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**The green marketing mix, sustainability awareness, purchase intentions and behaviour
of South African Generation-Z consumers**

by

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DECLARATION

I, **Kelisha Pandaram**, declare that:

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ABSTRACT

Generation-Z is emerging as one of the most influential generations globally, with significant implications for marketers and businesses. Despite their growing importance, there is limited research on Generation-Z, particularly in South Africa, and their purchasing behaviour pertaining to environmentally friendly products. This study aimed to fill this gap by examining South African Generation-Z consumers' attitudes towards the green marketing mix, sustainability awareness and their impact on purchase intentions and behaviour pertaining to green products. The research questions addressed the relationships between the green marketing mix, sustainability awareness, purchase intentions, and behaviour among South African Generation-Z consumers. The study also explored the mediating role of purchase intentions and the moderating effect of sustainability awareness. The theory of planned behaviour (TPB) was used as the theoretical framework underpinning the study.

This study employed a quantitative research approach, utilising a descriptive research design and a cross-sectional time horizon. It was conducted at the University of KwaZulu-Natal's Westville, Howard College, and Pietermaritzburg campuses. A convenience sample of 332 students was selected from a target population, which included Generation-Z students (18-26 years) registered for undergraduate and postgraduate studies. Data was collected through questionnaires administered during contact lectures and informal interactions at the campuses' cafeterias and quadrangles. The collected data was processed, analysed and interpreted to provide valuable insights into the variables investigated.

This study established that positive attitudes towards the green marketing mix, including green product, green price, green place, and green promotion, significantly shape the purchase intentions and behaviour of South African Generation-Z consumers. Through empirical analysis, the research demonstrated the mediating role of purchase intentions in the relationship between these attitudes and purchasing behaviour, highlighting the predictive power of purchase intentions. Although sustainability awareness plays a vital role in fostering environmentally conscious behaviour, it does not significantly moderate the connection between purchase intentions and purchasing behaviour. The study empirically validates the influence of the green marketing mix on sustainable consumption within this demographic. It provides valuable insights for marketers and businesses seeking to engage effectively with environmentally conscious Generation-Z consumers in South Africa.

Keywords: Green marketing mix, sustainability awareness, purchase intentions, purchasing behaviour, South African Generation-Z

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LIST OF ABBREVIATIONS

ACA:	African Climate Alliance
AMA:	American Marketing Association
ANOVA:	Analysis of Variance
DMI:	Data Management Information
KMO:	Kaiser-Meyer-Olkin
SDGs:	Sustainable Development Goals
SPSS:	Statistical Package for Social Sciences
TPB:	Theory of Planned Behaviour
UKZN:	University of KwaZulu-Natal

CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 Introduction

According to Ottman (2019), in the present century, the concept of green marketing has garnered burgeoning interest, driven by an increasing awareness of sustainability issues among consumers. As defined by Dango and Pujari (2022, p. 472), “green marketing involves integrating environmental concerns into the traditional marketing mix, which encompasses product, price, place and promotion”. Sustainability issues encompass broader economic, social, and environmental challenges related to long-term well-being, while environmental concerns specifically pertain to problems related to the natural environment (Mahasuweerachai and Suttikun, 2022). This green marketing approach aligns marketing strategies with the broader spectrum of sustainability issues, emphasising environmentally responsible practices. One demographic group that plays a pivotal role in the push for environmentally conscious consumption is Generation-Z, also known as the post-millennial generation (Artemucho, 2022; Nguyen Ngoc, Viet Dung, Rowley and Pejić-Bach, 2022). Bourke (2019) states that Generation-Z is born between 1997 and 2012 and is renowned for their heightened environmental consciousness and robust commitment to social responsibility causes. This generation’s inclination towards sustainability and social awareness makes them a central target audience for green marketing initiatives (Mahasuweerachai and Suttikun, 2022).

The research investigates the influence and the relationship associated with the green marketing mix, sustainability awareness, green purchase intentions and behaviour of South African Generation-Z consumers and was conducted at the University of KwaZulu-Natal as many of Generation-Z are currently in tertiary institutions (Ramnarain, 2022). These students are suitable candidates to participate in a study of this nature. Presently, there remains a paucity of research on Generation-Z consumers and their relationship associated with the green marketing mix, sustainability awareness, and the green purchase intentions and behaviour particularly of South African Generation-Z consumers (Dragolea *et al.*, 2023).

1.2 Background of the study

The term green marketing became prominent between the late 1980s and early 1990s. The American Marketing Association (AMA) held the inaugural workshop on ecological marketing in 1975, when the environmental movement gained momentum in response to concerns about pollution, resource depletion, and other environmental issues (Williams and Page, 2019). Marketers and businesses began to recognise the importance of environmental sustainability and began to incorporate green marketing practices into their operations (Bourke, 2019).

In South Africa, the issue of sustainability has been a focus for many years, due to the country's unique economic, social, and environmental challenges. Djafarova and Foots (2022) claim that there has been a growing awareness of sustainability among consumers, particularly among the Generation-Z demographic group. Fromm and Read (2022) highlight that research studies examining sustainability awareness, as well as the green purchase intentions and behaviour of South African Generation-Z consumers, are still relatively new. However, these studies have already provided significant insights into the factors that influence consumer behaviour. Stiegler and Bouchard (2020) contend that South African Generation-Z consumers are more likely to prioritise sustainability in their purchasing decisions and are willing to pay more for environmentally friendly products. Holistically, the history of the green marketing mix and sustainability awareness in South Africa highlights the importance of understanding consumer behaviour and decision-making in the context of environmental sustainability. According to Matthews (2020), by developing effective marketing strategies that target the factors that influence consumer behaviour, marketers and businesses can promote sustainable practices and products and contribute to a more sustainable future.

1.3 Research problem

The research problem centres on the significance of Generation-Z consumers in South Africa as a substantial and environmentally conscious customer segment. While prior research has examined their environmentally friendly behaviours within the South African context, there remains a gap in understanding the influence of these variables, which are the green marketing mix and sustainability awareness, on this consumer segment's green purchasing intentions and behaviour. This gap highlights the complexity of the interplay between the green marketing mix, sustainability awareness, and green purchase intentions and behaviour among South African Generation-Z consumers, making it a pivotal area of study. The green marketing mix

is a strategic framework that adapts the traditional marketing mix to promote environmentally sustainable products and practices through green product, green price, green place, and green promotion strategies (Naduva, 2022). The green purchase intentions and purchasing behaviour of consumers are shaped by a mosaic of values, beliefs, and attitudes regarding sustainability (Mehrabian and Russell, 2022; Ngyen, Huynh, Ho and Doan, 2022; Ramnarain and Govender, 2019). Consequently, understanding the dynamics within this complex area of study is essential for gaining insights into the behaviours and intentions of this consumer group.

South Africa's environmental challenges make Generation-Z consumers more environmentally conscious (Artemucho, 2022; Polonsky, 2022). However, there is a lack of research on the attitudes toward the green marketing mix, sustainability awareness, and green purchase intentions and behaviour among Generation-Z consumers in South Africa (Dragolea *et al.*, 2023). This study aims to address this gap, exploring the relationship between these factors and providing insights for companies marketing eco-friendly products. It contributes to sustainable development and climate change mitigation in South Africa.

1.3.1 Research questions

- What is the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- What is the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers?
- What is the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- To what extent does intentions to purchase green products mediate the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- What is the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

- To what extent does sustainability awareness moderate the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

1.3.2 Research objectives

- To determine the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To examine the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers.
- To determine the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To understand the extent to which intentions to purchase green products mediates the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To examine the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To understand the extent to which sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

1.4 Literature review

1.4.1 Generation-Z consumers

According to Bassiouni and Hackley (2019), Generation-Z consumers have grown up in a highly connected digital world and they engage with technology, social media and online shopping from an early age. This exposure has influenced their behaviours, preferences, and consumption patterns (Priporas, Stylos and Fotiadis, 2022; Wood, 2022). Generation-Z

consumers are known for their diversity, multiculturalism, and social consciousness (Bassiouni and Hackley, 2019; Dabija, Bejan and Dinu, 2019). This generation is particularly concerned about sustainability and ethical considerations when making purchasing decisions, seeking out brands that align with their values (Dabija *et al.*, 2019; Priporas *et al.*, 2022).

1.4.2 South African Generation-Z consumers

Maziriri, Nyagadza, Mabuyana, Rukuni and Mapuranga (2023) state that South African Generation-Z consumers who reside in South Africa share similarities with their global counterparts but are influenced by the country's specific cultural, social and economic context. Factors such as historical events, socioeconomic conditions, and technological access shape their attitudes, behaviours, and consumption patterns (Naicker, 2022). In the context of post-apartheid South Africa, South African Generation-Z consumers have experienced a more interconnected world with access to the internet and digital technology (Koenait, Maziriri and Chuchu, 2021). South African Generation-Z consumers have concerns about sustainability, ethical practices, and corporate social responsibility, which influence their purchasing decisions (Kangwa, Mwale and Shaikh, 2021). Maziriri *et al.* (2023) claim that it is essential to understand the unique characteristics and preferences of South African Generation-Z consumers for marketers and businesses to effectively engage with this consumer segment by aligning marketing strategies and products with their values and interests.

1.4.3 The green marketing mix, sustainability awareness and South African Generation-Z consumers

The intersection of the green marketing mix, sustainability awareness, and South African Generation-Z consumers presents a compelling area of study in the realm of consumer behaviour and sustainable marketing practices (Bourke, 2019). Kahawanoda, Peter and Niwunhella (2020) have emphasised the pivotal role of consumer sustainability awareness in shaping their behaviours. This sustainability awareness is often driven by factors such as environmental concerns, ethical values, and a desire for socially responsible consumption. Ulfaine and Astuti (2019) expound that consumers who prioritise sustainability are more likely to favour eco-friendly products, demand transparent green supply chains, and engage in environmentally responsible practices. However, the specific nuances of how South African Generation-Z consumers, a demographic known for its technological inclinations and social

consciousness, align their sustainability awareness with their purchasing decisions remain primarily unexplored (Schlegelmilch, Bohlen and Diamantopoulos, 2022).

Furthermore, organisations are recognising the importance of addressing sustainability concerns through green marketing strategies to resonate with these increasingly sustainability-conscious consumers (Ding, Veenman and Adamowicz, 2022). Naicker (2022) defines green marketing as four elements, which include green product, green place, green price and green promotion and are all channelled toward minimising environmental impact and promoting sustainable practices. Corporations are increasingly adopting eco-labelling, emphasising product eco-friendliness, and integrating corporate social responsibility into their brand narratives to attract this consumer segment (Kawaf and Tagg, 2022; Mohanlal, 2023).

Despite these developments, the gap in the literature is evident as there is a lack of a comprehensive understanding of how sustainability-aware South African Generation-Z consumers are and in tandem with how their attitudes are influenced by the various elements of the green marketing mix (Artemucho, 2022). This research aims to address these gaps by exploring the connection between the green marketing mix, sustainability awareness, and the attitudes of South African Generation-Z consumers. These insights will be invaluable for organisations seeking to navigate the evolving landscape of sustainable marketing in South Africa.

1.4.4 The green marketing mix, sustainability awareness and its influence on the purchase intentions and behaviour of South African Generation-Z consumers

Jhamb, Aggarwal, Mittal and Paul (2020) postulate that the intention to purchase is the predisposition or inclination of consumers to buy a product or service. In the context of the green marketing mix and sustainability awareness, the intention to purchase and purchasing behaviour are influenced by consumers' perception of a brand's environmental efforts and their personal beliefs and values pertaining to sustainability (Ninoa, Roy and Cheriyan, 2020). Generation-Z consumers with a high level of sustainability awareness are more likely to prioritise eco-friendly products and show a stronger intention to purchase these types of products (Jhamb *et al.*, 2020).

The section below will discuss the key variables of the green marketing mix, sustainability awareness, its influence on South African Generation-Z consumers' purchase intentions and behaviour as well as the interdependency of all the variables.

According to Yeshoni and Yogi (2020), the green marketing mix aims to engage with Generation-Z consumers by integrating sustainability into green products, green price, green place, and green promotion. Jhamb *et al.* (2020) contend that this approach increases sustainability awareness and highlights the value of eco-friendly products. Parveen, Jaafar, and Sulaiman (2022) elucidate that when Generation-Z consumers perceive a brand's commitment to sustainability and eco-friendly offerings, their intention to purchase and purchasing behaviour of such products is positively influenced. The green marketing mix plays a crucial role in raising sustainability awareness among Generation-Z consumers and driving their intention and behaviour to purchase ecological products (Ibrahim, 2021). These variables are interconnected and contribute to shaping consumer behaviour towards sustainable consumption (Aslimina, 2019).

1.4.5 The gap in the extant literature

There is a growing body of literature that has examined the concept of green marketing and its impact on Generation-Z consumers (Liu and Hei, 2021; Nikolić, Paunović, Milovanović, Lozović and Đurović, 2022; Salam, Singkeruang, Husni and Baharuddin, 2024). A large proportion of these studies have focused on countries in the West (Duffett, 2020; Galbreth and Ghosh, 2023; Portney, 2022), potentially overlooking the unique cultural factors in countries such as South Africa (Matthews, 2020; Ramnarain and Govender, 2019). According to Dangelico and Vocalelli (2022), addressing these phenomena entails delving into empirical studies tailored to the South African context. It involves examining the intersectionality and cultural influences and probing the enduring impacts and behavioural shifts linked to sustainable consumption within the Generation-Z demographic in South Africa (Matthews, 2020).

To date, there is a paucity of research that has examined the attitudes towards the green marketing mix, sustainability awareness, and green purchase intentions and behaviour among South African Generation-Z consumers (Mehrabian and Russell, 2022; Thomas, Kavya and Monica, 2022). This research sought to address this void in the extant literature.

1.4.6 Theoretical framework

The theoretical model Figure 1 proposed by Ajzen (1985) posits that individuals' behavioural intentions are influenced by three key factors: attitudes, subjective norms, and perceived behavioural control. Goi, Kalidas and Zeeshan (2022:462) state that attitudes refer to individuals' overall evaluations or beliefs about a particular behaviour. In the context of TPB, attitudes are formed based on an individual's beliefs about the positive or negative outcomes associated with performing the behaviour. Birchanihe (2019) noted that subjective norms are individuals' attitudes toward social pressure or expectations regarding a specific behaviour. Subjective norms are shaped by individuals' beliefs about what others think they should or should not do (Dudovskiy, 2021).

According to Kawaf and Tagg (2022), South African Generation-Z consumers who have positive attitudes towards green products and sustainability, perceive social pressure to engage in eco-friendly behaviours, and believe they can make sustainable purchases, are more likely to express stronger green purchase intentions and purchasing behaviour for environmentally friendly products (Matthews, 2020; Ramnarain and Govender, 2019).

By understanding how these variables interrelate, the TPB provides insights into the underlying psychological processes that influence Generation-Z consumers' decision-making and behaviour in relation to the green marketing mix and sustainability (Kawaf and Tagg, 2022).

1.4.7 Significance of the study

This study aims to fill a gap in the existing literature by exploring attitudes towards the green marketing mix elements (including green product, green place, green price, and green promotion) to specifically target Generation-Z consumers in South Africa. The findings of this study will contribute to the existing literature by adding to the body of knowledge of green and sustainable marketing, Generation-Z consumers, their green purchase intentions and purchasing behaviour toward environmentally friendly products.

The study investigates the relationship between the attitudes towards the green marketing mix, sustainability awareness, green purchase intentions and purchasing behaviour pertaining to green products. It helps to contextualise the factors that influence Generation-Z consumers' decision-making processes and their intentions to purchase environmentally friendly products

(Naicker, 2022). Focusing specifically on South African Generation-Z consumers, the study provides localised insights into the attitudes towards the green marketing mix, purchase intentions and purchasing behaviours of this demographic group. This knowledge is valuable for businesses operating in South Africa, as it allows them to better understand and cater to the unique characteristics and preferences of this consumer segment within the South African market (Bleischwitz, Spataru, VanDeveer, Obersteiner, van der Voet, Johnson, Andrews-Speed, Boersma, Hoff and Van Vuuren, 2022; Duffett, Edu, Haydam, Negricea and Zaharia, 2021).

1.5 Research methodology

1.5.1 Research paradigm

According to Saunders, Lewis and Thornhill (2016), positivism is linked to natural science and involves working with observable social reality to generate generalisations that resemble laws. Positivism is the most suitable approach for this study as it allows the data to be free from human interpretation and biases (Saunders *et al.*, 2016). Pereira (2019) asserts that positivism is strongly associated with a quantitative research approach. In this study, the positivism paradigm will be adopted.

1.5.2 Research approaches

A research approach serves as an outline that delineates the methods through which the researcher will acquire, measure, and analyse the gathered data to address the study's research questions (Sekaran and Bougie, 2016). This section concentrates on distinct aspects of research approaches, including types such as quantitative, qualitative, and mixed methods, research strategies, time horizon, and the research environment related to the chosen approach.

1.5.2.1 Types of research approaches

According to Saunders, Lewis, Thornhill and Bristow (2019), quantitative research focuses on examining the relationship between numerically measured variables and utilises various statistical and graphical techniques for analysis. Additionally, the chosen research paradigm is positivism, which is typically associated with quantitative studies (Pereira, 2019). Quantitative research generally follows a deductive approach to theory development, where the collected data is used to evaluate existing theories (Saunders *et al.*, 2019). The advantages of quantitative

studies include higher accuracy, reduced subjectivity, and the ability to work with larger sample sizes, thus representing a broader target population (Sekaran and Bougie, 2016). Therefore, a quantitative research approach is the most suitable choice for this study as it aligns with the chosen research paradigm.

1.5.2.2 Purpose of research design

The researcher utilised a descriptive research design instead of an explanatory, exploratory, or evaluative approach. McCombes (2019) defines descriptive research as a precise and systematic investigation that aims to represent the target population of interest. It allows the researcher to identify specific patterns and characteristics that emerge during the research process. A descriptive research design is typically associated with quantitative studies (McCombes, 2019).

1.5.2.3 Research strategies

In this study, the chosen research strategy was a survey. According to Sekaran and Bougie (2016), a survey is a method for collecting information from individuals to describe, compare, or explain their knowledge, attitudes or behaviour. Surveys are typically associated with quantitative research approaches and are commonly used in a descriptive research design (Sekaran and Bougie, 2016). Creswell (2013) suggests that surveys provide a quantitative description of the study population, enabling the identification of trends and patterns.

1.5.2.4 Time horizon

Cross-sectional studies involve collecting data at a specific point in time, typically spanning days, weeks, or months, intending to address the research question and objectives (Pereira, 2019). Cross-sectional studies are constrained by time limitations (Sekaran and Bougie, 2016). For this study, the chosen time horizon is cross-sectional.

1.5.2.5 Research environment

A research environment, also referred to as a study setting, pertains to the specific context in which the study will take place (Sekaran and Bougie, 2016). A contrived setting is commonly associated with causal studies, but it was not suitable for this research (Sekaran and Bougie, 2016). Conversely, a non-contrived setting is a natural environment that is not manipulated

(Sekaran and Bougie, 2016). For this study, a non-contrived setting known as a field study was conducted among students from the University of KwaZulu-Natal.

1.5.3 Target population and sampling

1.5.3.1 Target population

For this research, the target population comprised all Generation-Z students (aged 18-26 years) registered at the university in the 2024 academic year and studying towards a commerce degree and were specifically Marketing and Business Management students. The main focus was on Generation Z students who were represented in the age category of 18-26. These students are located at the Westville, Howard College and Pietermaritzburg campuses. The rationale behind focusing on students from the School of Management, IT and Governance is that they should possess a foundational understanding of marketing concepts as they have been exposed to these concepts in the marketing and management modules.

1.5.3.2 Sampling strategy

In this study, a non-probability sampling approach was employed, specifically the convenience sampling method. This sampling method allows the researcher to select respondents based on availability and willingness to participate (Mlambo, 2021; Sousa, Zauszniewski and Musil, 2020). Convenience sampling is quick, cost-effective, and practical for gathering data, especially in time-limited or exploratory research (Etikan, Musa and Alkassim, 2022; Stratton, 2021). However, it has disadvantages, including selection bias, limited external validity, and a homogenous sample, which may not be suitable for making broader conclusions or statistical inferences about the target population (Sousa *et al.*, 2020). Researchers should be cautious about potential biases and consider the research objectives and sample representativeness when using convenience sampling (Hamed, 2022; Kam, Wilking and Zechmeister, 2022). Potential biases associated with convenience sampling were mitigated by ensuring that the sample included both undergraduate and postgraduate students from the School of Management, IT, and Governance within the College of Law and Management Studies. This approach enhanced academic diversity within the institution, ensuring that the perspectives of students across different levels of study were represented, thereby improving the study's relevance and reducing selection bias.

1.5.3.3 Sample size

The selection of the sample will be based on the registered student list obtained from the University of KwaZulu-Natal's Data Management Information (DMI) online system. According to the UKZN Institutional Planning Report (2024), data from the DMI online system for the year 2023 indicates a total population of 1,883 undergraduate and postgraduate students within the School of Management, IT, and Governance under the College of Law and Management Studies. However, as this study focuses specifically on Generation-Z students (aged 18-26years), the sample was filtered to include only individuals within this age range. This ensures that the final sample aligns with the study's target population, improving representativeness and validity. In Table 1, Sekaran and Bougie (2016) recommended a minimum sample size of 320. In this study, however, the final sample size totalled 332 which was moderately higher than what was recommended. In this study, however, the final sample size totalled 332, which was moderately higher than what was recommended.

The researcher selected the sample by seeking permission from Commerce lecturers to address their classes, as well as various locations such as the cafeteria, quadrangle, and other gathering places where students congregate. During the process of sample selection, it was ensured that only students within the 18 – 26 age range were selected as the sample by communicating this criterion to the students prior to their participation.

Table 1: Sekaran and Bougie's population-to-sample size table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Source: Sekaran and Bougie (2016)

1.5.4 Data collection

This research employed primary research as the data collection method. Primary data refers to information that is collected for the first time and is specifically tailored to meet the research requirements (Saunders *et al.*, 2016; Sekaran and Bougie, 2016). In this study, questionnaires were utilised as the chosen method for data collection as it allows respondents to complete the survey at their convenience and pace. Researchers can distribute the questionnaires to a large number of respondents simultaneously, saving time compared to individually conducting interviews or observations. Both anonymity and confidentiality are maintained as respondents do not interact directly with the researcher or data collectors, promoting greater openness and reducing social desirability bias (Saunders *et al.*, 2019). The subsequent subsection provides further information regarding the specific questionnaire employed in this research.

1.5.4.1 Questionnaires

For this study, the researcher used questionnaires at the University of KwaZulu-Natal to gather quantitative data from target respondents in their field of study. Statistical software was employed to analyse the data using descriptive statistics, correlation analysis, regression analysis, and inferential statistics (Raju and Harinarayana, 2022). The questionnaire was structured with an introductory section, informed consent form, and limited, clear questions, primarily using closed-ended items and a Likert scale with five points ranging from strongly agree to strongly disagree (Raju and Harinarayana, 2022; Sekaran and Bougie, 2016). The questionnaire focused on demographics, attitudes toward the green marketing mix, sustainability awareness, and purchase intentions and behaviour toward green products. After ethical clearance was obtained, the researcher distributed the hard copies of the questionnaire to students who agreed to participate in the research. The respondents were given time to complete the questionnaire and return it to the researcher once completed.

1.5.4.2 Pilot study

A pilot study serves as a smaller-scale version of the main study. It is crucial to continually test or pilot the research instrument with a few selected respondents who are likely to complete it (Saunders *et al.*, 2016). This process enables the researcher to make necessary adjustments and revisions to ensure the research instrument yields accurate and reliable results. The primary objectives of the pilot study are to determine the time required to complete the questions, assess the sensitivity of the questions, evaluate respondents' comprehension of the questions, and

identify any potential ambiguities in the questions (Pereira, 2019). In this study, the pilot sample consisted of ten respondents who were chosen from the target population. The pilot study respondents indicated that the questionnaire was clear and comprehensible, with sufficient time allocated for completion. As a result, no further modifications to the instrument were deemed necessary.

1.5.5 Data quality control

1.5.5.1 Reliability

Reliability pertains to the degree of consistency exhibited by a measuring instrument (Saunders *et al.*, 2016). In this study, reliability was assessed using the internal consistency test, specifically by computing Cronbach's coefficient alpha. This analysis was conducted for the items measuring attitudes toward the green marketing mix, sustainability awareness, purchase intentions, and behaviour to purchase green products. Cronbach's alpha values range between 0 and 1, with a threshold of 0.7 or higher indicating an acceptable level of reliability (Saunders *et al.*, 2019). The computed Cronbach's alpha values for this study are presented in Section 3.11.1, where the reliability of the measuring instruments is discussed in detail.

1.5.5.2 Validity

In this study, the researcher aimed to establish content and construct validity for the measuring instruments. Content validity ensures that the scale items adequately represent the concept being measured, while construct validity assesses whether the items align with the theoretical framework (Sekaran and Bougie, 2016). To ensure content validity, the researcher consulted with the supervisor to verify the relevance of the items included in the instrument (Sekaran and Bougie, 2016). Construct validity was assessed through factor analysis, employing the Principal Components Method for factor extraction and Varimax rotation within the Statistical Package for Social Sciences (SPSS). This analysis examined the relationship between the measuring instruments and the theoretical framework. The results of this validity assessment are presented in Section 3.11.2, where the validity of the study is discussed in detail.

1.5.5.3 Data analysis

The data analysis was conducted utilising the SPSS software, which is a licensed program provided by the University of KwaZulu-Natal. This statistical tool offers a range of features

that facilitate the representation of data through graphs, pie charts, and frequency distribution tables which enhance the comprehension and interpretation of the gathered data (Verma, 2019). The subsequent subsection provides an explanation of the descriptive and inferential statistical analyses that were performed (Verma, 2019).

1.5.5.3.1 Descriptive statistical test

The analysis in SPSS involved conducting descriptive statistical tests. Initially, a frequency distribution was generated for the responses to both the demographic questions and the study variables from the questionnaire. Additionally, bar graphs were employed to visually represent the data. Furthermore, for the demographic questions and variables, the mean, median, mode, standard deviation, variance, skewness and kurtosis were calculated to provide a comprehensive understanding of the data (Verma, 2019).

1.5.5.3.2 Inferential statistical test

The subsequent analysis in SPSS involved conducting inferential statistical tests. Firstly, a correlation analysis was performed using the Pearson correlation coefficient to examine the relationships between several variables in the study, including attitudes towards the green marketing mix, sustainability awareness, intention to purchase and purchasing behaviour of green products (Bettany-Saltikov and Whittaker, 2020). The significance and strength of these correlations were evaluated based on the correlation coefficient, 'r'. The range of r is from -1 to +1. Secondly, regression analysis was employed to establish relationships among different variables (Bettany-Saltikov and Whittaker, 2020). Specifically, the relationships between attitudes towards the green marketing mix, sustainability awareness, intention to purchase and purchasing behaviour of green products (Bettany-Saltikov and Whittaker, 2020).

The researcher also employed Baron and Kenny's (1986) steps of mediation analysis using hierarchical regression analysis in SPSS. This approach tested the mediating role of purchase intentions in the relationship between the green marketing mix and purchasing behaviour. The researcher used multiple linear regression in SPSS to test the moderating effects of sustainability awareness in the relationships between purchase intentions and purchasing behaviour. This analysis provides valuable insights into the underlying mechanisms that may influence the observed associations (Zhao, Lynch and Chen, 2019).

1.6 Ethical considerations

The initial step involved the researcher acquiring a gatekeeper's letter from the registrar at the University of KwaZulu-Natal. This gatekeeper's letter is a requirement for obtaining ethical clearance from the university's research office. The utmost care was taken to safeguard the confidentiality of respondents' information, ensuring strict adherence to data confidentiality and guaranteeing anonymity, as no personal identifying information, such as names, email addresses, or contact details, was required for this study (Dalati and Marx Gómez, 2022). After obtaining ethical clearance, physical copies of the questionnaire were distributed in the School of Management, IT and Governance at the University of KwaZulu-Natal's Westville, Howard College and Pietermaritzburg campuses. Furthermore, the study strictly adhered to ethical principles, ensuring the absence of any unethical research practices or biases and the avoidance of discriminatory behaviour during the study (Creswell, 2013).

1.7 Limitations of the study

Focusing solely on students from the University of KwaZulu-Natal, School of Management, IT and Governance may not adequately represent the broader attitudes of Generation-Z consumers. Consequently, the generalisability of the results may be limited. Additionally, relying solely on a quantitative research approach might not fully capture the comprehensive understanding of the examined areas. Respondents have the potential to display response bias, leading to the provision of inaccurate or socially desirable responses. This can arise from concerns regarding privacy, the influence of social desirability bias, or a misunderstanding of the questions (Creswell, 2013). The restricted space provided by questionnaires often limits respondents' ability to elaborate on their answers or provide detailed explanations, which hampers a comprehensive understanding of complex issues or phenomena (Dalati and Marx Gómez, 2022).

1.8 Chapter outline

Chapter one will introduce the study by outlining the background, research problem, objectives, and theoretical framework within the context of the green marketing mix, sustainability awareness, and Generation-Z consumer behaviour in South Africa. It will define the research questions and discuss the study's significance, highlighting its potential contributions to green marketing and consumer behaviour research. Additionally, the chapter

will provide an overview of the research methodology, including the research paradigm, approaches, and sampling strategies, while also addressing ethical considerations and study limitations.

Chapter two will explore the green marketing mix, sustainability awareness, and the purchasing behaviour of South African Generation-Z consumers. It will examine the relationship between sustainability awareness, purchase intentions, and green consumer behaviour, while presenting the theoretical framework underpinning these interactions. The literature review will highlight the complexity of eco-conscious consumerism and identify gaps in existing research, particularly within the South African context, emphasising the need for businesses to understand the factors influencing Generation-Z's sustainable purchasing decisions.

Chapter three will outline the research methodology that will guide the study, providing a structured framework for its execution. It will define the research questions and objectives while examining the underlying research paradigm, research design, approach, and time horizon. The chapter will also detail the target population, sampling techniques, data collection methods, and the implementation of a pilot study. Additionally, it will address ethical considerations, data quality control, and analysis strategies to ensure the credibility and robustness of the research.

Chapter four will present the research findings through descriptive and inferential statistical analyses. Reliability will be assessed using Cronbach's coefficient alpha, while factor analysis will evaluate construct validity. Descriptive statistics will summarise demographic data and study variables, while inferential analyses, including correlation and regression tests, will examine relationships between attitudes towards the green marketing mix, sustainability awareness, purchase intentions, and purchasing behaviour. Hierarchical regression will further assess the mediating role of purchase intentions in influencing purchasing behaviour.

Chapter five will provide a comprehensive analysis of the research findings in relation to the study's objectives and existing literature. It will examine how Generation-Z consumers in South Africa perceive and respond to green marketing practices, highlighting the importance of aligning the green marketing mix with sustainability values to encourage sustainable purchase intentions and purchasing behaviour. The discussion will explore the role of attitudes towards the green marketing mix and sustainability awareness in shaping consumer decisions,

offering valuable insights for marketers and businesses seeking to engage with this environmentally conscious demographic.

Chapter six will synthesise the research findings, study limitations, and recommendations, providing a comprehensive reflection on the investigation. It will highlight the key intersections between the green marketing mix, sustainability awareness, purchase intentions, and purchasing behaviour of South African Generation-Z consumers. Additionally, the chapter will outline practical implications for marketers and businesses, suggest avenues for future research, and discuss the study's contributions to the field of green marketing and consumer behaviour.

1.9 Chapter summary

This chapter presented an introduction to the study, delineating the background and research problem within the context of the green marketing mix, sustainability awareness, and the behaviour of Generation-Z consumers in South Africa. It articulated the research questions and objectives, which aim to examine the attitudes of South African Generation-Z consumers towards the green marketing mix and assess their influence on sustainability awareness, as well as their purchase intentions and behaviours. Additionally, the chapter outlined the theoretical framework and emphasised the significance of the study, highlighting its potential to contribute meaningfully to the fields of green marketing and consumer behaviour. The research methodology was also introduced, encompassing the research paradigm, approaches, and sampling strategies to be employed in the study. Ethical considerations and the study's limitations were duly acknowledged. The following chapter will present a comprehensive review of the literature pertaining to the green marketing mix, sustainability awareness, purchase intentions and purchasing behaviour of South African Generation-Z consumers, while critically examining the identified gaps in the extant body of research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter provides a detailed review of the existing literature with a comprehensive background on the green marketing mix, sustainability awareness, purchase intentions and purchasing behaviour of South African Generation-Z consumers. The exploration of the literature encompasses crucial areas such as the green marketing mix, South African Generation-Z consumers, sustainability in marketing and the concept of sustainability awareness. Thereafter, sustainability awareness among Generation-Z consumers, Generation-Z consumers' purchase intentions and buying behaviour related to green products and the attitudes towards the green marketing mix and consumers' buying behaviour pertaining to green products will be discussed.

Furthermore, the attitudes towards the green marketing mix and consumers' purchase intentions of green products and the relationship between consumers' purchase intentions and buying behaviour towards green products will be explained. In addition, the influence of purchase intentions in the relationship between consumers' attitudes towards the green marketing mix and buying behaviour related to green products and the influence of sustainability awareness on consumers' purchase intentions and buying behaviour pertaining to green products is expounded upon.

The gap in the extant literature will be presented. This literature review provides a comprehensive explanation of the theoretical and conceptual framework pertaining to the constructs and variables inherent in this study, culminating with a comprehensive analysis, and concluding with a dedicated conclusion section.

In examining the dynamic intersection of the green marketing mix, sustainability awareness, purchasing intentions and purchasing behaviour of South African Generation-Z consumers, this literature review investigates the evolving landscape of eco-conscious consumerism. The extant literature focuses on the South African context and seeks to analyse the interwoven relationships between the green marketing mix elements, the level of sustainability awareness among Generation-Z and the consequential impact on their purchasing intention and behaviour.

2.2 The green marketing mix

Abzari, Shad, Sharbiyani and Parvareshimorad (2019) define the green marketing mix as an extension of the traditional marketing mix, which consists of the 4Ps (product, price, place and promotion) (Solaiman, Osman and Halim, 2022). However, the green marketing mix incorporates an additional focus on sustainability and environmental responsibility. The green marketing mix comprises green product, green price, green place and green promotion (Mahmoud, 2022).

Green product refers to offering products or services that have a minimal negative impact on the environment throughout their lifecycle and are typically made using sustainable materials and are energy-efficient, recyclable, or biodegradable (Manstead and Parker, 2022). Green products aim to fulfil the needs of consumers while minimising environmental harm (Dangelico, 2022). Green price is the pricing strategy component associated with green marketing which considers the environmental and social costs of production (Solaiman *et al.*, 2022). It may involve offering incentives or discounts for environmentally friendly products to encourage adoption. This pricing strategy can communicate the value of sustainability to consumers and create a competitive advantage (Abzari *et al.*, 2019).

Green place is an element that focuses on the distribution channels and location strategies for green products (Bornman, 2019). It involves considering factors such as eco-friendly packaging, minimising transportation emissions and promoting local sourcing. Marketers and businesses may also explore alternative distribution channels, such as online platforms or sustainable retail outlets and green supply chains to reach environmentally conscious consumers effectively (Solaiman *et al.*, 2022). Green promotion is an aspect that encompasses the marketing communications and promotional strategies employed to raise awareness and encourage the adoption of green products (Bornman, 2019). It includes advertising, public relations, social media campaigns and other promotional activities that emphasise the environmental benefits of the product (Bornman, 2019). Effective green promotion strategies are essential in the digital age, where Generation-Z consumers are highly engaged on social media and online platforms (Mahmoud, 2022). The goal is to educate consumers about the product's sustainability features and highlight how choosing it can contribute to a healthier planet (Mahmoud, 2022).

In addition to these four elements, other interpretations of the green marketing mix also include additional components which comprise of green people, green planet, green process and green packaging (Kumar and Ghodeswar, 2020). The primary focus of the green marketing mix is on the 4Ps. These main elements directly relate to the research's objective of understanding how the green marketing mix influences sustainability awareness, purchase intentions and purchasing behaviour among Generation-Z consumers in South Africa.

According to Fritz, See, Carlson, Haklay, Oliver, Fraisl, Mondardini, Brocklehurst, Shanley, Schade and Wehn (2019), the consumer demand for environmentally sustainable products is increasing, therefore marketers and businesses need to adapt their green marketing mix to meet this demand. By incorporating green principles into the marketing mix, marketers and businesses can differentiate themselves, build a positive brand image, meet consumer expectations and contribute to environmental sustainability (Mahmoud, 2022). The effectiveness of the green marketing mix relies on consumer awareness, education and their willingness to make sustainable choices. The success of green marketing initiatives depends on the alignment between consumer values and the perceived environmental benefits of the products or services being promoted (Abzari *et al.*, 2019).

The green marketing mix emphasises promoting the environmental benefits and sustainability features of products or services (Abzari *et al.*, 2019). Marketing campaigns can highlight reduced environmental impact, carbon footprint reduction, or social responsibility initiatives (Fritz *et al.*, 2019; Solaiman *et al.*, 2022). This can involve providing information on sustainable lifestyles, furnishing guidelines for reducing environmental impact or creating platforms for consumer feedback and involvement in sustainability initiatives. By integrating these elements into their green marketing strategies, marketers and businesses align with the United Nations' Sustainable Development Goals (SDGs) by promoting sustainable consumption and production, combating climate change and fostering responsible business practices (Kumar and Ghodeswar, 2020).

2.3 South African Generation-Z consumers

According to Duffett (2020), Generation-Z refers to the demographic cohort following Generation-Y or Millennials. These individuals were born approximately between 1998 and 2006. Generation-Z encompasses people who are in their late teens to early twenties; they are considered to be the first generation to have grown up entirely in the digital age (Song, Qin and

Ying, 2020). They are highly proficient with technology, having been exposed to smartphones, social media and the internet from an early age. As a result, they tend to be tech-savvy, adaptable to innovative technologies and highly connected through various digital platforms. Williams (2022) has stated that Generation-Z is often described as the most diverse generation in terms of ethnicity, race and cultural background as they embrace and celebrate diversity, and inclusivity is of significant value to them. They tend to be more accepting of differences in gender identity, sexual orientation and other aspects of human diversity (Richards, 2020).

Jovanovic, Damesceno and Schwartzman (2021) claim that Generation-Z shows a strong inclination toward social activism and social justice causes. They are concerned about issues such as climate change, racial equality, gender equality and other socio-political matters. Generation-Z members actively engage in advocacy, protests and digital activism to promote positive change (Koenait, Maziriri and Chuchu, 2021). Generation-Z tends to have an entrepreneurial mindset and is driven by a desire for independence, creativity and self-expression. They are inclined towards starting their own small businesses or engaging in freelance work. The gig economy and the availability of online platforms have provided them with opportunities to explore alternative career paths (Song *et al.*, 2020). Due to growing up during economic uncertainty, this generation tends to have a more conservative approach to finances (Duffett, 2020). They are cautious with their spending, prioritise savings and have a practical outlook toward their financial future. Generation-Z also values financial stability and they actively seek opportunities for economic growth (Williams, 2022).

Generation-Z places a high value on authenticity and personal expression. They appreciate genuine and transparent communication from individuals and brands. They tend to curate their online presence and personal brand, leveraging social media platforms to showcase their individuality and connect with like-minded communities (Song *et al.*, 2020). These aforementioned characteristics are considered generalisations, as individual experiences and traits can vary within the Generation-Z cohort, ergo with any generation; it is essential to approach generational descriptions with an understanding that not all individuals within a generation will exhibit the same characteristics or behaviours (Richards, 2020).

South African Generation-Z refers to the demographic cohort within South Africa that is the first generation born and raised predominantly after the end of apartheid in 1994 (Koenait *et al.*, 2021). They have grown up in a country that is still grappling with the legacies of apartheid and their worldview has been shaped by the ongoing journey towards racial and social equality.

South Africa is a diverse country with a rich multicultural heritage and Generation-Z reflects this diversity (Song *et al.*, 2020). They are exposed to a variety of cultural traditions, languages and belief systems, which contributes to their open-mindedness and acceptance of diverse cultures. Similar to their global counterparts, South African Generation-Z is characterised as digital natives who have grown up in the age of technology (Williams, 2022). They are adept at using digital devices, social media platforms and online communication tools. This digital fluency influences their consumption habits, social interactions and access to information.

South African Generation-Z demonstrates a strong inclination toward social activism and civic engagement (Williams, 2022). They are actively involved in advocating for social justice, addressing systemic issues and promoting inclusivity. They are vocal about various societal challenges, including racism, inequality, gender-based violence and climate change and are leveraging digital platforms to amplify their voices. As per the findings of Richards (2020), South African Generation-Z has predominantly shown an entrepreneurial mindset and a desire for independence and self-employment. They are innovative, tech-savvy and open to exploring non-traditional career paths. Many Generation-Z individuals are embracing entrepreneurship and freelancing to create their own opportunities and pursue their passions (Koenaité *et al.*, 2021).

Education and career aspirations are important to South African Generation-Z as they strive for a quality education and are motivated to obtain degrees or acquire skills that will enhance their employability (Duffett, 2020). However, they face challenges such as high unemployment rates and a competitive job market, leading specific individuals to seek alternative paths or focus on entrepreneurship (Williams, 2022). Not all individuals within the South African Generation-Z cohort will display the same characteristics or experiences (Richards, 2020). The rapidly changing South African context, including historical, cultural and socio-economic factors, has shaped the perspectives and identities of this generation (Koenaité *et al.*, 2021).

2.4 Sustainability in marketing

Scoones (2021) defines sustainability as a concept that centres on meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. According to Portney (2022), sustainability in marketing refers to the practice of integrating environmentally and socially responsible principles into various aspects of a company's marketing strategies, operations and products. It involves a commitment to

conducting business in a way that minimises negative impacts on the environment, society and future generations, while also addressing the needs and desires of consumers. This concept extends beyond traditional profit-driven approaches and encompasses the triple bottom line which comprises of people, planet and profit (Giovannoni and Fabietti, 2022).

Werbach (2021) elucidates that sustainable marketing focuses on reducing the ecological footprint of products and operations. This involves using eco-friendly materials, minimising waste generation, reducing energy consumption and implementing practices that mitigate harm to natural resources. For example, companies might place emphasis on and practice utilising renewable energy sources, reducing water usage and adopting recyclable or biodegradable packaging (Esfahani, 2019). Furthermore, sustainable marketing incorporates ethical considerations into business decisions. Companies are expected to ensure fair labour practices, treat employees and suppliers ethically and maintain transparency throughout the green supply chain (Thiele, 2019). By demonstrating social responsibility, companies can build trust and loyalty among consumers who value ethical behaviour.

It also encompasses educating consumers about the environmental and social impacts of their purchasing decisions. This includes providing information about the origin of products, their production processes and the benefits of choosing sustainable options. Educated consumers are more likely to make informed choices that align with their values (Scoones, 2021). Sustainable marketing encourages companies to develop innovative solutions that address environmental and social challenges. This can include creating new products that have a reduced environmental footprint, adopting technologies that abate waste and pollution and finding approaches to extend the lifecycle of products through recycling and refurbishing (Thiele, 2019).

Retailers and restaurants such as Woolworths and Ocean Basket have actively incorporated sustainable marketing initiatives to promote environmental responsibility and ethical consumerism. Woolworths, a leading South African retailer, has implemented its Good Business Journey programme, which integrates sustainable sourcing, waste reduction, and water conservation into its operations. The company prioritises responsibly sourced seafood through its Farming for the Future initiative, which promotes soil health, reduced water usage, and minimal chemical intervention in its agricultural supply chain (Giovannoni and Fabietti, 2022). Additionally, Woolworths has committed to eliminating single-use

plastics and transitioning to biodegradable or recyclable packaging, demonstrating a strategic approach to sustainable marketing (Scoones, 2021).

Similarly, Ocean Basket, a popular seafood restaurant chain, has embraced sustainable marketing through its partnerships with the Marine Stewardship Council (MSC) and the Aquaculture Stewardship Council (ASC). These collaborations ensure that the seafood it sources meets rigorous sustainability standards, thereby protecting marine biodiversity and preventing overfishing (Giovannoni and Fabietti, 2022). The restaurant chain also actively promotes responsible seafood consumption through in-store marketing campaigns and digital engagement strategies that educate consumers about sustainable choices (Scoones, 2021). By embedding sustainability into their branding, operations, and consumer engagement, both Woolworths and Ocean Basket illustrate how sustainable marketing extends beyond messaging to tangible, impact-driven initiatives that enhance their environmental and ethical footprint (Giovannoni and Fabietti, 2022; Scoones, 2021).

Sustainable practices, such as reducing greenhouse gas emissions, promoting renewable energy and preserving ecosystems, align with the environmental goals of the United Nation's Sustainable Development Goals (SDGs) (Portney, 2022). Moreover, sustainability encourages economic growth that is environmentally responsible and socially inclusive (Scoones, 2021). By embracing sustainability principles, societies can work towards a more equitable, resilient and prosperous future (Werbach, 2021).

Ergo, sustainability seeks to create a harmonious and balanced relationship between the economy, society and the environment (Scoones, 2021). Sustainable marketing accentuates the importance of engaging stakeholders, including customers, employees, investors and communities (Thiele, 2019). By including stakeholders in decision-making processes, companies can ensure that their sustainability efforts align with the expectations and values of their various stakeholders. This results in a longitudinal view of business success instead of focusing solely on short-term profits; companies consider the long-term implications of their actions on the environment, society and their reputation (Portney, 2022). Sustainability in marketing ensures that marketers and businesses align their goals with societal and environmental well-being as consumers increasingly seek products and brands that reflect their values and contribute to a more sustainable future. By integrating sustainability into marketing strategies, companies can create a positive impact, foster consumer loyalty and position

themselves as industry leaders (Giovannoni and Fabietti, 2022; Portney, 2022; Werbach, 2021).

2.5 The concept of sustainability awareness

Herremans and Reid (2022) state that sustainability awareness refers to the level of knowledge, comprehension and consciousness that individuals, stakeholders, communities and organisations have about the principles and practices of sustainability. It is associated with the interconnections between environmental, social and economic factors and understanding the impact of human activities on the planet's health, well-being and future (Hamid, Ijab, Sulaiman, Anwar and Norman, 2020). Sustainability awareness is a critical component of promoting responsible behaviour and decision-making that aligns with sustainable development goals (Hamid *et al.*, 2020).

According to Galbreth and Ghosh (2023), sustainability awareness is aligned with being conscious of the natural world, its ecosystems and the delicate balance that sustains life on planet Earth. Individuals with a strong understanding and awareness about sustainability understand the importance of protecting biodiversity, conserving natural resources and mitigating pollution and waste. Consumers who embody sustainability awareness are mindful of the significance of social issues such as equity, social justice and community well-being and that sustainable development goes beyond environmental concerns. It also encompasses the fair treatment of individuals, equal access to resources and the promotion of social inclusion (Herremans and Reid, 2022).

Sustainability awareness extends to the economic dimension by acknowledging the need for financial systems that are environmentally and socially responsible (Herremans and Reid, 2022). Consumers who are sustainably aware value the potential of sustainable business practices, which drive economic growth and minimise negative impacts on the environment and society. Sustainability awareness influences personal choices and lifestyle behaviours. It leads individuals to adopt more sustainable habits, such as reducing energy and water consumption, practising waste reduction and recycling, supporting ethical and eco-friendly products and making conscious choices about transportation and consumption (Galbreth and Ghosh, 2023).

Herremans and Reid (2022) claim that consumers who are sustainably aware often engage in education and advocacy efforts to promote sustainable practices within their communities and beyond. They share information, participate in discussions and encourage others to adopt sustainable behaviours and values. These actions heighten the understanding and interconnectedness of various systems and increase the potential ripple effects of individual actions (Hamid *et al.*, 2020). This perspective also encourages individuals to consider the broader implications of their choices and decisions on the environment, society and future generations. Sustainability-aware consumers are inclined to support marketers and businesses that critically evaluate information, policies and practices to assess their alignment with sustainability goals (Galbreth and Ghosh, 2023).

Garcia, Cordeiro, Alencar and Neto (2019) contend that sustainability awareness fosters adaptability and resilience amid environmental and social challenges. It encourages individuals and communities to find innovative solutions, adapt to changing circumstances and work collaboratively to address complex issues. In addition, it plays a vital role in driving positive change and creating a more sustainable future. As individuals and societies become increasingly aware of the mutually inclusive nature of environmental, social and economic issues, they are more likely to make choices that promote the planet's well-being and contribute to a better quality of life for all (Galbreth and Ghosh, 2023).

2.5.1 Sustainability awareness among Generation-Z consumers

Generation-Z is a socially conscious and environmentally aware cohort that is directly impacted by climate change concerns and increasing awareness of environmental issues; ergo, they have demonstrated an acute interest in sustainable practices and products (Brand, Rausch and Brandel, 2022). Garcia *et al.* (2019) reiterate that this generation is often characterised by its commitment to social responsibility, ethical consumption and a desire for marketers and businesses to prioritise environmental sustainability.

Generation-Z leverages digital platforms to engage in activism and raise awareness about environmental issues, and social media plays a critical role in spreading information and mobilising this generation towards sustainable practices (Galbreth and Ghosh, 2023). Peer influence is a significant factor in influencing sustainability awareness among Generation-Z as the interconnectedness of social circles amplifies the impact of eco-friendly behaviours and choices (Brand *et al.*, 2022). Generation-Z consumers are increasingly demanding transparency

from companies regarding their environmental and ethical practices and are more likely to support brands that align with their values and demonstrate a commitment to sustainability (Williams, 2022).

In the South African context, Generation-Z faces unique environmental challenges such as water scarcity, biodiversity loss and the impact of climate change on agriculture, which contribute to an increased awareness of the importance of sustainability and environmentally friendly practices (Maziriri, Nyagadza, Mabuyana, Rukuni and Mapuranga, 2023). Cultural and social factors play a crucial role in shaping sustainability awareness in South Africa as the country's rich cultural diversity and history influence the perspectives of Generation-Z on environmental issues (Pillay, 2021). Additionally, the social and economic disparities in South Africa contribute to a heightened sense of responsibility towards sustainable practices (Fabiola and Mayangsari, 2020).

The initiatives and policies undertaken by the South African government to promote sustainability and environmental conservation significantly contribute to the heightened awareness among Generation-Z in the country. There have been educational initiatives and campaigns focused on environmental responsibility have been implemented to instil a sense of ecological consciousness in South African youth from a young age (Maziriri *et al.*, 2023).

Khalil, Ismail and Ghalwash (2021) describe South African Generation-Z as a generation that is actively engaged in social and environmental activism. This activism is closely tied to their identity and values, leading them to prioritise brands and products that align with their activism efforts (Shwetha, 2019). The economic diversity in South Africa plays a role in shaping Generation-Z's sustainability awareness. While some might prioritise affordability due to limited resources, others with more significant disposable income might focus on purchasing products that align with their sustainability values (Walker, 2021).

There have been several notable climate change youth campaigns in South Africa led by young activists and organisations. African Climate Alliance (ACA) is a youth-led movement that aims to address climate change in South Africa and across the African continent (Bhutto *et al.*, 2023). They organise protests, marches and awareness campaigns to demand urgent action on climate change. ACA played a significant role in mobilising young people for the Global Climate Strikes, where thousands of South African youths demanded climate justice (Tran *et al.*, 2022).

Project 90 by 2030 is a youth-driven organisation focusing on reducing carbon emissions and promoting sustainable living. They engage with schools, universities and communities through various educational programs, workshops and initiatives. Their campaigns include energy efficiency drives, waste reduction campaigns and advocacy for renewable energy adoption (Tran *et al.*, 2022). Generation Earth is a youth environmental network in South Africa that empowers young people to act on environmental and climate issues. They organise youth camps, workshops and leadership training programs to educate and inspire youth about sustainability and climate change. These workshops provide a platform for young activists to learn, network and collaborate on climate-related projects (Walker, 2021).

Earthchild Project collaborates with schools in underprivileged communities to integrate environmental education into the schooling curriculum. The project promotes sustainable practices, including waste management, organic gardening and mindfulness activities (Khalil *et al.*, 2021). Their programs empower young learners to become environmental ambassadors and execute measures against climate change. The Climate Action Project is an international initiative that engages schools and students in climate change education and action (Bhutto *et al.*, 2023). South African schools and students participate in this project by conducting research, organising awareness campaigns and participating in global virtual conferences to share their findings and ideas for addressing climate change (Tran *et al.*, 2022).

These campaigns and organisations demonstrate the active involvement of South African youth in climate change advocacy, education and community engagement (Khalil *et al.*, 2021). Through their collective efforts, they raise awareness, promote sustainable practices and demand climate justice at local, national and international levels (Shwetha, 2019). In addition, youth-led initiatives such as Fridays for Future and various local sustainability campaigns have mobilised young people to be proactive and promote sustainable practices, with respect to climate change (Bhutto *et al.*, 2023; Rudawska, 2019).

Since South African Generation-Z values social and environmental responsibility, they prioritise brands and products that demonstrate a commitment to sustainability and ethical practices (Khalil *et al.*, 2021). This value-driven approach influences their purchasing decisions and consumption patterns, driving marketers and businesses to adopt sustainable practices and implement green marketing strategies within the green marketing mix (Walker, 2021). South African Generation-Z faces the prospect of inheriting a world affected by environmental challenges. They have grown up witnessing water shortages, droughts, energy crises and other

environmental impacts (Tran *et al.*, 2022). These subjective experiences, combined with concerns about their future and the well-being of future generations, motivate South African Generation-Z to be more environmentally aware and take the initiative to promote sustainability (Bhutto *et al.*, 2023).

Pillay (2021) explicates that South African Generation-Z consumers exhibit specific consumer preferences regarding sustainable products; ergo, understanding their preferences, motivations and barriers to adopting sustainable behaviours is essential for marketers and businesses aiming to cater to this market. The extensive effect of the green marketing mix in tandem with the increasing recognition of sustainability by consumers is significant (Shwetha, 2019).

Generation-Z, on both a global scale and within South Africa, distinguishes itself as a generation profoundly dedicated to promoting sustainability (Tran *et al.*, 2022). Their robust principles, adroitness with digital platforms and yearning for constructive change all steer their intentions to support environmentally conscious products and brands (Polonsky *et al.*, 2022). It is imperative for enterprises to grasp the distinctive attributes of Generation-Z which encompass their cultural and financial circumstances. Inter alia, they should strive to competently engage this demographic's tendencies towards sustainable consumption (Bhutto *et al.*, 2023).

2.6 Generation-Z consumers' purchase intentions and buying behaviour related to green products

The exploration of Generation-Z consumers' purchase intentions and buying behaviour related to green products is a multifaceted investigation into the preferences, motivations and decision-making processes of this specific demographic group, which is a group of individuals that has grown up in a digital age and is known for its unique values and perspectives (Saut and Saing, 2021). Within this context, understanding purchase intentions involves unravelling the intrinsic motivations that drive Generation-Z individuals to express a desire to purchase green products (Irfany, Khairunnisa and Tieman, 2023). According to Saut and Saing (2021), these motivations often stem from an increased awareness of environmental sustainability, a strong emphasis on ethical considerations, and a desire to align personal choices with values that prioritise eco-conscious living.

There are several factors that influence these purchase intentions, such as the impact of the green marketing mix, primarily conveyed through social media channels which play a significant role in shaping Generation-Z's perceptions of green products (Irfany *et al.*, 2023). Additionally, peer influence and the branding efforts of companies, particularly those with a strong commitment to sustainability, contribute to the formation of purchase intentions within this demographic (Sun and Xing, 2022). However, translating these intentions into actual buying behaviour is a complex process. Generation-Z faces barriers that may hinder the realisation of their environmentally conscious intentions. Khan (2022) elucidates that there are notable issues such as pricing concerns, accessibility challenges related to the availability of green products and a potential lack of awareness about sustainable alternatives; all are factors that influence their final purchasing decisions.

Therefore, in analysing the buying behaviour of Generation-Z consumers, it is crucial to consider the broader market impact (Saut and Saing, 2021). Their choices shape industry practices, influence business strategies and drive demand for sustainable products. Generation-Z's preferences for specific product categories, features, or certifications further illuminate the evolving landscape of green consumption (Prigita and Alversia, 2022). The cultural and social context in which Generation-Z operates is also integral to this exploration as their interactions with technology, social media and global connectivity play a significant role in shaping their perceptions of green products (Sun and Xing, 2022). Ergo, it is paramount to understand these cultural nuances as it provides valuable insights into how marketers and businesses can effectively communicate and engage with Generation-Z consumers (Fabiola and Mayangsari, 2020).

Jha, Kapoor, Kaul and Srivastava (2022) contend that the study of Generation-Z consumers' purchase intentions and buying behaviour pertaining to green products holds implications for marketers, businesses, policymakers and researchers. It sheds light on this demographic's unique characteristics and informs strategies to navigate and contribute to the growing movement towards sustainable and eco-conscious consumption patterns (Tabassum, Khwaja and Zaman, 2020).

2.7 The attitudes towards the green marketing mix and consumers' buying behaviour pertaining to green products

As stated by Dragolea, Butnaru, Kot, Zamfir, Nuță, Cristea and Ștefănică (2023), the attitudes towards the green marketing mix and consumers' buying behaviour pertaining to green products involve a nuanced interplay between green marketing strategies focused on sustainability and the resultant actions of consumers within this context. In essence, the specific components of the green marketing mix, encompassing green product, green price, green place and green promotion, influence consumers' overall perception and attitudes towards environmentally friendly products (Bhavana and Thiruchanuru, 2022).

According to Morrison (2019), within this framework, consumers' attitudes are shaped by a range of factors. The green product aspect considers green products' design, functionality and eco-friendly features, influencing how consumers perceive and evaluate their desirability (Bhavana and Thiruchanuru, 2022). Green price, as a component, examines the affordability and perceived value of sustainable products, exploring how pricing strategies impact consumers' willingness to engage in environmentally conscious purchasing (Su, Tsai, Chen and Lv, 2019).

The green place element delves into the distribution channels and accessibility of green products, examining how their availability influences consumers' convenience and likelihood of adoption (Dragolea *et al.*, 2023; Ottman, 2019). The green promotion aspect analyses the marketing and communication strategies employed by marketers and businesses to convey the environmental benefits of their products, investigating how promotional efforts contribute to shaping consumer attitudes (Dabija *et al.*, 2019; Wang and Mo, 2022).

Morwitz, Steckel and Gupta (2022) argue that the attitudes forged through the green marketing mix are integral to comprehending the subsequent buying behaviour of consumers in the realm of green products. This involves examining consumers' actual choices and actions in response to their attitudes (Dragolea *et al.*, 2023; Su *et al.*, 2019). Factors such as environmental consciousness, personal values and the alignment of product attributes with consumer preferences play crucial roles in determining the ultimate purchasing decisions.

Bhavana and Thiruchanuru (2022) contend that the attitudes and buying behaviour nexus provide insights into the effectiveness of green marketing initiatives and their impact on

consumer choices. It offers valuable information for marketers and businesses seeking to refine their strategies, tailoring the green marketing mix to better resonate with consumer values and preferences (Leggett, 2022; Tănase, Nistoreanu, Dina, Georgescu, Nicula and Mirea, 2023). Additionally, this examination contributes to the broader understanding of how sustainable marketing practices influence consumer behaviour in the context of eco-friendly products (Borssén Myrén and Danås, 2022; Kovalenko, 2022; Van Niekerk, 2020).

2.8 The attitudes toward the green marketing mix and consumers' intentions to purchase green products

According to Bhutto, Sun, Hashim and Khan (2023), the rise of environmental concerns has led to an increased focus on the green marketing mix to promote sustainable products. The consumer attitudes towards the green marketing mix are crucial for marketers and businesses seeking to align their offerings with environmentally conscious consumers (Shafira and Johan, 2022). The green marketing mix encompasses green product, green price, green place and green promotion strategies that emphasise environmental sustainability. Shwetha (2019) highlights the significance of incorporating eco-friendly product features, implementing fair pricing strategies, utilising sustainable distribution channels and promoting ecological benefits through marketing communication.

A research study by Ginsberg and Bloom (2023) delved into consumer attitudes towards green marketing initiatives. The findings suggest that consumers positively respond to products that align with their environmental values. The factors influencing attitudes include perceived product quality, credibility of environmental claims and a sense of responsibility towards the planet (Hasan and Ali, 2020). The literature consistently demonstrates a positive correlation between favourable attitudes towards the green marketing mix and increased intentions to purchase green products. Nguyen-Viet (2023) found that consumers with positive attitudes towards sustainability are likelier to choose environmentally friendly options over conventional alternatives.

Demographic variables, such as age and level of environmental consciousness, play a significant role in shaping consumer attitudes. Hasan and Ali (2020) indicate that with its heightened awareness of ecological issues, Generation-Z is particularly receptive to green marketing initiatives. Social influences, such as peer behaviour and societal norms, also contribute to forming positive attitudes. While the literature generally supports a positive

relationship between attitudes towards the green marketing mix and purchase intentions, some studies emphasise challenges and contradictions. Shafira and Johan (2022) suggest that scepticism towards greenwashing, a practice where companies exaggerate their environmental efforts, can undermine consumer trust.

The attitudes of Generation-Z towards the green marketing mix are essential for marketers and businesses aiming to foster sustainable consumption (Nguyen-Viet, 2023). The positive correlation between favourable attitudes and increased purchase intentions underlines the potential for the green marketing mix to shape consumer behaviour (Ginsberg and Bloom, 2023). However, challenges such as greenwashing necessitate continued research to refine marketing practices and build genuine trust with environmentally conscious consumers (Hasan and Ali, 2020).

2.9 The relationship between consumers' purchase intentions and buying behaviour related to green products

'The interaction between consumers' stated intent to buy environmentally sustainable products and their subsequent realisation of such intentions is a significant aspect of green marketing (Galbreth and Ghosh, 2023). From a conceptual standpoint, purchase intentions represent the overt expression of a consumer's predisposition towards acquiring green products, connected with a matrix of ethical considerations, environmental awareness and the appeal of sustainable attributes (Kusumaputri and Zainal, 2022). The existing literature expounds upon the psychological underpinnings of these intentions, portraying them as perceptual constructs guided by the individual's proclivity towards sustainable consumption (Hojnik *et al.*, 2019).

The transition from purchase intentions to actual purchasing behaviour involves navigating the intricate and multifaceted process of translating an expressed interest in green products into concrete purchasing actions. Scholarly research, notably elucidated by Galbreth and Ghosh (2023), posits that while purchase intentions may help predict purchasing behaviour, translating these intentions into an actual purchase is subject to an array of situational determinants and external influences. An array of internal and external factors are indicative of the forces underlying this relationship. In the area of contemporary consumer behaviour, Generation-Z emerges as a distinctive generation, characterised by an elevated awareness of environmental issues (Hojnik, Ruzzier and Konečnik, 2019). A compendium of studies, notably by Kusumaputri and Zainal (2022), delineates the idiosyncrasies of Generation-Z's

green buying behaviour, demonstrating a preference for turning their stated environmental intentions into action. Polonsky, Vocino, Grau, Garma and Ferdous (2022) explain that the complex interaction between consumers' articulated intentions and their ensuing buying behaviour of green products goes beyond the dynamics of a simple purchasing transaction.

2.10 The influence of purchase intentions in the relationship between the attitudes toward the green marketing mix and buying behaviour related to green products

According to Tian, Cho, Jia, Sun and Tsai (2023), the burgeoning field of green marketing has spurred significant scholarly interest in understanding the intricate dynamics governing consumer attitudes towards the green marketing mix and their consequential buying behaviour of green products. In analysing the relationship between consumers' attitudes towards the green marketing mix and their subsequent buying behaviour of green products, the mediating role of purchase intentions emerges as a pivotal and distinguishing factor (Indriani, Rahayu and Hadiwidjojo, 2019). The intention to procure green products acts as a mediator, linking the cognitive disposition towards sustainable marketing strategies and the tangible manifestation of this disposition in consumer actions (Tian *et al.*, 2023).

Indriani *et al.* (2019) explain that consumer attitudes towards the green marketing mix involve a comprehensive analysis of how individuals perceive eco-friendly product attributes, ethical pricing structures, environmentally conscious distribution channels, and promotional strategies that emphasise the ecological benefits of products. Palomo-Domínguez, Elías-Zambrano and Álvarez-Rodríguez (2023) argue that these attitudes are inherently subjective and moulded by a myriad of individual and contextual factors, which influence the consumers' purchase intentions. In this context, purchase intentions indicate consumers' inclination to purchase green products. Within this cognitive realm, the bridge between attitudes and behaviour begins to take form. The research of Zatwarnicka-Madura, Nowacki, and Wojciechowska (2022) speculates that purchase intentions act as a mediating force, translating a positive attitude towards the green marketing mix into the concrete act of purchasing environmentally sustainable products.

As the focus shifts to the concrete manifestation of consumer behaviour, the buying of green products is the focal point as the realised buying behaviour is not a linear extension of attitudes; rather, it is shaped by the mediating force of purchase intentions (Indriani *et al.*, 2019). The

factors modulating this complex relationship further complicate the discussion as the external influences, situational determinants and individual characteristics that contribute to the mediating effect of purchase intentions require a thorough examination (Tian *et al.*, 2023). Therefore, understanding these modulating factors is imperative in understanding the complexities inherent in translating attitudes towards the green marketing mix into tangible consumer actions (Zatwarnicka-Madura *et al.*, 2022).

Ergo, contextualising this discourse within the unique mindset of Generation-Z adds another layer of complexity, and this demographic's distinctive characteristics require a tailored understanding (Indriani *et al.*, 2019). The influence of purchase intentions in the relationship between attitudes toward the green marketing mix and the buying behaviour related to green products indicates a layered and dynamic interchange (Palomo-Domínguez *et al.*, 2023). It ranges from cognitive disposition to tangible action, with purchase intentions serving as the linchpin that connects the theoretical attitudes with the concrete practicality of consumer behaviour (Zatwarnicka-Madura *et al.*, 2022).

2.11 The influence of sustainability awareness on consumers' purchase intentions and buying behaviour related to green products

According to Robichaud and Yu (2022), sustainability awareness refers to how much consumers know and understand issues related to sustainability. It includes awareness of environmental concerns, social responsibility and ethical practices in the production and distribution of goods (Esfahani, 2019; Robichaud and Yu, 2022). Purchase intentions focus on the consumer's mindset and plans before making a purchase (Moore, 2022). Lavuri, Jusuf and Gunardi (2021) claim that an individual with high sustainability awareness is likely to consider environmentally friendly and socially responsible factors when deciding to buy a product.

Robichaud and Yu (2022) explain that the buying behaviour pertaining to green products involves the actual actions consumers take when purchasing products. In the context of green products, it would be the choices individuals make regarding environmentally friendly options (Lavuri *et al.*, 2021). This includes the specific green products they choose, the brands they prefer and the channels they use to make these purchases, such as from a local eco-friendly store. When consumers are well-informed about sustainability issues, they are more likely to develop intentions to purchase products that align with their values (Moore, 2022; Noor, Jumain, Yusof, Ahmat and Kamaruzaman, 2022). For example, if consumers are aware of the

environmental impact of plastic, they might intend to purchase products with minimal packaging (Moore, 2022).

Their purchase intentions then translate into actual buying behaviour; ergo, consumers with strong purchase intentions based on sustainability are more likely to seek out and purchase green products; consequentially, sustainability awareness acts as a catalyst (Kusumaputri and Zainal, 2022; Lavuri *et al.*, 2021). Their buying behaviour is influenced by their pre-existing commitment to environmentally friendly choices (Zatwarnicka-Madura *et al.*, 2022). There is a proportional relationship between how much consumers know and care about sustainability, their purchase intentions to buy green products and their actual purchasing behaviour in purchasing these environmentally friendly items (Robichaud and Yu, 2022). The more sustainability awareness there is, the more likely it is to impact both purchase intentions and buying behaviour in favour of sustainable and green choices (Rudawska, 2019; Tian *et al.*, 2023).

2.12 The gap in the extant literature

The existing body of literature, in its exploration of the green marketing mix, sustainability awareness, purchase intentions and purchasing behaviour of Generation-Z consumers, presents a noticeable gap with regard to the nuanced relationship between these elements among Generation-Z consumers in the South African context. Despite the growing importance of understanding the eco-conscious predilections of this demographic, there is a scarcity of research that meticulously examines the intricate sociocultural, economic and contextual factors influencing the green purchasing decisions and purchase behaviour of South African Generation-Z consumers.

Moreover, a noticeable gap exists in providing a comprehensive analysis of the effectiveness of the green marketing mix in shaping purchase intentions within this specific demographic and subsequently translating that intention into tangible purchasing behaviour.

Consequently, addressing this gap necessitates a research approach that delves beyond perfunctory observations; it requires employing methodologies that capture the breadth, depth and richness of the perspectives held by South African Generation-Z consumers, as there is limited exploration of the cultural and historical intricacies that may shape these intentions among South African Generation-Z. Therefore, examining how localised South

African advertising campaigns, cultural references and social messaging, inter alia, impact Generation-Z consumers' attitudes toward eco-friendly products and subsequently influence their purchase intentions and purchasing behaviour would be advantageous to future research. Furthermore, a contextualised assessment of the green marketing mix within the green paradigm is imperative to develop targeted strategies that resonate with the values and preferences of this demographic (Ottman, 2019; Wang and Mo, 2022).

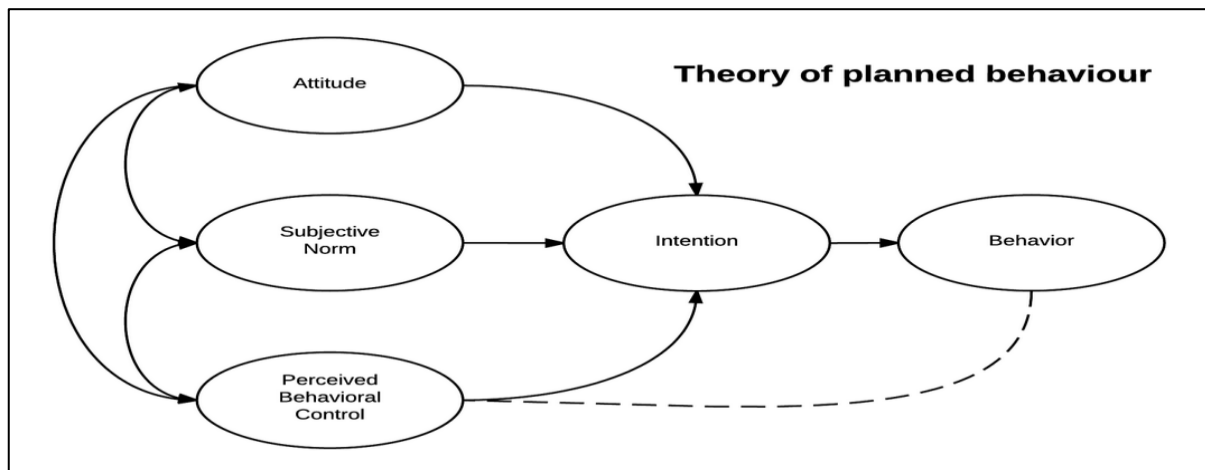
The existing literature provides a broad overview of sustainability awareness, with limited focus on its depth and the specific values that drive it among South African Generation-Z (Palomo-Domínguez *et al.*, 2023). A more thorough investigation into the values, beliefs and aspirations that underpin their sustainability consciousness can provide insights into the emotional and psychological drivers that influence their purchasing behaviour.

Although the extant literature sheds light on the connection between the green marketing mix, sustainability awareness and purchase intentions and purchasing behaviour of South African Generation-Z consumers, there remains unexplored terrain that delves into the unique cultural dynamics, localised green marketing strategies and underlying values that shape their eco-friendly purchasing decisions (Su *et al.*, 2019). Therefore, addressing this gap will enrich the comprehension of this complex relationship and offer valuable insights for marketers, researchers, businesses, executives and policymakers seeking to effectively engage with this environmentally conscious demographic in the South African context, thus contributing to the advancement of both academic discourse and practical implications for sustainable marketing practices in the South African context.

2.13 Theoretical framework

The theory of planned behaviour (TPB) framework in Figure 1 below is a social psychological theory developed by Icek Ajzen (1985). It seeks to explain and predict human behaviour based on individuals' attitudes, subjective norms and perceived behavioural control (Ajzen, 1985).

Figure 1: The theory of planned behaviour



Source: Ajzen (1985)

According to Sniehotta, Presseau and Araújo-Soares (2022), this theory suggests that these three factors influence a person's intention to engage in a specific behaviour, consequently predicting their actual behaviour. The key components of the theory of planned behaviour are attitude, subjective norms, perceived behavioural control, intention and actual behaviour (Liao, Chen and Yen, 2020).

Attitude refers to an individual's positive or negative evaluation of the behaviour in question (Ajzen, 2020). It encompasses beliefs about the outcomes or consequences of the behaviour and the overall value or desirability associated with those outcomes. Positive attitudes toward a behaviour increase the likelihood of forming a favourable intention to engage in that behaviour (Ottman, 2019). Subjective norms are the perceived social pressure or influence that individuals perceive with respect to the behaviour of other consumers (Sniehotta *et al.*, 2022). It includes the beliefs about what significant others (such as family, friends, or society) think about the behaviour and the motivation to comply with their opinions. Subjective norms influence behaviour by affecting the individual's perception of social expectations and their desire to conform to those expectations (Liao *et al.*, 2020).

Intention is the central component of the theory and acts as a mediator between attitudes, subjective norms and behaviour (Sniehotta *et al.*, 2022). It reflects an individual's readiness and motivation to engage in a specific behaviour. Strong intentions are associated with a higher likelihood of performing the behaviour (Bosnjak, Ajzen and Schmidt, 2020). The theory suggests that intentions are the immediate determinant of behaviour. However, intentions may not perfectly anticipate actions but offer a robust indication of the probability of participating

in the behaviour (Liao *et al.*, 2020). Other factors, such as external constraints or unforeseen circumstances, may also influence behaviour.

Perceived behavioural control is the individual's perception of the ease or difficulty of performing the behaviour (Ajzen, 2020). It includes factors such as personal capabilities, resources, opportunities and situational constraints. Higher levels of perceived behavioural control result in a stronger intention to perform the behaviour, as individuals feel more confident in their ability to carry it out successfully (Liao *et al.*, 2020). The theory of planned behaviour has been widely used to understand and predict a spectrum of behaviours, including health-related, environmental and consumer behaviours (Sniehotta *et al.*, 2022). It helps researchers and marketing practitioners identify the factors that shape individuals' intentions and guide the development of interventions and strategies to promote desired behaviours (Ajzen, 2020).

It is imperative to note that the theory of planned behaviour assumes that individuals have rational decision-making capabilities and act in line with their intentions (Liao *et al.*, 2020). However, the theory does not account for unconscious or automatic processes that may also influence behaviour (Ajzen, 2020). As such, it is often used in conjunction with other theoretical frameworks to provide a more comprehensive understanding of human behaviour (Sniehotta *et al.*, 2022).

The theory of planned behaviour (TPB) provides a suitable framework for understanding the link between the green marketing mix, sustainability awareness and the purchase intentions and behaviour of South African Generation-Z consumers. The TPB suggests that attitudes play a significant role in influencing intentions and subsequent behaviour (Sniehotta *et al.*, 2022). In the context of the green marketing mix and sustainability awareness, attitudes refer to Generation-Z consumers' positive or negative evaluations of eco-friendly products, sustainable practices and environmentally responsible companies (Liao *et al.*, 2020). When marketers and businesses understand their attitudes towards the green marketing mix and sustainability, it can help predict the target population's intentions to purchase sustainable products (Ajzen, 2020; Ottman, 2019).

Intention is a fundamental component of the TPB and focuses on Generation-Z consumers' readiness and motivation to engage in sustainable purchasing (Ajzen, 2020). According to Kalafatis, Pollard, East and Tsogas (2019), the TPB can be used to investigate the strength of

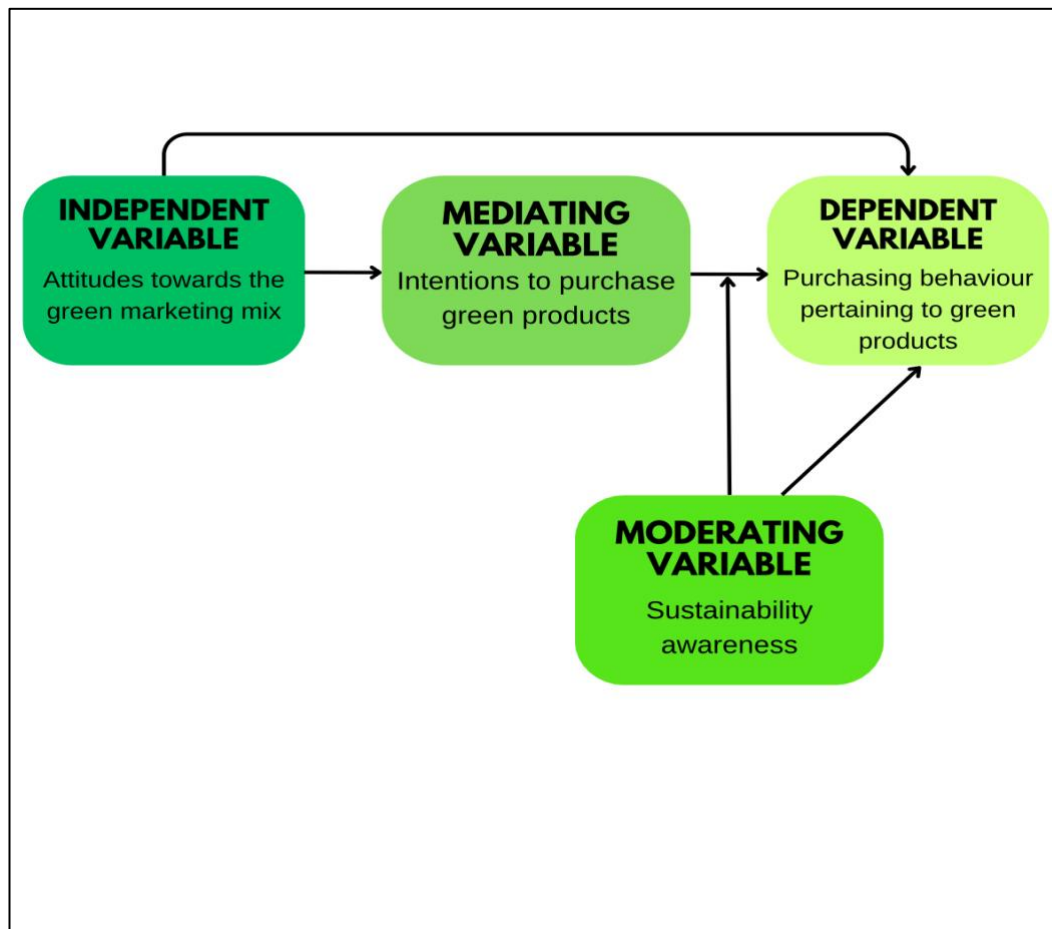
consumers' intentions to purchase products from the green marketing mix based on their attitudes, subjective norms and perceived behavioural control. Chen and Hung (2019) posit that intentions in relation to the TPB are immediate determinants of behaviour. Therefore, the actual behaviour of South African Generation-Z consumers, in terms of their engagement with the green marketing mix and sustainability, would be influenced by their intentions shaped by attitudes, subjective norms and perceived behavioural control. Although the three components of the TPB framework, namely, attitudes, subjective norms and perceived behavioural control are significant independent variables, this study focused on the attitude component in the form of attitudes towards the green marketing mix.

Intrinsically, the theory of planned behaviour (TPB) outlines a structured approach to understanding how individual attitudes, social influences and perceived control interact to shape purchase intentions and guide actual purchasing behaviours in the realm of sustainable consumption (Chen and Hung, 2019). By applying the TPB to the green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers, the psychological factors influencing the purchase intentions and purchasing behaviour of Generation-Z consumers can be systematically analysed, in the context of green marketing and sustainability (Liao *et al.*, 2020).

2.14 Conceptual framework

The conceptual framework presented in this study in Figure 2 encompasses four key variables, which consist of attitudes towards the green marketing mix (independent variable), intentions to purchase green products (mediating variable), sustainability awareness (moderating variable) and purchasing behaviour related to green products (dependent variable). These variables collectively explore the complex relationship between the green marketing mix, sustainability awareness and consumer behaviour.

Figure 2: The influence of the attitudes towards the green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers



Source: (Author's construction)

In exploring the intricacies surrounding the influence of attitudes towards the green marketing mix, sustainability awareness, purchase intentions and the ensuing behaviour among South African Generation-Z consumers, this conceptual framework encompasses four key variables. The independent variable of paramount significance is the attitudes towards the green marketing mix. The green marketing mix consists of four key components which are green product, green place, green price and green promotion (Lavuri *et al.*, 2021). These elements are strategic approaches marketers and businesses employ to promote environmentally friendly products (Mahmoud, 2022).

Purchase intentions of green products act as a mediating variable within the intricate relationship between consumer attitudes and actual purchasing behaviour; these intentions help bridge the gap by translating positive attitudes towards green products into tangible purchasing actions. Its presence within the framework addresses the dynamic connection between

cognitive processes shaping the consumer's inclination towards sustainable product choices (Kumar and Ghodeswar, 2020).

Sustainability awareness is integrated into this conceptual framework, as this variable moderates the relationship between purchase intentions and purchasing behaviour. This conceptual alignment to environmental consciousness is paramount in discerning the subtle perceptions of Generation-Z consumers' decision-making, adding depth to the understanding of the interlaced connection between the green marketing mix and eco-conscious consumer behaviour (Moore, 2022).

The final component of this conceptual framework is the dependent variable, represented by the purchasing behaviour related to green products, which serves as the culmination of consumer response. It reflects the culmination of attitudes, mediated by purchase intentions and moderated by sustainability awareness. The investigation into the association of these variables explores the intricate dimensions of Generation-Z's eco-centric consumer behaviour and enriches the evolving understanding of the green marketing mix, tailored to a socially conscious demographic.

According to Mahmoud (2022), these variables collectively unravel a rich tapestry that explores the multifaceted relationships between green marketing strategies within the green marketing mix, environmental consciousness and the discernment of Generation-Z consumers. While navigating this conceptual framework the delineations of consumer behaviour within the green marketing environment emerge more clearly, offering both theoretical insights and practical implications for marketers and businesses seeking to resonate with the conscientious ethos of the Generation-Z cohort (Tănase *et al.*, 2023).

This chapter has presented a comprehensive conceptual framework that delves into the intricate relationships among four pivotal variables. The independent variable, represented by attitudes towards the green marketing mix, has been thoroughly examined for its impact on the mediating variable, which is purchase intentions of green products. The conceptual framework has also explored the moderating variable, sustainability awareness, considering its influence on the relationship between purchase intentions and purchase behaviour. The overarching aim of the conceptual framework is to dissect the underlying psychological mechanisms and processes, shedding light on how consumers formulate intentions to engage in eco-friendly and

sustainable consumption (Lavuri *et al.*, 2021). This understanding is particularly pertinent in the context of the green marketing mix (Tănase *et al.*, 2023; Zatwarnicka-Madura *et al.*, 2022).

2.15 Chapter summary

This chapter presented an overview of the green marketing mix, specific attributes of South African Generation-Z consumers, sustainability within the marketing paradigm and the concept of sustainability awareness. Thereafter, the literature review discussed sustainability awareness, the purchase intentions of Generation-Z consumers and their discerning behavioural patterns in the purchasing of green products. The characteristics associated with attitudes toward the green marketing mix, consumers' intentions to purchase environmentally sustainable products and the relationship between these purchase intentions and the subsequent purchasing behaviour were introduced. The chapter identified a gap within the extant literature, particularly within the unique South African context.

This chapter presented the theoretical framework in relation to the complexities of the green marketing mix and the environmentally conscious attitudes of Generation-Z consumers in the South African context. The literature review provides insight into how the interaction between the green marketing mix and sustainability awareness influences the purchase intentions and behaviour of South African Generation-Z consumers. In circumnavigating the intersection where the green marketing mix, sustainability awareness and the distinctive purchase intentions and behaviour of South African Generation-Z consumers converged, the literature suggests that eco-conscious consumerism is layered and complex and South African Generation-Z is a key demographic with unique inclinations. It is thus imperative that South African marketers and businesses decipher the underlying factors shaping their purchase intentions and behaviour (Abzari *et al.*, 2019).

The following chapter comprehensively describes the research methodology employed in this study. It outlines and rationalises the chosen methods, elaborating on their suitability and relevance to the specific objectives of the study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents an exploration of the research methodology, which serves as a blueprint guiding the study's execution. The chapter elucidates the selected methodologies, offering insights into their respective merits, limitations, and ramifications associated with the chosen paradigm. The chapter presents the research methodology used, beginning with the research questions and objectives. It then delves into the research paradigms, followed by the research methods, including the research design, approaches, time horizon, and the research environment. The target population, sampling techniques, and data collection methods and pilot study are discussed. Quality control, data analysis, and ethical considerations are examined as they uphold the integrity and credibility of the research findings.'

In line with Melnikovas (2020), the research onion, which serves as a foundational framework, guides the methodology chapter of this study, ensuring a robust and systematic approach to research design and implementation. The amalgamation of the philosophical foundations of ontology, epistemology, methodology, and axiology is fundamental to this methodology chapter as it cohesively shapes the researcher's core beliefs and values that underpin the research endeavour (Saunders, Lewis and Thornhill, 2013). Each layer of the research onion, from the core philosophical stance to the outermost sampling strategy, was meticulously applied to ensure methodological rigour and coherence in data collection and analysis (Saunders *et al.*, 2013). Through the systematic application of the research onion, this study aims to advance scholarly understanding and contribute meaningfully to the field of green and sustainable marketing.

3.2 Research questions

- What is the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- What is the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers?

- What is the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- To what extent does intentions to purchase green products mediate the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- What is the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?
- To what extent does sustainability awareness moderate the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

3.3 Research objectives

- To determine the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To examine the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers.
- To determine the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To understand the extent to which intentions to purchase green products mediates the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To examine the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.
- To understand the extent to which sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing

behaviour pertaining to green products among South African Generation-Z consumers.

3.4 Hypotheses of the study

Aligned with the research questions and research objectives of this study, the following hypotheses have been formulated:

Hypothesis One (Alternate): There is a significant relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis One (Null): There is no significant relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Two (Alternate): There is a significant relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers.

Hypothesis Two (Null): There is no significant relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers.

Hypothesis Three (Alternate): There is a significant relationship between intentions to purchase green products and purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Three (Null): There is no significant relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Four (Alternate): Intentions to purchase green products mediates the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Four (Null): Intentions to purchase green products does not mediate the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Five (Alternate): There is a significant relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Five (Null): There is no significant relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Six (Alternate): Sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

Hypothesis Six (Null): Sustainability awareness does not moderate the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers.

3.5 Research paradigm

A paradigm, originating from the Greek word ‘pattern’, acts as a fundamental philosophical framework that profoundly shapes a researcher’s perspective and approach to understanding complex issues (Kivunja and Kuyini, 2021; Krauss, 2019). It encapsulates their worldview, beliefs, and interpretation of research data, thereby guiding methodological decisions (Kamal, 2019; Kivunja and Kuyini, 2021). Paradigms provide the theoretical foundation for research, delineating areas of exploration, methods of investigation, and interpretation of findings (Kivunja and Kuyini, 2021). The chosen paradigm significantly influences a researcher’s conceptual framework and all subsequent research decisions, including the selection of methodologies (Kamal, 2019). Research paradigms encompass four key elements: ontology, epistemology, methodology, and axiology, with the primary paradigms being positivist, post-positivist, interpretivist, and pragmatist (Kivunja and Kuyini, 2021; Krauss, 2019).

As expounded by Kamal (2019), ontology delves into the philosophical inquiries concerning existence and reality, scrutinising whether reality exists independently of human awareness or is confined to consciousness and experience (Kivunja and Kuyini, 2021). This philosophical discourse profoundly influences researchers’ perceptions and interpretations of data, thereby shaping their understanding of the study’s foundational relevance and methodological choices (Kivunja and Kuyini, 2021). Ontology serves as a cornerstone, facilitating the comprehension of the cognitive constructs that shape the perceived world.

As examined by Krauss (2019), epistemology delves into the methodologies researchers employ to comprehend and interpret reality (Kamal, 2019). It delineates two principal approaches: intuitive knowledge, derived from subjective sources such as personal beliefs and

intuition, and authoritative knowledge, obtained from external sources like literature and expert opinions (Kivunja and Kuyini, 2021). Rationalist epistemology prioritises reason as the means to discern truth, whereas empirical epistemology emphasises the importance of sensory experience and verifiable facts (Kivunja and Kuyini, 2021). Epistemology shapes researchers' confidence in their data and guides their strategies for acquiring knowledge within the social context (Krauss, 2019).

Methodology involves the comprehensive design of a study, encompassing meticulous techniques and approaches employed in a structured investigation (Kivunja and Kuyini, 2021). It includes elements such as data collection, participant selection, instruments used, and data analysis, thus forming the foundation for research focused on a specific inquiry (Kivunja and Kuyini, 2021). Methodology elucidates fundamental assumptions, identifies constraints, and outlines strategies to circumvent these limitations (Kivunja and Kuyini, 2021). Moreover, it examines how individuals conceptualise the world and acquire knowledge about specific aspects of it.

Axiology in research addresses critical ethical considerations in the development of a study, involving formulating morally sound judgments and evaluating good and bad behaviour within the research context (Kivunja and Kuyini, 2021). It analyses how researchers attribute significance to various aspects of the study, including respondents, data, and the intended audience for the results (Kivunja and Kuyini, 2021). Researchers are mandated to exhibit the highest standards of ethical conduct, respecting the inherent right of individuals to make autonomous decisions (Kivunja and Kuyini, 2021).

The subsequent section delves into contemporary research paradigms, encompassing positivist, post-positivist, interpretivist, and pragmatist approaches (Krauss, 2019).

The positivist paradigm asserts that comprehending human behaviour is rooted in objective, observable facts derived from meticulous observation and experimentation (Nel, 2022). It values sensory experience for knowledge acquisition, emphasising key tenets such as determinism, empiricism, parsimony, and generalisation. Researchers concentrate on identifiable causal factors, empirical evidence, concise explanations, and extending observations to broader contexts (Nel, 2022). This paradigm employs systematic methodologies and deductive approaches that prioritise factual evidence. According to positivist principles, the aim of science is to structure data into functional theories, regarded as

provisional and subject to revision in light of new evidence. Quantification is vital for precision in describing attributes and understanding relationships (Nel, 2022).

As elucidated by Ryan (2019), the post-positivist paradigm encompasses a diverse array of research activities and acknowledges the elaborate interchange between theory and empirical observation. It underlines the significance of the researcher's motivations and commitments in directing the trajectory of the study, thereby highlighting the essential role of reflexivity and ethical engagement. In addition, this paradigm surpasses the subjectivity-objectivity dichotomy, recognising the inherent complexity of human experiences and adopting an interpretive approach. It acknowledges the influence of values, emotions, and socio-political dynamics on research outcomes, fostering a deeper understanding of phenomena and enabling meaningful societal change.

The interpretivist paradigm is centred on actively engaging with and interpreting experiences and observations to comprehend the world, contrasting with the positivist approach that presupposes an objective reality (Nel, 2022; Patel, 2020). It acknowledges the subjective nature of reality influenced by human interactions and utilises methodologies such as phenomenology, symbolic interactionism, hermeneutics, ethnography, grounded theory, and discourse analysis to reveal underlying meanings within social phenomena (Patel, 2020). Qualitative methods such as interviews, observation, and case studies are pivotal in thoroughly exploring human experiences (Patel, 2020). Adopting this paradigm enriches comprehension of the interactions between individuals, society, and culture, consequently propelling the advancement of knowledge within the realm of social sciences (Nel, 2022).

Pragmatism, as a research paradigm, eschews engaging in philosophical debates about concepts such as truth and reality, opting instead to explore various realities through empirical experimentation (Kaushik and Walsh, 2019). Pragmatist scholars affirm the existence of an objective truth that can only be comprehended through human interaction with the environment. They acknowledge that scientific theories are shaped by contextual perspectives and personal experiences (Kaushik and Walsh, 2019). Pragmatist researchers recognise the complexities of reality and the limitations of human understanding, advocating for thoughtful consideration of philosophical debate in research (Kaushik and Walsh, 2019).

According to Saunders, Lewis and Thornhill (2019), positivism is intricately linked with the tenets of natural science, emphasising the systematic exploration of observable social

phenomena to discern generalisations resembling laws. Positivism emerges as the methodological preference for this study, given its capacity to engender data free from subjective interpretation and biases (Saunders *et al.*, 2019). Bayley (2021) corroborates this assertion, highlighting positivism's close affinity with quantitative research paradigms. Consequently, adopting the positivist paradigm was deemed appropriate for this research study.

3.6 Research methods

According to Williams (2022), research methods encompass systematic procedures, techniques, and approaches scholars use to investigate, gather, analyse, interpret, and derive conclusions about phenomena under study. These methods encompass a broad spectrum of strategies and tools studiously tailored to a research endeavour's unique objectives, inquiries, and contextual attitudes (Williams, 2022). Crowther and Lancaster (2022) contend that upholding rigour, validity, and reliability in research findings is imperative, as this underlines the critical significance of employing effective research methods. Consequently, these methodological frameworks are pivotal in driving the frontiers of knowledge across diverse academic disciplines (Crowther and Lancaster, 2022).

3.6.1 Research design

Abbott and McKinney (2023) define research design as the structured framework guiding researchers throughout their journey, determining methodologies best suited to their chosen topic for a successful study outcome (Marczyk, DeMatteo and Festinger, 2020). They categorise research designs into various types, such as explanatory, exploratory, or evaluative approaches, each imbued with distinct characteristics and implications (Marczyk *et al.*, 2020).

The explanatory approach seeks to systematically disentangle causal relationships between variables, aiming to understand the underlying mechanisms governing observed phenomena (Abbott and McKinney, 2023). While advantageous for causality testing and theory development, it faces complicated methodological intricacies, challenging ethical considerations, and limitations in flexibility (Marczyk *et al.*, 2020). In contrast, the exploratory approach delves into uncharted territories, generating hypotheses and providing depth of understanding. However, issues of generalisability, subjectivity, and scope require careful balancing with empirical rigour (Abbott and McKinney, 2023).

Groenewald (2024) contends that the evaluative approach critically assesses interventions or policies' effectiveness, efficiency, and impact. Despite its practical relevance, challenges such as resource intensiveness, measurement complexities, and stakeholder biases persist (Marczyk *et al.*, 2020). These methodological approaches offer distinct lenses for researchers to perceive and interrogate phenomena, each with advantages and limitations (Marczyk *et al.*, 2020). As researchers navigate the intricate landscape of research methodology, the judicious selection and adept application of these approaches are pivotal to advancing scholarly discourse (Abbott and McKinney, 2023).

In choosing a descriptive research design over alternative paradigms, the researcher adopts a methodological stance aligned with precision and systematic investigation (Abbott and McKinney, 2023). Descriptive research captures and represents the salient features of the target population through methodical exploration, affording an in-depth understanding of the phenomenon under examination (Groenewald, 2024). At the core of descriptive research lies its propensity to elucidate empirical realities through quantifiable data, facilitating the identification of trends, distributions, and relationships among variables of interest (Dulock, 2023). It heralds an exodus from speculative conjecture, embracing a methodical approach grounded in empirical veracity and objective depiction of phenomena (Abbott and McKinney, 2023). Through its systematic rigour and empirical orientation, descriptive research emerges as a potent methodological tool, contributing to knowledge advancement in green and sustainable marketing (Dulock, 2023).

3.6.2 Research approaches

Research approaches refer to researchers' various methods, techniques and strategies to investigate and study a particular topic or phenomenon (Gaus, 2019). These approaches guide the research process and help researchers gather, analyse, and interpret data effectively (Allen, 2019). They include qualitative, quantitative, and mixed methods approaches with methodologies and tools tailored to the research objectives and questions (Miller, 2022).

Quantitative research involves systematically acquiring and analysing numerical data (Gaus, 2019). It encompasses assorted numeric data types, both natural and artificially structured, to understand specific individuals or organisations within a sample population (Allen, 2019). This method facilitates the identification of patterns, trends, and causal relationships, allowing for inferences and generalisations to larger populations (Donner, 2021). Quantitative research

methods, including descriptive, correlational, and experimental approaches, serve different purposes and involve statistical testing of hypotheses or conclusions (Donner, 2021). Researchers often employ operational definitions to convert abstract concepts into observable variables for data collection (Miller, 2022). Quantitative approaches, such as surveys, experiments, and statistical analyses, focus on numerical data and aim to establish patterns, relationships, and causal connections between variables (Gaus, 2019).

The use of statistical analysis in quantitative research offers several advantages, such as rigorous experimental design and result reproducibility, enhancing data reliability (Moen, 2020). However, limitations exist, including the inability to follow up with respondents and susceptibility to researcher biases, which may affect the validity and objectivity of findings (Acharya, 2020). Despite these challenges, quantitative research remains valuable for its association with technological advancements and mathematical and data-driven decision-making processes (Moen, 2020).

Qualitative research adopts a multimethodological framework, employing interpretative and naturalistic approaches to comprehend phenomena within their natural contexts by examining the meanings ascribed to them by individuals (Barrett and Bolt, 2019). This methodology utilises a variety of sources, including case studies, personal observations, interviews, historical data, and visual texts, to elucidate the multifaceted aspects of human experience (Barrett and Bolt, 2019). In the realm of market research, it prioritises open-ended engagement to probe deeper into individual thoughts and the underlying rationales (Schulze, 2023). Techniques such as interviews, focus groups, and observations are employed to explore complex phenomena in depth, frequently emphasising subjective experiences and meanings (Gaus, 2019).

Qualitative research integrates methodologies such as grounded theory, ethnography, and narrative inquiry, facilitates comprehensive examinations of phenomena, and uses smaller sample sizes to expedite data collection and enable effective generalisations (Schulze, 2023). It captures unique experiences crucial for system enhancement and innovation while shedding light on decision-making processes essential for devising more efficacious strategies (Miller, 2022). However, qualitative research encounters challenges in ensuring data accuracy, mitigating biases, and navigating subjective subtleties, potentially introducing inconsistencies (Fossey, Harvey, McDermott and Davidson, 2022).

Mixed methods research entails the deliberate amalgamation of quantitative and qualitative approaches for data collection, processing and analysis, strategically integrating data at pivotal points in the research process to achieve a comprehensive understanding of the study context (Vishnevsky and Beanlands, 2024). This methodology harnesses the strengths inherent in both approaches, facilitating the exploration of multiple perspectives and identifying interconnections across various research domains (Vishnevsky and Beanlands, 2024). By integrating qualitative and quantitative techniques, researchers are equipped to address a more comprehensive array of research questions, contextualise numerical data with descriptive elements such as words, images, and narratives, and enhance the precision and validity of their findings through rigorous statistical analyses (Gaus, 2019).

The mixed methods approach synthesises the advantages of qualitative and quantitative research methodologies, providing rich and diverse data suitable for theoretical development and practical implementation (Creswell, 2021). Nonetheless, this approach presents notable hurdles, including integrating multiple research methodologies, the requisite expertise in various methods, and the considerable resource investment involved (Creswell, 2021). Researchers must adeptly navigate these challenges to ensure the reliability and strength of their findings. Despite these complexities, the mixed methods approach offers a comprehensive understanding of complex research inquiries (Creswell, 2021).

As per Saunders *et al.* (2019), quantitative research predominantly focuses on analysing the relationship between numerically measured variables, employing diverse statistical and graphical methodologies for analysis. Moreover, the research paradigm selected is positivism, commonly affiliated with quantitative investigations (Gaus, 2019). Quantitative research typically adheres to a deductive approach to theory development, wherein the collected data is utilised to evaluate existing theories (Saunders *et al.*, 2019). The benefits of quantitative studies encompass heightened precision, diminished subjectivity, and the capacity to work with larger sample sizes, thereby encompassing a broader target population (Sekaran and Bougie, 2016). Consequently, a quantitative research approach was the most suitable choice for this research study, as it resonates with the chosen research paradigm.

3.6.3 Time horizon

In the realm of research methodology, the time horizon represents the chronological scope of a study, encompassing both data collection and analysis phases (Ebert and Piehl, 2023). It

exerts a profound influence on research design and outcomes, influenced by factors such as the research's complexity and the study's objectives (Reilly, Souder, and Ranucci, 2020). Short-term horizons, ranging from days to months, are suitable for capturing temporary anomalies, while long-term horizons, extending over months to decades, are tailored towards analysing enduring impacts (Kim, Wilkinson, Pope, Chambers, Cohen, and Neumann, 2020).

Cross-sectional studies offer snapshots of particular populations or phenomena at a single point in time, while longitudinal studies entail prolonged observation over time, facilitating the elucidation of causal inference (Reilly *et al.*, 2020). The selection between cross-sectional and longitudinal methodologies depends on the research objectives, the characteristics of the phenomena under inspection, and logistical considerations, with each approach offering distinct advantages (Ebert and Piehl, 2023). Cross-sectional studies provide insights into current phenomena, while longitudinal inquiries enable precise examination of sequential dynamics (Ebert and Piehl, 2023). A thorough understanding of the time dimension and the ability to effectively use both cross-sectional and longitudinal methods are crucial for designing rigorous studies that clarify chronological details and contribute to the advancement of the field (Kim *et al.*, 2020).

Cross-sectional studies entail collecting data at a particular juncture in time, often encompassing short durations, ranging from days to months, to interrogate the research question and objectives (Ebert and Piehl, 2023). As highlighted in the literature, these studies are circumscribed by temporal constraints (Sekaran and Bougie, 2016). Therefore, the chosen time horizon corresponded with the cross-sectional time horizon for this research study.

3.6.4 Research environment

It is essential to recognise the research milieu, encompassing physical, social, cultural, and situational elements, as it significantly influences the credibility and reliability of findings in scholarly investigations (De Roure, Goble and Stevens, 2019). Mynatt, Doherty and Tweney (2022) further expound that this milieu comprises both tangible aspects, such as research locations, and intangible factors, including social mores and cultural norms, collectively shaping the research process. Researchers typically operate within two principal settings: contrived environments, meticulously controlled to regulate variables and isolate effects by systematically managing extraneous factors, and non-contrived, natural settings that mirror real-world contexts (De Roure *et al.*, 2019).

Non-contrived settings epitomise natural environments where research unfolds devoid of deliberate manipulation, thereby reflecting real-world contexts and enabling the observation of organic phenomena (De Roure *et al.*, 2019). These settings find particular favour in qualitative methodologies such as ethnographic studies, which seek to illuminate social phenomena within their natural habitats (De Roure *et al.*, 2019). Scholars within these settings diligently endeavour to capture the intricate tapestry of real-life experiences, acknowledging the nuanced interplay of contextual factors (Mynatt *et al.*, 2022). In contrast, contrived settings afford researchers meticulous control over experimental conditions, facilitating precise causal analysis and bolstering internal validity (Bland and Ruffin, 2022). However, they may exhibit limitations in ecological validity. Conversely, non-contrived settings enhance environmental validity and the applicability of findings to everyday contexts, offering profound insights despite posing challenges related to unpredictable variables and resource constraints (De Roure *et al.*, 2019).

A research environment delineates the specific contextual backdrop within which a study unfolds (Sekaran and Bougie, 2016). While a contrived setting is commonly associated with causal inquiries, it is deemed unsuitable for the present research endeavour (Sekaran and Bougie, 2016). In contrast, a non-contrived setting denotes a natural environment unaltered by deliberate manipulation (Sekaran and Bougie, 2016). In alignment with the objectives of this investigation, a non-contrived setting in the form of a field study was undertaken among students affiliated with the University of KwaZulu-Natal.

3.7 Target population and sampling

3.7.1 Target population

Willie (2024) explains that the target population encapsulates the specific group or demographic under analysis in a research study and serves as the focal point from which inferences are drawn. Its definition is predicated upon the research objectives and the study's scope, acting as the basis that informs subsequent methodological decisions (Ingram and Schneider, 2021). The precision in delineating the target population is paramount, ensuring alignment with the research objectives and accuracy in reflecting the pertinent characteristics of interest (Arndt, Ford, Babin and Luong, 2022).

Subsequently, accessing and studying this population necessitates strategic consideration, often necessitating sampling techniques due to practical constraints (Willie, 2024). The primary objective is procuring a representative sample that mirrors the target population's characteristics, facilitating valid generalisations (Arndt *et al.*, 2022). Additionally, researchers must conscientiously evaluate the generalisability of their findings, acknowledging factors such as sample representativeness, research design integrity, and the rigour of data analysis, which collectively influence the extent to which conclusions can be extrapolated to the broader population (Ingram and Schneider, 2021).

The target population encompasses Generation-Z students, aged between 18 and 26 years, who are currently studying toward a commerce degree, specifically within the Marketing and Business Management disciplines. These individuals are affiliated with the university's Westville, Howard College, and Pietermaritzburg campuses. The rationale for specifically targeting students from the School of Management, Information Technology, and Governance stems from the expectation that they possess a foundational comprehension of marketing principles, having been exposed to such concepts through their marketing and management modules coursework.

3.7.2 Sampling strategy

The sampling strategy encompasses a multitude of concepts and theories aimed at methodically selecting a subset of individuals or elements from a broader population (Hossan, Dato'Mansor and Jaharuddin, 2023). This process is indispensable for ensuring the fidelity of the sample to the population's characteristics and enabling researchers to derive valid inferences regarding the population as a whole (Voorhees, 2022). Defining the population of interest is a primary consideration in the sampling strategy, as the population denotes the entirety of individuals, objects, or events possessing attributes pertinent to the researcher's focus (Voorhees, 2022). Ergo, precise population delineation is paramount as it underpins subsequent sampling decisions (Hossan *et al.*, 2023).

Subsequently, establishing a sampling frame becomes imperative as this requires constructing a comprehensive list or framework identifying all elements within the population from which the sample will be drawn (Voorhees, 2022). The sampling frame is the foundational scaffold for sample selection, necessitating completeness, relevance and accessibility (Hossan *et al.*,

2023). Sampling methods significantly influence sampling strategy, dictating how the sample is extracted from the population (Reynolds, Simintiras and Diamantopoulos, 2023).

Probability sampling methods, characterised by random selection techniques, afford each element in the population an equal chance of inclusion, thereby enhancing sample representativeness (Voorhees, 2022). Non-probability sampling methods, specifically pragmatic in specific scenarios, do not ensure equitable representation and are typically employed when probability sampling proves unfeasible or when specific population segments are challenging to access (Hossan *et al.*, 2023). Convenience sampling is a non-probabilistic sampling technique where respondents are chosen based on their accessibility or availability (Reynolds *et al.*, 2023). Convenience sampling, while expedient, may introduce bias due to its reliance on readily available individuals or elements, potentially limiting the generalisability of findings (Hossan *et al.*, 2023).

Determining an appropriate sample size is a critical deliberation in sampling strategy, balancing statistical robustness with practical considerations (Hossan *et al.*, 2023). The sample size should be sufficiently large to yield statistically sound outcomes while remaining manageable within resource constraints (Voorhees, 2022). Factors such as desired precision, population variability, confidence level, and research objectives inform sample size determination (Reynolds *et al.*, 2023).

Sampling bias and error pose significant challenges in the sampling strategy (Reynolds *et al.*, 2023). Sampling bias arises from systematic distortions in the sample's composition relative to the population, potentially compromising the validity and reliability of findings (Hossan *et al.*, 2023). Therefore, mitigating sampling bias necessitates vigilant attention to factors such as non-response bias, selection bias, and coverage bias (Voorhees, 2022). Concurrently, sampling error, stemming from random variability inherent in the sampling process, highlights the importance of rigorous sample design and size estimation to enhance the accuracy of study outcomes (Hossan *et al.*, 2023).

Therefore, ensuring sampling validity and generalisability constitutes the aim of the sampling strategy (Hossan *et al.*, 2023). Sampling validity pertains to the extent to which the sample faithfully mirrors the population's characteristics, necessitating representative sampling methodologies aligned with relevant demographics and variables of interest (Voorhees, 2022). Generalisability, in contrast, gauges the extent to which study findings can be deduced to

broader populations, contingent upon the sample's representativeness, diversity and methodological rigour (Lee, Mou and Shen, 2019).

Ergo, sampling strategy in research methodology entails a multi-layered process encompassing population definition, sampling frame establishment, selection of appropriate sampling methods, sample size determination, sampling bias and error mitigation, and assurance of sampling validity and applicability (Hossan *et al.*, 2023). A carefully constructed sampling strategy is paramount for engendering study findings' accuracy, reliability, and validity (Voorhees, 2022).

In this study, a non-probability sampling approach, specifically convenience sampling, was utilised. This method allows for participant selection based on ease of access and willingness to participate, ensuring practicality and efficiency in data collection, particularly in time-constrained or exploratory research studies (Voorhees, 2022). Despite its advantages, convenience sampling is associated with inherent limitations such as selection bias, restricted external validity, and potential homogeneity within the sample, thereby challenging the external validity of findings (Hossan *et al.*, 2023). Subsequently, the researcher must exercise prudence, considering the research objectives and striving for sample representativeness while acknowledging and mitigating the biases inherent in convenience sampling methodologies (Lee, Mou and Shen, 2019).

3.7.3 Sample size

Sample size constitutes a pivotal facet of sampling, directly influencing the reliability, precision, and generalisability of study findings (Lakens, 2022). The process of determining an appropriate sample size necessitates consideration of many variables to ensure the generation of statistically meaningful results while navigating practical constraints (MacCallum, Widaman, Zhang, and Hong, 2019). Precision encapsulates the degree of accuracy or certainty with which study outcomes reflect the actual population characteristics and emerges as a primary consideration in sample size determination (Lakens, 2022). Larger sample sizes prompt greater precision by minimising the margin of error and bolstering the reliability of study findings (Rahman, 2023).

Variability within the population under scrutiny emerges as another pivotal factor shaping sample size determination (Rahman, 2023). This variability, delineating the extent to which

individuals or elements within the population diverge on pertinent variables, necessitates larger sample sizes to comprehensively capture the spectrum of characteristics and facilitate population representation (Lakens, 2022).

Furthermore, consideration of the confidence level and confidence interval is prominent in sample size determination endeavours (Lakens, 2022). The confidence level denotes the probability that the true population parameter falls within a specified range of values, often expressed as a percentage (MacCallum *et al.*, 2019). The confidence interval denotes the range of values surrounding the sample estimate within which the true population parameter is likely to project a falsehood (Rahman, 2023). Therefore, elevated confidence levels and narrower confidence intervals necessitate larger sample sizes to achieve requisite levels of precision and reliability (Rahman, 2023).

The research objectives and desired statistical power further inform sample size determination processes (MacCallum *et al.*, 2019). Statistical power delineates the probability of detecting an authentic effect or disparity within the population if it exists, thereby necessitating larger sample sizes to confer adequate sensitivity for discerning meaningful effects or differences (Rahman, 2023). Moreover, pragmatic considerations, including temporal, financial, and logistical constraints, significantly influence sample size determination (Lakens, 2022). Researchers are tasked with balancing the aspiration for larger sample sizes to enhance statistical robustness and precision and the pragmatic realities imposed by available resources and feasibility constraints (Rahman, 2023).

Various elements exist for determining sample size, each with distinct advantages and limitations (MacCallum *et al.*, 2019). These methodologies encompass power analysis, sample size calculations predicated on statistical formulas or tables, and simulation studies (Lakens, 2022). Power analysis entails estimating the requisite sample size to achieve predetermined levels of statistical power for detecting specific effect sizes (MacCallum *et al.*, 2019). In contrast, sample size calculations predicated on formulas or tables integrate considerations such as the desired level of precision, population variability, confidence level, and statistical tests employed (Rahman, 2023). Simulation studies facilitate the assessment of sample size impact on study outcomes by generating data across varying sample size scenarios (Lakens, 2022).

Sample size requires coordinating precision, reliability, and generalisability objectives with pragmatic constraints (Rahman, 2023). The delimitation of an appropriate sample size requires defined deliberation encompassing precision, variability, confidence levels, statistical power, and pragmatic considerations (MacCallum *et al.*, 2019). Researchers must judiciously select a sample size commensurate with their study's exigencies to ensure robust, reliable and generalisable research (Lakens, 2022).

Based on data obtained from the University of KwaZulu-Natal's Data Management Information (DMI) online system for the year 2023, the total population within the School of Management, Information Technology, and Governance was reported to be 1883 for both undergraduate and postgraduate students (UKZN Institutional Planning Report, 2024). As highlighted in chapter one, Table 1, Sekaran and Bougie (2016) recommended a minimum sample size of 320. The sample size obtained in this study totaled 332 which was marginally above the recommended minimum sample size. Therefore, the sample size of 332 represents an adequate coverage of the target population. To ensure alignment with the study's focus on Generation-Z consumers, only students aged 18-26years were selected from the DMI system, ensuring the representativeness of the sample.

The sample of 332 respondents was selected as follows: the researcher secured permission from the relevant lecturers to address their classes on various campus lecture venues with a request to participate in the study. In addition, students were approached in different gathering areas on the various campuses, such as the cafeteria and quadrangles. Once these students indicated a willingness to participate in the study, they were then included as part of the sample and were given a copy of the questionnaire to complete.

3.8 Data collection methods

Axinn and Pearce (2022) state that data collection methods constitute diverse approaches researchers use to procure data for their studies, which are classified into primary and secondary data collection methods.

Primary data collection methods entail directly acquiring data from original sources tailored to the specific objectives of the research study (Paradis, O'Brien, Nimmon, Bandiera and Martimianakis, 2020). A prevalent primary data collection method is surveys, employing structured questionnaires or interviews to elicit information from respondents concerning their

attitudes, behaviours, or opinions (Axinn and Pearce, 2022). Surveys are administered through various mediums, including paper-based surveys, online surveys, telephone interviews, or face-to-face interviews (De Leeuw, 2022). Theoretical frameworks guiding survey research encompass principles of measurement theory, survey methodology, and questionnaire construction (De Leeuw, 2022).

Interviews represent another primary data collection method involving direct engagement between the researcher and respondents to procure detailed insights into their experiences, perspectives, and behaviours (Paradis *et al.*, 2020). Interviews may be structured, semi-structured, or unstructured, contingent on the level of flexibility in questioning and standardisation in data collection (De Leeuw, 2022). Theories underpinning interview research encompass qualitative research methodologies, communication theories, and interactionist perspectives (Axinn and Pearce, 2022).

Observational methods constitute a primary data collection approach, encompassing systematic recording of behaviour, events, or phenomena in naturalistic settings (De Leeuw, 2022). Researchers may adopt participant observation, immersing themselves in the research setting and engaging in activities alongside respondents, or non-participant observation, where they observe from a distance without active involvement (Axinn and Pearce, 2022). Observations can be overt or covert and may involve structured protocols or unstructured recording of observations (De Leeuw, 2022). Theoretical frameworks guiding observational research comprise ethnographic approaches, symbolic interactionism, and grounded theory (Paradis *et al.*, 2020).

Experimental methods represent another primary data collection approach involving manipulating variables to observe their effects on another variable, typically in a controlled environment (Axinn and Pearce, 2022). Experiments facilitate establishing causal relationships between variables and rigorous hypothesis testing (Paradis *et al.*, 2020). Experimental designs encompass between-subjects designs and within-subjects designs. Theoretical frameworks guiding experimental research include principles of experimental design, causality, and hypothesis testing (Axinn and Pearce, 2022).

Conversely, secondary data collection methods entail the utilisation of existing datasets procured by other researchers or organisations for purposes other than the present study (Paradis *et al.*, 2020). Researchers analyse and reanalyse secondary data to address novel

research questions or replicate prior findings (Axinn and Pearce, 2022). Secondary data sources encompass archives, databases, government reports, and published literature (De Leeuw, 2022). Theoretical frameworks guiding secondary data analysis contain principles of data reuse, documentation, and synthesis (De Leeuw, 2022).

Consequently, comprehension of the concepts, theories, and considerations underpinning primary and secondary data collection methods is indispensable for researchers to proficiently gather, analyse, and interpret data, thereby advancing knowledge within their respective fields (Axinn and Pearce, 2022). This research employed primary research as the chosen data collection method. Primary data was selected for this study since it allows researchers to collect information tailored to the specific requirements of the research study, ensuring data relevance and alignment with the study's research objectives.

3.8.1 Data collection instrument

Data collection instruments serve as vital tools for researchers to methodically gather data from respondents or sources within a research study, ensuring the acquisition of pertinent information in a structured and standardised manner to maintain consistency and reliability throughout the process (Zaza, Wright-De Agüero, Briss, Truman, Hopkins, Hennessy, Sosin, Anderson, Carande-Kulis, Teutsch and Pappaioanou, 2021). These data collection instruments encompass diverse types, each tailored to specific research objectives, contexts, and data types (Fagarasanu and Kumar, 2022). Surveys, for instance, entail presenting a series of questions to respondents, whether in written (paper-based) or electronic (online) formats, enabling the collection of a wide range of data, from demographic information to attitudes, beliefs, behaviours, and partialities (Fagarasanu and Kumar, 2022).

Questionnaires represent another commonly employed instrument, akin to surveys but often self-administered by respondents, allowing for independent completion without researcher intervention (Fagarasanu and Kumar, 2022). They may be administered through different means, including paper-based, online, or telephone formats (Zaza *et al.*, 2021). Interviews, in contrast, entail direct communication between researchers and respondents, with structured, semi-structured, or unstructured formats depending on the desired level of flexibility and standardisation (Chatzitheochari, Fisher, Gilbert, Calderwood, Huskinson, Cleary and Gershuny, 2022). While structured interviews follow a predetermined set of questions, semi-

structured and unstructured interviews afford greater flexibility for exploration and investigation (Chatzitheochari *et al.*, 2022).

Observational methods involve systematically observing and documenting behaviours, events, or phenomena in naturalistic settings (Chatzitheochari *et al.*, 2022). Researchers may opt for participant observation, immersing themselves in the research setting, or non-participant observation from a distance, employing structured protocols or unstructured approaches (Fagarasanu and Kumar, 2022). Experimental methods serve as instruments in studies that establish causal relationships between variables, typically involving manipulating variables within controlled environments (Zaza *et al.*, 2021). Such designs may include between-subjects designs, exposing different respondents to varying conditions, or within-subjects designs, where the same respondents experience multiple conditions (Chatzitheochari *et al.*, 2022).

The selection of an appropriate data collection instrument hinges on several factors, including research goals, the nature of the phenomenon under investigation, participant characteristics, and practical considerations such as time, resources, and feasibility (Fagarasanu and Kumar, 2022). Ensuring these instruments' validity, reliability, and ethical integrity is paramount for generating robust and trustworthy research outcomes (Zaza *et al.*, 2021).

In this study, questionnaires were the selected instrument for data collection, offering respondents the flexibility to complete the survey at their convenience and preferred pace. Questionnaires enable researchers to distribute them to a large number of respondents simultaneously, thereby saving time compared to individually conducting interviews or observations (Zaza *et al.*, 2021). Moreover, by maintaining anonymity and confidentiality, as highlighted by Saunders *et al.* (2019), respondents are shielded from direct interaction with the researcher, fostering greater openness and mitigating the influence of social desirability bias.

Subsequent subsections provide detailed information concerning the construction of the specific questionnaire employed in this research study.

3.8.2 Construction of the questionnaire

The construction of a questionnaire represents a methodical and rigorous undertaking pivotal to a research study's success (Martin, 2022). It encompasses a series of essential steps tailored

to design a comprehensive set of questions to elicit specific information from respondents (Robbins, 2019).

Initially, researchers embark on a thorough process of delineating the research objectives and identifying the requisite information necessary to address the research questions or hypotheses (Salomon, Gasquet, Mesbah and Ravaud, 2019). This initial step serves as a guiding compass, ensuring that the questionnaire is finely tuned to focus on pertinent topics aligned with the study's primary objectives (Martin, 2022). Subsequently, researchers carefully deliberate on selecting appropriate question types, methodically tailoring them to the nature of the information sought and the distinctions of the study (Salomon *et al.*, 2019). Whether closed-ended, offering quantifiable data through options such as multiple-choice or Likert scales, or open-ended, affording respondents the latitude for nuanced responses, each question type is meticulously chosen to align with the research objectives (Robbins, 2019).

With question types discerned, the focus shifts to constructing clear, concise questions using accessible language devoid of ambiguity or bias (Salomon *et al.*, 2019). Precision in question phrasing is paramount to ensure respondent comprehension and minimise potential response distortions (Martin, 2022). The logical organisation of the questionnaire, with questions grouped thematically, fosters respondent comprehension and aids in the seamless completion of the survey (Robbins, 2019). Furthermore, clear instructions throughout the questionnaire guide respondents and bolster data quality (Salomon *et al.*, 2019).

In formulating closed-ended questions, researchers carefully design response options to encompass all potential responses exhaustively while ensuring mutual exclusivity among options (Martin, 2022). For instance, the detailed calibration of Likert scales involves anchoring response options with contrasting statements to capture subtle gradations of opinion (Salomon *et al.*, 2019). Finally, researchers employ rigorous techniques to assess the reliability and validity of the questionnaire (Salomon *et al.*, 2019). Through precise evaluation of the questionnaire's consistency and accuracy in measuring the intended constructs, researchers ensure the robustness of the data collected (Robbins, 2019).

The construction of a questionnaire necessitates scrupulous planning, exactness in question formulation, and rigorous evaluation to create a tool that effectively captures the desired information while upholding standards of and validity requisite for sound research outcomes (Martin, 2022).

In this research study, the utilisation of questionnaires served as the primary method for gathering quantitative data from targeted respondents within the academic setting of the University of KwaZulu-Natal. This study employed sophisticated statistical software, and the collected data underwent comprehensive analysis encompassing various methodologies such as descriptive statistics, correlation analysis, regression analysis, and inferential statistics, as advocated by Raju and Harinarayana (2022).

The questionnaire was carefully structured to ensure clarity and coherence, comprising distinct sections, including an introductory segment, an informed consent form, and succinct, intelligible scales. The questionnaire emphasised brevity and precision and predominantly featured closed-ended items, supplemented by a Likert scale spanning five points, ranging from 'strongly agree' to 'strongly disagree', as recommended by Raju and Harinarayana (2022) and Sekaran and Bougie (2016).

Section One of the constructed questionnaire gathered demographic information from respondents, focusing on key characteristics such as age group, gender, race, level of education, and campus affiliation. By collecting this demographic data, the researcher aimed to gain insights into the composition of the target population. The questions in this section are structured to allow respondents to select the most appropriate answer for each demographic category, ensuring ease of completion and accurate data collection.

Section Two of the questionnaire focused on respondents' attitudes towards the green marketing mix across four dimensions: green product, green place, green price, and green promotion. Each dimension comprised five statements designed to assess respondents' perceptions and behaviours regarding environmentally friendly products, sustainable pricing strategies, eco-friendly business locations, and green marketing communications. Drawing from established scales, the green product dimension evaluates respondents' beliefs in the positive attributes of green products, such as environmental responsibility and reliability, adapted from Mainieri, Barnett, Valdero, Unipan and Oskamp (2021). The green place dimension examines preferences for eco-friendly stores, the importance of accessibility to green products, and the positive perception of environmentally friendly store layouts, adapted from Lee and Yun (2020). Similarly, the green price dimension probes respondents' willingness to pay more for sustainably sourced products and their valuation of environmental responsibility, adapted from Chan (2021). Lastly, the green promotion dimension assesses the effectiveness of eco-friendly advertisements and the role of social media in influencing

purchasing decisions, adapted from Peattie and Patel (2023). Section Two aimed to provide insights into respondents' perceptions and behaviours regarding the green marketing mix.

Section Three of the questionnaire delved into respondents' sustainability awareness through a series of seven statements. This section aimed to gauge respondents' familiarity with the concept of sustainability, their awareness of the environmental impact of products, and their understanding of ecological footprints associated with daily activities and consumption habits. The items were adapted from established scales to ensure reliability and validity. Items one to three were adapted from Dietz, Gardner, Gilligan, Stern and Vandenberg (2019), focusing on fundamental aspects of sustainability awareness, while items four to seven were adapted from Du and Bhattacharya (2022), addressing engagement in environmental discussions, consciousness of environmental certifications, and consideration of sustainability in product selection and waste disposal habits. By assessing sustainability awareness, this section aimed to provide insights into respondents' levels of environmental consciousness and their potential influence on consumer behaviour.

Section Four of the questionnaire focused on respondents' intentions to purchase green products, comprising seven statements to assess their attitudes and behaviours towards environmentally friendly purchasing decisions. The items were adapted from established scales to ensure reliability and validity. Items one to three, adapted from Vining and Ebreo (2022), examined respondents' likelihood of purchasing green products in the near future, motivation to switch to green alternatives, and willingness to sacrifice product features for environmental benefits. Items four and five, adapted from Tafesse and Ryan (2021), explore the influence of a company's sustainability reputation and the importance of clear benefits associated with green products. Lastly, items six and seven, adapted from Carrington, Neville, and Whitwell (2020), address respondents' consideration of the long-term environmental impact of products and the influence of endorsements by environmental organisations on purchasing decisions. This section aimed to provide insights into respondents' purchase intentions concerning green products and their underlying motivations, contributing valuable information to the study's understanding of consumer behaviour towards sustainability.

Section Five of the questionnaire delved into respondents' purchase behaviour concerning green products, encompassing eight statements to assess their attitudes and actions towards environmentally friendly purchasing decisions. Adapted from recognised scales, these items aim to provide insights into respondents' actual behaviours and the factors influencing their

choices. Items one to three, adapted from Grimmer and Miles (2019), explore respondents' predilections for green products, the influence of environmental considerations on recent purchases, and their active seeking of information about the sustainability of green products. Items four and five, adapted from Vermeir and Verbeke (2019), address respondents' willingness to incorporate environmentally friendly behaviour into their purchasing decisions and eco-labels' significance in influencing their behaviour. Lastly, items six to eight, adapted from Brown and Dacin (2022), examine respondents' behaviour of brand switching to support greener alternatives, their consistent integration of environmentally conscious choices into purchasing behaviour, and the impact of green brands' commitment to environmental sustainability on both loyalty and purchasing behaviour. This section aimed to provide comprehensive insights into respondents' actual purchasing behaviours regarding green products and the underlying motivations driving these behaviours.

A copy of the questionnaire is included in Appendix C of this dissertation. In essence, the questionnaire focused on critical thematic domains and delved into demographics, attitudes toward the green marketing mix, sustainability awareness, purchase intentions and behaviour pertaining to green products.

3.9 Pilot study

Thabane, Ma, Chu, Cheng, Ismaila, Rios, Robson, Thabane, Giangregorio and Goldsmith (2020) accentuate the pivotal role of pilot studies in research methodology, serving as preliminary investigations preceding primary research projects. These examinations assess the feasibility, validity, reliability, and practicality of research components and procedures (Saunders *et al.*, 2019). Through pilot studies, researchers address potential issues, refine protocols, and ensure the effectiveness of research designs (Thabane *et al.*, 2020). They evaluate research instruments such as questionnaires, surveys, or interview guides to facilitate data collection, optimise data collection procedures, refine recruitment strategies, and estimate sample size and statistical power (Saunders *et al.*, 2019). This fastidious process significantly augments the quality and academic rigour of the primary study's outcomes (Perrien and Ricard, 2022).

The pilot study served as a condensed version of the main research study and provided a valuable opportunity to refine the research instrument (Saunders *et al.*, 2019). According to Saunders *et al.* (2019), it is necessary to continuously pilot the instrument with a specific group

of respondents to gather comprehensive feedback, enabling precise adjustments to ensure accuracy and reliability (Thabane *et al.*, 2020). In this specified research study, the pilot study aimed to ascertain questionnaire completion time, evaluate question sensitivity, assess participant comprehension, and identify potential ambiguities (Perrien and Ricard, 2022). For this study, the pilot sample comprised of ten respondents who were carefully chosen from the target population. The pilot study respondents indicated that the questionnaire was clear and comprehensible, with sufficient time allocated for completion. As a result, no further modifications to the instrument were deemed necessary.

3.10 Data collection process of the study

The methodology for data collection in this study was meticulously devised to ensure thorough coverage and precise representation of the student demographic. The researcher personally engaged with students across various campuses, strategically selecting campus lecture venues with prior approval from lecturers, as well as bustling areas such as cafeterias and quadrangles to optimise outreach. This meticulous approach aimed to capture a diverse array of perspectives and experiences, thereby bolstering the study's credibility and dependability. Upon approaching students, the researcher articulately conveyed the study's objectives and extended invitations for participation. Those who expressed interest were provided with thoughtfully curated questionnaires, squarely crafted with Likert scale questions to capture pertinent information aligned with the research objectives and presented in a clear and succinct manner. Following completion, respondents returned the questionnaires to the researcher, ensuring a punctual and systematic data collection process. This direct engagement between the researcher and respondents facilitated data gathering and fostered a sense of mutual understanding and rapport, potentially fostering candid responses. The methodical approach to data collection underpins the integrity and precision of the study's findings, establishing a robust basis for subsequent analysis and interpretation.

3.11 Data quality control

Data quality control is the systematic process of ensuring the accuracy, reliability, and validity of data collected for a research study (Wang, Storey and Firth, 2022). It involves various strategies and techniques implemented throughout the research process to maintain the integrity and credibility of the data (Stevens, Loudon, Ruddick, Wrenn and Sherwood, 2022). One pivotal aspect of data quality control is the reliability and validity of research instruments, such

as questionnaires or surveys, to ensure they effectively measure the intended constructs without introducing bias or ambiguity (Stevens *et al.*, 2022). Additionally, rigorous data collection procedures are essential, including clear participant instructions and standardised protocols to minimise errors and biases (Wang *et al.*, 2022). Data validation and verification techniques, such as double data entry and range checks, ensure data completeness and consistency (Stevens *et al.*, 2022). Data cleaning processes address errors, outliers, and inconsistencies, ensuring the dataset's accuracy (Stevens *et al.*, 2022). During data analysis, statistical techniques are employed to identify and mitigate potential issues that may affect the reliability and validity of the results, thereby augmenting the trustworthiness through the reliability and validity of the research findings (Wang *et al.*, 2022).

3.11.1 Reliability

Reliability pertains to the consistency and stability of measurement tools and procedures used to collect data (Tylavsky, Mao and McCulla, 2022). It ensures that the results obtained from these tools and procedures are dependable and reproducible over time and across different conditions (Gitzel, Turring, and Maczey, 2023). One fundamental concept used to assess reliability is internal consistency, which evaluates how items within a measurement instrument consistently measure the same underlying construct (Agmon and Ahituv, 2019). Commonly employed measures to assess internal consistency include Cronbach's alpha coefficient, which quantifies the degree of correlation between items, and split-half reliability, where the measurement instrument is divided into two halves, and the correlation between scores obtained from each half is examined (Tylavsky *et al.*, 2022).

Another aspect of reliability is test-retest reliability, which examines the consistency of results when the exact measurement is administered to the same group of respondents at different points in time (Tylavsky *et al.*, 2022). Inter-rater reliability assesses the consistency of results when other raters or observers evaluate the same phenomenon (Gitzelet *et al.*, 2023).

While reliability is essential for ensuring the trustworthiness of research findings, there are advantages and disadvantages to consider (Gitzelet *et al.*, 2023). One advantage is that reliable measures increase confidence in the validity of the results, as they reduce the impact of measurement error (Tylavsky *et al.*, 2022). Additionally, reliability allows for comparing results across studies, facilitating the accumulation of knowledge in a particular field (Gitzelet *et al.*, 2023).

However, achieving high reliability may require significant time and resources, particularly when developing and testing measurement instruments (Tylavsky *et al.*, 2022). Moreover, excessive focus on reliability may overlook other aspects of validity, such as construct validity, which evaluates whether the measurement truly captures the intended construct (Gitzelet *et al.*, 2023). Therefore, researchers must balance achieving reliability and ensuring that the measurement accurately reflects the constructs of interest, considering their research's specific goals and constraints (Agmon and Ahituv, 2019).

In this study, the researcher evaluated reliability using the internal consistency test, explicitly focusing on computing the Cronbach's coefficient alpha. This analysis encompassed the items constituting the measuring instruments designed to assess attitudes toward the green marketing mix, sustainability awareness, purchase intentions, and behaviour related to purchasing green products. The Cronbach's coefficient alpha, ranging from 0 to 1, serves as a crucial metric, with values of 0.7 or higher indicative of an acceptable level of reliability for the measuring instrument (Saunders *et al.*, 2019). This comprehensive assessment of reliability offers valuable insights into the consistency and dependability of the research instruments utilised in the study, thus enhancing the credibility and robustness of the findings (Saunders *et al.*, 2019).

3.11.2 Validity

Validity is specific to the extent to which a study accurately measures or evaluates what it claims to measure or assess (Riege, 2023). It encompasses the degree to which the findings, interpretations, and conclusions drawn from the research are trustworthy and meaningful (Sekaran and Bougie, 2016). Achieving validity is essential for ensuring the research accurately represents the constructs, variables, or phenomena under investigation (Matthes and Ball, 2019). Several types of validity exist, each addressing distinct aspects of the research process (Saravanan and Rao, 2020). One fundamental type of validity is content validity, which evaluates the extent to which the items included in a measurement instrument adequately represent the entire domain of the measured construct (Sekaran and Bougie, 2016). Content validity ensures that the measurement instrument covers all relevant aspects of the construct and is not biased or skewed toward specific aspects (Sekaran and Bougie, 2016). This type of validity is often assessed through expert judgment or by comparing the content of the measurement instrument with an established theoretical framework (Riege, 2023).

Another necessary type of validity is construct validity, which assesses the degree to which a measurement instrument accurately measures the theoretical construct it is intended to measure (Riege, 2023). Construct validity involves demonstrating that the scores obtained from the measurement instrument are consistent with theoretical expectations and align with other measures of the same construct (Matthes and Ball, 2019). This can be accomplished through factor analysis, convergent validity (the extent to which scores on the measurement instrument correlate with scores on other measures of the same construct), and discriminant validity (the extent to which scores on the measurement instrument do not correlate with scores on measures of unrelated constructs) (Sekaran and Bougie, 2016).

Concurrent validity is another aspect of validity, which examines the degree to which the scores obtained from a new measurement instrument correlate with scores obtained from an established measurement instrument that measures the same construct (Matthes and Ball, 2019). This type of validity is particularly relevant when a new measurement instrument is developed and needs to be compared with existing measures to demonstrate its effectiveness (Riege, 2023). Additionally, predictive validity evaluates the ability of a measurement instrument to predict future outcomes or behaviours related to the construct being measured (Saravanan and Rao, 2020). According to Saravanan and Rao (2020), this involves demonstrating that scores obtained from the measurement instrument are associated with or predictive of outcomes that occur at a later point in time.

Predictive validity is often assessed through longitudinal studies or by evaluating scores on the measurement instrument with actual outcomes observed in real-world settings (Matthes and Ball, 2019). Therefore, ensuring validity in research is critical for establishing the credibility and trustworthiness of the findings (Saravanan and Rao, 2020). Valid research results accurately represent the phenomena under investigation, allowing researchers to draw meaningful conclusions and make informed decisions based on the evidence gathered (Riege, 2023). However, achieving validity requires careful attention to various aspects of the research design, including the selection and development of measurement instruments, the sampling strategy, and the data collection procedures (Matthes and Ball, 2019). By systematically addressing validity concerns throughout the research process, researchers can enhance the rigour and integrity of their studies (Saravanan and Rao, 2020).

In this study, the content and construct validity of the measuring instruments were employed. As outlined by Sekaran and Bougie (2016), content validity is pivotal in confirming that the

items within the scale effectively capture the intended concept, while construct validity assesses the alignment of these items with the underlying theoretical framework (Sekaran and Bougie, 2016). To establish content validity, a comprehensive discussion with the supervisor was undertaken to evaluate the relevance and representativeness of the instrument's items, ensuring they encapsulated the entirety of the construct of interest. Factor analysis was conducted using the Principal Components Method for factor extraction and Varimax rotation within the Statistical Package for Social Sciences (SPSS) to assess construct validity. This analysis elucidated the relationship between the measuring instruments and the theoretical framework, thereby validating their effectiveness in measuring the intended constructs.

3.12 Data analysis

As elucidated by Tukey (2022), data analysis in research encompasses the systematic interpretation of gathered data to extract meaningful insights aligned with research objectives. Researchers employ a spectrum of techniques, with quantitative analysis employing statistical methods and qualitative analysis delving into themes and patterns within textual data (Malhotra, Nunan and Birks, 2019). The primary objective is to validate research questions, contribute to knowledge generation, and bolster the credibility of research outcomes through stringent procedures ensuring precision and dependability (Malhotra *et al.*, 2019). The data analysis for this research study was executed using the SPSS software version 29, a licensed program accessible through the University of KwaZulu-Natal. This robust statistical tool provides an array of functionalities, including the visualisation of data through graphs, pie charts, and frequency distribution tables, thereby facilitating a comprehensive understanding and interpretation of the acquired data (Verma, 2019).

The following subsections provide a comprehensive explanation of descriptive statistics, which includes frequencies and percentages, measures of central tendency, and measures of dispersion. Additionally, inferential statistics such as Pearson correlation coefficient (r), linear regression analysis, and hierarchical regression are detailed. These analyses align with the data analysis approach outlined by Verma (2019) and aim to thoroughly understand the data distribution, relationships between variables, and predictive models within the research framework.

3.12.1 Descriptive statistics

As Mooi, Sarstedt and Mooi-Reci (2023) highlight, descriptive statistics play a pivotal role in succinctly summarising the inherent characteristics of datasets, revealing discernible patterns and trends. Researchers employ measures such as mean, median, mode, range, variance, and standard deviation, complemented by graphical representations, to acquire insights into data distribution and variability (Bush and Ortinau, 2023). This methodological rigour assists in identifying outliers, rectifying errors, and establishing a robust foundation for subsequent analytical studies, thereby enhancing the empirical validity of research outcomes (Mooi *et al.*, 2023). The data analysis in SPSS software version 29 included a sequence of descriptive statistical tests to provide a comprehensive dataset overview.

3.12.1.1 Frequencies and percentages

Frequencies and percentages, foundational components of descriptive statistics, as observed by Dillon and Westin (2022), offer valuable insights into categorical or nominal data, elucidating the distribution and prevalence of various categories within a dataset. Frequency enumerates observations within each category, delineating demographic breakdowns such as age groups, genders, or educational levels in survey datasets (Kent, 2020). Percentages denote the relative proportion of observations within each category relative to the total dataset size, facilitating comprehensive understanding (Kent, 2020). Through these calculations, researchers acquire a comprehension of category prevalence, enabling comparisons and yielding insights into the sample composition or population under scrutiny (Dillon and Westin, 2022). Frequency distributions were generated to examine the distribution of responses for both the demographic variables and the study variables derived from the questionnaire. These frequency distributions offered insights into the prevalence and distribution of different categories within the dataset (Dillon and Westin, 2022). Furthermore, bar graphs were used as visual aids to represent the data, facilitating the interpretation and communication of critical findings.

3.12.1.2 Measures of central tendency

Measures of central tendency, including the mean, median, and mode, play a crucial role in summarising a dataset's central or typical value (Condon, Drougas, and Abrokwah, 2023). They offer a singular representation of the distribution centre, indicating where data points tend to cluster (Condon *et al.*, 2023). While the mean calculates the dataset's average value by

summing all values and dividing by the total observations, the median signifies the middle value when data are arranged, and the mode denotes the most frequently occurring value(s) (Yu, Albaum and Swenson, 2023). While the mean is sensitive to outliers and functions optimally with normally distributed data, the median exhibits robustness against extreme values, especially in skewed distributions (Condon *et al.*, 2023). These measures yield invaluable insights into the dataset's typical value, significantly aiding its interpretation (Yu *et al.*, 2023). Additionally, measures of central tendency, including the mean, median, and mode, and dispersion measures, such as variance and standard deviation, were calculated for the demographic questions and variables. These measures provided a deeper understanding of the data distribution's central tendency, variability, and spread, contributing to a more thorough analysis and interpretation of the dataset (Pan *et al.*, 2024; Verma, 2019).

3.12.1.3 Measures of dispersion

Measures of dispersion, encompassing the range, variance, standard deviation, and interquartile range, are employed to measure the extent of deviation observed in individual data points from the dataset's central tendency, thereby elucidating its variability (Krush, Sohi, and Saini, 2019). While the range offers a simplistic portrayal of the spread, both variance and standard deviation provide more robust evaluations by indicating the average squared deviation from the mean (Pan, Ratchford, and Shankar, 2024). Pan *et al.* (2024) suggest that the interquartile range further enhances the comprehension of spread, focusing on the middle 50% of the data, thereby fostering a comprehensive understanding of variability across different groups or variables (Krush *et al.*, 2019). In this study, the standard deviation, minimum, maximum, skewness, kurtosis and 95% confidence interval for the mean were computed.

3.12.2 Inferential statistics

Inferential statistics, a branch of statistics, utilises sample data to infer or predict characteristics of a population, employing methodologies such as hypothesis testing, confidence intervals, and regression analysis (Mukasa, Christospher, Ivan and Kizito, 2021). The primary objective is to extrapolate findings from a sample to the broader population while quantifying the associated uncertainty (Ainslie and Pitt, 2022). Hypothesis testing evaluates evidence against a null hypothesis, confidence intervals delineate the probable range of a population parameter, and regression analysis elucidates or predicts variations in a dependent variable based on independent variables (Mukasa *et al.*, 2021). These techniques are indispensable in scientific

research, facilitating the derivation of meaningful conclusions, predictions, and generalisations beyond the studied sample (Ainslie and Pitt, 2022). The data analysis in SPSS software version 29 also encompassed a series of inferential statistical tests to elucidate the relationships and underlying mechanisms among critical variables in the study.

3.12.2.1 Pearson correlation coefficient (r)

The Pearson correlation coefficient, denoted as 'r', quantifies the strength and direction of the linear relationship between two continuous variables, with values ranging from -1 (indicating a perfect negative linear relationship) to +1 (indicating a perfect positive linear relationship), and 0 signifying no linear relationship (Baak, Koopman, Snoek and Klous, 2020). This coefficient is computed by dividing the covariance of the two variables by the product of their standard deviations (Ratner, 2019). A positive correlation indicates that an increase in one variable is associated with an increase in the other, whereas a negative correlation indicates that an increase in one variable corresponds with a decrease in the other (Baak *et al.*, 2020). The magnitude of 'r' reflects the strength of the relationship, with values nearer to -1 or +1 denoting stronger correlations, thus making it an indispensable tool in research for investigating associations, predictive relationships, and data patterns (Ratner, 2019). A correlation analysis utilising the Pearson correlation coefficient explored the associations between different constructs, including attitudes towards the green marketing mix, sustainability awareness, purchase intentions, and purchase behaviour concerning green products. The significance and strength of these correlations were evaluated based on the correlation coefficient 'r', which ranges from -1 to +1 (Baak *et al.*, 2020).

3.12.2.2 Regression analysis

Regression analysis, a statistical methodology explored by Skiera, Reiner and Albers (2021), enables the exploration and quantification of the interrelationship between a dependent variable and one or more independent variables. It facilitates the modelling of functional relationships between variables, thereby enabling the prediction of the dependent variable's value based on independent variables, as Rosselló (2022) noted. By applying regression models to empirical data, researchers can discern how alterations in independent variables correspond to variations in the dependent variable, a process often exemplified using linear regression models (Skiera *et al.*, 2021). This statistical approach is widely employed across multidisciplinary domains. It provides invaluable insights into the determinants influencing the dependent variable,

facilitating predictive analytics, hypothesis testing, and the identification of salient predictors (Skiera *et al.*, 2021). Regression analysis was utilised to ascertain the associations among the aforementioned variables, elucidating the predictive efficacy of attitudes, awareness, and intentions concerning the purchasing behaviour associated with green products.

3.12.2.3 Hierarchical regression

Hierarchical regression, an extension of multiple regression analysis, evaluates the added value of predictor variables in forecasting a dependent variable (Nakamura, Suhrcke, Jebb, Pechey, Almiron-Roig and Marteau, 2019). This method systematically incorporates predictor variables into the model based on theoretical rationale, with variables grouped into blocks representing distinct sets (Mo and Wong, 2022). Such an approach allows researchers to assess the unique contribution of each variable block while controlling for other factors within the model (Nakamura *et al.*, 2019). Hierarchical regression proves particularly advantageous for inspecting elaborate relationships and examining theoretical models featuring multiple predictors, enhancing regression studies' interpretive depth and analytical robustness (Mo and Wong, 2022). Moreover, Baron and Kenny's (1986) steps of mediation analysis were applied using hierarchical regression analysis to examine the mediating role of purchase intentions in the relationship between the green marketing mix and purchasing behaviour. Additionally, the researcher utilised multiple linear regression in SPSS to assess the moderating effects of sustainability awareness on the associations between purchase intentions and purchasing behaviour, impacting the hierarchical regression by exploring its elaborate dynamics and underlying mechanisms.

By adopting these analytical approaches, the study aimed to reveal insights into consumer behaviour towards environmentally sustainable products, thereby contributing to the extant literature in the fields of green and sustainable marketing.

3.13 Ethical considerations

As delineated by Kimmel and Smith (2021), ethical considerations in research encapsulate principles and guidelines directed towards safeguarding the dignity, rights, safety, and well-being of research respondents. These considerations encompass pivotal aspects such as securing informed consent, ensuring confidentiality and privacy, evaluating potential risks and benefits, and disclosing conflicts of interest (Joe, Raben and Phillips, 2020). Informed consent

necessitates furnishing respondents with comprehensive information and guaranteeing voluntary engagement, while confidentiality protocols safeguard sensitive data across the research continuum (Kimmel and Smith, 2021). Researchers are further obligated to conduct exhaustive risk assessments, procure ethical endorsement, and divulge any conflicts of interest to uphold ethical tenets, cultivate public confidence, and enhance the authenticity and robustness of research findings (Joe *et al.*, 2020).

In this study, ethical considerations are paramount to safeguarding the rights and well-being of respondents. Prior to data collection, ethical clearance was obtained from the university's research office, demonstrating compliance with institutional standards. Additionally, a gatekeeper's letter from the registrar at the University of KwaZulu-Natal was secured, facilitating access to respondents within the School of Management, Information Technology, and Governance in the College of Law and Management Studies at the Westville, Howard College, and Pietermaritzburg campuses. An informed consent form was provided to respondents to ensure transparency and participant autonomy, detailing the study's objectives, potential risks and benefits, and their rights. This disclosure emphasised voluntary participation and the right to withdraw at any time, fostering trust and respect between the researcher and respondents. Confidentiality and anonymity were strictly maintained throughout the study, with data securely stored and accessible only to the researcher and supervisor. The study aimed to generate knowledge ethically and responsibly, promoting the welfare of all involved and upholding the principles of integrity and fairness (Kimmel and Smith, 2021).

3.14 Chapter summary

This chapter aimed to elucidate and expound upon the research methodology employed in the present study.

A comprehensive exposition of research methodology was provided, serving as the structured framework guiding the study's execution. The selected methods were delineated, giving valuable insights into their respective merits, limitations, and associated consequences within the chosen paradigm. The chapter systematically navigated through the specific research methodology adopted for this study, explicitly defining the research questions and objectives to establish a clear focus. Furthermore, it delved into the research paradigms' underpinning, followed by an examination of research methods encompassing research design, research approaches, time horizon, and environmental considerations. Subsequently, it elucidated the

target population, sampling techniques, data collection methods, and the execution of a pilot study. Ethical considerations, data quality control and analysis strategies were comprehensively addressed to ensure the robustness and credibility of the research outcomes. In conclusion, this chapter gave readers a comprehensive understanding of the ethical protocols governing data collection in the study.

The subsequent chapter delves into data analysis, the presentation of results, and interpretations of findings for this study.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the results obtained using the data collection tool. It includes an analysis of both descriptive and inferential statistics, which are essential for addressing the research questions and achieving the research objectives. Additionally, the chapter examines the demographic characteristics of the respondents and describes the various analytical methods employed in this quantitative study.

Data analysis was conducted using Version 29 of the Statistical Package for the Social Sciences (SPSS). The results are illustrated through graphs, pie charts, and frequency distribution tables, facilitating a more precise understanding and interpretation of the collected data. This presentation of data provides deeper insights and fulfils the research objectives as framed by the study's research questions.

4.2 Demographic profiles of respondents

The target group for this study comprised Generation-Z students (aged 18-26) enrolled in undergraduate and postgraduate degree programmes, specifically Marketing and Business Management students within the School of Management, IT, and Governance at the University of KwaZulu-Natal's Westville Campus, Howard College, and Pietermaritzburg Campus. According to the Data Management Information (DMI), the total population for this study was 1,883 students.

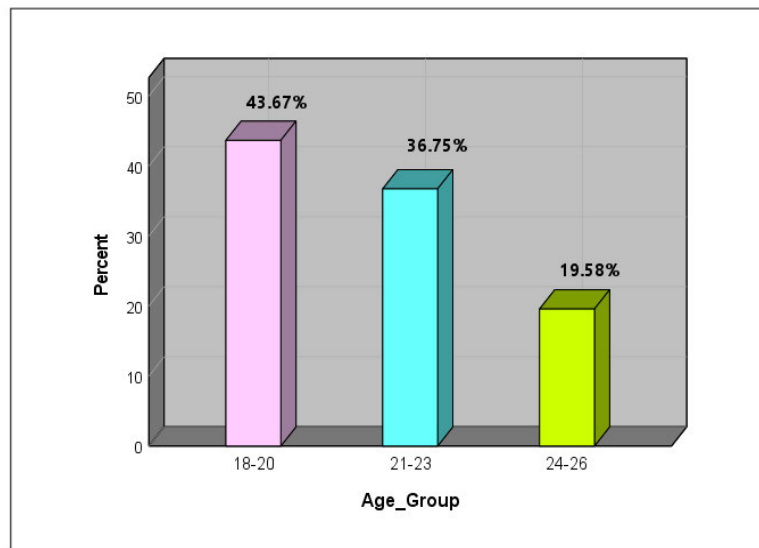
The demographics of the respondents are presented using frequencies and percentages, encompassing age, gender, race, education level, and campus affiliation. The demographic profile of the 332 respondents is detailed in Table 2, followed by a comprehensive discussion.

Table 2: Frequency distribution of demographic variables

Demographic profile of respondents		n	%
Age	18 – 20	145	43.70
	21 – 23	122	36.70
	24 – 26	65	19.60
	Total	332	100.00
Gender	Male	132	39.80
	Female	197	59.30
	Non-Binary	3	0.90
	Total	332	100.00
Race	Black	253	76.20
	Coloured	6	1.80
	Indian	67	20.20
	White	6	1.80
	Total	332	100.00
Education level	Undergraduate	276	83.10
	Postgraduate	56	16.90
	Total	332	100.00
Campus	Westville Campus	162	48.80
	Howard College	89	26.80
	Pietermaritzburg Campus	81	24.40
	Total	332	100.00

Figure 3 presents the age distribution of the 332 respondents in the study.

Figure 3: Age distribution of respondents



The most significant proportion of respondents, 43.67%, fell within the age bracket of 18-20 years. This was followed by 36.75% of respondents in the 21-23 age group and 19.58% of respondents in the 24-26 age group. As illustrated in Figure 3, the age distribution of Generation-Z respondents shows that the predominant age group is 18-20 years, followed by 21-23 years, and lastly, the 24-26 years age group.

Figure 4 illustrates the gender distribution of the 332 respondents of the study.

Figure 4: Gender distribution of respondents

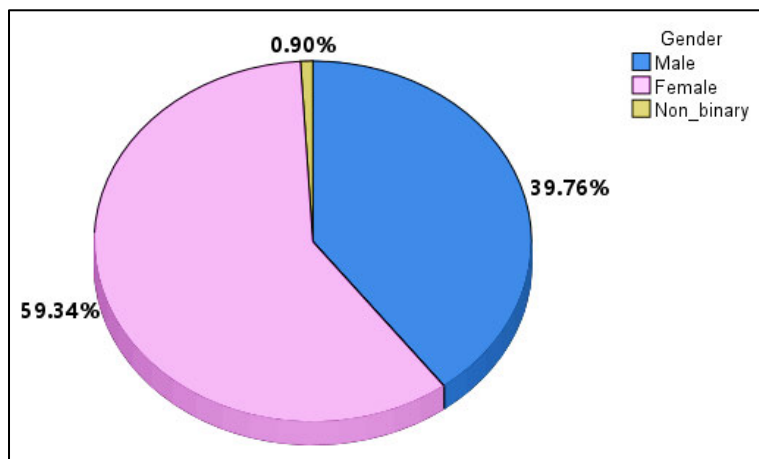


Figure 4 presents the gender distribution of the respondents. The pie chart reveals that most respondents were female Generation-Z, constituting 59.34%. This was followed by male Generation-Z, which accounted for 39.76% of the responses. Additionally, 0.90% of respondents identified as non-binary.

Figure 5 depicts the race distribution of the 332 respondents in the study.

Figure 5: The race distribution of respondents

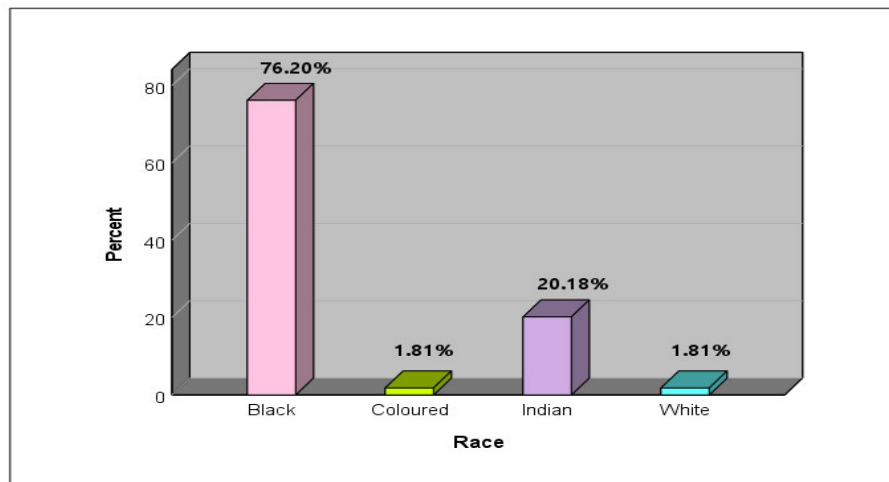
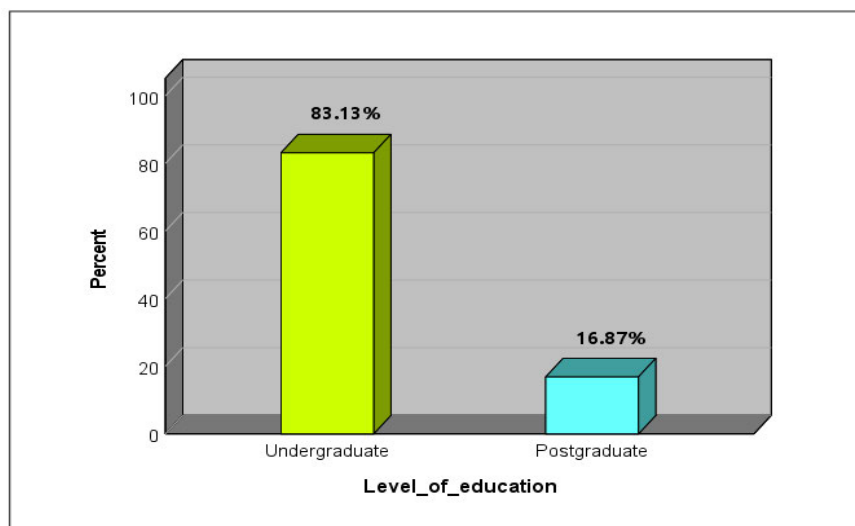


Figure 5 illustrates the race distribution of the respondents. Most respondents, 76.20%, were Black, followed by 20.18% who were Indian. Equal proportions of respondents, each constituting 1.81%, identified as White and Coloured.

Figure 6 illustrates the education level distribution of the 332 respondents in the study.

Figure 6: Education level distribution of respondents



The majority of the respondents, 83.13%, were undergraduate Generation-Z students, while 16.87% were postgraduate Generation-Z students.

Figure 7 illustrates the percentage distribution of respondents across the different campuses.

Figure 7: Campus representation of the study

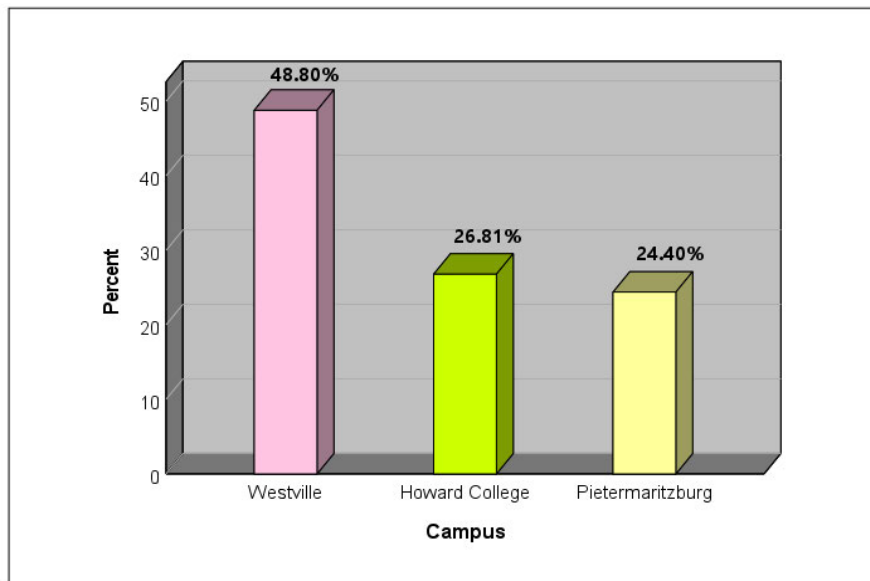


Figure 7 shows that the most significant percentage of respondents, 48.80%, were from the Westville Campus, followed by 26.81% from Howard College and 24.40% from the Pietermaritzburg Campus.

4.3 Validity and reliability of the questionnaire

4.3.1 Validity

4.3.1.1 Content validity

According to Sireci (2022), content validity pertains to the degree to which a measurement instrument, such as a survey or questionnaire, adequately encompasses all facets of the construct it aims to assess. In the context of this study, content validity guarantees that the items included in the survey thoroughly cover the dimensions of the green marketing mix, sustainability awareness, purchase intentions, and consumer behaviour among South African Generation-Z consumers. Attaining content validity typically necessitates a comprehensive review of the literature, expert evaluations, and pre-testing of the instrument to ensure that all pertinent content areas are addressed and that the items are representative of the constructs under investigation (Fitzpatrick, 2023). Therefore, ensuring content validity is essential for the overall validity of the research findings, as it directly influences the accuracy and relevance of the conclusions derived from the data, thereby enhancing confidence and credibility in the interpretation of the results (Fitzpatrick, 2023).

This study's content validity was rigorously established through a meticulous process involving the researcher and the supervisor. They diligently perused the survey items to ensure that each item was meaningful and adequately represented the variables of attitudes towards the green marketing mix, sustainability awareness, intentions to purchase green products, and purchasing behaviour related to green products, all of which are pertinent to the research study. This collaborative review process ensured that these items provided meaning and adequately addressed the variables in this study.

4.3.1.2 Construct validity

An exploratory factor analysis was conducted on the study variables. According to Shrestha (2021), the Kaiser-Meyer-Olkin (KMO) test examines the strength of partial correlations between variables. It assesses the data's suitability for factor analysis, with values ranging from 0 to 1, where higher values indicate better suitability. The KMO statistic evaluates how well each variable correlates with others in the dataset. Higher KMO values suggest sufficient sample size to detect underlying factors within the data, particularly when variables are highly interrelated.

Conversely, Bartlett's test of sphericity, as expounded by Biasutti and Frate (2019), evaluates whether the variables in the dataset are significantly correlated, which is a prerequisite for factor analysis. Bartlett's test posits a null hypothesis wherein the correlation matrix is an identity matrix, indicating that the variables are uncorrelated. A significant result (i.e., a small $p\text{-value} < 0.05$) suggests that the observed correlation matrix differs significantly from an identity matrix, thereby supporting the application of factor analysis. Such significance indicates the suitability of the variables for factor analysis.

Table 3: KMO measure and Bartlett's test of sphericity

Variables	KMO Values	Bartlett's test Approx. Chi- square, df	Cumulative variance explained (%)
Attitudes towards the green marketing mix	0.833	13000.714, 55*	57.681
Sustainability awareness	0.671	338.499, 15*	41.315
Purchase intentions	0.809	608.282, 21*	36.413
Purchasing behaviour	0.858	787.242, 28*	38.533

* - significant at p-value < 0.05

Table 3 shows that the KMO values for all the study variables are above the recommended threshold of 0.5. The corresponding Bartlett's test of sphericity is statistically significant with a p-value < 0.05. This evidence substantiates the conclusion that the study's sample size was sufficient for conducting factor analysis.

The Principal Axis Factoring method was used to extract the factors and the items were rotated using Promax with Kaiser Normalisation. This process culminated in factor/s consisting of items reflecting a range of factor loadings. In Tables 6, 7, 8 and 9, the factor loadings of the various items are presented.

Table 4 shows that the attitudes towards the green marketing mix variable consisted of four factors, which have been named dimensions: factor one - green product, factor two - green price, factor three - green place and factor four - green promotion. The factor loadings of these dimensions range from moderate to very high. This indicates that the items making up the dimensions are correlated.

Table 4: Factor loadings of the attitudes towards the green marketing mix

	Factor			
	1	2	3	4
I believe choosing environmentally friendly products is a positive and responsible decision.	.923			
I view green products as high-quality and reliable alternatives.	.816			
I feel that investing in eco-friendly products reflects a positive commitment to sustainability.	.830			
I am likely to recommend green products to others as a positive contribution to environmental consciousness.	.466			
I consider selecting green products that are premium priced as a reflection of my positive commitment to sustainability.				.905
Being willing to pay more for sustainably sourced products reflects my positive valuation of environmental responsibility.				.485
I actively seek eco-friendly stores as it aligns with my dedicated commitment to sustainable shopping.			.687	
I appreciate having accessibility to eco-friendly products and stores in my local area.			.817	

I think eco-friendly advertisements are effective in influencing my purchasing decisions.		.418		
I trust a company's green marketing promotions if they provide evidence or certifications of their environmental efforts.		1.006		
Social media marketing plays a role in raising awareness about green products and influences my attitudes toward purchasing decisions.		.403		

Table 5 reflects the factor loadings of the sustainability awareness variable. This variable consists of two factors and these have been named dimensions: factor one - sustainability impact awareness and factor two – sustainability cognitive awareness. Each dimension consists of three items with factor loadings ranging from moderate to very high. In this study, the sustainability awareness variable was operationalised as a univariate construct because of the similarities of the different items comprising the dimensions.

Table 5: Factor loadings of sustainability awareness

	Factor	
	1	2
I am familiar with the concept of sustainability.	.524	
I am aware of the environmental impact of products before making a purchase.	.835	
I am aware of the ecological footprint associated with my daily activities and consumption habits.	.539	
I engage in discussions about environmental issues and sustainability.		.417

I am aware and conscious of environmental certifications or labels that indicate a product's eco-friendliness.		.747
The sustainability considerations in manufacturing products influence my choices when selecting products or services.		.635

Table 6 reflects a one factor outcome which has been named the intentions to purchase green products variable. This variable consists of seven items with factor loadings ranging from moderate to high.

Table 6: Factor loadings of intentions to purchase green products

	Factor
	1
I am likely to purchase a green product in the next three months.	.480
I feel motivated to switch from a non-green product to a green alternative.	.698
I am willing to sacrifice certain product features to choose environmentally friendly product alternatives.	.716
The sustainability reputation of a company influences my decision to buy its products.	.645
I am more inclined to purchase green products if there are clear benefits associated with doing so.	.589
I consider the long-term environmental impact of a product before making a purchase.	.498
I am more likely to buy green products if they are endorsed or recommended by environmental organisations.	.654

Table 7 shows a one factor outcome which has been named the purchasing behaviour pertaining to green products variable. It comprises of eight items with factor loadings ranging from moderate to high.

Table 7: Factor loadings of purchasing behaviour pertaining to green products

	Factor
	1
I consistently demonstrate a preference for green products in my purchasing decisions, favouring them over non-green alternatives.	.716
Environmental considerations significantly influenced my behaviour when I recently purchased a green product.	.695
I actively sought information about the sustainability of green products when I made a purchase.	.647
I demonstrate a willingness to incorporate environmentally friendly behaviour by buying premium green products.	.623
The presence of eco-labels on products plays a crucial role in influencing my purchasing behaviour.	.618
I exhibit a behaviour of brand switching to support companies that offer greener alternatives.	.574
I integrate environmentally conscious choices into my purchasing behaviour by consistently opting for green products.	.502
The commitment of green brands to environmental sustainability shapes both my loyalty and purchasing behaviour.	.565

4.3.2 Reliability of the questionnaire

The reliability of the questionnaire was evaluated using Cronbach's Alpha. Table 8 provides a detailed presentation of the findings.

Table 8: Reliability of the questionnaire

Constructs	Items	Initial Cronbach Alpha	Item Removed	Revised Cronbach Alpha
Green product (Factor 1)	4	0.856	I am likely to recommend green products to others as a positive contribution to environmental consciousness.	0.865
Green price (Factor 2)	2	0.670		
Green place (Factor 3)	2	0.684		
Green promotion (Factor 4)	3	0.669		
Sustainability awareness (Factor 5)	6	0.675		
Purchase intentions (Factor 6)	7	0.800		
Purchasing behaviour (Factor 7)	8	0.830		

Cronbach's Alpha is a measure of reliability and is commonly used to assess the reliability of a scale or set of items (Agbo, 2022). The value of Cronbach's Alpha ranges from 0 to 1, where higher values indicate more excellent internal consistency reliability (Agbo, 2022).

The interpretation is as follows:

Table 9: Cronbach's Alpha ranges interpretation

$\alpha < 0.6$	Poor internal consistency
$0.6 \leq \alpha < 0.7$	Marginal internal consistency
$0.7 \leq \alpha < 0.8$	Acceptable internal consistency
$0.8 \leq \alpha < 0.9$	Good internal consistency
$\alpha \geq 0.9$	Excellent internal consistency

Source: Amirrudin, Nasution and Supahar (2021)

As shown in Table 8, removing the item “I am likely to recommend green products to others as a positive contribution to environmental consciousness” for Factor 1 resulted in a slightly higher revised Cronbach’s Alpha, thereby enhancing internal consistency reliability. This illustrates that eliminating items which do not contribute to consistency or revising scales can significantly improve the reliability of the measurement instrument.

For Factors 2 to 7, no items were removed. The Cronbach’s Alpha values for these factors all exceed 0.6, indicating marginal to good consistency.

4.4 Descriptive statistics of the variables and dimensions of the study

Table 10 presents a summary of the descriptive statistics for each of the study’s variables and dimensions, all of which have been demonstrated to be valid and reliable.

Table 10: Descriptive statistics of the variables and dimensions of the study

Variables and dimensions of study	Mean	95% Confidence Interval for Mean		Standard deviation	Min	Max	Skewness	Kurtosis
		Lower Bound	Upper Bound					
Green Product	4.014	3.9134	4.1143	0.930	1	5	-1.556	1.754
Green Price	3.756	3.6673	3.8447	0.822	1	5	-0.948	0.742
Green Place	3.969	3.8788	4.0598	0.838	1	5	-1.122	1.573
Green Promotion	3.976	3.8889	4.0629	0.806	1	5	-1.095	0.956
Attitudes towards Green Marketing Mix	3.929	3.8533	4.0043	0.869	1	5	-1.290	1.598
Sustainability Awareness	3.900	3.8249	3.9755	0.697	1	5	-0.810	0.505
Purchase Intentions of Green Products	3.762	3.6707	3.8536	0.847	1	5	-0.966	0.412
Purchasing Behaviour of Green Products	3.781	3.6867	3.8743	0.869	1	5	-1.029	0.452

A detailed breakdown of the descriptive statistics of each of the variables and dimensions will be provided in the following few sections.

4.4.1 Attitudes towards the green marketing mix

The attitudes towards the green marketing mix variable comprise of four dimensions: green product, green price, green place and green promotion, as demonstrated below.

4.4.1.1 Green product

Table 11 provides a detailed analysis of respondents' perceptions of green products. It reveals several key insights. The statement, "I believe choosing environmentally friendly products is a positive and responsible decision" received a high level of agreement, with a mean score of 4.16, a median of 4.00, and a mode of 5. The standard deviation of 1.148 indicates moderate variability in responses. The negative skewness of -1.722 suggests a left-skewed distribution, with most responses leaning towards agreement or strong agreement. Additionally, a kurtosis value of 2.196 indicates a relatively peaked distribution.

For the statement, "I view green products as high-quality and reliable alternatives", the mean score is 4.03, with a median of 4.00 and a mode of 4. The standard deviation of 1.175 reflects moderate variability, and the skewness of -1.425 indicates left skewness, suggesting a tendency towards agreement. The kurtosis value of 1.175 suggests a distribution that, while less peaked than the previous statement, is still concentrated around the mean.

Regarding the statement, "I feel that investing in eco-friendly products reflects a positive commitment to sustainability", the mean score is 4.10, with a median of 4.50 and a mode of 5. The standard deviation of 1.222 shows some response variability, with a skewness value of -1.455, signifying left skewness and a kurtosis value of 1.054, indicating a moderately peaked distribution.

For the statement, "I am likely to recommend green products to others as a positive contribution to environmental consciousness", the mean score is 3.97, with a median of 4.00 and a mode of 4. The standard deviation of 1.213 indicates moderate variability, and the skewness of -1.318 shows left skewness, reflecting a tendency towards agreement. The kurtosis value of 0.752 indicates a distribution that is nearer to the normal distribution, with a moderate level of peakedness.

The results indicate a generally positive attitude towards green products among respondents. The high mean scores across all statements reflect a strong inclination towards viewing green

products favourably. The left skewness observed in all statements signifies that most respondents agree or strongly agree with the positive attributes of green products. Additionally, the varying degrees of kurtosis highlight that responses are clustered around the mean, suggesting consistent views among respondents. These insights indicate that respondents are likely to consider environmentally friendly products as responsible choices, perceive them as high-quality and reliable, and view investment in such products as a commitment to sustainability. The presence of eco-labels positively influences their purchasing decisions, and there is a tendency to recommend green products to others, demonstrating strong endorsement of their benefits.

4.4.1.2 Green price

The examination of respondents' perspectives on the pricing of green products reveals several significant findings. These are reflected in Table 11. Initially, the statement, "I consider selecting green products that are premium priced as a reflection of my positive commitment to sustainability", evoked diverse reactions, with 29.2% expressing strong agreement or agreement, while 24.7% maintained neutrality or disagreement. The mean score of 3.62 indicates a moderate level of consensus, with a mode of 4, implying a tendency towards agreement. Notably, the relatively high standard deviation of 1.310 signals notable variability in responses, with a negative skewness of -0.746, suggesting a slight left-leaning distribution. The kurtosis value of -0.668 indicates a distribution that peaked less than a normal distribution.

Similarly, for the statement, "Being willing to pay more for sustainably sourced products reflects my positive valuation of environmental responsibility", a comparable pattern of responses emerged. Approximately 31.9% expressed strong agreement or agreement, whilst 24.1% maintained neutrality or disagreement. The mean score of 3.70 signifies a moderate level of concordance, with a mode of 4. The standard deviation of 1.272 implies variability in responses, with a negative skewness of -0.764 indicating a slight leftward skew, with more respondents leaning towards agreement. The kurtosis value of -0.620 denotes a distribution that peaked less than a normal distribution.

The findings highlight a spectrum of attitudes towards the pricing of green products among respondents, with some exhibiting a willingness to pay a premium for eco-friendly options while others favour competitively priced alternatives. The leftward skew observed in all statements indicates a predominance of agreement or strong agreement among respondents

regarding positive sentiments about green product pricing. However, the variability in responses and the less peaked distributions hint at some divergence in opinions among respondents. These insights offer valuable knowledge into consumer perceptions of environmentally sustainable product pricing.

4.4.1.3 Green place

The examination of responses regarding perceptions of eco-friendly shopping venues among respondents uncovers intriguing insights. These are demonstrated in Table 11. For the assertion, “I actively seek eco-friendly stores as it aligns with my dedicated commitment to sustainable shopping”, approximately 29.2% of respondents strongly agreed or agreed. In comparison, 25.9% remained neutral or disagreed. The mean score of 3.64 suggests a moderate level of agreement, with a mode of 4 indicating a propensity towards agreement. The standard deviation of 1.290 indicates variability in responses, and the negative skewness of -0.714 suggests a slight left skewness, indicating a preference towards agreement. The kurtosis value of -0.732 implies a distribution that peaked less than a normal distribution.

Concerning the statement, “I appreciate having accessibility to eco-friendly products and stores in my local area”, a more significant proportion of respondents (42.5%) strongly agreed or agreed. Approximately 14.4% remained neutral or disagreed. The mean score of 4.09 suggests a relatively high level of agreement, with a mode of 4. The standard deviation of 1.115 implies variability in responses, and the negative skewness of -1.483 indicates a left skewness, with more respondents leaning towards agreement. The kurtosis value of 1.472 suggests a distribution that peaked more than a normal distribution.

The findings indicate a generally positive attitude towards eco-friendly shopping venues among respondents, with a majority expressing a preference for and support towards such establishments. The left skewness observed in most statements suggests that the majority of respondents agree or strongly agree with positive statements about eco-friendly shopping venues. Nonetheless, the variability in responses and the presence of outliers in some cases suggest some divergence in opinions among respondents. These insights offer a valuable understanding of consumer attitudes towards eco-friendly shopping environments.

4.4.1.4 Green promotion

Table 11 provides responses concerning green promotion among respondents, and it showcases several insightful findings. Regarding the statement, “I think eco-friendly advertisements are effective in influencing my purchasing decisions”, approximately 41.3% of respondents strongly agreed or agreed, while 22.9% remained neutral or disagreed. The mean score of 3.91 suggests a moderate level of agreement, with a mode of 5 indicating a tendency towards agreement. The standard deviation of 1.271 indicates variability in responses, and the negative skewness of -1.115 suggests a left skewness, indicating that more respondents leaned towards agreement. The kurtosis value of 0.071 suggests a less peaked distribution compared to a normal distribution.

Regarding the statement, “I trust a company’s green marketing promotions if they provide evidence or certifications of their environmental efforts”, there was a higher level of agreement, with 45.5% strongly agreeing or agreeing. Approximately 11.7% remained neutral or disagreed. The mean score of 4.00 suggests a moderate level of agreement, with a mode of 5. The standard deviation of 1.264 indicates variability in responses, and the negative skewness of -1.258 suggests a left skewness, indicating that more respondents leaned towards agreement. The kurtosis value of 0.402 suggests a less peaked distribution compared to a normal distribution.

Similarly, for the statement, “Social media marketing plays a role in raising awareness about green products and influences my attitudes toward purchasing decisions”, most respondents (48.2%) strongly agreed or agreed. Approximately 11.1% remained neutral or disagreed. The mean score of 4.02 suggests a moderate level of agreement, with a mode of 5. The standard deviation of 1.287 indicates variability in responses, and the negative skewness of -1.284 suggests a left skewness, indicating that more respondents leaned towards agreement. The kurtosis value of 0.408 suggests a less peaked distribution than a normal distribution.

The results indicate a predominantly favourable attitude towards green product promotion among respondents, with most agreeing with various aspects of eco-friendly marketing. The left skewness observed in most statements suggests that most respondents either agree or strongly agree with positive assertions regarding green product promotion. Nevertheless, the variability in responses and the presence of outliers in certain cases highlight some divergence

in opinions among respondents. These insights offer a valuable understanding of consumer attitudes towards eco-friendly marketing strategies.

Table 11: Attitudes towards green marketing mix dimensions: detailed descriptive statistics

Key Dimensions	Statements	SD	D	N	A	SA	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Green Product	I believe choosing environmentally friendly products is a positive and responsible decision.	26 (7.8%)	13 (3.9%)	1 (0.3%)	135 (40.7%)	157 (47.3%)	4.16	4.00	5	1.148	-1.722	2.196
Green Product	I view green products as high-quality and reliable alternatives.	25 (7.5%)	22 (6.6%)	8 (2.4%)	141 (42.5%)	136 (41%)	4.03	4.00	4	1.175	-1.425	1.175
Green Product	I feel that investing in eco-friendly products reflects a positive commitment to sustainability.	26 (7.8%)	22 (6.6%)	10 (3%)	108 (32.5%)	166 (50.1%)	4.10	4.50	5	1.222	-1.455	1.054
Green Product	I am likely to recommend green products to others as a positive contribution to environmental consciousness.	27 (8.1%)	26 (7.8%)	8 (2.4%)	139 (41.9%)	132 (39.8%)	3.97	4.00	4	1.213	-1.318	0.752
Green Price	I consider selecting green products that are premium priced as a reflection of my positive commitment to sustainability.	33 (9.9%)	49 (14.8%)	25 (7.5%)	128 (38.6%)	97 (29.2%)	3.62	4.00	4	1.310	-0.746	-0.668
Green Price	Being willing to pay more for sustainably sourced products reflects my positive valuation of environmental responsibility.	24 (7.2%)	55 (16.6%)	23 (6.9%)	124 (37.3%)	106 (31.9%)	3.70	4.00	4	1.272	-0.764	-0.620
Green Place	I actively seek eco-friendly stores as it aligns with my dedicated commitment to sustainable shopping.	27 (8.1%)	59 (17.8%)	19 (5.7%)	130 (39.2%)	97 (29.2%)	3.64	4.00	4	1.290	-0.714	-0.732

Green Place	I appreciate having accessibility to eco-friendly products and stores in my local area.	18 (5.4%)	27 (8.1%)	3 (0.9%)	143 (43.1%)	141 (42.5%)	4.09	4.00	4	1.115	-1.483	1.472
Green Promotion	I think eco-friendly advertisements are effective in influencing my purchasing decisions.	27 (8.1%)	36 (10.8%)	13 (3.9%)	119 (35.8%)	137 (41.3%)	3.91	4.00	5	1.271	-1.115	0.071
Green Promotion	I trust a company's green marketing promotions if they provide evidence or certifications of their environmental efforts.	27 (8.1%)	32 (9.6%)	7 (2.1%)	115 (34.6%)	151 (45.5%)	4.00	4.00	5	1.264	-1.258	0.402
Green Promotion	Social media marketing plays a role in raising awareness about green products and influences my attitudes toward purchasing decisions.	29 (8.7%)	30 (9%)	7 (2.1%)	106 (31.9%)	160 (48.2%)	4.02	4.00	5	1.287	-1.284	0.408

The following are indicated: SD (Strongly Disagree), D (Disagree), N (Neutral), A (Agree), and SA (Strongly Agree)

Source: Researcher's construction from questionnaire data (2024)

4.4.2 Sustainability awareness

As per Table 12 below, the analysis of sustainability awareness among respondents yields insightful observations concerning their environmental consciousness and engagement in sustainable practices.

Notably, the data presented in table 12 reflects various aspects of sustainability awareness among respondents, illustrated through their responses to specific statements. Regarding the statement, "I am familiar with the concept of sustainability", a substantial majority (53%) strongly agreed, resulting in a high mean score of 4.28 and a mode of 5, indicating a strong overall familiarity with sustainability concepts. The median also stands at 5, suggesting that the central tendency of responses is towards strong agreement. The standard deviation of 1.024 demonstrates some variability in responses, while the negative skewness of -1.739, coupled

with a kurtosis of 2.504, indicates a left-skewed and peaked distribution, suggesting a tendency towards higher familiarity levels.

For the statement, “I am aware of the environmental impact of products before making a purchase”, nearly half of the respondents (47.3%) agreed, with a mean score of 3.93 and a mode of 4, indicating a moderate level of awareness. The median aligns with the mode at 4, showing a central tendency towards agreement. The standard deviation of 1.127 highlights some variability in responses, while the negative skewness of -1.196 and kurtosis of 0.625 points to a left-skewed and moderately peaked distribution, indicating a general inclination towards higher awareness.

The statement, “I am aware of the ecological footprint associated with my daily activities and consumption habits”, was agreed upon by 42.2% of respondents, reflected in a mean score of 3.79 and a mode of 4. The median of 4 suggests a central tendency towards agreement, and the standard deviation of 1.198 indicates variability in responses. The negative skewness of -0.923 and kurtosis of -0.171 denote a slightly left-skewed and relatively flat distribution, indicating a general awareness of ecological footprints.

When considering the statement, “I engage in discussions about environmental issues and sustainability”, 38.6% of respondents agreed. The mean score of 3.50 and a mode of 4 suggest a moderate level of engagement. The median also stands at 4, indicating a central tendency towards agreement. The standard deviation of 1.338 suggests variability in responses, while the negative skewness of -0.596 and kurtosis of -0.952 indicate a slightly left-skewed and flat distribution, showing a general tendency towards engaging in environmental discussions.

In response to the statement, “I am aware and conscious of environmental certifications or labels that indicate a product’s eco-friendliness”, 46.1% of respondents agreed, with a mean score of 3.90 and a mode of 4, suggesting moderate awareness. The median matches the mode at 4, showing a central tendency towards agreement. The standard deviation of 1.186 reflects variability in responses, while the negative skewness of -1.227 and kurtosis of 0.599 indicate a left-skewed and moderately peaked distribution, implying a general inclination towards higher awareness of environmental certifications.

Lastly, regarding the statement, “The sustainability considerations in manufacturing products influence my choices when selecting products or services”, 41.6% of respondents agreed. This

is reflected in a mean score of 3.78 and a mode of 4, indicating a relatively high level of agreement. The median of 4 aligns with the mode, suggesting a central tendency towards agreement. The standard deviation of 1.271 indicates variability in responses, while the negative skewness of -0.973 and kurtosis of -0.227 denote a left-skewed and relatively flat distribution, indicating a general awareness of the importance of sustainability considerations in product selection.

These findings highlight a positive trend towards sustainability awareness among respondents, with a predominant inclination towards higher levels of familiarity, awareness, and engagement with sustainability issues. However, the variability in responses suggests opportunities for further education and awareness-building initiatives across dimensions to enhance environmental consciousness among this demographic.

Table 12: Summary of sustainability awareness scale results

Key Dimensions	Statements	SD	D	N	A	SA	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Sustainability Awareness	I am familiar with the concept of sustainability.	11(3.3%)	24(7.2%)	2(0.6%)	119(35.8%)	176(53%)	4.28	5.00	5	1.024	-1.739	2.504
Sustainability Awareness	I am aware of the environmental impact of products before making a purchase.	17(5.1%)	37(11.1%)	10(3%)	157(47.3%)	111(33.4%)	3.93	4.00	4	1.127	-1.196	0.625
Sustainability Awareness	I am aware of the ecological footprint associated with my daily activities and consumption habits.	20(6%)	46(13.9%)	22(6.6%)	140(42.2%)	104(31.3%)	3.79	4.00	4	1.198	-0.923	-0.171
Sustainability Awareness	I engage in discussions about environmental issues and sustainability.	36(10.88%)	61(18.4%)	21(6.3%)	128(38.6%)	86(25.9%)	3.50	4.00	4	1.338	-0.596	-0.952
Sustainability Awareness	I am aware and conscious of environmental certifications or labels that indicate a product's eco-friendliness.	25(7.5%)	30(9%)	11(3.3%)	153(46.1%)	113(34%)	3.90	4.00	4	1.186	-1.227	0.599
Sustainability Awareness	The sustainability considerations in manufacturing products influence my choices when selecting products or services.	28(8.4%)	44(13.3%)	11(3.3%)	138(41.6%)	111(33.4%)	3.78	4.00	4	1.271	-0.973	-0.227

The following are indicated: SD (Strongly Disagree), D (Disagree), N (Neutral), A (Agree), and SA(Strongly Agree)

Source: Researcher's construction from survey data (2024)

4.4.3 Intentions to purchase green products

A summary of the results pertaining to the intentions to purchase green products and their corresponding purchasing behaviour can be found in Table 13.

The results of the questionnaire on intentions to purchase green products among respondents demonstrate an apparent propensity towards environmentally friendly purchasing decisions. The statement, “I am likely to purchase a green product in the next three months”, garnered a mean score of 3.66, with 41.9% of respondents agreeing and 29.2% strongly agreeing. This indicates a positive intention to purchase green products in the near future. The median and mode both register at 4, suggesting that the central tendency of responses leans towards agreement. The standard deviation is 1.308, indicating moderate variability, while the skewness of -0.864 and kurtosis of -0.464 point to a slightly left-skewed distribution with a relatively flat curve.

The statement, “I feel motivated to switch from a non-green product to a green alternative”, achieved a mean score of 3.76, with 44.3% agreeing and 31.3% strongly agreeing. This reflects a strong motivation among respondents to prefer green products over non-green ones. The median and mode again are 4, indicating a consistent central tendency towards agreement. The standard deviation of 1.280 shows similar variability to the previous statement, with a skewness of -1.005, indicating a more pronounced left skew and a kurtosis of -0.171, suggesting a near-normal distribution.

Regarding the statement, “I am willing to sacrifice certain product features to choose environmentally friendly product alternatives”, the mean score was 3.62, with 35.8% agreeing and 31.9% strongly agreeing. The median and mode are 4, indicating general agreement among respondents. The standard deviation is 1.360, showing slightly higher variability, with skewness of -0.702 and kurtosis of -0.854, indicating a left-skewed distribution with a flatter peak.

The statement, “The sustainability reputation of a company influences my decision to buy its products”, received a mean score of 3.83, with 43.7% agreeing and 32.5% strongly agreeing. This highlights the significant influence of a company’s sustainability reputation on purchasing decisions. The median and mode are both 4, reflecting consistent agreement. The standard

deviation of 1.196 is lower than in previous statements, showing less variability, with skewness of -0.988 and kurtosis of -0.075, indicating a left-skewed but almost normal distribution.

The statement, “I am more inclined to purchase green products if there are clear benefits associated with doing so”, had a mean score of 4.00, with 42.8% agreeing and 39.8% strongly agreeing. This suggests a strong inclination towards purchasing green products when the benefits are clear. The median and mode are 4, indicating a robust central tendency towards agreement. The standard deviation is 1.167, showing lower variability, with skewness of -1.325 and kurtosis of 0.856, indicating a highly left-skewed and slightly peaked distribution.

The statement, “I consider the long-term environmental impact of a product before making a purchase”, received a mean score of 3.64, with 41.6% agreeing and 28.6% strongly agreeing. The median and mode are both 4, indicating a robust central tendency towards agreement. The standard deviation of 1.301 indicates moderate variability, with skewness of -0.778 and kurtosis of -0.644, indicating a slightly left-skewed distribution with a relatively flat curve.

Finally, the statement, “I am more likely to buy green products if they are endorsed or recommended by environmental organisations”, received a mean score of 3.83, with 39.8% agreeing and 35.5% strongly agreeing. The median and mode are 4, showing strong agreement among respondents. The standard deviation is 1.260, indicating moderate variability, with skewness of -1.032 and kurtosis of -0.051, suggesting a left-skewed but nearly normal distribution.

The results indicate a robust positive inclination towards purchasing green products among respondents, influenced by factors such as the sustainability reputation of companies, perceived benefits, and endorsements by environmental organisations. The measures of central tendency (mean, median, and mode) consistently reflect agreement. In contrast, the measures of variability (standard deviation, skewness, and kurtosis) indicate moderate spread and a generally left-skewed distribution, suggesting that most respondents lean towards positive responses regarding their green purchase intentions.

Table 13: Summary of intentions to purchase green products

Key Dimensions	Statements	SD	D	N	A	SA	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Intentions to Purchase Green Products	I am likely to purchase a green product in the next three months.	36(10.8%)	41(12.3%)	19(5.7%)	139(41.9%)	97(29.2%)	3.66	4.00	4	1.308	-0.864	-0.464
Intentions to Purchase Green Products	I feel motivated to switch from a non-green product to a green alternative.	32(9.6%)	40(12%)	8(2.4%)	147(44.3%)	104(31.3%)	3.76	4.00	4	1.280	-1.005	-0.171
Intentions to Purchase Green Products	I am willing to sacrifice certain product features to choose environmentally friendly product alternatives.	35(10.5%)	56(16.9%)	16(4.8%)	119(35.8%)	106(31.9%)	3.62	4.00	4	1.360	-0.702	-0.854
Intentions to Purchase Green Products	The sustainability reputation of a company influences my decision to buy its products.	19(5.7%)	48(14.5%)	12(3.6%)	145(43.7%)	108(32.5%)	3.83	4.00	4	1.196	-0.988	-0.075
Intentions to Purchase Green Products	I am more inclined to purchase green products if there are clear benefits associated with doing so.	21(6.3%)	31(9.3%)	6(1.8%)	142(42.8%)	132(39.8%)	4.00	4.00	4	1.167	-1.325	0.856
Intentions to Purchase Green Products	I consider the long-term environmental impact of a product before making a purchase.	31(9.3%)	54(16.3%)	14(4.2%)	138(41.6%)	95(28.6%)	3.64	4.00	4	1.301	-0.778	-0.644
Intentions to Purchase Green Products	I am more likely to buy green products if they are endorsed or recommended by environmental organisations.	28(8.4%)	37(11.1%)	17(5.1%)	132(39.8%)	118(35.5%)	3.83	4.00	4	1.260	-1.032	-0.051

The following are indicated: SD (Strongly Disagree), D (Disagree), N (Neutral), A (Agree), and SA(Strongly Agree)

Source: Researcher's construction from questionnaire data (2024)

4.4.4 Purchasing behaviour related to green products

A summary of the results pertaining to the purchasing behaviour related to green products can be found in Table 14 below.

The questionnaire results on the purchasing behaviour related to green products reveal significant trends among respondents favouring environmentally friendly purchasing decisions. The statement, “I consistently demonstrate a preference for green products in my purchasing decisions, favouring them over non-green alternatives”, received a mean score of 3.77. Notably, 35.5% of respondents agreed and 36.1% strongly agreed, indicating a robust preference for green products. The median and mode, 4, suggest a central tendency towards agreement. The standard deviation of 1.285 indicates moderate variability, with a skewness of -0.820 and a kurtosis of -0.605, reflecting a slightly left-skewed distribution with a relatively flat curve.

For the statement, “Environmental considerations significantly influenced my behaviour when I recently purchased a green product”, the mean score was 3.72. In this case, 48.8% of respondents agreed, and 25.9% strongly agreed. The median and mode are 4, showing a consistent trend towards agreement. The standard deviation of 1.198 indicates moderate variability, with skewness of -0.923 suggesting a pronounced left skew and a kurtosis of -0.213 suggesting a near-normal distribution.

The statement, “I actively sought information about the sustainability of green products when I made a purchase”, had a mean score of 3.61, with 37% agreeing and 30.1% strongly agreeing. The median and mode, 4, indicate general agreement among respondents. The standard deviation of 1.308 shows moderate variability, with a skewness of -0.634 and a kurtosis of -0.917, indicating a slightly left-skewed distribution with a flatter peak.

The statement, “I demonstrate a willingness to incorporate environmentally friendly behaviour by buying premium green products”, received a mean score of 3.70. Here, 41.3% of respondents agreed and 30.7% strongly agreed. The median and mode are both 4, indicating a central tendency towards agreement. The standard deviation of 1.287 shows moderate variability, with a skewness of -0.836 and a kurtosis of -0.531, suggesting a left-skewed distribution with a relatively flat curve.

For the statement, “The presence of eco-labels on products plays a crucial role in influencing my purchasing behaviour”, the mean score was 3.83, with 35.8% agreeing and 38.9% strongly agreeing. This suggests that eco-labels are highly influential in purchase decisions. The median and mode are both 4, indicating substantial agreement. The standard deviation of 1.324 indicates moderate variability, with a skewness of -1.020 and a kurtosis of -0.213, reflecting a left-skewed distribution.

The statement, “I exhibit a behaviour of brand switching to support companies that offer greener alternatives”, had a mean score of 3.68, with 38% agreeing and 33.1% strongly agreeing. The median and mode are both 4, indicating general agreement. The standard deviation of 1.349 shows moderate variability, with a skewness of -0.801 and a kurtosis of -0.699, indicating a left-skewed distribution with a flatter peak.

Regarding the statement, “I integrate environmentally conscious choices into my purchasing behaviour by consistently opting for green products”, the mean score was 3.77, with 39.8%

agreeing and 35.5% strongly agreeing. The median and mode are both 4, indicating strong agreement. The standard deviation of 1.353 shows moderate variability, with a skewness of -1.010 and a kurtosis of -0.285, reflecting a left-skewed distribution.

Lastly, the statement, “The commitment of green brands to environmental sustainability shapes both my loyalty and purchasing behaviour”, had the highest mean score of 4.17. Here, 33.4% of respondents agreed and 52.1% strongly agreed. The median and mode are both 5, suggesting a strong tendency towards strong agreement. The standard deviation of 1.176 is the lowest among the statements, indicating less variability, with a skewness of -1.610 and a kurtosis of 1.626, reflecting a highly left-skewed and peaked distribution.

Therefore, these results indicate a robust positive inclination towards green purchasing behaviour among respondents, significantly influenced by eco-labels, brand sustainability, and premium product offerings. The central tendency measures (mean, median, and mode) consistently reflect agreement. In contrast, the variability measures (standard deviation, skewness, and kurtosis) indicate moderate spread and generally left-skewed distributions, suggesting that the majority of respondents lean towards positive responses regarding their green purchasing behaviour.

Table 14: Summary of purchasing behaviour related to green products

Key Dimensions	Statements	SD	D	N	A	SA	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Purchasing Behaviour Related to Green Products	I consistently demonstrate a preference for green products in my purchasing decisions, favouring them over non-green alternatives.	22(6.6%)	58(17.5%)	14(4.2%)	118(35.5%)	120(36.1%)	3.77	4.00	5	1.285	-0.820	-0.605
Purchasing Behaviour Related to Green Products	Environmental considerations significantly influenced my behaviour when I recently purchased a green product.	22(6.6%)	52(15.7%)	10(3%)	162(48.8%)	86(25.9%)	3.72	4.00	4	1.198	-0.923	-0.213
Purchasing Behaviour Related to Green Products	I actively sought information about the sustainability of green products when I made a purchase.	25(7.5%)	69(20.8%)	15(4.5%)	123(37%)	100(30.1%)	3.61	4.00	4	1.308	-0.634	-0.917
Purchasing Behaviour Related to Green Products	I demonstrate a willingness to incorporate environmentally friendly behaviour by buying premium green products.	28(8.4%)	53(16%)	12(3.6%)	137(41.3%)	102(30.7%)	3.70	4.00	4	1.287	-0.836	-0.531
Purchasing Behaviour Related to Green Products	The presence of eco-labels on products plays a crucial role in influencing my purchasing behaviour.	34(10.2%)	35(10.5%)	15(4.5%)	119(35.8%)	129(38.9%)	3.83	4.00	5	1.324	-1.020	-0.213
Purchasing Behaviour Related to Green Products	I exhibit a behaviour of brand switching to support companies that offer greener alternatives.	34(10.2%)	53(16%)	9(2.7%)	126(38%)	110(33.1%)	3.68	4.00	4	1.349	-0.801	-0.699
Purchasing Behaviour Related to Green Products	I integrate environmentally conscious choices into my purchasing behaviour by consistently opting for green products.	41(12.3%)	32(9.6%)	9(2.7%)	132(39.8%)	118(35.5%)	3.77	4.00	4	1.353	-1.010	-0.285
Purchasing Behaviour Related to Green Products	The commitment of green brands to environmental sustainability shapes both my loyalty and purchasing behaviour.	23(6.9%)	21(6.3%)	4(1.2%)	111(33.4%)	173(52.1%)	4.17	5.00	5	1.176	-1.610	1.626

The following are indicated: SD (Strongly Disagree), D (Disagree), N (Neutral), A (Agree), and SA (Strongly Agree)

Source: Researcher's construction from survey data (2024)

4.5 Pearson correlation analysis

The study undertook a Pearson correlation analysis among the four study variables. The findings are shown in Table 15.

Table 15: Correlations among study variables

Pearson correlations					
		Attitudes towards Green Marketing Mix	Purchasing Behaviour of Green Products	Purchase Intentions of Green Products	Sustainability Awareness
Attitudes towards Green Marketing Mix		1			
Purchasing Behaviour of Green Products		0.660**	1		
Purchase Intentions of Green Products		0.724**	0.748**	1	
Sustainability Awareness		0.658**	0.653**	0.601**	1

**** - significant at $p < 0.01$**

The findings presented in Table 15 reveal significant positive correlations among the study variables. There is a substantial, positive correlation ($r = 0.660$, $p < 0.01$) between attitudes towards the green marketing mix and the purchasing behaviour related to green products. This suggests that as positive attitudes towards the green marketing mix increase, so does the purchasing behaviour of green products. Similarly, the correlation between attitudes towards the green marketing mix and intentions to purchase green products is both significant and positive ($r = 0.724$, $p < 0.01$), indicating that more favourable attitudes towards the green marketing mix are associated with stronger intentions to purchase green products.

Furthermore, the purchasing behaviour related to green products is significantly positively correlated with purchasing intentions related to green products ($r = 0.748$, $p < 0.01$), implying that higher purchasing intentions are likely to translate into actual purchasing behaviour. Sustainability awareness demonstrates a significant positive correlation with attitudes towards the green marketing mix ($r = 0.658$, $p < 0.01$), purchasing behaviour related to green products ($r = 0.653$, $p < 0.01$), and intentions to purchase green products ($r = 0.601$, $p < 0.01$). This indicates that increased sustainability awareness is associated with more positive attitudes

towards the green marketing mix, higher purchasing intentions, and more frequent purchasing behaviour related to green products.

These correlations underline the interconnectedness of attitudes towards the green marketing mix, intentions to purchase green products, purchasing behaviour related to green products, and sustainability awareness within the context of green marketing among Generation-Z consumers in South Africa.

4.6 Research question one: What is the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

Table 16 provides the model summary of the regression analysis undertaken on attitudes towards the green marketing mix (predictor/independent variable) and purchasing behaviour related to green products (dependent variable).

Table 16: Model summary regression analysis

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.632 ^a	0.400	0.398	5.39498	1.832
a. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable					
b. Dependent variable: Purchasing behaviour_Dependent variable					

According to Table 16, the R-squared value, denoted as 0.632, reveals that approximately 63.2% of the variability in the dependent variable, purchasing behaviour, can be accounted for by the independent variable, attitudes towards the green marketing mix. This substantial proportion of explained variance suggests that attitudes towards the green marketing mix holds considerable predictive power in understanding and influencing purchasing behaviour among the study respondents.

According to Bartels and Goodhew (2021), the Durbin-Watson statistic is a critical measure in assessing the presence of autocorrelation within the residuals of a regression analysis. Ranging between 0 and 4, its proximity to the value of 2 indicates the absence of autocorrelation. In this context, where the statistic stands at 1.832, closely approximating 2, it suggests a lack of

autocorrelation. This underlines the reliability of the regression analysis, implying that the model effectively captures the majority of dependencies within the residuals. Consequently, this strengthens the validity and vigour of the analytical findings, affirming the credibility of the regression model.

Table 17: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6396.320	1	6396.320	219.761	.000 ^b
	Residual	9604.918	330	29.106		
	Total	16001.238	331			
a. Dependent variable: Purchasing behaviour_Dependent variable						
b. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable						

Table 17 shows that the ANOVA results provide a comprehensive insight into the regression model's effectiveness in explaining the variability observed in the dependent variable, purchasing behaviour. The sum of squares for regression, totalling 6396.320, highlights the significant influence of the independent variable, attitudes towards the green marketing mix, in elucidating the variance in purchasing behaviour.

Conversely, the sum of squares for the residual, amounting to 9604.918, delineates the unexplained variability in purchasing behaviour that remains unaccounted for by the model. Considering the total sum of squares, encompassing both explained and unexplained variances, calculated as 16001.238, valuable insights are gained into the relative magnitude of these variances within the regression framework.

The substantial disparity between the sum of squares for regression and residual underlines the model's capability to capture a significant portion of the variability in purchasing behaviour, thereby emphasising the relevance of attitudes towards the green marketing mix as a crucial predictor. Moreover, the F statistic derived from the ANOVA test, with an F-value of 219.761 and a corresponding p-value (Sig.) of 0.000, provides compelling evidence against the null hypothesis. This signifies a noteworthy difference in the means of the dependent variable concerning the purchasing behaviour related to green products green products across various levels of the independent variable, which represents attitudes towards the green marketing mix.

Such findings emphasise the pivotal role of attitudes towards the green marketing mix in predicting and elucidating variations in consumer purchasing decisions pertaining to environmentally sustainable products.

Table 18: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.144E-6	.296		.000	1.000
	Attitudes towards the green marketing mix_Independent variable	.524	.035	.712	14.824	.000
a. Dependent variable: Purchasing behaviour_Dependent variable						

Table 18 reveals that the coefficients derived from the regression analysis yield valuable insights into the relationship between the independent variable, 'attitudes towards the green marketing mix', and the dependent variable, 'purchasing behaviour'. The significant coefficient attributed to 'attitudes towards the green marketing mix' ($p < 0.001$) suggests a notable impact on the purchasing behaviour of green products. Specifically, for each incremental unit rise in attitudes towards the green marketing mix, there appears to be an estimated increment of 0.524 units in the purchasing behaviour related to green products. This observation implies a robust and affirmative connection between attitudes towards the green marketing mix and the tangible act of purchasing. Moreover, the standardised coefficient (Beta), registering at 0.712, bolsters this relationship, indicating a compelling influence of attitudes towards the green marketing mix on purchasing behaviour in comparison to other variables within the model. These findings highlight the pivotal role of attitudes towards sustainable marketing strategies in shaping consumers' choices concerning acquiring environmentally friendly products. Thus, based on these results, hypothesis one (alternate) is supported and hypothesis one (null) is rejected.

4.7 Research question two: What is the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers?

Table 19 presents the model summary derived from the regression analysis, unveiling a noteworthy relationship between the predictor variable, the ‘Attitudes towards the green marketing mix_Independent variable’ and the dependent variable ‘Intentions to purchase_Mediating variable’.

Table 19: Model summary regression analysis

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.701 ^a	.491	.490	4.24326	1.700
a. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable					
b. Dependent variable: Intentions to purchase_Mediating variable					

The correlation coefficient (R) of 0.701 denotes a moderately robust positive correlation, signifying that an escalation in the value of the ‘Attitudes towards the green marketing mix_Independent variable’ corresponds with an increase in the value of the ‘Intentions to purchase_Mediating variable’. Furthermore, the coefficient of determination (R Square) stands at 0.491, indicating that approximately 49.1% of the variability observed in the ‘Intentions to purchase_Mediating variable’ can be elucidated by the ‘Attitudes towards the green marketing mix_Independent variable’. This features the substantive contribution of the ‘Attitudes towards the green marketing mix_Independent variable’ in explaining the variance in purchasing intentions.

In addition, including a constant term in the model implies a foundational level of purchasing intentions even in instances where the ‘Attitudes towards the green marketing mix_Independent variable’ attains a value of zero. Regarding the Durbin-Watson statistic, which assesses the presence of autocorrelation in the residuals, the value of 1.700 suggests a negligible to minimal degree of autocorrelation in the residuals.

These findings accentuate the statistical significance of the ‘Attitudes towards the green marketing mix_Independent variable’ as a predictor of the ‘Intentions to purchase_Mediating variable’. Moreover, the model furnishes a moderately to strongly positive Independent variable explanation for the variation observed in purchasing intentions.

Table 20: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5735.136	1	5735.136	318.526	.000 ^b
	Residual	5941.731	330	18.005		
	Total	11676.867	331			
a. Dependent variable: Intentions to purchase_Mediating variable						
b. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable						

Table 20 shows the outcomes of a regression analysis, where the ‘Intentions to purchase_Mediating variable’ serves as the dependent variable and the ‘Attitudes towards the green marketing mix_Independent variable’ is the predictor. The F-statistic, standing at 318.526, is accompanied by a notably diminutive p-value (<0.001). This observation signifies the model’s profound statistical significance. It suggests that incorporating the ‘Attitudes towards the green marketing mix_Independent variable’ as a predictor markedly enhances the model’s predictive capability for the ‘Intentions to purchase_Mediating variable’ compared to a model devoid of predictors.

Moreover, the regression model demonstrates efficacy in elucidating a significant portion of the variability inherent in the dependent variable, the ‘Intentions to purchase_Mediating variable’. This assertion is underlined by the vigorous F-statistic and its corresponding p-value.

In essence, these outcomes effectively imply a significant association between the ‘Attitudes towards the green marketing mix_Independent variable’ and the ‘Intentions to purchase_Mediating variable’. Such inference emphasises the pivotal role of attitudes towards the green marketing mix in shaping intentions to purchase. This highlights the imperative nature of integrating environmental attitudes into marketing strategies designed to bolster purchasing behaviour.

Table 21: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.233		.001	.999
	Attitudes towards the green marketing mix_Independent variable	.496	.028	.701	17.847	.000
a. Dependent variable: Intentions to purchase_Mediating variable						

As per Table 21, the presented coefficients delineate the outcomes of a thorough regression analysis, where the 'Intentions to purchase_Mediating variable' serves as the dependent variable, and the 'Attitudes towards the green marketing mix_Independent variable' is designated as the predictor. The coefficient associated with the 'Attitudes towards the green marketing mix_Independent variable' is highly significant ($p < 0.001$), indicating a notable impact of attitudes towards the green marketing mix on the intentions to purchase green products. Specifically, for each incremental unit rise in attitudes towards the green marketing mix, there is an approximate increase of 0.496 units in the intentions to purchase green products.

Moreover, the standardised coefficient (Beta) further accentuates the strength of this relationship, standing at 0.701. This robust Beta value emphasises the substantial influence of attitudes towards the green marketing mix on intentions to purchase, indicating a profound impact of these attitudes on consumer behaviour in the context of green products. The results emphasise the pivotal role of attitudes towards the green marketing mix in intentions to purchase, highlighting the significance of incorporating environmentally friendly marketing strategies to enhance consumer engagement with green products. Accordingly, based on these findings, hypothesis two (alternate) is supported and hypothesis two (null) is rejected.

4.8 Research question three: What is the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

Table 22 presents the model findings from a regression analysis, wherein the association between intentions to purchase (as the predictor) and purchasing behaviour (as the dependent variable) is scrutinised.

Table 22: Model summary regression analysis

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.748 ^a	.559	.558	4.62321	1.728
a. Predictors: (Constant), Intentions to purchase_Mediating variable					
b. Dependent variable: Purchasing behaviour_Dependent variable					

The correlation coefficient (R), amounting to 0.748, signifies a moderately robust positive correlation between intentions to purchase and subsequent behaviour. This suggests that increased intentions to purchase correspond with a heightened likelihood of corresponding behavioural actions.

With a coefficient of determination (R square) at 0.559, it is deduced that approximately 55.9% of the observed variability in purchasing behaviour can be explicated by intentions to purchase. This underlines the pivotal role of intentions to purchase as a significant predictor of ensuing behaviour, elucidating a notable proportion of the observed variance. Therefore, the model emphasises the predictive efficacy of intentions to purchase in delineating subsequent purchasing behaviour, accentuating the significance of considering individuals' intentions in analysing and predicting their purchase actions.

Table 23: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8947.789	1	8947.789	418.628	.000 ^b
	Residual	7053.449	330	21.374		
	Total	16001.238	331			
a. Dependent variable: Purchasing behaviour_Dependent variable						
b. Predictors: (Constant), Intentions to purchase_Mediating variable						

Table 23 depicts the results of an ANOVA analysis conducted within a regression framework, wherein the 'Purchasing behaviour_Dependent variable' is considered as the dependent variable and the 'Intentions to purchase_Mediating variable' is the predictor. The notably low

p-value associated with the F-statistic (418.628) confirms the statistical significance of the regression model ($p < 0.001$). This suggests that incorporating the ‘Intentions to purchase_Mediating variable’ as a predictor significantly enhances the model’s capacity to elucidate the variability observed in the ‘Purchasing behaviour_Dependent variable’.

Furthermore, the regression model demonstrates substantial explanatory power concerning the variance in the dependent variable, the ‘Purchasing behaviour_Dependent variable’. This indicates that the ‘Intentions to purchase_Mediating variable’ plays a significant role in predicting actual purchasing behaviour, contributing significantly to the model’s overall explanatory ability. The findings accentuate the fundamental role of the ‘Intentions to purchase_Mediating variable’ in forecasting the ‘Purchasing behaviour_Dependent variable’, emphasising its substantial impact on consumers’ tangible purchasing actions.

Table 24: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.254		-.001	.999
	Intentions to purchase_Mediating variable	.875	.043	.748	20.460	.000
a. Dependent variable: Purchasing behaviour_Dependent variable						

Table 24 showcases the outcomes of a regression analysis, where the ‘Purchasing behaviour_Dependent variable’ is considered the dependent variable, and the ‘Intentions to purchase_Mediating variable’ is the predictor. The coefficient associated with the ‘Intentions to purchase_Mediating variable’ emerges as highly significant ($p < 0.01$), indicating a notable impact of intentions to purchase green products on the actual purchasing behaviour of such products. Specifically, for each incremental unit increase in purchase intentions, there is an approximate increase of 0.875 units in the purchasing behaviour pertaining to green products. The standardised beta coefficient for the mediating variable of intentions to purchase is 0.748, indicating a strong positive relationship with the dependent variable of purchasing behaviour. This suggests that as intentions to purchase increase, purchasing behaviour among South African Generation-Z consumers also significantly increases, demonstrating the importance of intentions to purchase in predicting consumer behaviour within the context of green marketing and sustainability awareness. This implies a positive shift towards a more substantial agreement

with statements concerning the purchasing behaviour pertaining to green products. Consequently, taking these results into account, hypothesis three (alternate) is supported and hypothesis three (null) is rejected.

4.9 Research question four: To what extent does intentions to purchase green products mediate the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

Table 25 showcases the results of hierarchical regression analysis with the ‘Purchasing behaviour_Dependent variable’ as the dependent variable.

Table 25: Model summary

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.632 ^a	.400	.398	5.39498	.400	219.761	1	330	.000	
2	.763 ^b	.582	.580	4.50783	.182	143.671	1	329	.000	1.777
a. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable										
b. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable, Intentions to purchase_Mediating variable										
c. Dependent variable: Purchasing behaviour_Dependent variable										

In Model 1, where the ‘Attitudes towards the green marketing mix_Independent variable’ is the sole predictor, the correlation coefficient (R) is 0.632, indicating a strong positive relationship between attitudes towards the green marketing mix and purchasing behaviour. The R square value of 0.400 signifies that attitudes towards the green marketing mix can explain 40% of the variance in purchasing behaviour.

Model 2 introduces an additional predictor, which is the ‘Intentions to purchase_Mediating variable’. The inclusion of this variable raises the R square to 0.582, demonstrating that 58.2% of the variance in purchasing behaviour is now accounted for by the combined predictors. The change in the R square of 0.182 indicates a significant enhancement in the model’s explanatory power with the addition of intentions to purchase. The associated F Change statistic of 143.671, coupled with a p-value of 0.000, confirms that the improvement in model fit is statistically significant. This finding signifies that intentions to purchase significantly enhance the model’s predictive power beyond what is explained by attitudes towards the green marketing mix alone.

Therefore, it is essential to consider attitudes towards the green marketing mix and intentions to purchase in predicting purchasing behaviour. The substantial increase in explained variance with the addition of intentions to purchase highlights its critical role in understanding consumer purchase actions.

Table 26: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6396.320	1	6396.320	219.761	.000 ^b
	Residual	9604.918	330	29.106		
	Total	16001.238	331			
2	Regression	9315.790	2	4657.895	229.221	.000 ^c
	Residual	6685.448	329	20.321		
	Total	16001.238	331			
a. Dependent variable: Purchasing behaviour_Dependent variable						
b. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable						
c. Predictors: (Constant), Attitudes towards the green marketing mix_Independent variable, Intentions to purchase_Mediating variable						

As per Table 26, the ANOVA results elucidate the findings of a hierarchical regression analysis with the ‘Purchasing behaviour_Dependent variable’ as the dependent variable. In the initial model, where the ‘Attitudes towards the green marketing mix_Independent variable’ is the sole predictor, the regression model is statistically significant ($p < 0.05$), as evidenced by a high F-statistic of 219.761. This result indicates that attitudes towards the green marketing mix substantially predict purchasing behaviour, accounting for a significant portion of the variance in the ‘Purchasing behaviour_Dependent variable’.

In the subsequent model, which introduces an additional predictor, the ‘Intentions to purchase_Mediating variable’, the regression model remains statistically significant ($p < 0.05$), with an enhanced F-statistic of 229.221. The increase in the F-statistic from the first to the second model suggests that incorporating the ‘Intentions to purchase_Mediating variable’ significantly improves the model’s explanatory power. This enhancement signifies that intentions to purchase add substantial predictive value to the model beyond what attitudes towards the green marketing mix alone explain.

The reduction in the residual sum of squares from 9604.918 in the first model to 6685.448 in the second model further corroborates the improved fit of the second model. Additionally, the decrease in the mean square error from 29.106 to 20.321 indicates that the second model explains a more significant proportion of the variance in the ‘Purchasing behaviour_Dependent variable’, thereby increasing the model’s overall predictive accuracy. These findings depict the considerable roles of attitudes towards the green marketing mix and intentions to purchase in predicting purchasing behaviour. The marked improvement in the model, which fits with the inclusion of intentions to purchase, highlights its critical contribution to comprehending consumer purchasing actions.

Table 27: Coefficients

Coefficient s						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.144E-6	.296		.000	1.000
	Attitudes towards the green marketing mix_Independent variable	0.524	.035	.632	14.824	.000
2	(Constant)	.000	.247		-.001	.999
	Attitudes towards the green marketing mix_Independent variable	.176	.041	.613	4.256	.000
	Intentions to purchase Mediating variable	.701	.058	.719	11.986	.000
a. Dependent variable: Purchasing behaviour_Dependent variable						

Table 27 delineates the results of a regression analysis with the ‘Purchasing behaviour_Dependent variable’ as the dependent variable. In the initial model, the ‘Attitudes towards the green marketing mix_Independent variable’ exhibits a significant positive effect on the ‘Purchasing behaviour_Dependent variable’ ($p < 0.05$). The unstandardised coefficient (B) of 0.524 suggests that each unit increase in the ‘Attitudes towards the green marketing mix_Independent variable’ corresponds to a 0.524 unit increase in the ‘Purchasing behaviour_Dependent variable’. The standardised coefficient (Beta) of 0.632 indicates that a one standard deviation increase in the ‘Attitudes towards the green marketing mix_Independent variable’ results in a 0.632 standard deviation increase in the ‘Purchasing behaviour_Dependent variable’. This strong positive effect is further corroborated by a substantial t-value of 14.824, affirming the statistical significance of this relationship.

In the subsequent model, which incorporates both the 'Attitudes towards the green marketing mix_Independent variable' and the 'Intentions to purchase_Mediating variable', both predictors maintain significant positive effects on the 'Purchasing behaviour_Dependent variable' ($p < 0.05$). The unstandardised coefficient for the 'Attitudes towards the green marketing mix_Independent variable' decreases to 0.176, reflecting a reduced impact when the 'Intentions to purchase_Mediating variable' is included. Similarly, the standardised coefficient (Beta) for the 'Attitudes towards the green marketing mix_Independent variable' decreases to 0.613, indicating a slightly diminished effect compared to the initial model. The t-value of 4.256 remains statistically significant, albeit lower than in the first model, suggesting that introducing the 'Intentions to purchase_Mediating variable' mitigates the relative strength of the 'Attitudes towards the green marketing mix_Independent variable' on purchasing behaviour.

The 'Intentions to purchase_Mediating variable' exhibits a robust positive effect on the 'Purchasing behaviour_Dependent variable' with an unstandardised coefficient of 0.701. This denotes that each unit increase in the 'Intentions to purchase_Mediating variable' leads to a 0.701 increase in the 'Purchasing behaviour_Dependent variable'. The standardised coefficient (Beta) of 0.719 indicates a strong effect, where a one standard deviation increase in the 'Intentions to purchase_Mediating variable' results in a 0.719 standard deviation increase in the 'Purchasing behaviour_Dependent variable'. This strong effect is accentuated by a substantial t-value of 11.986, highlighting its significant role in predicting purchasing behaviour. These results collectively underline the critical importance of both the 'Attitudes towards the green marketing mix_Independent variable' and the 'Intentions to purchase_Mediating variable' in forecasting the 'Purchasing behaviour_Dependent variable'. While the 'Attitudes towards the green marketing mix_Independent variable' alone significantly influences purchasing behaviour, including the 'Intentions to purchase_Mediating variable' markedly enhances the model's explanatory power, highlighting the pivotal role of purchase intentions in shaping consumer purchasing actions. Therefore, the results of the hierarchical regression demonstrate that intentions to purchase significantly and partially mediate the relationship between attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products. Accordingly, hypothesis four (alternate) is supported and hypothesis four (null) is rejected.

4.10 Research question five: What is the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

Table 28 presents the regression analysis results where the ‘Purchasing behaviour_Dependent variable’ is the dependent variable and the ‘Sustainability awareness_Moderating variable’ is the predictor.

Table 28: Model summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.645 ^a	.416	.414	5.32284	1.743
a. Predictors: (Constant), Sustainability awareness_Moderating variable					
b. Dependent variable: Purchasing behaviour_Dependent variable					

The correlation coefficient (R) of 0.645 indicates a moderately strong positive correlation between sustainability awareness and purchasing behaviour. This implies that as individuals’ awareness of sustainability increases, there is a corresponding tendency for their purchasing behaviour to align accordingly.

The coefficient of determination (R square) is 0.416, suggesting that approximately 41.6% of the variance observed in the ‘Purchasing behaviour_Dependent variable’ can be accounted for by sustainability awareness. This emphasises the significance of sustainability awareness in influencing purchasing behaviour, explaining a considerable proportion of the observed variability. Therefore, the focal role of sustainability awareness as a predictor of purchasing behaviour emphasises its substantial impact on individuals’ decisions and actions when making purchases.

Table 29: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6651.488	1	6651.488	234.765	.000 ^b
	Residual	9349.750	330	28.333		
	Total	16001.238	331			
a. Dependent variable: Purchasing behaviour_Dependent variable						
b. Predictors: (Constant), Sustainability awareness_Moderating variable						

Table 29 illustrates the ANOVA outcomes of a regression analysis wherein the ‘Purchasing behaviour_Dependent variable’ functions as the dependent variable, while the ‘Sustainability awareness_Moderating variable’ operates as the predictor. The remarkably low p-value linked with the F-statistic (234.765) unequivocally validates the statistical significance of the regression model ($p < 0.001$). This affirmation indicates that incorporating the ‘Sustainability awareness_Moderating variable’ as a predictor markedly enriches the model’s capability to elucidate the variability observed in the ‘Purchasing behaviour_Dependent variable’.

Moreover, the regression model effectively accounts for a considerable portion of the variance in the dependent variable, the ‘Purchasing behaviour_Dependent variable’. This implies that the ‘Sustainability awareness_Moderating variable’ emerges as a noteworthy predictor of actual purchasing behaviour, as it substantially bolsters the model’s explanatory prowess. In essence, these findings emphasise the central role of the ‘Sustainability awareness_Moderating variable’ in forecasting the ‘Purchasing behaviour_Dependent Variable’, thereby accentuating its significant impact on consumers’ purchasing behaviours.

Table 30: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.000	.292		.001	.999
	Sustainability awareness_Moderating variable	1.013	.066	.745	15.322	.000
a. Dependent variable: Purchasing behaviour_Dependent variable						

Table 30 presents the coefficients derived from a regression analysis, where the ‘Purchasing behaviour_Dependent variable’ is the dependent variable, and the ‘Sustainability awareness_Moderating variable’ is the predictor. The coefficient linked with the ‘Sustainability awareness_Moderating variable’ exhibits high significance ($p < 0.05$), implying a substantial impact of sustainability awareness regarding the green marketing mix on the purchasing behaviour pertaining to green products. Specifically, for every incremental unit increase in sustainability awareness, there is an approximate elevation of 1.013 units in the purchasing behaviour pertaining to green products.

Furthermore, the standardised coefficient (Beta) further emphasises the strength of this relationship, which is at 0.745. This robust Beta value accentuates the considerable influence of sustainability awareness concerning the marketing mix on purchasing behaviour within the model. The influence of sustainability awareness in shaping purchasing behaviour, particularly concerning green products, accentuates the significance of integrating sustainability into green marketing strategies, highlighting the potential for enhancing consumer engagement and promoting environmentally conscious purchasing decisions. Thus, based on these results, hypothesis five (alternate) is supported and hypothesis five (null) is rejected.

4.11 Research question six: To what extent does sustainability awareness moderate the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers?

The following section explores the moderating influence of sustainability awareness on the relationship between intentions to purchase green products and the corresponding purchasing behaviour among Generation-Z consumers in South Africa. Subsequent findings are outlined in the discussions that follow.

Table 31: Model summary

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.796 ^a	.634	.632	4.21846	.634	285.089	2	329	.000	1
2	.797 ^b	.635	.632	4.21867	.001	.968	1	328	.326	1.813
a. Predictors: (Constant), Sustainability awareness_Moderating variable, Intentions to purchase_Mediating variable										
b. Predictors: (Constant), Sustainability awareness_Moderating variable, Intentions to purchase_Mediating variable, interaction Intentions to purchase_Sustainability awareness										
c. Dependent variable: Purchasing behaviour_Dependent variable										

Table 31 elucidates the outcomes of two regression models designed to predict the dependent variable, the ‘Purchasing behaviour_Dependent variable’, using distinct predictors. In the initial model, the predictors ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’ collectively account for 63.2% of the variance in the ‘Purchasing behaviour_Dependent variable’, as denoted by the adjusted R square value of 0.632. This model exhibits a robust fit, with an R square of 0.634 and an exceedingly significant F Change statistic (285.089, $p < 0.001$). This demonstrates that these predictors substantially explain the variance in purchasing behaviour.

The second model incorporates an interaction term, the ‘interaction_Intentions to purchase_Sustainability awareness’. The addition of this term does not significantly enhance the model fit. This is indicated by a negligible R square change of 0.001 and a non-significant F Change statistic of 0.968, with a p-value of 0.326, which exceeds the 0.05 significance threshold. Consequently, the interaction term does not offer additional explanatory power beyond the main effects of the ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’ already included in the first model.

The findings suggest that while the ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’ are potent predictors of the ‘Purchasing behaviour_Dependent variable’, the interaction between these variables does not substantially enhance the model’s ability to predict purchasing behaviour. The Durbin-Watson statistic of 1.813 in the second model indicates the absence of serious autocorrelation in the residuals, reinforcing the model’s reliability.

Table 32: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10146.548	2	5073.274	285.089	.000 ^b
	Residual	5854.690	329	17.795		
	Total	16001.238	331			
2	Regression	10163.768	3	3387.923	190.363	.000 ^c
	Residual	5837.470	328	17.797		
	Total	16001.238	331			
a. Dependent variable: Purchasing behaviour_Dependent variable						
b. Predictors: (Constant), Sustainability awareness_Moderating variable, Intentions to purchase_Mediating variable						
c. Predictors: (Constant), Sustainability awareness_Moderating variable, Intentions to purchase_Mediating variable, interaction_Intentions to purchase _ Sustainability awareness						

Table 32 details the regression models examining the ‘Purchasing behaviour_Dependent variable’ as the dependent variable. In the first model, incorporating the ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’ as predictors, the regression analysis is highly significant ($p < 0.05$), with an F-statistic of 285.089. The regression sum of squares is 10,146.548, indicating that this model accounts for a substantial portion of the variance in the ‘Purchasing behaviour_Dependent variable’. The residual sum of squares is 5,854.690, resulting in a mean square error of 17.795 across 329 degrees of freedom. The second model introduces the interaction term ‘interaction_Intentions to purchase _ Sustainability awareness’. This model also achieves statistical significance ($p < 0.05$), with an F-statistic of 190.363. However, adding the interaction term does not significantly enhance the model’s explanatory power. The regression sum of squares marginally increases to 10,163.768, and the mean square error remains virtually unchanged at 17.797 over 328 degrees of freedom.

The close similarity in the F-statistics between the two models suggests that incorporating the interaction term does not appreciably improve the model’s fit. The slight increase in the regression sum of squares and the non-significant p-value associated with the F Change further indicate that the interaction term does not contribute substantial additional explanatory power beyond the main effects of the ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’. While both models are statistically significant and

account for a considerable portion of the variance in the ‘Purchasing behaviour_Dependent variable’, the interaction term does not markedly enhance the model fit. This suggests that the direct effects of the ‘Sustainability awareness_Moderating variable’ and the ‘Intentions to purchase_Mediating variable’ are the principal determinants of purchasing behaviour, with the interaction between these variables providing no additional explanatory value.

Table 33: Coefficients

Coefficients						
s						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.538E-5	.232		.000	1.000
	Intentions to purchase_Mediating variable	.660	.047	.563	14.014	.000
	Sustainability awareness_Moderating variable	.518	.063	.630	8.208	.000
2	(Constant)	-.110	.257		-.428	.669
	Intentions to purchase_Mediating variable	.669	.048	.572	13.913	.000
	Sustainability awareness_Moderating variable	.534	.065	.340	8.205	.000
	interaction_Intentions to purchase Sustainability awareness	.008	.008	.736	.984	.326
a. Dependent variable: Purchasing behaviour_Dependent variable The presence of the moderating variable strengthens the variables.						

Table 33 provides a comprehensive overview of the regression analysis findings pertaining to the ‘Purchasing behaviour_Dependent variable’ as the dependent variable, presented through two distinct models. In the initial model, both the ‘Intentions to purchase_Mediating variable’ and the ‘Sustainability awareness_Moderating variable’ demonstrate noteworthy and statistically significant impacts on the ‘Purchasing behaviour_Dependent variable’ ($p < 0.05$). The unstandardised coefficient for the ‘Intentions to purchase_Mediating variable’ stands at 0.660, with a standardised coefficient (Beta) of 0.563. This indicates a substantial influence, suggesting that an escalation in purchase intentions corresponds to a notable elevation in purchasing behaviour.

Similarly, the ‘Sustainability awareness_Moderating variable’ yields an unstandardised coefficient of 0.518 and a standardised coefficient (Beta) of 0.630, further signifying its profound impact on purchasing behaviour. The significant t-values of 14.014 and 8.208 correspondingly bolster the statistical significance of these relationships. In the subsequent

model, upon specifically integrating the interaction term ‘interaction_Intentions to purchase _Sustainability awareness’, the influential effects of the ‘Intentions to purchase_Mediating variable’ and the ‘Sustainability awareness_Moderating variable’ endure, remaining statistically significant ($p < 0.05$). The unstandardised coefficient for the ‘_Mediating variable’ experiences a marginal increase to 0.669, thus reaffirming its robust predictive capacity.

Simultaneously, the ‘Sustainability awareness_Moderating variable’ maintains its substantial effect, evidenced by an unstandardised coefficient of 0.534. The corresponding t-values of 13.913 and 8.205, respectively, further highlight the significance and reliability of these effects. Conversely, the interaction term does not contribute significantly to the prediction of the ‘Purchasing behaviour_Dependent variable’, as evidenced by its meagre unstandardised coefficient of 0.008, a standardised coefficient (Beta) of 0.736, and a non-significant t-value of 0.984 ($p = 0.326$). This outcome suggests that the interplay between purchase intentions and sustainability awareness does not furnish additional explanatory power beyond the individual effects of the primary predictors. In essence, these findings accentuate the pivotal roles of both the ‘Intentions to purchase_Mediating variable’ and the ‘Sustainability awareness_Moderating variable’ in elucidating variations in the ‘Purchasing behaviour_Dependent variable’. The absence of significance for the interaction term underlines that the direct impacts of these predictors suffice to elucidate the dynamics of purchasing behaviour, emphasising the paramount importance of intentions to purchase and sustainability awareness in shaping consumer actions. Hence, based on these results, there appears to be no support for the moderating influence of sustainability awareness in the relationship between intentions to purchase green products and the purchasing behaviour pertaining to these products. Therefore, hypothesis six (alternate) is rejected and hypothesis six (null) is accepted.

4.12 Chapter summary

This chapter’s research findings were meticulously presented alongside a comprehensive descriptive and inferential statistical outcomes analysis. Various assessments were methodically conducted, including the internal consistency test, computation of Cronbach’s coefficient alpha, and examination of construct validity. Factor analysis, performed using SPSS Version 29, entailed the application of the Principal Components Method for factor extraction, followed by Varimax rotation to facilitate factor interpretation. Descriptive statistical analyses encompassed the derivation of frequency distributions to scrutinise responses to demographic

inquiries and study variables. Furthermore, demographic data underwent meticulous examination, entailing the computation of mean, median, mode, variance, standard deviation, and kurtosis. Inferential statistical analyses employing SPSS Version 29 revealed more profound insights into the dataset, enriching the overall understanding of the research outcomes. Firstly, a correlation analysis was conducted using the Pearson correlation coefficient to examine the relationships among various variables: attitudes towards the green marketing mix, sustainability awareness, intentions to purchase, and purchasing behaviour. The significant correlations between these variables were evaluated based on the strength of the correlation coefficient (r), as presented in the preceding chapter. Additionally, regression analyses were undertaken to elucidate the relationships between the following variables: attitudes towards the green marketing mix and purchasing behaviour, attitudes towards the green marketing mix and intentions to purchase, intentions to purchase and purchasing behaviour, and sustainability awareness and purchasing behaviour. Furthermore, hierarchical regression was employed to ascertain the impact of the mediating variable, intentions to purchase, on the dependent variable (purchasing behaviour) and the independent variables.

The subsequent chapter provides a detailed discussion of the findings, interpreting the results amalgamated with the extant literature and exploring their implications within the context of the green marketing mix, sustainability awareness, intentions to purchase and the purchasing behaviour of South African Generation-Z consumers.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

This discussion is predicated on the results from the data analysis presented in chapter four, addressing the research study's objectives and the extant literature. This research investigated the attitudes toward the green marketing mix, sustainability awareness, purchase intentions and behaviour of Generation-Z consumers in South Africa. To comprehend the purchase intentions and behaviour of South African Generation-Z in relation to sustainability, it was imperative to analyse their perceptions of green marketing practices. The analysis yielded key results that elucidate the relationship between the attitudes toward the green marketing mix, sustainability awareness, and the purchase intentions and behaviour of Generation-Z South African consumers. Consequently, this chapter deliberates on the results to ascertain whether the research questions have been answered and the research objectives achieved. Moreover, the results are contrasted with and evaluated against similar research results reported in the current literature.

5.2 Results related to research objectives

5.2.1 Research objective one: To determine the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The first research objective aimed to elucidate the intricate relationship between attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers. This objective was underpinned by an extensive review of extant literature, examining the multidimensional aspects of the green marketing mix and its implications for consumer behaviour. The regression analysis demonstrated a robust association between these variables, reflected by an R-squared value of 0.632, indicating that approximately 63.2% of the variance in purchasing behaviour is attributable to attitudes towards the green marketing mix. These results display the profound impact of the green marketing mix on purchasing behaviour among South African Generation-Z consumers, highlighting the imperative for marketers and businesses to align their green marketing strategies with environmental values to engage this demographic effectively.

The existing literature lends substantial support to this relationship, with contemporary studies delineating the complex interconnection between the green marketing mix and purchasing behaviour (Beachcroft-Shaw and Ellis, 2020; Dragolea *et al.*, 2023). Specifically, the components of the green marketing mix, including green product, green price, green place, and green promotion, are critical in shaping consumer perceptions and engagement with eco-friendly products. The predictive power observed in this study aligns with previous research, which posits that each element of the green marketing mix plays a vital role in shaping consumer attitudes and, by extension, their purchasing behaviour (Bhavana and Thiruchanuru, 2022; Kemper, 2021).

Furthermore, the Durbin-Watson statistic of 1.832, approaching the ideal threshold of 2, suggests an absence of significant autocorrelation in the residuals of the regression model. This further attests to the reliability of the results, affirming that the model accurately captures the relationships between variables with minimal bias (Bartels and Goodhew, 2021). The high F-value of 219.761, coupled with a p-value of 0.000, reinforces the rejection of the null hypothesis, affirming the significant influence of attitudes towards the green marketing mix on the purchasing behaviour related to green products among South African Generation-Z consumers.

The coefficient analysis further demonstrated the substantial positive effect of attitudes towards the green marketing mix on purchasing behaviour. Specifically, the unstandardised coefficient of 0.524 indicates that for each unit increase in positive attitudes towards the green marketing mix, purchasing behaviour increases by 0.524 units. This result is corroborated by the standardised coefficient (Beta) of 0.712, emphasising the considerable influence of the green marketing mix on purchasing behaviour.

These results are congruent with previous research, which highlights the pivotal role of green product, green price, green place, and green promotion in shaping the behaviour of South African Generation-Z consumers (Bhavana and Thiruchanuru, 2022; Maziriri, Nyagadza, Mabuyana, Rukuni and Mapuranga, 2023). Stafford and Graul (2020) argued that the efficacy of green marketing strategies is predicated upon their resonance with the values of this cohort. However, dissenting perspectives propose that other variables, such as economic constraints or entrenched brand loyalty, may attenuate the influence of the green marketing mix on consumer decision-making (Terzi, 2022). This suggests that while the green marketing mix is a critical

determinant, it does not operate in isolation, necessitating a more nuanced understanding of the broader factors influencing consumer behaviour.

The results provide invaluable insights for marketers and businesses seeking to refine their green marketing strategies to meet South African Generation-Z consumers' burgeoning demand for eco-conscious products. A well-crafted green marketing mix can significantly enhance the ability of marketers and businesses to shape purchasing behaviour (Dragolea *et al.*, 2023; Mallick, Hota, Kumar and Agarwall, 2024; Ottman, 2019). As such, marketers and businesses should capitalise on these insights to optimise their promotion of eco-friendly products, tailor pricing strategies to this demographic, and identify the most effective channels for effective engagement, consequently fostering greater consumer loyalty and driving sales growth.

The subsequent section provides a comprehensive discussion of each principal dimension.

5.2.1.1 Green product

The results pertaining to green products show a predominantly affirmative consumer attitude, aligning closely with the existing literature that characterises green products as those exhibiting minimal environmental impact throughout their lifecycle (Manstead and Parker, 2022; Umberson, 2019). Respondents indicated strong agreement that opting for environmentally friendly products constitutes a commendable and responsible choice, as evidenced by a high mean value of 4.16. This outcome highlights the priorities of South African Generation-Z consumers, who increasingly prioritise environmental sustainability in their purchasing behaviours. The negative skewness of responses suggests that the majority of respondents are inclined towards agreement or strong agreement, reinforcing the perception of green products as responsible alternatives.

Furthermore, the perception of green products as high-quality and reliable alternatives achieved a mean value of 4.03. This optimistic perspective corroborates the existing literature's assertion that consumer trust in the quality of green products plays a pivotal role in shaping purchase intentions (Manstead and Parker, 2022; Masocha, 2021). The left-skewed distribution of responses signified a general consensus on the quality and reliability of green products, with the majority of respondents considering them viable and dependable substitutes for

conventional offerings. This result emphasises the dual significance of both environmental and performance considerations in consumer decision-making processes.

Respondents also expressed a strong conviction that investing in eco-friendly products manifests a positive commitment to sustainability, reflected in a mean value of 4.10. This result aligns with contemporary research that positions green products as a medium for consumers to express their environmental values (Dangelico, 2022; Muchemi, 2023). The moderately peaked distribution suggests that attitudes towards sustainability are predominantly concentrated around the positive implications associated with investing in green products, indicating that South African Generation-Z consumers perceive their purchases as emblematic of their commitment to environmental responsibility.

However, the slightly lower mean value of 3.97 regarding the likelihood of recommending green products to others suggests that, despite the general support for these products, respondents' inclination to advocate for them may be somewhat muted. This result highlights the imperative for targeted green marketing strategies that elucidate the benefits of green products and actively encourage South African Generation-Z consumers to promote them. Scholarly research has highlighted the significant role of social influence and the perceived impact of recommendations in shaping consumer behaviour, suggesting that enhancing consumer advocacy could facilitate broader adoption of green products (Dangelico, 2022; White, Habib and Hardisty, 2021).

Intriguingly, whilst positive sentiments towards green products are predominant, some divergent existing literature indicates that economic constraints and brand loyalty may attenuate the influence of environmental considerations on purchasing decisions (Zhang, Islam, Jambulingam, Lim and Kumar, 2024). This observation highlights the complexity inherent in consumer behaviour, illustrating that although the green marketing mix is indispensable, it must be contextualised within a broader framework of competing influences (Kastanakis and Paul, 2024; Zhang *et al.*, 2024).

To reiterate, the results illuminate a favourable consumer perception of green products, characterised by perceived quality, reliability, and consonance with sustainability values. As per the research insights of Stuebi (2024), marketers and businesses ought to capitalise on these attributes to bolster consumer confidence and enhance purchase intentions. Concurrently,

Olsen, Slotegraaf and Chandukala (2022) posit that addressing the relatively lower inclination to recommend green products may require formulating green marketing strategies that clearly convey these offerings' broader social and environmental advantages.

Groening, Sarkis and Zhu (2019) proposed that contemporary research should investigate the factors that influence recommendation behaviour and assess the efficacy of a diverse green marketing mix in cultivating consumer advocacy. By integrating these insights, marketers and businesses can refine the green marketing mix to align more effectively with sustainable values and facilitate the growth of the green product market (Papadas, Avlonitis, Carrigan and Piha, 2019).

These results collectively emphasised the importance of environmental consciousness and sustainability in green products aimed at Generation-Z consumers in South Africa, aligning closely with the prevailing literature.

5.2.1.2 Green price

The results concerning green pricing depicted a multifaceted spectrum of attitudes among South African Generation-Z consumers towards the cost of environmentally friendly products. These results are consistent with prior scholarly discourse, which emphasised that green pricing strategies consider both environmental and social production costs. Marketers and businesses that engage in green pricing typically account for factors such as reducing pollution and using sustainable resources, often offering incentives such as discounts or rebates to encourage eco-conscious consumer behaviour (Kumar, 2023; Solaiman *et al.*, 2022). The results exhibited a divergence in consumer perspectives: some respondents were willing to pay a premium for green products, viewing this premium as indicative of their commitment to sustainability, while others were more hesitant. The mean value of 3.62, reflecting attitudes towards premium-priced green products, suggested a moderate consensus, indicating that South African Generation-Z consumers are not uniformly convinced of the value inherent in higher-priced sustainable goods.

This observation is particularly insightful as it highlighted the variability in consumer perceptions of green pricing, evidenced by the relatively high standard deviation of 1.310 and a leftward skew in the distribution of responses. The current literature posits that green pricing can effectively communicate the value of sustainability and confer a competitive advantage

(Abzari *et al.*, 2019; Wang, 2019). However, the mixed responses observed in this study suggest that this strategy may resonate more with a select subset of consumers. The moderate level of agreement, coupled with the less peaked kurtosis of the response distribution, reflects a wide array of values and priorities among South African Generation-Z consumers. Their willingness to pay a premium for sustainably sourced products is not uniformly embraced. This presents an ambivalent outcome, revealing a paradoxical effect wherein consumers may conceptually support green products yet hesitate to fully commit to the financial costs associated with them (Bartley, Koos, Samel, Setrini and Summers, 2020).

A similar trend emerged concerning respondents' attitudes towards paying more for sustainably sourced products, with a mean value of 3.70. While a significant portion of respondents acknowledged the importance of environmental responsibility, a substantial group remained neutral or even opposed to paying higher prices for such products. This reluctance may be attributed to the heightened price sensitivity prevalent among South African Generation-Z consumers, which influences their hesitation to pay a premium for environmentally sustainable goods. Additionally, demographic factors, particularly income levels, likely play a pivotal role, as consumers with limited financial resources are inclined to prioritise affordability over sustainability. The slight leftward skew in responses reinforced the notion that while a majority lean towards agreement, the variability and less peaked kurtosis highlight the divergent opinions within the sample.

Although these results align with several studies affirming the efficacy of green pricing in cultivating consumer loyalty (Chekima, Wafa, Igau and Sondoh, 2022; Huscroft, Hazen, and Zhang, 2021), contrary insights from scholars such as Anvar and Venter (2024) and Kapferer and Valette-Florence (2021) proffered a more critical perspective. These researchers asserted that green products often face resistance in markets with economic constraints, such as South Africa, as they are viewed as luxury items rather than necessities (Anvar and Venter, 2024; Kapferer and Valette-Florence, 2021). This dissent emphasises the complexities of consumer behaviour in the realm of green pricing, suggesting that while environmental responsibility may be embraced ideologically, the practical application of paying premium prices is often hindered by financial limitations (Anvar and Venter, 2024; Kapferer and Valette-Florence, 2021).

Therefore, the results indicated that while green pricing strategies have the potential to resonate with environmentally conscious South African Generation-Z consumers, a significant challenge lies in persuading a broader audience of the inherent value associated with premium pricing for sustainable products. Marketers and businesses may need to develop more tailored pricing strategies that cater to distinct market segments, offering a range of green products at various price points (Azionya, 2022; Sharma and Iyer, 2022). Furthermore, Ottman, Stafford and Hartman (2019) theorised that enhancing the perceived value of premium-priced green products through more effective communication of their environmental benefits could prove beneficial. Prospective research could explore how different pricing models impact South African Generation-Z consumer adoption and whether supplementary incentives or educational efforts might shift consumer perceptions, fostering a greater willingness to invest in sustainability and building deeper consumer trust and engagement.

5.2.1.3 Green place

The results pertaining to green place highlighted a predominantly affirmative disposition among respondents towards eco-friendly shopping venues, which aligns with past research that emphasised the significance of sustainable distribution channels and strategically positioned green products (Bornman, 2019; Brindley and Oxborrow, 2024). Notably, approximately 29.2% of respondents actively pursued eco-friendly stores, perceiving this behaviour as integral to their commitment to sustainable purchasing practices. This engagement implies that South African Generation-Z consumers are increasingly discerning in their choice of shopping locations, favouring establishments that resonate with their environmental values. However, the mean value of 3.64, coupled with a moderate level of agreement, indicates that while a discernible interest in eco-friendly shopping exists, this inclination is not uniformly pronounced across the entire cohort of South African Generation-Z consumers. The variability in responses, illustrated by a standard deviation of 1.290 and slight leftward skewness, suggests that although a significant number of respondents expressed agreement, a substantial proportion remained neutral or disagreed.

Contemporary scholarly discourse accentuates judicious factors such as eco-friendly packaging, minimising transportation emissions, and promoting local sourcing as fundamental components of green place strategies (Punj, Ahmi, Tanwar and Rahim, 2023; Solaiman *et al.*, 2022). The heightened agreement observed regarding the accessibility of eco-friendly products

and stores, yielding a mean value of 4.09, further demonstrates the pivotal role of convenience and availability in shaping the attitudes towards South African Generation-Z consumers. The substantial level of agreement, with 42.5% of respondents affirming this sentiment, indicated that when eco-friendly options are readily accessible, they are more likely to be embraced by South African Generation-Z consumers. This outcome resonates with the existing literature, which advocates for marketers and businesses to explore alternative distribution channels, including online platforms and sustainable retail outlets, to effectively engage environmentally conscious consumers (Confetto, Covucci, Addeo and Normando, 2023; Solaiman *et al.*, 2022). Nevertheless, contrasting research within the literature by Vermeir, Weijters, De Houwer, Geuens, Slabbinck, Spruyt, Van Kerckhove, Van Lippevelde, De Steur and Verbeke (2020) posits that, despite a general awareness of eco-friendly products, many consumers exhibit a tendency to prioritise convenience and cost over sustainability in their purchasing decisions. Similarly, Diprose, Valentine, Vanderbeck, Liu and McQuaid (2019) found that while there is burgeoning interest in green products, this does not consistently translate into consumer behaviour, particularly among younger demographics who may be influenced by peer influence and brand marketing rather than intrinsic environmental values. These contradictory dynamics complicate the narrative surrounding the commitment of South African Generation-Z consumers to eco-friendly shopping practices.

The leftward skewness in responses across both statements suggests a prevailing preference for eco-friendly shopping environments. However, the observed variability and the presence of outliers indicate that consumer opinions among South African Generation-Z are only partially homogeneous. Such divergence may reflect varying levels of commitment to sustainability or differing degrees of access to eco-friendly shopping options. This diversity in attitudes accentuates the necessity for marketers and businesses to adopt flexible and inclusive green place strategies that adequately address a broad spectrum of consumer preferences (Tasan-Kok, Van Kempen, Mike and Bolt, 2024).

While the results demonstrate significant support for eco-friendly shopping venues, it is imperative for marketers and businesses to consider convenience, accessibility, and effective communication of environmental benefits to wholly capitalise on this interest (Wong, Turner and Stoneman, 2022). The contradictory dynamics observed, whereby respondents express enthusiasm for eco-friendly practices yet display varying degrees of commitment to actively seeking out such venues, highlight the inherent complexities in consumer behaviour. As per

the recommendations of Dabija, Bejan and Puşcaş (2020) and Nikolić *et al.* (2022), subsequent studies could delve deeper into the specific elements of green place strategies that most effectively engage with Generation-Z consumers. Moreover, marketers and businesses may benefit from exploring avenues to tailor their distribution channels and green supply chains to accommodate better the preferences of environmentally conscious Generation-Z consumers in South Africa.

5.2.1.4 Green promotion

The results on green promotion depicted a generally positive attitude among respondents towards eco-friendly marketing strategies, consistent with existing literature highlighting the importance of green promotion in raising awareness and fostering the adoption of sustainable products (Bornman, 2019; Chan, Darko and Ameyaw, 2019). A notable 41.3% of respondents believed that eco-friendly advertisements effectively influenced their purchasing decisions. This aligns with the understanding that green promotion strategies such as advertising, public relations, and social media campaigns play a critical role in educating consumers about the environmental benefits of green products (Mahmoud, 2022; Ottman, 2019). However, the mean value of 3.91, alongside the observed variability in responses indicated by a standard deviation of 1.271, suggests that while green advertisements positively influenced many respondents, the degree of influence varied across the sample. This variability is mirrored in Nekmahmud, Naz, Ramkissoon and Fekete-Farkas (2022) findings, which assert that the effectiveness of green marketing is contingent upon individual consumer values and prior behavioural experiences. Previous research also highlighted the necessity of providing evidence or certifications to substantiate green marketing claims, as this can enhance consumer trust in promotional messages (Bornman, 2019; Cronin, Smith, Gleim, Ramirez and Martinez, 2021). This was reflected in the results, with 45.5% of respondents expressing increased trust in a company's green marketing efforts when verifiable evidence was provided. The mean value of 4.00 and the left skewness of -1.258 in the responses further indicated that South African Generation-Z consumers were generally more inclined to trust green promotions when endorsed by credible environmental certifications. This significant outcome suggests that transparency and verifiable claims are crucial in crafting effective green promotion strategies.

Social media marketing emerged as a particularly influential aspect of green promotion, with 48.2% of respondents agreeing that it raised awareness about green products and prompted

their purchasing decisions. This is consistent with existing literature, which emphasises the importance of social media in engaging with Generation-Z consumers, who are highly active on these platforms (Mahmoud, 2022; Viřelar, 2019). The mean value of 4.02 and the negative skewness observed in responses further suggest that social media is a powerful tool in shaping South African Generation-Z consumer attitudes towards green products, reinforcing the need for marketers and businesses to prioritise digital and social media strategies in their green marketing mix. However, some studies indicate that overzealous marketing on social media may lead to consumer scepticism, potentially diminishing the effectiveness of green promotions (Kim and Hall, 2023; Wong *et al.*, 2022). Kim and Hall (2023) found that consumers often develop negative perceptions of brands engaging in excessive green marketing, viewing it as insincere or greenwashing. Conversely, Wong *et al.* (2022) argued that well-crafted social media campaigns can enhance consumer trust and credibility when aligned with a brand's broader environmental commitment.

The results depicted that green promotion strategies are generally well-received by South African Generation-Z consumers, especially when transparent, credible, and effectively utilising digital platforms. However, the variability in responses and the presence of outliers suggest that not all South African Generation-Z consumers are equally influenced by these strategies. This highlighted the importance of developing more nuanced, tailored approaches that cater to diverse consumer segments. According to Krsnik and Erjavec (2024), marketers and businesses should continue refining their green promotion tactics, ensuring their messages are persuasive, compelling, and substantiated by verifiable environmental credentials. Future research could examine the specific elements of green promotion that most effectively drive consumer engagement and explore how these green promotional strategies can be further adapted to meet the evolving expectations of environmentally conscious South African Generation-Z consumers.

The following sub-section centres on the second research objective.

5.2.2 Research objective two: To examine the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers

The results of the second research objective, which examined the relationship between attitudes towards the green marketing mix and intentions to purchase green products among South

African Generation-Z consumers, depicted a notably significant and positive correlation. The data indicated that attitudes towards green products held by South African Generation-Z consumers were strongly linked to their purchasing intentions. The regression analysis corroborated this, with the correlation coefficient (R) of 0.701 indicating a moderately strong positive relationship. This suggests that as positive attitudes towards the green marketing mix increase, there is an ascendancy in purchase intentions. These results resonate with the extant literature, which similarly reported a positive correlation between favourable attitudes towards the green marketing mix and increased intentions to purchase green products (Ginsberg and Bloom, 2023; Nguyen-Viet, 2023). The coefficient of determination (R Square) further validated this relationship by showcasing that 49.1% of the variability in purchase intentions could be explained by attitudes towards the green marketing mix.

In addition, the ANOVA results solidified the statistical significance of this relationship, as evidenced by an F-statistic of 318.526 and a p-value of less than 0.001. This indicated that the inclusion of attitudes towards the green marketing mix significantly enhanced the model's ability to predict purchase intentions. This insight aligns with the broader literature, emphasising that green marketing strategies are most impactful when they connect with consumers' environmental values (Cronin *et al.*, 2021; Papadas *et al.*, 2019). In the context of this research study, the positive relationship between attitudes towards the green marketing mix and purchase intentions among South African Generation-Z consumers reinforces the notion that aligning the green marketing mix with this generation's environmental concerns can substantially drive their intent to purchase green products.

The coefficients' analysis provided further evidence of the importance of attitudes towards the green marketing mix in shaping purchase intentions. The unstandardised coefficient of 0.496 demonstrated that for each unit increase in positive attitudes towards the green marketing mix, there was a corresponding 0.496-unit increase in purchase intentions. The standardised coefficient (Beta) of 0.701 illustrated the considerable influence of these attitudes on purchase intentions. This aligns with the contemporary literature's consensus that consumers with strong environmental consciousness are more predisposed to engage in sustainable consumption behaviours (Fischer, Stanszus, Geiger, Grossman and Schrader, 2019; Shwetha, 2019).

These results depict the critical importance of tailoring the green marketing mix to the environmental values of South African Generation-Z consumers. As the existing literature

suggests, this generation is particularly receptive to green marketing initiatives, driven by their heightened environmental awareness (Dangelico and Pujari, 2020; Hasan and Ali, 2020). However, challenges such as greenwashing, as emphasised by Shafira and Johan (2022), necessitate that companies ensure the credibility and transparency of their environmental claims to maintain consumer trust and foster genuine engagement with green products. The presence of excessive green marketing without substantiation risks undermining the effectiveness of such green strategies, which could deter environmentally conscious consumers (Qayyum, Jamil and Sehar, 2023).

Future research could benefit from exploring contrasting perspectives, such as those posited by Grimmer and Bingham (2023), who contended that positive attitudes towards green marketing do not uniformly translate into purchase intentions, as other moderating variables, including price sensitivity and product availability, may exert significant influence. This warrants further investigation into how these factors interact with consumer attitudes, to provide a more detailed and comprehensive understanding of the relationship between the green marketing mix and intentions to purchase among South African Generation-Z consumers.

The following sub-section focuses on the third research objective.

5.2.3 Research objective three: To determine the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The investigation into the relationship intentions to purchase and purchasing behaviour pertaining to green products among South African Generation-Z consumers depicted a significant and positive correlation. This relationship emphasised a fundamental linkage within the green marketing landscape, illustrating how South African Generation-Z consumers' purchase intentions translated into tangible purchasing behaviour. The regression analysis results demonstrated a strong positive correlation between intentions to purchase and purchasing behaviour, as evidenced by a correlation coefficient (R) of 0.748. This suggested that heightened purchase intentions were associated with a substantial likelihood of purchasing behaviour. The coefficient of determination (R Square) at 0.559 demonstrated that approximately 55.9% of the variability in purchasing behaviour could be accounted for by purchase intentions. This substantial proportion highlighted the predictive power of intentions to purchase in elucidating purchasing behaviour towards green products.

Supporting these results, Table 22 in chapter four demonstrated that the model's explanatory power was statistically significant, as indicated by the F-statistic of 418.628 and a p-value < 0.001. This suggested that incorporating intentions to purchase as a predictor significantly enhanced the model's capacity to account for variations in purchasing behaviour. The results aligned with previous research, which identified that intentions to purchase are a reliable predictor of purchasing behaviour (Galbreth and Ghosh, 2023; Khor and Hazen, 2019). This was consistent with Kusumaputri and Zainal's (2022) contention that consumers' purchase intentions reflect their ethical considerations and environmental awareness, directly influencing their purchasing behaviour.

Furthermore, the regression coefficients demonstrated that each unit increase in intentions to purchase corresponded to a 0.875-unit increase in purchasing behaviour, supported by a standardised beta coefficient of 0.748. This strong correlation reinforced the concept that increased intentions to purchase significantly influenced purchasing behaviour. These results corroborate the research of Polonsky *et al.* (2022), who accentuated the alignment between consumers' purchase intentions and their subsequent behaviour as a pivotal element in green marketing.

However, some scholars argue that while purchase intentions may provide valuable insight into consumer behaviour, they do not always guarantee actual purchases (Fiske and Tetlock, 2019; Pereira-Luzio and Lemke, 2023; Teng and Wang, 2023). Fiske and Tetlock (2019) highlighted those psychological factors, such as cognitive dissonance and competing personal priorities, that may lead consumers to reassess their intentions at the point of purchase. Per Pereira-Luzio and Lemke's (2023) findings, even profoundly held environmental convictions can be subverted by more immediate considerations, including convenience or brand allegiance, attenuating the connection between purchase intentions and purchasing behaviour. This perspective suggests that the decision-making process is more complex and fluid, requiring green marketers and businesses to nurture intent and address barriers that may mitigate the trajectory from intention to active purchases (Fiske and Tetlock, 2019; Pereira-Luzio and Lemke, 2023). Similarly, a research study by Teng and Wang (2023) found that consumers' environmental attitudes, while influential, did not consistently translate into purchasing behaviour, particularly when they faced financial constraints. These views add a multidimensional layer to understanding consumer behaviour within the green marketing context.

The integration of these results with past research contributes to an improved understanding of the research area of consumer behaviour. It highlighted that the transition from intention to action is significantly shaped by Generation-Z's heightened environmental awareness and their propensity to act on their sustainable values (Butnaru, Niță, Melinte, Anichiti and Brînză, 2022). This interconnection reflected the effectiveness of the green marketing mix. It accentuated the need for marketers and businesses to cultivate authentic environmental values that resonate with South African Generation-Z consumer expectations.

Therefore, the results from this research objective reinforced the importance of targeting purchase intentions in the green marketing mix. Marketers and businesses can more accurately predict and influence their purchasing behaviour by focusing on South Africa Generation-Z's consumers' purchase intentions, fostering a more effective and impactful green marketing mix. Understanding this nexus between purchase intentions and purchasing behaviour is paramount for cultivating green marketing strategies that stimulate greater consumer engagement and promote sustainable consumption. Moreover, the existing literature hypothesised that understanding the intricacies of this relationship can enhance green marketing aimed at fostering environmentally responsible consumption patterns within this specified demographic (Polonsky *et al.*, 2022).

The ensuing sub-section focuses on the fourth research objective.

5.2.4 Research objective four: To understand the extent to which intentions to purchase green products mediates the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The examination of this research objective, which aimed to discern the mediating effect of purchase intentions on the relationship between attitudes towards the green marketing mix and purchasing behaviour among South African Generation-Z consumers, expounded a mediating influence. The results indicated that favourable attitudes towards the green marketing mix considerably influenced purchasing behaviour, with purchase intentions serving as a critical conduit in this relationship.

The theory of planned behaviour (TPB) provides a robust theoretical framework to elucidate these results. As outlined by TPB, behaviour is shaped by three principal factors: attitudes, subjective norms, and perceived behavioural control (Ajzen, 1985). Within the current context, attitudes towards the green marketing mix represent consumers' favourable evaluations of sustainable marketing efforts, subsequently shaping their purchase intentions (Ajzen, 1985). Carrington, Neville and Whitwell (2020) explicate that these intentions subsequently directly influence purchasing behaviour. The hierarchical regression analysis corroborates this theoretical proposition and demonstrates that the inclusion of intentions to purchase as a mediating variable markedly enhanced the model's explanatory power. The R-squared value increased from 0.400, when only attitudes towards the green marketing mix were considered, to 0.582 with the inclusion of intentions to purchase. This substantial increase aligns with TPB's suggestion that intentions act as the nexus between attitudes and behaviour, corroborating the findings of Indriani *et al.* (2019) and Jaiswal and Kant (2021), both of whom emphasised the significance of purchase intentions as a critical link between consumer attitudes and green purchasing behaviour within sustainable marketing frameworks.

Moreover, the data analysis demonstrated that while attitudes towards the green marketing mix exerted a significant influence on purchasing behaviour, this relationship was partially mediated by purchase intentions. The reduction in the unstandardised coefficient for attitudes towards the green marketing mix, from 0.524 to 0.176, following the introduction of purchase intentions, highlights the critical role of this mediator. This observation is in line with the scholarly research of Zatwarnicka-Madura *et al.* (2022) and Maichum, Parichatnon and Peng (2022), who similarly identified purchase intentions as an essential intermediary in the relationship between attitudes and purchasing behaviour, particularly in the realm of environmentally sustainable products. The TPB further reinforces this interpretation, suggesting that attitudes influence intentions, consequently serving as reliable predictors of actual behaviour (Norman and Smith, 2023).

However, not all pedagogical perspectives concur with these results. Hamzah and Tanwir (2021) postulated that the influence of purchase intentions may be overstated in specific contexts, arguing that subjective norms and external pressures can play a more decisive role in shaping environmentally conscious behaviours. This alternative view suggests that social influences, rather than individual attitudes, may drive green purchasing behaviour within specific demographic groups (Hamzah and Tanwir, 2021). Additionally, Mehmood, Jabeen,

Rehman, Iftikhar and Khan (2024) observed that even strong purchase intentions do not always culminate in actual green purchasing behaviour, thereby highlighting an intention-behaviour gap that is not fully addressed within the TPB framework.

The pronounced influence of purchase intentions on purchasing behaviour, evidenced by an unstandardised coefficient of 0.701, illustrates the substantial impact of South African Generation-Z consumers' stated intentions on their green purchasing decisions. This finding aligns with the theoretical tenets of TPB, which posits that purchase intentions are instrumental in converting favourable attitudes into tangible actions (Hasan, Saleh, AbedRabbo, Obeidat and Ahmad, 2024). The importance of purchase intentions as a medium for dissemination between attitudes and behaviour has been further affirmed by Tian *et al.* (2023) and Wang, Yu and Wei (2022), who emphasised the pivotal role of intentions in translating positive attitudes towards sustainable marketing strategies into actual purchasing behaviour.

This research objective highlighted that intentions to purchase function as a significant and partial mediator in the relationship between attitudes towards the green marketing mix and purchasing behaviour. Through the lens of TPB, it becomes evident that marketers and businesses should address both consumers' attitudes towards sustainable marketing and actively nurture their purchase intentions to foster environmentally responsible purchasing behaviour (Sung, Hsiao, Huang and Morrison, 2021). Such an approach builds on the cognitive mechanisms that shape consumer decision-making, thereby enhancing the likelihood of green purchasing (Zhang and Dong, 2020). Nonetheless, due consideration must also be given to external social influences, as dissenting perspectives suggest that intentions exclusively may not suffice in translating attitudes into behaviour, particularly in the presence of social pressures and external barriers (Hamzah and Tanwir, 2021; Mehmood *et al.*, 2024).

The following sub-section addresses the fifth research objective.

5.2.5 Research objective five: To examine the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The analysis of this research objective elucidated the convoluted relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers. The regression analysis indicates a moderately strong

positive correlation, with a correlation coefficient (R) of 0.645. This suggests that as the level of awareness regarding sustainability issues increases among South African Generation-Z consumers, their purchasing behaviour increasingly reflects environmentally conscious decisions. The coefficient of determination (R^2) of 0.416 further signifies that approximately 41.6% of the variance in purchasing behaviour can be attributed to sustainability awareness, thereby reinforcing awareness's critical role in influencing consumer choices.

Robichaud and Yu (2022) conceptualise sustainability awareness as the extent to which consumers understand environmental and social sustainability issues. This awareness profoundly impacts their purchase intentions, representing their decision-making processes and predispositions before making a purchase (Anilkumar and Joseph, 2022; Moore, 2022). Consumers with heightened levels of sustainability awareness are more inclined to factor in environmental and social responsibility considerations when making purchasing decisions (Flammer, 2023; Lavuri *et al.*, 2021). These results resonate with the assertions of Robichaud and Yu (2022), who argued that well-informed consumers are more likely to transition their sustainability-oriented intentions into concrete purchasing actions, favouring green products. The ANOVA results further showed the significance of sustainability awareness as a predictor of purchasing behaviour, as evidenced by the low p-value ($p < 0.001$) associated with the F-statistic. This demonstrated that the inclusion of sustainability awareness as a predictor considerably enhances the model's explanatory power concerning variations in purchasing behaviour. The regression coefficients similarly illuminate the substantial impact of sustainability awareness, with a standardised coefficient (Beta) of 0.745 and a significant p-value ($p < 0.05$). These results suggest that an increase in sustainability awareness is strongly associated with a higher propensity to purchase green products, where each unit increase in awareness correlates with a 1.013 unit rise in the likelihood of making such purchases. The extant literature corroborates these results, reaffirming that consumers with higher sustainability awareness are more predisposed to engage in green purchasing behaviour (Kusumaputri and Zainal, 2022; Lavuri *et al.*, 2021; Schlegelmilch, Bohlen and Diamantopoulos, 2023).

Nonetheless, contrasting viewpoints challenge the direct relationship between sustainability awareness and actual purchasing behaviour (Gleim, Smith, Andrews and Cronin, 2023; Moser, 2021). Gleim *et al.* (2023) contend that even consumers with high sustainability awareness often face practical barriers such as perceived inconvenience, cost, and limited availability of

green products that inhibit their purchasing behaviour. The research insights of Moser (2021) further suggest that while sustainability awareness is a pivotal factor, it only sometimes translates into actionable behaviour due to these external constraints.

The results showed that heightened sustainability awareness significantly influences the purchasing behaviour of South African Generation-Z consumers towards green products. Therefore, the results emphasised that marketers and businesses must integrate sustainability principles within their green marketing mix to foster deeper consumer engagement and promote environmentally conscious purchasing behaviours (Belz and Peattie, 2022; Charter and Polonsky, 2023). By aligning green marketing initiatives with the growing environmental awareness of this demographic, marketers and businesses are better equipped to stimulate demand for green products and promote sustainable consumption patterns (Smith and Brower, 2022; Zhu and Sarkis, 2023). At the same time, it is important to acknowledge the barriers outlined in dissenting literature. If these are understood and addressed adequately, it will help to ensure that sustainability remains a critical factor in shaping the sophisticated and multifaceted nature of purchasing behaviour.

The subsequent sub-section examines the sixth research objective.

5.2.6 Research objective six: To understand the extent to which sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

This research objective elucidated the extent to which sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing behaviour of South African Generation-Z consumers. Contemporary research identified sustainability awareness as a pivotal determinant influencing both the intention to purchase and actual consumer behaviour (Akehurst, Afonso and Martins-Gonçalves, 2022; Joshi and Rahman, 2021). It encompasses consumers' comprehension of environmental challenges, ethical practices, and social responsibility within the green supply chain (Esfahani, 2019; Robichaud and Yu, 2022). Such awareness fundamentally informs the purchasing decisions of Generation-Z consumers, compelling them to integrate sustainability considerations into their intentions and, ultimately, their purchasing behaviours (Lavuri *et al.*, 2021; Moore, 2022).

The empirical findings pertaining to this objective indicated that the initial regression model, which accounted for sustainability awareness and intentions to purchase as independent predictors, explained a significant portion of the variance in purchasing behaviour, precisely 63.2%. This finding aligns with Lavuri *et al.* (2021), who asserted that heightened sustainability awareness among consumers cultivates environmentally conscious purchasing actions. Furthermore, the significant F-statistic (285.089, $p < 0.001$) further accentuated the critical role of both sustainability awareness and intentions to purchase in shaping consumer behaviour, thereby substantiating Robichaud and Yu's (2022) proposition regarding the significant impact of sustainability awareness on purchasing decisions.

However, when the interaction term was incorporated into the second model to assess the moderating effect of sustainability awareness on the relationship between intentions to purchase and purchasing behaviour, the results deviated from initial expectations. The minimal change in the R^2 value (0.001) and the non-significant F change statistic ($p = 0.326$) indicate that the interaction between sustainability awareness and intentions to purchase did not substantially enhance the model's explanatory power. This outcome contrasts with the research of Kusumaputri and Zainal (2022), who argued that sustainability awareness is pivotal in strengthening the connection between purchase intentions and consumer behaviour.

Further insights emerged from the analysis of regression coefficients. The unstandardised coefficients for sustainability awareness (0.518) and intentions to purchase (0.660) were both statistically significant, illustrating their substantial independent effects on purchasing behaviour. This observation validates the analytical outcomes of Moore (2022) and Noor *et al.* (2022), who reported a positive correlation between heightened sustainability awareness, robust purchase intentions, and enhanced purchasing behaviour. Albeit, the non-significant coefficient for the interaction term (0.008) suggested that sustainability awareness does not significantly moderate the relationship between intentions to purchase and purchasing behaviour. This finding contrasts with claims posited by Tian *et al.* (2023), who proposed that sustainability awareness could exacerbate the effect of purchase intentions on purchasing decisions.

The synthesis of the existing literature with the empirical data from this research objective presents a nuanced and versatile comprehension of the relationships among these constructs. These results suggest a more elaborate interrelation between sustainability awareness

intentions to purchase and purchasing behaviour than previously articulated in the extant literature. A plausible explanation for this divergence may be the unique socio-economic context of South African Generation-Z consumers, who might prioritise distinct factors such as affordability and accessibility over sustainability when making purchasing decisions (Amoah, 2024). This divergence highlights a deviation from consumer behaviour patterns observed in other regions or demographic groups analysed in previous studies. While sustainability awareness and intentions to purchase contribute significantly to predicting purchasing behaviour, the relatively nascent stage among South African Generation-Z consumers may suggest that this awareness has yet to emerge as a robust moderating influence on their purchase intentions.

Singular dissenting perspectives from Oliveira, Mitchell and May (2023) and Gabler, Butler and Adams (2024) explicated the practical challenges, *inter alia*, cost, convenience and product availability, that may impede the translation of sustainable intentions into tangible purchasing behaviours, further entangling the relationship among these constructs. Moreover, the interaction of cultural, economic, and social variables specific to South Africa likely exerts a substantial influence in shaping these consumer behaviours (Zeugner-Roth, Žabkar and Diamantopoulos, 2023). As per the research of Hong, Al-Mamun, Masukujjaman, and Yang (2024), factors such as heightened price sensitivity, financial constraints, and limited access to green products may supersede sustainability considerations, thereby attenuating the connection between purchase intentions and actual purchasing behaviour. This further accentuates the need for further research to demystify this relationship's complexities and attain a more comprehensive understanding of the myriad factors influencing the purchasing behaviour of South African Generation-Z consumers.

5.3 Chapter summary

This chapter provided a comprehensive and grounded analysis of the study's results in relation to the research objectives and the extant literature, focusing on the attitudes toward the green marketing mix, sustainability awareness, and intentions to purchase and behaviour of Generation-Z consumers in South Africa.

The first research objective illustrated a significant positive relationship between attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers. It is essential to align green products, green

prices, green places, and green promotions with consumer values, as it is fundamental for enhancing the adoption rates of environmentally friendly products. These insights are valuable for marketers and businesses seeking to refine their green marketing efforts and engage more effectively with this demographic (Mallick *et al.*, 2024). The second research objective displayed a significant positive relationship between attitudes towards the green marketing mix and intentions to purchase among South African Generation-Z consumers. Favourable views on green product, green price, green place, and green promotion increase the likelihood of purchasing green products. The results emphasise the need for marketers and businesses to correlate their green marketing strategies with the environmental values of this demographic to foster sustainable consumption (Grimmer and Bingham, 2023).

The third research objective identified a robust positive correlation between intentions to purchase and purchasing behaviour pertaining to green products among South African Generation-Z consumers. Higher purchase intentions significantly increase the likelihood of buying green products, validating that consumers' intentions are reliable predictors of their behaviour. Fostering stronger purchase intentions can enhance the green marketing mix and more effectively align with sustainable purchasing practices (Polonsky *et al.*, 2022). The fourth research objective determined that intentions to purchase partially mediate the relationship between attitudes towards the green marketing mix and purchasing behaviour among South African Generation-Z consumers. Purchase intentions act as a conduit that strengthens the linkage between attitudes towards the green marketing mix and purchasing behaviour, highlighting the importance of addressing both factors (Sung *et al.*, 2021).

The fifth research objective demonstrated that higher sustainability awareness among South African Generation-Z consumers leads to more environmentally conscious purchasing behaviours, highlighting the need to integrate sustainability into the green marketing mix to promote the purchasing of green products. Lastly, the sixth research objective highlighted that while sustainability awareness and intentions to purchase independently influence the purchasing behaviour pertaining to green products among South African Generation-Z consumers, sustainability awareness does not significantly moderate the relationship between intentions to purchase and purchasing behaviour.

The chapter provided a detailed discussion of how Generation-Z consumers in South Africa perceive and respond to green marketing practices, accentuating the importance of aligning the green marketing mix with sustainability values to foster sustainable intentions to purchase and

purchasing behaviour. The empirical evidence supported the pivotal role of the attitudes towards the green marketing mix and sustainability awareness in influencing intentions to purchase and purchasing behaviour, which affords valuable insights for marketers and businesses aiming to engage with this environmentally conscious demographic cohort in South Africa.

The following chapter provides a conclusion and comprehensive recommendations regarding the attitudes towards the green marketing mix, sustainability awareness, and intentions to purchase and behaviour of South African Generation-Z consumers.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter provides a discussion of the recommendations, study limitations, and suggestions for further research. It commences with a synopsis of the preceding chapters of this dissertation, followed by a detailed summary of the study's results, systematically organised according to the research objectives. Subsequently, the limitations encountered during the study are presented. The chapter then advances to propose recommendations for marketing practitioners and enterprises. Subsequently, suggestions for future research are articulated. The chapter concludes with a final reflection on the overall research.

6.2 Summary of the chapters

Chapter one provided an introduction and background to the study, emphasising the significant gap in the existing literature regarding the impact of green marketing on Generation-Z consumers in South Africa. It was noted that existing research often inadequately addresses the effect of the green marketing mix on these consumers' intentions to purchase. This chapter delineated the research problem, articulating the research questions and objectives pertinent to the green marketing mix, sustainability awareness, and their influence on South African Generation-Z consumers' purchase intentions and behaviour. A preliminary literature review was conducted to highlight existing research gaps, followed by an overview of the study's research methodology. The chapter also addressed the study's significance, ethical considerations, and limitations, concluding with a detailed dissertation overview.

Chapter two provided a review of the relevant literature. It included an in-depth analysis of the green marketing mix and its effects on South African Generation-Z consumers, with a particular focus on their sustainability awareness and intentions to purchase. The chapter explored how attitudes towards the green marketing mix impact purchasing behaviour, revealing a significant gap in the literature pertaining to the South African context. It introduced a conceptual framework to clarify the relationship between sustainability awareness and purchasing behaviour, offering crucial insights into eco-conscious consumerism and emphasising the necessity for marketers and businesses to comprehend the factors influencing

South African Generation-Z's purchase intentions. The theory that underpins the study, namely, the theory of planned behaviour (TPB), was also presented in this second chapter.

Chapter three offered a comprehensive exposition of the research methodology employed in this study. It articulated the structured framework guiding the research, detailing the selected methods while providing insights into their respective strengths, limitations, and implications within the chosen paradigm. The chapter systematically defined the research questions and objectives, ensuring a focused direction for the study. It thoroughly explored the underpinning research paradigm and carefully examined the research method, including design, approach, time horizon, and environmental considerations. Furthermore, the chapter discussed the target population, sampling technique, data collection method, and the pilot study that was conducted. Ethical considerations, data quality control, and analysis strategies were meticulously addressed to maintain the rigour and credibility of the research. The chapter concluded by offering a comprehensive understanding of the ethical protocols that governed data collection throughout the study.

Chapter four meticulously presented the research results, accompanied by a comprehensive analysis of both descriptive and inferential statistical outcomes. The chapter undertook various assessments, including tests for internal consistency, the calculation of Cronbach's coefficient alpha, and the examination of construct validity. Factor analysis was conducted using Statistical Package for the Social Sciences (SPSS) Version 29, which employed the Principal Components Method with Varimax rotation to enhance interpretative clarity. Descriptive analyses encompassed frequency distributions of responses to demographic queries and study variables, while inferential analyses provided deeper insights through advanced statistical methods. Pearson correlation coefficient and regression analyses were utilised to investigate the relationships among variables, such as attitudes towards the green marketing mix, sustainability awareness, intentions to purchase and purchasing behaviour, thereby ensuring the study's validity and reliability.

Chapter five proffered a discussion of the results by juxtaposing them with past literature and the underpinning theory. The discussion was structured around the study's research objectives. Overall, the results received support from previous studies that examined these variables and related concepts. It was demonstrated that the theory of planned behaviour (TPB) provided a

useful theoretical lens for understanding relationships among the study variables, particularly the mediating effect of intentions to purchase.

The final chapter delineates the study's conclusions, synthesising the results derived from the preceding analysis and discussion. It also addresses the study's results, limitations, recommendations, and suggestions for future research.

The subsequent section provides a succinct synopsis of the research study's results.

6.3 Summary of results

The results of the research are expounded in the following section.

6.3.1 Research objective one: To determine the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The results elucidated a robust correlation between attitudes toward the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers, accounting for 63.2% of the variance in purchasing behaviour. Notably, the green product emerged as the predominant factor, followed sequentially by green price, green place, and green promotion. The analysis substantiated the reliability of these outcomes, with the absence of significant autocorrelation and a pronounced impact of the green marketing mix on purchasing behaviour, as evidenced by the elevated F-value and substantial coefficients. These results indicated the imperative for marketers and businesses to align the green marketing mix with the environmental ethos of this demographic.

6.3.2 Research objective two: To examine the relationship between the attitudes towards the green marketing mix and intentions to purchase green products among South African Generation-Z consumers

The results demonstrated a strong positive correlation between attitudes towards the green marketing mix and the intentions to purchase green products among South African Generation-Z consumers. The regression analysis yielded an R value of 0.701, indicating that more positive attitudes were associated with higher intentions to purchase, with an R^2 of 49.1% accounting for the variance. The ANOVA results, characterised by an F-statistic of 318.526 and a p-value

below 0.001, further validated the model's predictive accuracy. The unstandardised coefficient of 0.496 and Beta of 0.701 corroborated the significant role of positive attitudes in shaping intentions to purchase, supporting the need for a green marketing mix that aligned with the environmental values of this demographic.

6.3.3 Research objective three: To determine the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The results indicated a significant and positive relationship between intentions to purchase and the purchasing behaviour pertaining to green products among South African Generation-Z consumers. The regression analysis demonstrated an R value of 0.748, indicating that heightened intentions to purchase were closely linked to increased purchasing behaviour. The R² value of 55.9% showed that over half of the variance in purchasing behaviour could be explained by intentions to purchase. The F-statistic of 418.628 and a p-value of less than 0.001 confirmed the model's statistical significance. Furthermore, each unit increase in intentions to purchase corresponded to a 0.875-unit increase in purchasing behaviour. These results highlighted the pivotal role of targeting intentions to purchase in predicting and influencing the purchasing behaviour of South African Generation-Z consumers within the green marketing mix.

6.3.4 Research objective four: To understand the extent to which intentions to purchase green products mediates the relationship between the attitudes towards the green marketing mix and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The results disclosed that intentions to purchase green products significantly mediated the relationship between attitudes towards the green marketing mix and purchasing behaviour among South African Generation-Z consumers. Hierarchical regression analysis demonstrated a marked improvement in the model's explanatory power with the inclusion of intentions to purchase, increasing the R² value from 0.400 to 0.582, thereby highlighting their pivotal role. Although attitudes towards the green marketing mix positively influenced purchasing behaviour, this effect was partially mediated by intentions to purchase, as evidenced by the reduction in the unstandardised coefficient from 0.524 to 0.176. The substantial influence of intentions to purchase, reflected in a coefficient of 0.701, emphasises their critical role in

shaping purchasing behaviour. Collectively, these results affirmed that intentions to purchase are a crucial mediator in the interconnection between attitudes towards the green marketing mix and purchasing behaviour, necessitating their consideration of the green marketing mix to guide consumer actions effectively.

6.3.5 Research objective five: To examine the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The analysis of the relationship between sustainability awareness and the purchasing behaviour pertaining to green products among South African Generation-Z consumers demonstrated a significant and moderately strong positive correlation, with a correlation coefficient (r) of 0.645. This indicates that as sustainability awareness among these consumers increases, their purchasing behaviour more strongly aligns with environmentally conscious decisions. The regression analysis further substantiated this relationship, with a coefficient of determination (R^2) of 0.416, suggesting that 41.6% of the variance in purchasing behaviour is attributable to sustainability awareness. The ANOVA results highlighted the statistical robustness of these results, which yielded a highly significant p-value ($p < 0.001$) for the F-statistic. Moreover, the standardised coefficient (Beta) of 0.745, accompanied by a significant p-value ($p < 0.05$), indicates that a unit increase in sustainability awareness correlates with a 1.013 unit rise in the likelihood of purchasing green products. These results accentuated the pivotal role of sustainability awareness in shaping the green purchasing behaviour of South African Generation-Z consumers, suggesting that elevating their awareness could profoundly influence their purchasing patterns.

6.3.6 Research objective six: To understand the extent to which sustainability awareness moderates the relationship between intentions to purchase green products and the purchasing behaviour pertaining to green products among South African Generation-Z consumers

The analysis of the moderating effect of sustainability awareness on the relationship between intentions to purchase and purchasing behaviour for green products among South African Generation-Z consumers provided insightful results. The initial regression analysis, incorporating both sustainability awareness and intentions to purchase, demonstrated that these variables accounted for 63.2% of the variance in purchasing behaviour, highlighting their

significant individual contributions. The substantial F-statistic (285.089, $p < 0.001$) reinforced the importance of these predictors. However, the introduction of the interaction term produced a minimal R square change (0.001) and a non-significant F change statistic ($p = 0.326$), indicating that sustainability awareness did not substantially moderate the relationship between intentions to purchase and purchasing behaviour. While both sustainability awareness (unstandardised coefficient of 0.518) and intentions to purchase (0.660) had significant independent effects, the interaction term's negligible coefficient (0.008) suggests a limited moderating role. These results elucidated a more intricate relationship between these variables than initially anticipated, suggesting that the anticipated moderating impact of sustainability awareness on the intentions to purchase and the purchasing behaviour nexus is less pronounced than initially envisaged.

6.4 Limitations of study

While providing significant insights into the purchasing behaviour of South African Generation-Z consumers, this study is subject to a few limitations that should be considered. Firstly, the research was conducted exclusively among students from the University of KwaZulu-Natal's Westville, Howard College, and Pietermaritzburg campuses, which may not accurately represent the broader Generation-Z demographic across South Africa. This limitation potentially constrains the generalisability of the results, restricting their applicability to the wider population.

Secondly, employing non-probability convenience sampling instead of more rigorous probability sampling methods such as simple random or systematic sampling may have introduced selection biases that affect the sample's representativeness. Consequently, the external validity of the results might be compromised, as the sample may not fully reflect the diversity of the target population.

Thirdly, the study's cross-sectional design, although suitable for capturing a snapshot of current attitudes and behaviours, does not account for temporal changes in these variables. A longitudinal approach would have offered a more comprehensive understanding of how attitudes towards the green marketing mix, sustainability awareness, and intentions to purchase develop over time, providing deeper insight into the evolving dynamics of purchasing behaviour.

Fourthly, the reliance on a single data collection method, which is questionnaires, may have constrained the depth and complexity of the responses. Alternative methods, such as semi-structured interviews or focus groups, could have provided more detailed and multifaceted data, enhancing the validity and richness of the results by capturing a more comprehensive array of participant perspectives.

Finally, the study focused on a limited range of variables, excluding potentially influential factors such as consumer satisfaction with green and sustainable marketing and perceived risks associated with purchasing decisions. The inclusion of these additional variables might have offered a more comprehensive understanding of the factors influencing intentions to purchase and purchasing behaviour, thereby enriching the overall analysis.

These limitations highlight the need for careful interpretation of the study's results and suggest avenues for future research to address these gaps and enhance the robustness of the conclusions.

6.5 Recommendations

Drawing upon the results of this study, it becomes evident that a strategic reorientation is essential for marketers and businesses seeking to engage effectively with the environmentally conscious proclivities of South African Generation-Z consumers. Consequently, several recommendations are advanced, each grounded in a sophisticated understanding of consumer behaviour and the complexities of green marketing.

Foremost among these recommendations is the necessity for an integrative approach to the green marketing mix, encompassing green product, green price, green place, and green promotion. The empirical evidence derived from this study highlights the pivotal role these elements play in shaping both the intentions to purchase and the actual purchasing behaviour of South African Generation-Z consumers. Thus, marketers and businesses must prioritise developing and promoting products that adhere to rigorous environmental standards and resonate deeply with this demographic's ethical values. Pricing strategies should be meticulously calibrated to reflect the perceived value of sustainability, ensuring that eco-friendly options are competitive and appealing. Furthermore, the accessibility of these products must be enhanced, with an emphasis on optimising distribution channels that align seamlessly with the digital and mobile habits of South African Generation-Z consumers. Promotional

efforts should be astutely crafted to leverage digital platforms, employing sophisticated narratives that emphasise green products' environmental and societal benefits.

The study's results on the mediating role of intentions to purchase necessitate a more nuanced approach to consumer engagement. Raising awareness of sustainable options alone is insufficient; marketers and businesses must cultivate a compelling narrative that actively converts awareness into strong intentions to purchase. This can be achieved by deploying advanced persuasive communication techniques, including the use of data-driven storytelling and personalised marketing messages that resonate with the values and aspirations of South African Generation-Z consumers. Such strategies should be underpinned by robust behavioural insights, enabling the creation of tailored campaigns that resonate emotionally and rationally. While sustainability awareness plays a critical role in fostering environmentally conscious behaviour, the study reveals that its moderating effect on the relationship between intentions to purchase and purchasing behaviour is less pronounced than anticipated. This finding suggests that awareness, in isolation, may not suffice to drive sustainable consumer behaviour. Therefore, it is incumbent upon marketers and businesses to bridge this gap by translating awareness into tangible actions. This can be accomplished by strategically integrating innovative technologies and artificial intelligence, offering consumers personalised experiences and recommendations that seamlessly incorporate sustainability into their daily lives. For example, artificial intelligence-driven platforms could provide tailored suggestions based on individual preferences, thereby enhancing consumer engagement and promoting sustainable purchasing behaviour.

The application of the Blue Ocean Strategy presents a compelling opportunity for marketers and businesses to create uncontested market spaces by innovatively differentiating their green products and services. By identifying and capitalising on emerging consumer needs and preferences, companies can sidestep competition and capture the attention of South African Generation-Z consumers increasingly seeking unique and sustainable offerings. This strategic approach should be complemented by a commitment to continuous innovation, ensuring product offerings remain relevant and compelling in an ever-evolving market landscape.

To cultivate long-term loyalty and sustained interest and awareness in green products, marketers and businesses must also foster enduring relationships with South African Generation-Z consumers. This can be achieved by implementing loyalty programmes that

incentivise sustainable purchasing behaviour, reinforcing the importance of an ongoing commitment to eco-friendly choices. Additionally, marketers and businesses must maintain transparency in their environmental practices, ensuring that consumers are informed and engaged in the sustainability journey. Interactive and participatory green marketing campaigns, encouraging consumer involvement and feedback, can further enhance brand sustainability awareness, loyalty and trust.

The adoption of these refined strategies will empower marketers and businesses to engage more effectively with the environmentally conscious preferences of South African Generation-Z consumers. By embracing a comprehensive and innovative approach to green marketing, marketers and businesses can enhance their competitive advantage and contribute meaningfully to the global sustainability agenda in alignment with the 2030 Agenda for Sustainable Development adopted by all United Nations Member States. This includes advancing efforts towards Sustainable Development Goal 12 (Responsible Consumption and Production) and Sustainable Development Goal 13 (Climate Action).

6.6 Suggestions for future research

Based on the insights derived from this research study, several pivotal avenues for future research are proposed to enhance the comprehension of the green marketing mix and its effects on South African Generation-Z consumers.

Firstly, it is recommended that future research broaden its scope to encompass additional campuses within the University of KwaZulu-Natal (UKZN), such as Edgewood and the Medical School, alongside including students from other higher education institutions throughout South Africa. This expansion would significantly augment the generalisability and external validity of the results, offering a more comprehensive view of how the green marketing mix influences a diverse cohort of South African Generation-Z consumers across varied academic contexts.

Secondly, employing probability sampling techniques, such as simple random or systematic sampling, is advised to improve the statistical accuracy of subsequent studies. This methodological enhancement would strengthen the reliability of the research outcomes and

provide a more robust basis for examining the interrelationships between elements of the green marketing mix, sustainability awareness, and purchasing behaviour.

Furthermore, adopting a longitudinal research design is recommended to capture the progression of attitudes and purchasing behaviours related to the green marketing mix over a prolonged duration. By investigating these variables across several intervals, researchers could gain a more profound understanding of the causal relationships between green marketing mix attributes, sustainability awareness, intentions to purchase, and actual purchasing behaviour. This approach would also address the limitations associated with cross-sectional studies, providing a richer temporal perspective.

Future research should also consider exploring additional mediating variables that could influence the dynamics between the green marketing mix and purchasing behaviour. For instance, variables such as perceived environmental impact or personal values could offer further insights into how these factors shape purchase intentions and behaviours among South African Generation-Z consumers.

Moreover, integrating qualitative research methods, including in-depth interviews or focus groups, could yield a more detailed understanding of consumer attitudes towards the green marketing mix. Such methodologies enable researchers to delve into South African Generation-Z consumers' subjective experiences and perceptions, potentially elucidating new dimensions and deeper insights into their responses toward the green marketing mix.

In summary, expanding the sample scope, employing advanced sampling techniques, utilising longitudinal designs, investigating additional mediating variables, and incorporating qualitative methods will collectively enhance the understanding of the green marketing mix and its impact on South African Generation-Z consumers.

6.7 Conclusion

This chapter synthesised the research results, limitations, and recommendations, providing a comprehensive reflection on the investigation conducted. The research successfully illuminated the critical intersections between the green marketing mix, sustainability awareness, intentions to purchase and the purchasing behaviour of South African Generation-

Z consumers. The results elucidated that attitudes towards the green marketing mix significantly influenced intentions to purchase and actual purchasing behaviour, with intentions to purchase as a crucial mediator within this dynamic. Despite the positive influence of sustainability awareness on purchasing behaviour, its role as a moderator proved less pronounced than initially anticipated.

The study's limitations, including its restricted sample scope and reliance on cross-sectional data, suggested that the generalisability of the results may be somewhat constrained. Future research should address these limitations by expanding the sample to encompass a broader range of educational institutions, employing probability sampling techniques, and adopting longitudinal research designs. Furthermore, the integration of qualitative methods and the exploration of additional mediating variables could potentially yield more profound insights into the complexities of consumer behaviour.

The empirical evidence gathered firmly grounded the recommendations for marketing practitioners and businesses. An integrative approach to the green marketing mix, augmented by innovative strategies and technologies, was deemed essential for effectively engaging South African Generation-Z consumers. The results accentuated the importance of aligning the green marketing mix with the environmental values of this demographic, fostering long-term loyalty through transparent and interactive marketing practices.

In conclusion, this research contributes valuable insights into the evolving landscape of green marketing, sustainability marketing, and consumer behaviour, offering practical implications for marketers and businesses aspiring to cater to the environmentally conscious preferences of South African Generation-Z consumers. By embracing these insights and addressing the identified limitations, future research and practice could further advance the understanding and effectiveness of the green marketing mix.

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APPENDIX A – GATEKEEPER’S LETTER



5 October 2023

Kelisha Pandaram (SN 217012690)
School of Management, IT & Governance
College of Law and Management Studies
Westville Campus UKZN
Email: 217012690@stu.ukzn.ac.za

Dear Kelisha

RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper’s permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN), towards your postgraduate degree, provided Ethical clearance has been obtained. We note the title of your research project is:

“The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation – Z consumers.”

It is noted that you will be constituting your sample by handing out questionnaires to students registered for undergraduate and postgraduate studies on the Westville, Howard College and Pietermaritzburg campuses.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using the ‘Microsoft Outlook’ address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

Mr MA TUFTS: Director Governance & Administration

Office of the Registrar

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 7971 Email: registrar@ukzn.ac.za Website: www.ukzn.ac.za

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

APPENDIX B – ETHICAL CLEARANCE CERTIFICATE



28 November 2023

Kelisha Pandaram (217012690)
School Of Man Info Tech & Gov
Westville Campus

Dear K Pandaram,

Protocol reference number: HSSREC/00006378/2023

Project title: The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 30 October 2023 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. **PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 28 November 2024.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: hssrec@ukzn.ac.za Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

INSPIRING GREATNESS

APPENDIX C – QUESTIONNAIRE

The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers

Research Questionnaire

Section One: Demographic details

Please select the appropriate answer by marking it with an X

1. Age Group
 - ☐ 18-20
 - ☐ 21-23
 - ☐ 24-26

2. Gender
 - ☐ Male
 - ☐ Female
 - ☐ Non-binary
 - ☐ Other

3. Race
 - ☐ Black
 - ☐ Coloured
 - ☐ Indian
 - ☐ White

4. Level of education
 - ☐ Undergraduate
 - ☐ Postgraduate

5. Which campus do you belong to?
 - ☐ Westville Campus
 - ☐ Howard College
 - ☐ PMB Campus

Section Two: Attitudes towards the green marketing mix

The following statements relate to your attitudes towards the green marketing mix.

Please specify how strongly you agree or disagree with each statement below by ticking the appropriate column.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Green Product					
1. I believe choosing environmentally friendly products is a positive and responsible decision.	1	2	3	4	5
2. I view green products as high-quality and reliable alternatives.	1	2	3	4	5
3. I feel that investing in eco-friendly products reflects a positive commitment to sustainability.	1	2	3	4	5
4. I am likely to recommend green products to others as a positive contribution to environmental consciousness.	1	2	3	4	5
5. I find that the presence of eco-labels positively influences my purchasing decisions.	1	2	3	4	5
Green Price					
1. I consider selecting green products that are premium priced as a reflection of my positive commitment to sustainability.	1	2	3	4	5
2. Being willing to pay more for sustainably sourced products reflects my positive valuation of environmental responsibility.	1	2	3	4	5
3. I would be keen to switch brands to support a company that offers eco-	1	2	3	4	5

friendly products at a similar price.					
4. It is a preference to purchase green products that are competitively priced compared to non-green alternatives.	1	2	3	4	5
5. I believe that paying a higher price for sustainably packaged products is an environmentally conscious practice.	1	2	3	4	5
Green Place					
1. I actively seek eco-friendly stores as it aligns with my dedicated commitment to sustainable shopping.	1	2	3	4	5
2. I appreciate having accessibility to eco-friendly products and stores in my local area.	1	2	3	4	5
3. A store's commitment to sustainability through an eco-friendly layout is something I view positively.	1	2	3	4	5
4. A positive sensory experience in a physically eco-friendly store enhances my inclination to purchase green products.	1	2	3	4	5
5. I support marketers and businesses that have stores that use eco-friendly practices and green supply chains.	1	2	3	4	5
Green Promotion					
1. I think eco-friendly advertisements are effective in influencing my purchasing decisions.	1	2	3	4	5
2. I trust a company's green marketing promotions if	1	2	3	4	5

they provide evidence or certifications of their environmental efforts.					
3. Social media marketing plays a role in raising awareness about green products and influences my attitudes toward purchasing decisions.	1	2	3	4	5
4. I feel it is essential for companies to actively communicate their sustainability initiatives through marketing campaigns.	1	2	3	4	5
5. I enthusiastically participate in eco-friendly promotions or events that promote green products.	1	2	3	4	5

Section Three: Sustainability Awareness

The following statements relate to your sustainability awareness.

Please specify how strongly you agree or disagree with each statement below by ticking the appropriate column.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am familiar with the concept of sustainability.	1	2	3	4	5
2. I am aware of the environmental impact of products before making a purchase.	1	2	3	4	5
3. I am aware of the ecological footprint associated with my daily activities and consumption habits.	1	2	3	4	5
4. I engage in discussions about environmental issues and sustainability.	1	2	3	4	5
5. I am aware and conscious of environmental certifications	1	2	3	4	5

or labels that indicate a product's eco-friendliness.					
6. The sustainability considerations in manufacturing products influence my choices when selecting products or services.	1	2	3	4	5
7. I am conscious of the environmental consequences of my waste disposal and recycling habits.	1	2	3	4	5

Section Four: Purchase Intentions of Green Products

The following statements relate to your intentions to purchase green products.

Please specify how strongly you agree or disagree with each statement below by ticking the appropriate column.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am likely to purchase a green product in the next three months.	1	2	3	4	5
2. I feel motivated to switch from a non-green product to a green alternative.	1	2	3	4	5
3. I am willing to sacrifice certain product features to choose environmentally friendly product alternatives.	1	2	3	4	5
4. The sustainability reputation of a company influences my decision to buy its products.	1	2	3	4	5
5. I am more inclined to purchase green products if there are clear benefits associated with doing so.	1	2	3	4	5

6. I consider the long-term environmental impact of a product before making a purchase.	1	2	3	4	5
7. I am more likely to buy green products if they are endorsed or recommended by environmental organisations.	1	2	3	4	5

Section Five: Purchase Behaviour of Green Products

The following statements relate to your intentions to purchase green products.

Please specify how strongly you agree or disagree with each statement below by ticking the appropriate column.

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I consistently demonstrate a preference for green products in my purchasing decisions, favouring them over non-green alternatives.	1	2	3	4	5
2. Environmental considerations significantly influenced my behaviour when I recently purchased a green product.	1	2	3	4	5
3. I actively sought information about the sustainability of green products when I made a purchase.	1	2	3	4	5
4. I demonstrate a willingness to incorporate environmentally friendly behaviour by buying premium green products.	1	2	3	4	5
5. The presence of eco-labels on products plays a crucial	1	2	3	4	5

role in influencing my purchasing behaviour.					
6. I exhibit a behaviour of brand switching to support companies that offer greener alternatives.	1	2	3	4	5
7. I integrate environmentally conscious choices into my purchasing behaviour by consistently opting for green products.	1	2	3	4	5
8. The commitment of green brands to environmental sustainability shapes both my loyalty and purchasing behaviour.	1	2	3	4	5

THANK YOU!

APPENDIX D – INFORMED CONSENT FORM

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL For research with human participants

Information Sheet and Consent to Participate in Research

Date:

Greetings,

My name is Kelisha Pandaram, (Tel: [REDACTED]; Email: 217012690@stu.ukzn.ac.za) and I am a Master's student (MCom) from the University of KwaZulu-Natal in the School of Management, Information Technology and Governance. My supervisor is Dr K. Perumal (Tel: 031 2607853; Email: perumalkr@ukzn.ac.za).

You are being invited to consider participating in a study entitled, *The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers*. The study involves exploring the green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers. The aim and purpose of this research is to investigate the influence and the relationship associated with the green marketing mix, sustainability awareness, green purchase intentions and behaviour of South African Generation-Z consumers. The study is expected to include 320 students between the ages of 18-26 years of age at the University of KwaZulu-Natal, School of Management, Information Technology and Governance, Westville Campus, Howard College and Pietermaritzburg campus. The duration of your participation if you choose to participate and remain in the study is expected to be 15 minutes.

This study will not involve any risks and/or discomforts. I hope that through your participation, the study will create a clear understanding of the green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers. In addition, the results of this study will contribute to filling the gap in the existing literature on the green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number HSSREC/00006378/2023).

In the event of any problems or concerns/questions you may contact the researcher at

(Tel: [REDACTED] Email: 217012690@stu.ukzn.ac.za) or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban 4000 KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Your participation in the study is voluntary and by participating, you are granting the researcher permission to use your responses. You may refuse to participate or withdraw from the study at any time with no negative consequence. There will be no monetary gain from participating in the study. Your anonymity will be maintained by the researcher and the School of Management, Information Technology and Governance and your responses will not be used for any purposes outside of this study.

All data, both electronic and hard copy, will be securely stored during the study and archived for 5 years. After this time, all data will be destroyed.

If you have any questions or concerns about participating in the study, please contact me or my research supervisor at the numbers listed above.

Sincerely

Ms. Kelisha Pandaram



CONSENT TO PARTICIPATE

I ()
have been informed about the study entitled (The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers) by (Ms. Kelisha Pandaram).

I understand the purpose and procedures of the study.

I have been given an opportunity to ask questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at (Tel: [REDACTED] Email: 217012690@stu.ukzn.ac.za).

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION
Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Signature of Participant

Date

APPENDIX E – LANGUAGE EDITOR’S CERTIFICATE



16 October 2024

Editing Certificate

This letter confirms that the following Master's thesis by Kelisha Pandaram was language edited: **The green marketing mix, sustainability awareness, purchase intentions and behaviour of South African Generation-Z consumers.**



Dr Karen Buckenham, *PhD (KwaZulu-Natal), MA (KwaZulu-Natal), BSc (Toronto), TESL (Toronto).*

kbuckenham@mweb.co.za

DISCLAIMER: The English language editor used track changes for corrections and inserted comments for queries. The responsibility for effecting the changes in the final, submitted document is the responsibility of the student.