39	1.00	0.75	0.72	0.15	0.12	0.18	0.26	0.23	0.22	0.30	0.25	0.29	0.46	0.52	0.32	0.38
PBC2	0.44	0.43	0.46	0.48	0.49	0.49	0.53	0.55	0.55	0.63	0.50	0.40	0.44	0.75	1.00	0.78	0.19	0.20	0.21	0.26	0.23	0.29	0.36	0.28	0.34	0.48	0.56	0.42	0.45
PBC3	0.41	0.40	0.44	0.41	0.43	0.44	0.46	0.47	0.49	0.56	0.44	0.37	0.43	0.72	0.78	1.00	0.12	0.13	0.16	0.17	0.11	0.21	0.28	0.17	0.25	0.40	0.51	0.32	0.33
AR1	0.26	0.26	0.19	0.23	0.24	0.26	0.19	0.26	0.25	0.24	0.28	0.37	0.28	0.15	0.19	0.12	1.00	0.59	0.58	0.13	0.08	0.01	0.07	0.05	0.12	0.19	0.18	0.06	0.09
AR2	0.25	0.24	0.18	0.29	0.28	0.25	0.22	0.27	0.28	0.24	0.25	0.31	0.28	0.12	0.20	0.13	0.59	1.00	0.57	0.18	0.07	0.00	0.16	0.11	0.14	0.14	0.15	0.10	0.14
AR3	0.24	0.29	0.26	0.25	0.24	0.30	0.18	0.26	0.28	0.23	0.29	0.34	0.26	0.18	0.21	0.16	0.58	0.57	1.00	0.15	0.02	-0.02	0.08	-0.01	0.09	0.19	0.18	0.03	0.11
EC1	0.28	0.24	0.23	0.26	0.30	0.24	0.29	0.27	0.23	0.29	0.17	0.10	0.17	0.26	0.26	0.17	0.13	0.18	0.15	1.00	0.31	0.17	0.32	0.33	0.36	0.25	0.35	0.35	0.46
EC2	0.12	0.13	0.13	0.20	0.16	0.11	0.18	0.20	0.16	0.20	0.05	-0.06	0.02	0.23	0.23	0.11	0.08	0.07	0.02	0.31	1.00	0.29	0.35	0.47	0.37	0.27	0.28	0.28	0.34
EC3	0.11	0.16	0.20	0.16	0.20	0.17	0.23	0.16	0.15	0.23	0.09	0.02	0.10	0.22	0.29	0.21	0.01	0.00	-0.02	0.17	0.29	1.00	0.48	0.21	0.19	0.13	0.27	0.35	0.32
EC4	0.19	0.20	0.21	0.24	0.25	0.26	0.26	0.35	0.30	0.35	0.23	0.08	0.18	0.30	0.36	0.28	0.07	0.16	0.08	0.32	0.35	0.48	1.00	0.27	0.33	0.22	0.36	0.41	0.42
EC5	0.21	0.19	0.17	0.23	0.25	0.20	0.25	0.22	0.15	0.27	0.10	0.02	0.08	0.25	0.28	0.17	0.05	0.11	-0.01	0.33	0.47	0.21	0.27	1.00	0.43	0.23	0.30	0.29	0.36
EC6	0.28	0.23	0.21	0.24	0.25	0.23	0.29	0.33	0.33	0.34	0.23	0.16	0.19	0.29	0.34	0.25	0.12	0.14	0.09	0.36	0.37	0.19	0.33	0.43	1.00	0.26	0.37	0.37	0.41
EK1	0.36	0.33	0.35	0.37	0.41	0.40	0.42	0.45	0.46	0.45	0.41	0.32	0.37	0.46	0.48	0.40	0.19	0.14	0.19	0.25	0.27	0.13	0.22	0.23	0.26	1.00	0.59	0.39	0.43
EK3	0.40	0.39	0.46	0.40	0.45	0.47	0.47	0.43	0.47	0.53	0.41	0.35	0.43	0.52	0.56	0.51	0.18	0.15	0.18	0.35	0.28	0.27	0.36	0.30	0.37	0.59	1.00	0.48	0.54
PMO1	0.31	0.23	0.31	0.32	0.33	0.29	0.31	0.36	0.34	0.39	0.31	0.24	0.30	0.32	0.42	0.32	0.06	0.10	0.03	0.35	0.28	0.35	0.41	0.29	0.37	0.39	0.48	1.00	0.71
PMO2	0.28	0.24	0.32	0.36	0.34	0.32	0.34	0.43	0.36	0.42	0.29	0.20	0.29	0.38	0.45	0.33	0.09	0.14	0.11	0.46	0.34	0.32	0.42	0.36	0.41	0.43	0.54	0.71	1.00

APPENDIX E: Ethical Clearance Letter



Department of Life and Consumer Sciences
School of Agriculture and Life Sciences
College of agriculture and Environmental Sciences
Private Bag X6
Florida
1710

To: D De Freitas (Student no: **458-411-95**)

Subject: Outcome of your research proposal

It gives me great pleasure to inform you that your MSc research proposal titled: **EXPLORING AND PREDICTING SOUTH AFRICAN CONSUMERS' INTENDED BEHAVIOUR TO SELECT GREEN HOTELS: EXTENDING THE THEORY OF PLANNED BEHAVIOUR** has been approved.

Comments and suggested improvements were provided by the review committee. These comments will be communicated to you by your supervisor.

Good luck with the rest of your studies.

Best regards

.....*Lebelo*..... Date *21/10/2016*.....
Dr SL Lebelo
COD: Department of Life and Consumer Sciences