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School of Economic and Business Sciences

Marketing Department

University of the Witwatersrand



The role of persuasion in choosing plant-based food products:

An application of the Elaboration Likelihood Model and Behavioural Reasoning Theory

By

Joy Cheng

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Under the supervision of:

Professor Marike Venter De Villiers

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♥♥♥

ABSTRACT

The global shift from meat-based to plant-based food products has become increasingly prominent, driven by growing concerns over personal health and sustainability. However, in developing nations like South Africa, the adoption of plant-based diets is slower, primarily due to high food insecurity and meat's central role as a protein source. This study aimed to investigate how marketers and food companies can influence the behavioural intentions of the Strawberry Generation (young consumers) to adopt a plant-based food lifestyle. The research was grounded in the Elaboration Likelihood Model (ELM) and the Behavioural Reasoning Theory (BRT), which informed the study's main constructs. ELM posits two routes of persuasion (peripheral and central) which target emotional and rational processing, while BRT emphasises the role of consumers' values and belief systems in shaping their decisions. Using a sequential mixed-method approach, Phase I involved focus groups and a thematic analysis to develop a conceptual model. Phase II tested the model by surveying 426 young South African consumers. The data were analysed using Nvivo for qualitative insights and SPSS (IBM) and SmartPLS for quantitative analysis. The study's findings revealed that product taste and product knowledge were the most influential factors driving young consumers' decisions to choose PBPs. Additionally, factors such as product quality, affordability, social influence, and product packaging played a role, but to a lesser extent. Theoretical contributions of this research are significant as it expands the limited academic literature on PBPs by exploring consumer behaviour through the lens of cognitive processing (central and peripheral) and understanding the motives behind behavioural intentions. This study also presents a new conceptual model, developed through the integration of key components from the ELM and BRT, offering valuable insights for future research and practical marketing strategies. These findings are essential for advancing academic knowledge in the field and for food marketers seeking to influence the dietary choices of young consumers in emerging markets.

Keywords: plant-based food products; plant-based lifestyles; consumer buying behaviour; youth consumers; Strawberry Generation; Elaboration Likelihood Model; Behavioural Reasoning Theory; sustainability; South Africa

Student number: 1707225

DECLARATION

I, Joy Cheng, hereby declare that this thesis, titled "The role of persuasion in choosing plant-based food products: An application of the Elaboration Likelihood Model and Behavioural Reasoning Theory", is my own work. It is submitted for the degree Master of Commerce (Research), in the field of Marketing, at the school of Economic and Business Sciences at the University of Witwatersrand, Johannesburg in South Africa. It has never been submitted before for any degree or examination at this or any other university.



Joy Cheng

Signed at Roodepoort on the: 31st day of March 2024

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

This chapter discusses the background to the study, then provides an overview of the research problem and theoretical gap, followed by the purpose and objectives of the study. The formulated research questions, definitions and theoretical framework is presented, along with the research propositions, and an overview of the research design and methodology. Finally, the significance and contribution of the study, and the dissertation outline is discussed.

1.2 Background to the Study

The transition in consumer dietary patterns from animal-based to plant-based food products has become a prominent trend globally within the Fast-Moving Consumer Goods (FMCG) industry (Wickramasinghe, Breda, Berdzuli, Rippin, Farrand & Halloran, 2021; Grobe, 2020; Clark & Bogdan, 2019). This change is propelled by various factors, as evidence-based studies demonstrate the adverse causal relationships between personal health, animal welfare and sustainability (Allen & Locasale, 2021; Gençdağ, Görgüç & Yılmaz, 2021; Beverland, 2014). Consumers are increasingly recognising the health benefits of incorporating plant-based foods into their diets. Moreover, there is a rising awareness of the detrimental environmental effects linked with meat production, including greenhouse gas emissions and deforestation (Chen, 2022; Corrin & Papadopoulos, 2017). The global transition towards more plant-based diets can also uphold food security as the world's population expands rapidly. Consequently, many individuals are opting for plant-based alternatives to diminish their carbon footprint and foster a more sustainable food system and environment (Takefuji, 2021; Allen, 2020). The availability and variety of plant-based food products have significantly increased in recent years, facilitating consumers' adoption of a plant-based diet without compromising taste or nutritional value (Ang, 2022; Albrecht & Mauch, 2021). With the surge in plant-based diets, marketers are presented with the opportunity to shape consumer behaviour and promote the benefits of plant-based food products (Stevens, 2021; Lea, Crawford & Worsley, 2006).

The main drivers of the plant-based trend are the consumers that do not adhere to strict plant-based diets but instead, they limit specific animal-based products. This demographic constitutes nearly 50% of consumers globally, with Generation Z being the most inclined to consume plant-based products (PBPs) (Insight, 2022). In Ireland, approximately 464,000 individuals prefer consuming vegan food, predominantly among the younger demographic, between 20 to 35

years old (Faughnan, 2020). Furthermore, about 40% of consumers in the United States (US) opt for plant-based alternatives, citing health benefits and variety as the primary motivators. Notably, burger patties are the most popular meat-based alternative in the US. Conversely, in Europe, approximately 80% of the plant-based market share is contributed by Germany, the United Kingdom (UK), France, Italy, and Spain (Insight, 2022). Health and environmental concerns are the top two contributors for consumers in Germany and the UK to opt for animal-based alternatives. According to Deloitte (2019), the global market share value for PBPs is expected to witness significant growth, with the UK forecasted to experience an increase of nearly €1 billion by 2025. Additionally, one-third of consumers in Germany and France consider themselves as flexitarians, and every fifth individual plans to increase plant-based consumption as an outcome of the COVID-19 pandemic. The compound annual growth rate (CAGR) for the plant-based food market is projected at nearly 26% from 2022 to 2030 (Data Bridge Market Research, 2023). Overall, aside from health concerns, the primary motivation behind plant-based purchases for individuals reducing their meat consumption is the curiosity to try something new, different, and appealing (Insight, 2022).

Despite the global expansion of the plant-based food sector, developing regions such as Africa exhibit a slower uptake of non-meat diets, necessitating research to delve into this phenomenon in emerging economies (Havenga & Gray, 2022; Clark & Bogdan, 2019; Henchion, Hayes, Mullen, Fenelon & Tiwari, 2017). Moreover, African cuisines rely heavily on meat products, often hindering the acceptance of plant-based alternatives (Szenderák, Fróna & Rákos, 2022; Wickramasinghe et al., 2021). Particularly evident in South Africa (SA), where "Braai's" (barbecues) hold significant cultural sway. On the contrary, the highest rates of food insecurity are experienced in Africa, with 60% of the population unable to afford nutritional meals and approximately 40% experiencing food insecurity (Organisation for Economic Co-operation and Development and Food and Agriculture Organization of the United Nations, 2021). Urbanisation and population growth in developing nations like SA have profound impacts on meat consumption patterns, contributing to a rise in demand for meat products as urban populations typically have higher incomes and greater purchasing power. Urbanisation correlates with heightened prosperity and elevated purchasing capabilities, resulting in an augmented appetite for processed food, notably meat (Szejda, Stumpe, Raal & Tapscott, 2021; Milford, Le Mouël, Bodirsky & Rolinski, 2019). Regarding consumer consumption preferences in SA, beef is ranked ninth whilst poultry is ranked as the 11th highest consumed meat in the world (OECD-FAO, 2021). As urbanisation and population growth continue to drive meat

consumption in SA, there is a critical need to explore alternative protein sources to meet the growing demand. Not only does this present an opportunity to address food insecurity and health concerns, but it also aligns with global efforts to promote sustainable and environmentally friendly food production. In light of these circumstances, it is imperative to consider innovative solutions that can provide sustainable protein sources to meet the dietary needs of the expanding urban population in SA (Ho, 2021; Szejda, Urbanovich & Wilks, 2020).

Although a challenging task, marketers must bear the responsibility to inform consumers about the environmental footprint caused from meat production, along with health concerns. This can be done by educating them on sustainable consumption in choosing meat alternative products. From a theoretical perspective, the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1980), has demonstrated efficacy in persuading individuals to change their attitude and behaviour by targeting the cognitive processes through various communication techniques. Meanwhile, the Behavioural Reasoning Theory (BRT) (Westaby, 2005) suggests that that context-specific reasons play a highly influential role to the decision-making process of consumers, shaping intentions and behaviours. Furthermore, the marketing mix serves as a strategic instrument for marketers to advance consumer market understanding and tailor marketing approaches, accordingly, allowing them to efficiently target customers using the most effective methods based on the 4Ps (product, price, promotion, and place) identified in the mix (Singh, 2012; McCarthy, 1960).

This study aimed to investigate how marketers and food companies can influence young consumers' behavioural intentions and persuade them choose or include plant-based diets into their lifestyle. A mixed-method study was conducted to explore how young consumer attitude and behaviour can be changed in relation to consumption patterns, by appealing to their subconscious mind. The ELM proposes two primary routes of persuasion (the peripheral and central route) to gain a deeper understanding of consumers' cognitive processes (Allison, Davis, Webb & Short, 2017; Petty & Cacioppo, 1980). Consequently, marketers can tailor their marketing messages based on the marketing mix to effectively target both the rational and emotional processing of individuals. In contrast, the BRT asserts that reasons play a crucial role as connecting points between individuals' beliefs, overarching motivations, intentions, and subsequent behaviour in decision-making (Westaby, 2005). By integrating these two frameworks, this study provides a comprehensive examination for marketers and food companies aiming to change consumer attitude and behaviour by persuading them to choose

PBPs, as part of sustainable consumption. Thus, the outcomes derived from the ELM and the BRT can formulate a thorough marketing mix strategy.

1.3 Problem Statement and Research Gap

The exponential growth of the global population has led to an increased demand for food, with rising consumption of meat, particularly in emerging markets (Chen, 2022). This trend contributes to serious issues such as food insecurity, which affects approximately 45% of the global population, and environmental degradation, including greenhouse gas emissions, water pollution, and zoonotic diseases (The Development Podcast - World Bank, 2023; Lacour, Seconda, Allès, Hercberg, Langevin, Pointereau, Lairon, Baudry & Kesse-Guyot, 2018; Corrin & Papadopoulos, 2017). In response, there is growing consumer awareness about the negative health and environmental impacts of meat consumption, driving a shift toward plant-based diets as a sustainable alternative (Faber, Henn, Brugarolas & Perez-Cueto, 2022; Carreno & Dolle, 2018). However, in developing economies like SA, where meat remains a key nutritional source, the adoption of plant-based diets faces specific barriers, including affordability, cultural preferences, and lack of widespread awareness about the benefits of PBPs (Beacom, Bogue & Repar, 2021; Ho, 2021; Clark & Bogdan, 2019).

Numerous studies have explored sustainable eating practices and health-related concerns. Research has delved into components of the (green) marketing mix in sustainability contexts, as seen in studies examining brand equity among green consumers (Nguyen-Viet, 2022), and in investigating the consumption patterns and barriers to PBPs (Beacom, Bogue, & Repar, 2021). Significant research in the sustainability domain also focuses on the importance of consumers engaging in responsible sustainable behaviours to promote environmental well-being and enhance their dietary habits (Anjani & Perdhana, 2021; Lacy-Nichols, Hattersley & Scrinis, 2021; Mikulić, 2021; Carreno & Dolle, 2018). While this body of research highlights the importance of promoting sustainable consumption and healthy diets, few studies have integrated key behavioural frameworks—specifically the ELM and BRT—to explain how young consumers make decisions regarding PBPs in emerging markets like SA.

To effectively promote the adoption of PBPs, marketers must address the cognitive and emotional factors that drive consumer decisions. For instance, young South African consumers are increasingly open to experimenting with plant-based alternatives, motivated by concerns over health and sustainability (Ho, 2021; The Hartman Group, 2013). However, challenges such

as the limited availability of affordable PBPs, cultural preferences, and entrenched dietary habits hinder widespread adoption. While there is substantial research on sustainable consumption, these frameworks (ELM and BRT) have not been sufficiently applied to explore the decision-making processes of young South African consumers regarding PBPs.

The ELM which focuses on how consumers process persuasive messages through central and peripheral routes, and BRT, which emphasises the role of personal values and reasoning in shaping behaviour, offer important insights into how young consumers process information about PBPs. These models could explain the cognitive and emotional factors influencing consumer decisions, but there remains a significant gap in their integration and application to plant-based consumption in SA, especially within the youth demographic. By integrating these frameworks, this research will provide a deeper understanding of how young South African consumers engage with messages about PBPs, weighing the rational (i.e., health, sustainability) against emotional drivers (i.e., cultural preferences, social norms).

- Theoretical Gap

  From a theoretical perspective, research on plant-based food products within the frameworks of the Elaboration Likelihood Model and Behavioural Reasoning Theory lacks integration, thereby limiting the understanding of consumer decision-making processes and behaviours. Bridging the integration gap would provide a more holistic understanding and inform effective interventions and marketing strategies for promoting plant-based diets and sustainable food consumption practices.

- Practical Gap

  There is a gap in practice in addressing health and nutrition policies comprehensively within the study's scope, particularly in terms of their implementation, effectiveness, and potential shortcomings in promoting healthier dietary habits and sustainable consumption patterns Moreover, there is a gap in the effective execution of marketing strategies and interventions aimed at promoting PBPs, despite the wealth of available research insights. Addressing this challenge requires converting theoretical understanding into practical approaches that can genuinely shape consumer behaviour and foster sustainable food consumption practices.

- Contextual Gap

  Contextual research on plant-based food products pertains to a lack of comprehensive understanding of consumer behaviours, preferences, and decision-making processes related to these products, particularly in developing countries such as South Africa, specifically around the Strawberry Generation (young adults).

1.4 Purpose of the Study

To effectively address the identified gaps, this study aims to investigate how marketers and food companies can encourage sustainable food consumption by influencing consumer behavioural intentions and encouraging the adoption of a plant-based food lifestyle. Guided by the Elaboration Likelihood Model (Petty & Cacioppo, 1980) and the Behavioural Reasoning Theory (Westaby, 2005). The primary purpose of this research is to explore whether young consumers are more receptive to rational marketing messages (central route to persuasion) or emotional messages (peripheral route to persuasion), and the influence of young consumers' values and belief systems (behavioural reasoning) in choosing plant-based food products. The findings of this study will offer marketing practitioners insights into all four elements of the marketing mix, enabling them to effectively target consumers' cognitive processes and facilitate attitude and behavioural shifts.

1.5 Research Objectives

In pursuit of the study's purpose, the following research objectives were delineated:

1. To explore how young consumers process information using rational and emotional marketing messages and which are more effective (by applying the Elaboration Likelihood Model).
2. To understand the role of young consumers values and beliefs systems when choosing plant-based food products (using the Behavioural Reasoning Theory).
3. To present findings for marketers to develop a comprehensive marketing mix to influence young consumers’ behavioural intentions to adopt a plant-based lifestyle.
4. To identify key insights and thematic patterns that explain young consumers' decision-making processes regarding PBPs and their adoption of a plant-based lifestyle, providing actionable implications for marketers.
5. To uncover critical factors influencing young consumers' behavioural intentions towards plant-based foods, and to develop a validated conceptual model that informs marketing strategies aimed at promoting plant-based lifestyles among this demographic.

1.6 Research Questions

This study endeavours to address the subsequent primary and secondary research questions.

1.6.1 Primary Research Question

How can marketers and food companies influence young consumers to choose plant-based food products and persuade them to adopt a healthier, more sustainable plant-based lifestyle?

1.6.2 Secondary Research Questions

- Are rational appeals more effective in persuading young consumers to choose plant-based food products?
- Are emotional appeals more effective in persuading young consumers to choose plant-based food products?
- How do young consumers' values and beliefs system influence their decision to choose plant-based food products?
- How can food companies utilise the marketing mix to persuade young consumers to choose plant-based food products?

1.7 Definitions

This section provides a summarised theoretical overview of the main concepts in the study.

Behavioural Reasoning Theory by Westaby (2005), examines how intentions predict behaviour based on the likelihood of an occurrence formed by the different variables (beliefs and values, reasons, global motives) that link to the specific behavioural outcomes.

Elaboration Likelihood Model (Petty & Cacioppo, 1980) proposes that individuals can be persuaded into a change in attitude based on their cognitive thinking. There are two levels of information processing that can be experienced, a central (rational) and/or peripheral (emotional) route.

Plant-Based Products (PBPs) in the context of food refer to products made from vegetables that contain proteins derived from sources such as legumes, cereal grains, or/and mycoprotein (Beacom, Bogue & Repar, 2021). The category includes meat replicas that are produced in attempts to copy several sensory properties found in meat products, as well as products that are not exactly replacing meat products, like lentil pasta (Takefuji, 2021).

Strawberry Generation coined for Taiwanese people that "bruise easily", correlating to the ones born after 1990 (Generation Y and Z). This group, unlike their parents are unable to work hard nor resist peer pressure. This generation is perceived to be surrounded by wealth and overprotective parents. Similarly, strawberries demand a better price than other fruits and are produced in protected greenhouses (Urban Dictionary, 2021).

Sustainability refers to the ability to reach personal needs without having to compromise future generations in reaching theirs (Porter & Derry, 2012). A sustainable business tries to create positive effects and minimise negative impacts in the environment through their ways of practice (Geissdoerfer, Vladimirova, & Evans, 2018). In agriculture, it refers to the way of farming in producing consumable products that result in minimal impact for the environment by conserving natural resources. Sustainable eating is all about choosing beneficial foods for our health and environment (Klemm, 2021).

The **Marketing Mix** comprises a marketing toolbox with 4Ps main elements that can be used strategically to best influence the target market and satisfy their requirements. The elements include the following: product, price, promotion, and place (Jain, 2013).

1.8 Theoretical Framework

This study is grounded in three theories, namely: The Elaboration Likelihood Model (Petty Cacioppo, 1980), Westaby's (2005), Behavioural Reasoning Theory and the Marketing Mix (McCarthy, 1960).

1.8.1 Elaboration Likelihood Model (ELM)

Individuals process stimuli differently, resulting in varying outcomes in terms of attitude and behavioural changes exhibited by each person (Erkli, 2022; Petty Cacioppo, 1980). Subsequently, differences emerge in our purchasing behaviour, influenced by the distinct attributes we seek when making product decisions. According to the ELM proposed by Petty and Cacioppo (1980), the presentation of information by a communicator necessitates differing levels of effort to comprehend, evaluate, recall, and subsequently accept or reject the conveyed message. Specifically, individuals engage in two levels of processing—high or low elaboration—leading to either central or peripheral processing, or a combination thereof (Allison et al., 2017). Understanding how customers process messages is crucial, as it enables the development of communication strategies tailored to both groups of users, thereby

minimising the risk of alienating any particular group (Geddes, 2015; Petty & Cacioppo, 1986; Petty & Cacioppo, 1980). By grasping customers' processing levels, researchers, developers, and marketers can craft the most effective products and messages to influence customers' attitudes towards specific brands and products or encourage the selection of PBPs.

1.8.2 Behavioural Reasoning Theory (BRT)

Individual actions are influenced by various reasons. The BRT, as proposed by Westaby (2005), investigates the underlying reasons behind individuals' beliefs, values, and global motives such as attitudes, subjective norms, and perceived behavioural control. These elements are considered crucial linking points in comprehending and attaining the desired behavioural outcomes. This theory examines the values and beliefs that underlie individuals' intentions for specific behaviours, elucidating both the reasons for and against their adoption (Huang & Qian, 2021). By discerning the disparity between perceived benefits and barriers, it offers insights into the decision-making process. Furthermore, global motives, encompassing attitudes, subjective norms, and perceived behaviour control, furnish additional context on the overarching factors influencing behavioural intentions across various domains (Norman, Conner & Stride, 2012). Consequently, this theory serves as a valuable tool for gaining a deeper understanding of the fundamental needs and desires driving human behaviour.

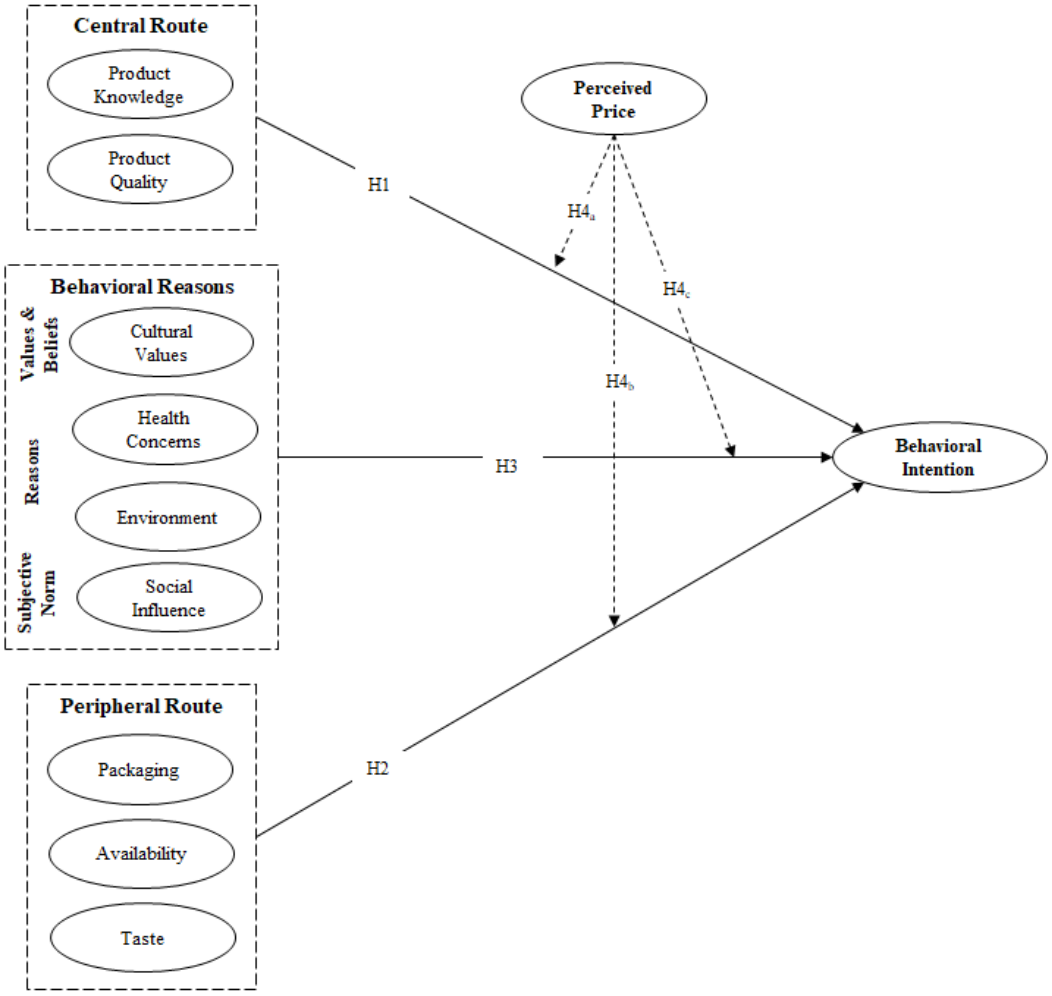
1.8.3 Marketing Mix (4Ps)

Customers possess diverse needs, each of which they aspire to fulfil. Therefore, the aim for marketers and retailers is to effectively address all the needs and distinctly position the available product offerings in consumer minds. The marketing mix encompasses the 4Ps (product, price, place, and promotion), strategic tactics aimed at better satisfying customers and targeting their needs by evaluating each element. McCarthy's (1960) 4Ps framework offers comprehensive insights by examining all four elements to explain how plant-based food companies and marketers can utilise this marketing tool to establish differentiation and fulfil customer needs more effectively. The marketing mix provides a roadmap and clarity on marketing strategies for both existing and new PBPs. This strategic tool empowers marketers to craft a compelling narrative in customers' minds, distinguishing their offerings from competitors and meeting customer needs satisfactorily.

1.9 Conceptual Model and Hypotheses

By means of a conceptual model, the following is proposed: Central Route Factors (Product Knowledge; Quality), Peripheral Route Factors (Packaging Design; Product Availability; Taste and flavour) and Behavioural Reasons (Values and Beliefs; Reasons; Subjective Norm) represents the predictor variables, with price being the moderator and behavioural intention as the outcome variable. An in-depth discussion on the hypotheses development is provided in Chapter 5. Figure 1.1 presents the proposed conceptual model for the present study.

Figure 1.1: Conceptual Model



Derived from the conceptual model, the following hypotheses are proposed:

Central Route Factors and Behavioural Intentions

H1: There is a positive relationship between *Central Route Factors (Product Knowledge; Quality*) *and Behavioural Intentions*

Peripheral Route Factors and Behavioural Intentions

H2: There is a positive relationship between *Peripheral Route Factors* (*Packaging Design; Product Availability; Taste and flavour) and Behavioural Intentions*

Behavioural Reasons and Behavioural Intentions

H3: There is a positive relationship between *Behavioural Reasons (Values and Beliefs; Reasons; Subjective Norm) and Behavioural Intentions*

The Moderating Effect of Perceived Price

H4a: *Perceived Price* moderates the relationship between *Central Route Factors (Product Knowledge; Quality) and Behavioural Intentions*

H4b: *Perceived Price* moderates the relationship between *Behavioural Reasons (Values and Beliefs; Reasons; Subjective Norm) and Behavioural Intentions*

H4c: *Perceived Price* moderates the relationship between *Peripheral Route Factors (Package Design; Accessibility) and Behavioural Intentions*

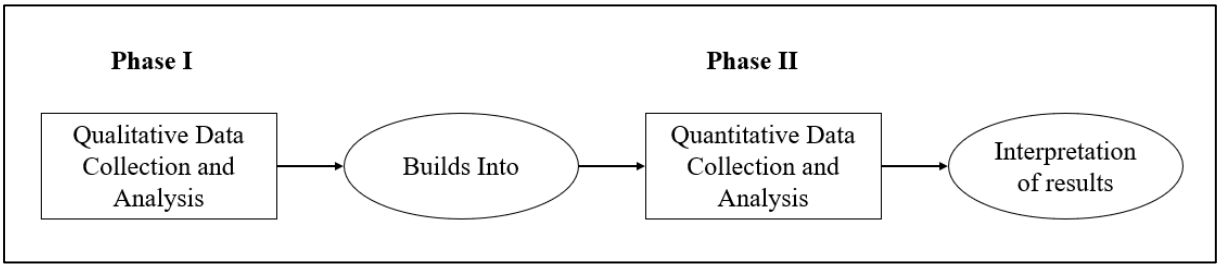
1.10 Research Design and Methodology

The current research delves into a novel realm of association within sustainable consumption, exploring the interplay between the rationale behind customers' choices for plant-based food products, their information processing levels, and how marketers (companies) can effectively target these customers using the marketing mix. Accordingly, the study necessitates an initial understanding of consumer processing and reasoning in relation to the marketing mix elements to formulate a conceptual framework for the plant-based topic, drawing upon the ELM (Petty & Cacioppo, 1980) and the BRT (Westaby, 2005).

An exploratory, sequential mixed-methods approach, grounded in a pragmatism research philosophy is followed. Firstly, a qualitative, inductive approach is employed through two focus groups to comprehend customers' levels of processing and reasoning, culminating in the development of a conceptual framework. Subsequently, the conceptualised framework and theory are tested using quantitative methods, employing a deductive approach, where online surveys are disseminated to a pre-selected sample of 400 respondents to draw conclusive findings (Teddlie & Tashakkori, 2011).

The study unfolds in two phases, as illustrated in Figure 1.2. The research methodology of this approach entails leveraging insights from the qualitative method to aid in the development of the conceptual model, which is subsequently quantitatively tested (Sileyew, 2019; Creswell & Clark, 2017; Schoonenboom & Johnson, 2017).

Figure 1.2: Explanatory Sequential Mixed-Methods Design



Source: Creswell and Clark (2017)

Phase I: Qualitative research in the form of focus group discussions was used to explore the perceptions around the plant-based market in relation to the theoretical groundings. Prominent themes were identified from the discussion to form a conceptual framework for the study.

Phase II: Quantitative research in the form of surveys was used to test the conceptual framework developed from the Phase I. The conceptual framework that merged the grounding theories served as a guide in developing the survey.

The prominent themes extracted from the focus group discussions were categorised and examined as part of Phase I using NVivo, to further construct a conceptual framework for Phase II. The data collected was evaluated and analysed using the IBM Statistical Package for the Social Sciences (SPSS) statistical software (IBM SPSS, 2022) and SmartPLS, a structural equation modelling (SEM) software. The results were subsequently assessed and interpreted through a measurement model assessment (confirmatory factor analysis, (CFA)) and a structural model assessment (structural equation modelling, (SEM)).

1.11 Ethical Considerations

This study strictly abides to the ethical standards outlined by the University of the Witwatersrand. The ethics board issued a signed declaration and clearance to ensure that this study was performed and conducted ethically. In both the qualitative and quantitative components of the study, participants were provided with consent forms outlining the study's

purpose, participants' rights, and confidentiality measures. In the qualitative focus group discussions, the consent form was shared with participants prior the discussion and read aloud at the beginning of the discussion to ensure that all participants understood the terms, and their participation was considered implied consent. In the quantitative survey, participants were required to review and agree to the consent form before they could begin the questionnaire, ensuring that informed consent was obtained prior to participation. The data obtained for this study is purely used to understand consumer behaviour towards PBPs in the food and beverage industry. The Ethics approval number for this study is H22 10 03.

1.12 Significance and Contribution of the Study

The study highlights and gives insight into the level of customers' processing and reasoning according to the marketing mix elements, contributing towards customers' behavioural intentions to choose PBPs for plant-based food companies, marketers, and research development. Moreover, the study's implications extend beyond the plant-based sector, offering valuable lessons for retailers in the broader food and beverage industry. By understanding the preferences and demands of the Strawberry Generation (young adults) and effectively catering to their needs, companies can better position themselves to capitalise on the burgeoning trend towards meat substitutes. Overall, this research makes significant theoretical, practical, and contextual contributions.

1.12.1 Theoretical Contribution

This paper aims to explore and provide further insight to the limited academic literature on plant-based products, by understanding consumer behaviour based on their cognitive thinking (peripheral and central levels of processing) and motives to predict the intentions of their behaviour. A new conceptual model is developed and tested, based on the merged application of the key components derived from the Elaboration Likelihood Model and the Behavioural Reasoning Theory.

1.12.2 Practical Contribution

This research aims to contribute towards research and development, marketers (sustainable marketers, food, and beverage marketers) and brand managers by providing a better understanding of customer perceptions, in relation to the plant-based trend, lifestyle, and products, thus, allowing them to target the market's needs more precisely from the detailed marketing mix compiled based on the study's findings. The research findings will also

contribute to the following health and nutrition policies: (1) Sustainable Development Goal 3 (SDG3) - “Good Health and Well-being: To ensure healthy lives and promote well-being for all at all ages” (United Nations, 2022). (2) African Union (AU) Agenda 2063 - “Healthy and well-nourished citizens” (African Union, 2022). (3) South African National Development Plan (NDP) 2030: “Decent standard of living” (National Development Plan, 2022). As, the inclusion of these policies is aimed at entities and marketers to educate people on health and environmental concerns, in order to change their behaviour and create a more sustainable environment through PBPs.

1.12.3 Contextual Contribution

A better understanding will be provided around the Strawberry Generation (young adults) within a South African context on plant-based products. The study will provide a new conceptual model that mergers two theories to test different relationships that form an outcome variable. Based on the findings a comprehensive marketing mix for plant-based products was proposed for implementation.

1.13 Conclusion

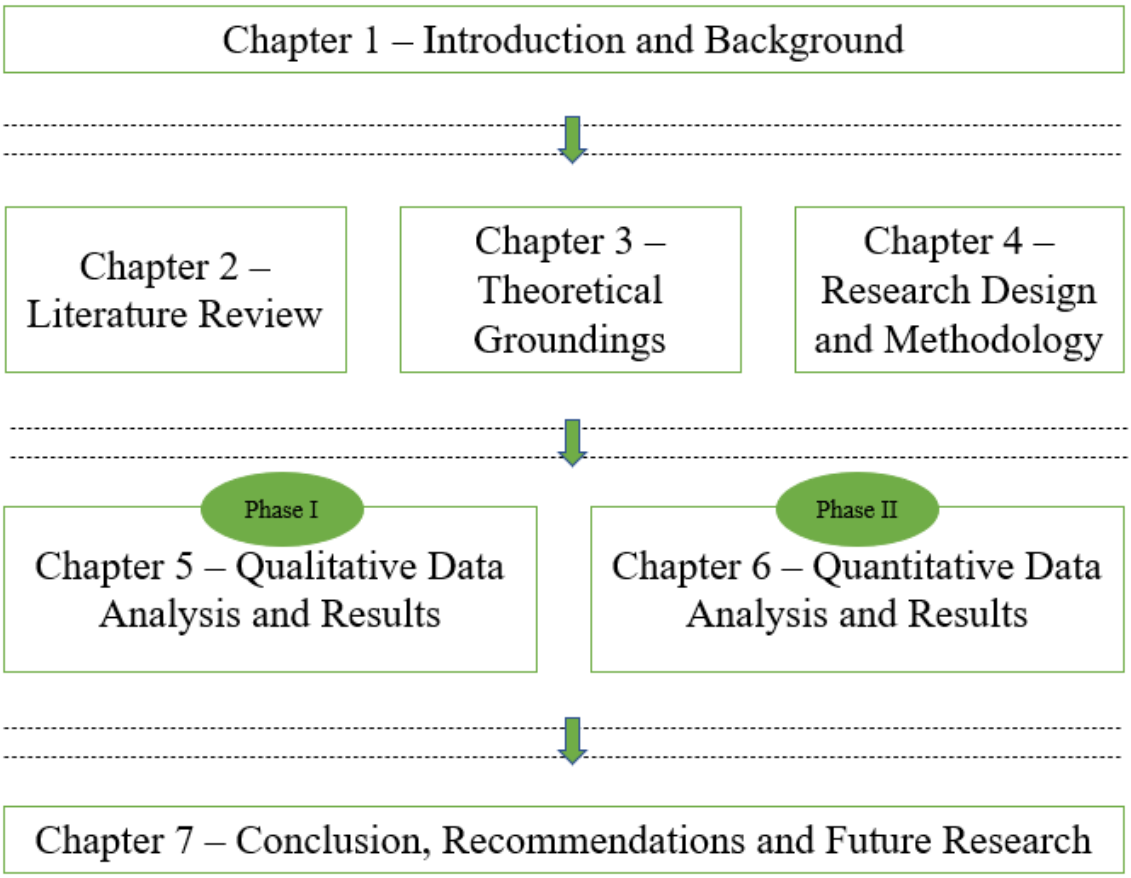
This chapter has provided a comprehensive overview of the study's foundational elements. It commenced with an examination of the background, followed by a detailed exploration of the problem statement, research gap and purpose of the study. The research objectives, questions, and key definitions were then elucidated. The chapter further discussed the theoretical framework underpinning the research, along with the mixed-methods approach in the research design and methodology. Ethical considerations were also addressed. The significance and contributions of the study were highlighted. The subsequent chapter will delve into the literature review.

1.14 Research Report Structure

This thesis consists of seven chapters, structured as follows: Chapter 2 presents the literature review focusing on the context of the study concerning plant-based food products. Chapter 3 discusses the theoretical foundations that underpin and guide the research direction. This is followed by an in-depth examination of the research design and methodology adopted in Chapter 4. Chapter 5 delineates the results of Phase I of the research, proposing three primary themes to formulate a conceptual model. The model is then tested in Chapter 6, representing

the results of Phase II. Finally, Chapter 7 offers concluding remarks and recommendations for future research. The thesis structure is depicted in Figure 1.3

Figure 1.3: Thesis Structure



CHAPTER 2: A SYNOPSIS OF THE PLANT-BASED INDUSTRY

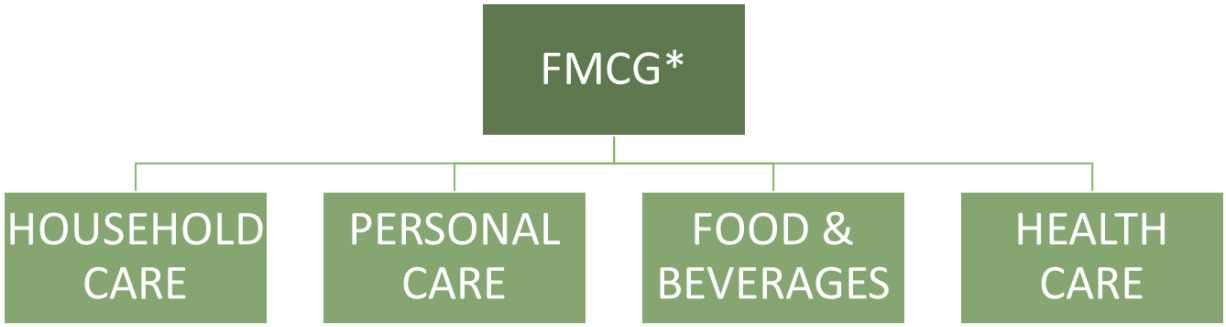
2.1 Introduction

This chapter provides the background to the research topic, shaping the direction of the study and clarifying its overall purpose. Additionally, the literature review contributed to the formulation of the research questions for the qualitative component, which subsequently informed the quantitative component. As a result, insights drawn from the existing literature aid in the development of the theoretical framework while also offering valuable input for the empirical aspects of the research.

2.2 An Overview of the Food Industry

Every single person uses at least one product from the FMCG industry every single day. This sector constitutes more than half of consumer expenditures, predominantly comprising low-involvement purchases (Grobe, 2020). These products exhibit high turnover rates in stores, being frequently purchased, swiftly consumed, sold in large quantities, and priced affordably. Their limited shelf life can be attributed to two main factors: either high consumer demand (e.g., soft drinks and confections) or perishability (e.g., dairy and meat products). FMCG products are also referred to as consumer-packaged goods. Figure 2.1 provides an overview of the primary categories within the FMCG industry, with food and beverages representing the most prevalent segment.

Figure 2.1: Major Segments in the Fast-Moving Consumer Goods Industry



*Fast-Moving Consumer Goods Industry

Source: Simcon (2013)

The importance of the food industry is undeniable. Besides being the most essential source for life. In its basic form, it is one of the most crucial industries and requirements to every single country. This industry has sparked interest among critics about its sustainability, both from an environmental and health perspective (Wang, Yuan, & Tang, 2021; Allen, 2020; Asioli, Aschemann-Witzel, Caputo, Vecchio, Annunziata, Næs &Varela, 2017). The food industry (system) refers to a rather simple yet complicated network within agriculture and various organisations that come together to supply food to the world's population (Albrecht & Mauch, 2021; Traill & Meulenberg, 2002; Earle, 1997). Two main components make up this industry, namely: plant and animal products.

2.2.1 International State of the Food Industry

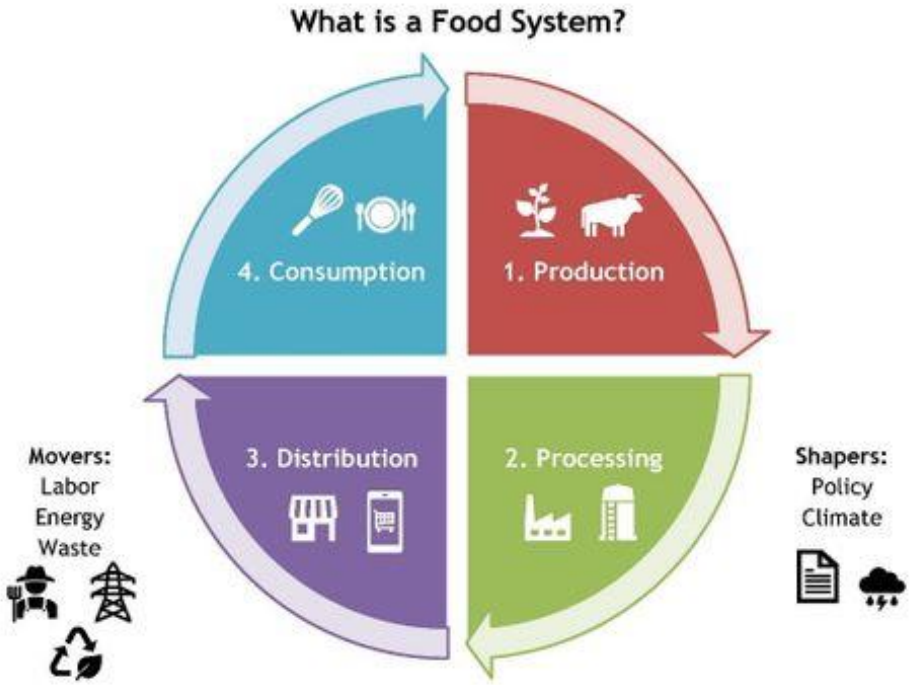
The food market has traditionally been characterised by low margins and high volumes, with a projected revenue of $8.67 trillion for 2022 and an anticipated compound annual growth rate (CAGR) of 6.71% from 2022 to 2027 (Statista, 2022). In 2022, the industry generated an average revenue of $1,139 per person, with a total estimated volume of 327.78 kilograms. Notably, the Confectionery and Snacks category dominates the market, accounting for $1.56 trillion in volume (Statista, 2022). Global food consumption has steadily increased since 2015, reaching 2.5 billion metric tonnes in 2021. Research also shows that developed countries consume more food than developing countries (Akbari, Foroudi, Shahmoradi, Padash, Parizi, Khosravani, Ataei & Cuomo, 2022; Wang, Yuan, & Tang, 2021; Prosekov & Ivanova, 2018).

The prices of food have risen drastically in recent years, reaching record highs in February 2022 (Statista, 2022). The recovery of international demand is a key factor driving this price increase, particularly in China, where the rise in prices of industrial agricultural products is influenced by global freight costs and fertiliser prices (Taghizadeh-Hesary, Rasoulinezhad, & Yoshino, 2019). Regions more reliant on food imports, such as Latin America, Africa, and the Middle East, are especially affected by these rising food prices (Fukase & Martin, 2020). As a result, it is projected that international food demand will continue to increase steadily in the coming years. This demand is driven by low- to middle-income nations, influenced by factors such as rapid population growth, uneven food consumption, demographic changes, and economic development (Zurek, Ingram, Sanderson Bellamy, Goold, Lyon, Alexander, Barnes, Bebber, Breeze, Bruce & Collins, 2022; Esposito, Sessa, Sica & Malandrino, 2020).

2.2.2 Stages of the Food Production Lifecycle

The food industry encompasses the practical processes along the supply chain that enable food to move from its point of origin to its final destination for consumption. Several factors can influence how the product progresses through the supply chain, including labour, distribution, regulations, and climate (Sustainable Food Center, 2022). These processes include production, manufacturing, distribution, marketing, sales, regulation, and, ultimately, consumption (Prosekov & Ivanova, 2018; Verbeke, 2005). Alternatively, the Sustainable Food Center (2022) summarizes the food system in Figure 2.2.

Figure 2.2: The Food System



Source: Sustainable Food Center (2022)

The food industry relies on multiple interconnected steps, with various inputs and outputs at each stage. It is a system that can be run locally (including regional and national levels) or globally (Sustainable Food Center, 2022; Canton, 2021). The four summarised stages in the food system includes production, processing, distribution, and consumption.

2.2.2.1 Production

Food production involves the cultivation of crops, raising livestock, and harvesting seafood to yield raw ingredients for further processing. This stage includes activities such as planting, irrigation, fertilisation, pest control, and harvesting, all aimed at ensuring the quantity and quality of food production (Springmann, Clark, Rayner, Scarborough & Webb, 2021). Sustainable agricultural practices, efficient land and water management, and technological innovations play crucial roles in enhancing productivity and mitigating environmental impacts in food production (Wang, Yuan & Tang, 2021; Asioli et al., 2017).

Food production is vital for providing essential nutrition, addressing hunger, and promoting economic development (Vasileska & Rechkoska, 2012). It involves cultivating, harvesting, and distributing various food items to meet dietary needs. Sustainable farming practices ensure environmental conservation and resource management. Additionally, food production preserves cultural heritage and promotes food sovereignty. Ensuring sustainable and equitable food production systems is essential for building resilient societies and addressing global challenges (Pappas & McKelvie, 2022; Esposito et al., 2020).

2.2.2.2 Processing

Food processing involves transforming raw agricultural commodities into finished food products suitable for consumption. This stage plays a role in transforming raw agricultural products into consumable goods (Akbari et al., 2021; Traill & Meulenberg, 2002). Food processing enables the creation of a wide range of value-added products, including convenience foods, ready-to-eat meals, canned goods, and frozen foods, catering to diverse consumer preferences and lifestyles.

Food processing contributes to reducing food waste, improving food distribution, and meeting consumer demands for convenience and variety (Baweja, Kumar & Kumar, 2020). Additionally, it enables the creation of value-added products and supports economic growth in rural areas. However, concerns about the nutritional quality and health implications of processed foods necessitate careful regulation and monitoring of processing methods (Springmann et al., 2021). Overall, food processing is integral to ensuring food security, promoting economic development, and meeting the diverse dietary needs of populations worldwide (Leite, Khandpur, Andrade, Anastasiou, Baker, Lawrence & Monteiro, 2022; Akbari et al., 2021; Baweja, Kumar & Kumar, 2020).

2.2.2.3 Distribution

The distribution of food entails the transportation of food products from producers to consumers via diverse channels, including wholesalers, retailers, and foodservice establishments. It encompasses logistics, transportation, storage, and marketing activities aimed at ensuring timely delivery of fresh and safe food to end-users (Akbari et al., 2022; Canton, 2021). Efficient food distribution networks are essential for maintaining food security, reducing food losses, and meeting consumer demand for diverse food products. However, challenges such as infrastructure limitations, supply chain disruptions, and unequal access to markets can hinder effective food distribution (Amiruddib & Modding, 2021). Sustainable distribution practices, including cold chain management and eco-friendly transportation methods, are increasingly important for minimising environmental impact and promoting social equity in food access (Prashar & Shah, 2016).

2.2.2.4 Consumption

Food consumption refers to the process by which individuals or communities acquire, prepare, and consume food for sustenance and enjoyment. It encompasses various activities such as meal planning, grocery shopping, cooking, and eating (Chen Shuai, Wu & Zhang, 2020). Factors influencing food consumption patterns include cultural traditions, dietary preferences, nutritional knowledge, socioeconomic status, and food availability (Pappas & McKelvie, 2022; Canton, 2021).

Healthy food consumption is essential for maintaining overall health and well-being, while unhealthy dietary habits can lead to various diet-related diseases such as obesity, diabetes, and cardiovascular disorders (Brown, 2022). Sustainable food consumption practices, such as choosing locally sourced and organic foods, reducing food waste, and adopting plant-based diets, are becoming increasingly important for addressing environmental concerns and promoting public health. Educating consumers about the nutritional value and environmental impact of their food choices is crucial for promoting sustainable and healthful eating habits (Zurek et al., 2022; Nakat & Bou-Mitri, 2021; Lacour et al., 2018).

2.2.3 Environmental Impacts of the Food Industry

Global food consumption patterns reflect the quantity of calories or food consumed by individuals worldwide (Gustin, 2019; Vasileska & Rechkoska, 2012). This increased demand for food, water, and energy sources is driven by rising consumption rates and global population

growth (Schneider, Havlík, Schmid, Valin, Mosnier, Obersteiner, Böttcher, Skalský, Balkovič, Sauer & Fritz, 2011). However, this escalating demand has significant environmental repercussions, evident in both food production and consumption practices (Akbari et al., 2021; Springmann et al., 2021; Esposito et al., 2020).

The food economy impacts the environment throughout its various stages, starting from land preparation for agriculture, crop cultivation, food processing, distribution, and culminating in food waste post-consumption. Each stage in the food economy contributes to environmental degradation, and the following discussion elucidates the specific environmental impacts associated with each stage.

2.2.3.1 Production Impact

Food production starts from cultivating the land for planting crops or livestock farming to the process of maintaining and enhancing growth, resulting in harming the environment even more through the waste created, gasses emitted to cause pollution and climate changes (Gomez-Zavaglia, Mejuto & Simal-Gandara, 2020). Land preparation refers to the processes taken for crops to be planted. Before food production even takes place ecosystems and natural habitats are being damaged extensively, cleared to create space for farming (Fasona, Adeonipekun, Agboola, Akintuyi, Bello, Ogundipe, Soneye & Omojola, 2018; Caldas, Walker, Arima, Perz, Aldrich & Simmons, 2007).

Land-use change is the type of deforestation resulting in several scenarios of the extinction of wildlife species (Caldas et al., 2007). The main reason for the decreased population for wildlife species is due to habitat loss, caused by vegetation removal for agricultural purposes (World Economic Forum, 2022). Furthermore, forests play a huge role in eliminating greenhouse gas emissions, affecting climate changes directly with the removal of trees for land-use changes (Argent, 2022). The most concerning one can be the destroyed rainforests, as cattle farming accounts for 65% of the Brazilian Amazon's deforestation (Wang, Yuan & Tang, 2021).

The land must be primed after it has been cleared to grow huge quantities of crops, which involves applying artificial fertilisers and herbicides heavily (Sharma & Singhvi, 2017). Once the crops have been planted, the artificial fertilisers, herbicides and even pesticides are still required for the entire duration, to continuously provide nutrients to promote growth (fertiliser), prevent weeds (herbicides) and eliminate pests (pesticides) until the crops are ready for harvest

(Baweja, Kumar & Kumar, 2020; Prashar & Shah, 2016). The excessive use of these chemicals is not sustainable and creates damages on both our health and the environment (Sharma & Singhvi, 2017).

High concentrations of chemicals are toxic; however, the application methods prevent harmful concentrations from accumulating on the crops we consume. Despite this, these chemicals are released into the air during application (Warra & Prasad, 2020; Beluhova-Uzunova & Dunchev, 2019). Additionally, chemical run-offs are introduced into the soil, waterways, and other ecosystems, where they are absorbed by simple organisms such as algae (Hedlund, Longo, & York, 2020). Rather than being broken down, these chemicals accumulate in the food chain as animals consume the algae, and we, in turn, consume the animals, resulting in bioaccumulation (Antonelli, Smith, Fry, Simmonds, Kersey, Pritchard, Abbo, Acedo, Adams, Ainsworth & Allkin, 2020; Gupta & Gupta, 2020; Sharma & Singhvi, 2017). The accumulation of toxic chemicals negatively impacts ecosystem health, causing damage such as the destruction of vital populations, decreased fertility, and irreparable genetic harm (Butt, Rehman, Khan & Hesselberg, 2018). Furthermore, the production of these chemicals is heavily reliant on cheap fossil fuels, as their manufacture requires substantial amounts of energy. Fossil fuels are also used in conventional farming, contributing to climate change through the emission of greenhouse gases, which leads to increased air pollution (Baweja, Kumar & Kumar, 2020; Prashar & Shah, 2016).

Livestock agriculture has emerged as a significant driver behind the decline of the world's wild animal populations, responsible for the depletion of approximately 68% of these populations over the past five decades (Gustin, 2019). Unlike plant-based agriculture, livestock farming requires considerably more land, leading to increased deforestation and habitat loss. As meat consumption rises, the demand for crops to feed livestock escalates, further encroaching on natural ecosystems (Balogh & Jámbor, 2020). Despite utilising 83% of farmland, livestock production contributes only 18% of the calories consumed by humans (Balogh & Jámbor, 2020). Moreover, livestock farming significantly contributes to climate change through the release of methane, a potent greenhouse gas emitted during digestion (Rojas-Downing, Nejadhashemi, Harrigan & Woznicki, 2017; McMichael, Powles, Butler & Uauy, 2007). This sector alone is responsible for approximately 15% of global greenhouse gas emissions, surpassing emissions from all transportation vehicles combined (Gustin, 2019).

In addition to their substantial dietary needs, livestock also generate copious amounts of waste, posing environmental and public health concerns (Koneswaran & Nierenberg, 2008). For instance, a single cow can produce up to 35kg of solid waste daily, resulting in over a million kilograms of waste annually from a herd of 100 cows (Koneswaran & Nierenberg, 2008). While animal manure can serve as a fertiliser, the sheer volume produced exceeds practical usage and often leads to water pollution and ecosystem degradation (Rojas-Downing et al., 2017; Schneider et al., 2011; Caldas et al., 2007). Manure run-off further exacerbates environmental issues, contributing to hypoxia in downstream water bodies (Rojas-Downing et al., 2017). Additionally, livestock farming places significant strain on water resources, with animals requiring substantial quantities of water for hydration and husbandry (Gomez-Zavaglia, Mejuto & Simal-Gandara, 2020; Horrigan, Lawrence & Walker, 2002).

The intensive water usage associated with livestock agriculture exacerbates global water scarcity, particularly in regions already facing water shortages (Tudi, Ruan, Wang, Lyu, Sadler, Connell, Chu & Phung, 2021). As climate change exacerbates drought conditions, it is imperative to promote water conservation practices and explore alternative agricultural methods to ensure long-term sustainability (Rohr, Barrett, Civitello, Craft, Delius, DeLeo, Hudson, Jouanard, Nguyen, Ostfeld & Remais, 2019). The depletion of finite resources in food production processes underscores the urgent need for sustainable practices to mitigate future resource shortages and environmental degradation.

Following the cultivation phase, crops undergo harvesting, a process demanding significant quantities of water, energy, and nutrients (Tudi et al., 2021; Zurek et al., 2022). However, this activity often leads to soil degradation, erosion, and adverse effects on local ecosystems, particularly in monoculture systems where a single crop is repetitively grown on the same land, exacerbating desertification (Chen, 2022; Fukase & Martin, 2020; Asioli et al., 2017). To mitigate soil depletion, agricultural practices should prioritise crop rotation or intercropping to enhance soil health and biodiversity. Monoculture practices are largely driven by the demand for meat products, which rely on feed derived from a limited range of crops (Rohr et al., 2019).

2.2.3.2 Processing Impact

The rise of ultra-processed foods, characterised by their convenience and extended shelf life, represents a significant trend in modern dietary patterns (Leite et al., 2022). These foods, including packaged snacks, soft drinks, and instant meals, undergo extensive industrial

processing, often containing additives such as vegetable oils and cocoa, contributing to biodiversity loss (March, 2022). Moreover, the production of processed foods necessitates the use of energy-intensive manufacturing processes and the addition of various chemical additives for flavour enhancement and preservation (Antonelli et al., 2020). Consequently, the proliferation of processed food products exacerbates environmental pollution, with individual packaging contributing to mounting waste accumulation in landfills, posing long-term environmental hazards (Wang, Yuan & Tang, 2021).

2.2.3.3 Distribution Impact

The unsustainability of the food structure is contributed by another factor, transporting food. Industrial (monoculture) agriculture involves little quantities of people operating equipment in order to harvest and process the crops, to be transported for selling (Amiruddib & Modding, 2021). Internationally, the workers in the farming industry are usually paid very little, with limited rights and forced to work in states that are dangerous and harmful to their wellbeing (Chen et al., 2020). Furthermore, developing countries that produce and harvest the crops often also transport it to wealthier, developed countries such as America and Canada (Gomez-Zavaglia, Mejuto & Simal-Gandara, 2020). Besides the obvious social inequalities, the distribution of food across nations uses up fossil fuels heavily that releases more emissions into the air. Therefore, further emphasising the significance of local, good quality food structures (Tudi et al., 2021; Balogh & Jámbor, 2020).

2.2.3.4 Consumption and Waste Impact

As the food system progresses from production to consumption, the environment continues to be impacted by food waste. Food waste refers to both uneaten food and discarded scraps. It occurs at every stage of the production process, from crop cultivation and transportation to retail screening and final consumption (Chen et al., 2020). Each year, approximately 1.3 billion tons—about one-third of all food produced—are wasted, amounting to an estimated $1 trillion in losses. Developed regions, such as Europe and North America, are responsible for 10 times more food waste (95–115 kg per capita) than developing nations like Southern Asia and Sub-Saharan Africa (6–11 kg per capita). Notably, nearly 40% of food waste originates from retail levels in developed nations, often due to products failing to meet high standards (Akbari et al., 2022). Furthermore, food waste contributes significantly to climate change, emitting 3.3 billion tons of carbon dioxide annually. As the global population continues to grow and demand for

food increases, it is crucial that food waste be repurposed and managed effectively (Wang, Yuan, & Tang, 2021).

As food consumption increases significantly, food production is becoming increasingly unsustainable (Argent, 2022; Leite et al., 2022). The environment is being degraded in various ways, including deforestation, pollution, the excessive production of waste, and the heavy reliance on non-renewable energy sources (Brown, 2022). However, new advancements in sustainable agriculture are continually being developed, focusing on investing in natural ecosystems, enhancing soil health, promoting biodiversity, and ensuring clean waterways (Liu, Tan, Chen, Pan, Penuelas, Zhang & Ge, 2022). It is essential to adopt sustainable practices to mitigate further environmental damage (Springmann et al., 2021; Prashar & Shah, 2016; Horrigan, Lawrence & Walker, 2002).

The food industry undeniably has significant direct impacts on the environment, with most of the research highlighting a predominantly negative relationship. Industrial farming leads to extensive environmental degradation, including soil depletion, various forms of pollution, and increased carbon dioxide emissions, which contribute to eutrophication (Zurek et al., 2022; Nakat & Bou-Mitri, 2021). Additionally, food production and consumption processes are inefficient, as studies suggest that between 30% and 50% of food intended for human consumption is wasted at different stages of the food system. This inefficiency not only results in resource loss but also reflects broader systemic problems. According to the Food and Agriculture Organization of the United Nations, such inefficiencies cost global economies an estimated $1-2 trillion annually (Tsegaye, Jaiswal, & Jaiswal, 2021).

2.3 An Overview of the Meat Industry

In the industrialised world, the meat industry stands as the largest segment within the food sector, serving as a conduit for livestock from farms to processing plants for eventual consumption and display (Troy & Kerry, 2010). This expansive industry encompasses various stakeholders, including agricultural workers, dealers, delivery services, butchers, and supermarkets. Despite the widespread consumption of meat, consumers often lack transparency regarding the specific animal parts utilised in processed meat products (Bonny, Gardner, Pethick & Hocquette, 2015). However, the economic magnitude of this industry, estimated at around $900 billion, comes at a significant cost to animal welfare, environmental sustainability, and public health (Statista, 2022; Eisnitz, 2009).

While meat offers essential nutrients that may be challenging to obtain from other food sources, the industrialised processes involved in meat production pose considerable ethical and environmental concerns (Albrecht & Mauch, 2021; Geiker, Bertram, Mejborn, Dragsted, Kristensen, Carrascal, Bügel & Astrup, 2021). Industrial animal farming often involves confining animals within cramped spaces in intensive factory settings, where they are subjected to unnatural reproductive practices and mistreatment by farm workers (Hedberg, 2022; Hribar, 2010). These animals often endure unsanitary living conditions, leading to disease outbreaks and necessitating regular medication with antibiotics and other drugs to stimulate growth and mitigate economic losses (Hennessy, Zhang & Bai, 2019; Mallin & Cahoon, 2003; Bonny et al., 2015).

Despite the extensive processes involved in meat consumption and the suffering endured by animals, the adverse impacts on human health remain substantial (Chen, 2022). Processing facilities for meat often house workers in close proximity to animals, facilitating the transmission of foodborne illnesses and viruses such as Swine Influenza and COVID-19 (Handan-Nader & Ho, 2019; Cassuto, 2014; Eisnitz, 2009; Argent, 2022). Furthermore, improper drug administration on farms, including the overuse of antibiotics, contributes to the emergence of drug-resistant bacteria, or superbugs, posing a grave threat to human health (Brown, 2022; Hedberg, 2022). Subsequently, drug overuse is becoming a large-scale issue, as 75% of the meat sold in American supermarkets comprises superbugs (CDC, 2019). Superbugs are strains of micro-organisms that are resistant to medicine used to treat infections caused and most antibiotics (Sharma, Srivastava, Gosvami & Jain, 2021). Statistics show that every year in the US, about 35 thousand people die and 2.8 million get sick from superbugs. These cases will increase globally if drugs are continuously misused in animal farming (CDC, 2019). People get sick and infected from the diseases and saturated fats found in animal products (such as meat and dairy). The consumption of processed meat has been linked to various long-term health issues, including cancer, dementia, and diabetes (Son, Miranda & Bell, 2021; Moses & Tomaselli, 2017).

In addition to its adverse health implications, the meat industry also exerts significant environmental pressures, including water pollution, ecosystem degradation, and the spread of infectious diseases (Troy & Kerry, 2010). With its substantial economic influence, the meat industry holds sway over national and international policies, driving mass production and

marketing efforts. As meat consumption continues to grow globally, it is imperative to examine its impact on both local and international scales.

2.3.1 International State of Meat Industry

Global meat consumption has risen significantly, increasing from 45 million tonnes in the second half of the 20th century to nearly 300 million tonnes today. This figure is expected to double by 2025 unless significant changes are made (Slowfood, 2022; Statista, 2022). In developed nations, the average meat consumption per person is approximately 80 kilograms per year (Slowfood, 2022). However, excessive meat consumption is not limited to developed countries such as those in Europe and North America; rapid growth is also occurring in many developing nations. Countries like Brazil, India, and China, which are part of the Newly Emerging Economies (NEEs), are experiencing rising incomes, which in turn is driving an increase in meat consumption. Over the past five decades, meat consumption in these nations has surged approximately 15-fold (Chen, 2022). This shift is causing concerns, as more land is needed to grow vegetation or grains to support the expanded meat production required to meet the growing demand of these countries. The current Western consumption model is unsustainable, as a typical meat consumer requires approximately 2.5 times more land than a vegetarian (Chen, 2022; Albrecht & Mauch, 2021). If the meat consumption patterns of NEEs continue at this pace, there may soon be insufficient land to support the production of livestock necessary to meet these needs (Beacom, Bogue, & Repar, 2021).

Concentrated Animal Feeding Operations (CAFOs) have increasingly become the dominant method of livestock production in the US and other parts of the world, driven by the rising demand for inexpensive meat. CAFOs produce meat through intensive animal feeding systems, often involving the confinement of over 1,000 animals for up to 45 days (Handan-Nader & Ho, 2019; Hribar, 2010). However, the expansion and intensification of CAFOs have raised significant concerns regarding public health, animal welfare, and environmental sustainability. From a public health perspective, the industrial production of meat has been linked to the emergence of zoonotic diseases and antibiotic resistance. Furthermore, the overconsumption of meat contributes to chronic illnesses and foodborne illnesses (Son, Miranda, & Bell, 2021; Moses & Tomaselli, 2017).

In terms of animal welfare, the confined spaces in CAFOs cause both physical and mental suffering, as these environments fail to meet basic welfare requirements, such as providing adequate space for movement, the ability to engage in natural behaviours like nesting, and the prevention of pain and fear (Gustin, 2019; Handan-Nader & Ho, 2019). Additionally, meat production and consumption have severe environmental impacts, contributing to biodiversity loss, nutrient pollution, and the emission of greenhouse gases. In response to these challenges, the OECD-FAO (2020) has recommended exploring alternative methods of meat production, including the development of meat substitutes.

2.3.2 Local State of Meat Industry (African & South African)

As the global population continues to expand, variations in growth rates are observed across different continents and countries. For instance, Africa experiences an annual population increase of 2.5%, with projections indicating a population of 2.5 billion by 2050. This rapid growth exacerbates food scarcity challenges, posing significant hurdles in ensuring a secure food supply for all individuals (Szejda et al., 2021; OECD-FAO, 2020). Despite these challenges, developing countries like those in Africa are anticipated to witness continuous growth in Gross Domestic Product (GDP) per capita, enabling a growing number of Africans to afford meat consumption for the first time (OECD-FAO, 2021). Projections suggest a substantial increase in poultry consumption by approximately 211% and in beef and pork consumption by 200% between 2015 and 2050 (Szejda et al., 2021; OECD-FAO, 2021).

The rapid growth in meat consumption in Africa presents attractive opportunities for investors; however, numerous challenges must be addressed to ensure effective production and sustainable development (Havenga & Gray, 2022; Clarck, 2018). The highest meat consumption rate in Africa is observed in SA, where each South African typically consumes around 60 to 70 kilograms of meat per year (Ndlela & Murcott, 2021). Despite the implementation of commercial agriculture methods, the current production rate in SA fails to meet the high levels of meat consumption. This increased demand for meat production exacerbates environmental harms, as mentioned earlier, and further strains the country's economic development, posing long-term challenges (Szejda, Urbanovich & Wilks, 2020; Vinnari & Vinnari, 2014). Furthermore, a significant portion of SA's agricultural landscape is dedicated to crops that require substantial water resources, with approximately 60% of the national water supply being utilised for irrigation. However, a considerable portion of these

crops, which could contribute to human consumption, are instead diverted to feed livestock (Ho, 2021; Ndlela & Murcott, 2021).

The intensification of agriculture for meat consumption and production in SA exacerbates water scarcity issues, particularly in the face of climate change-induced periodic droughts. Beyond environmental concerns, this trend also impacts the health of South Africans, with high rates of heart diseases and adult obesity reaching 28% (OECD-FAO, 2021). To address these multifaceted challenges, it is imperative to implement solutions that focus on restructuring food systems to tackle issues of food insecurity, health, and sustainability. These efforts align with the aspirations outlined by the African Union (AU) and the National Development Plan (NDP).

2.4 Transitioning Towards Sustainable Food Consumption

Dietary patterns encompass the variety and quantity of food consumed by individuals (Chen, 2022; Stevens, 2021; Weinrich, 2019). Despite significant advances in nutritional science over the past two decades, dietary patterns have exhibited negative changes globally, impacting both the environment and public health concerns (Szenderák, Fróna & Rákos, 2022; Springmann et al., 2021). These adverse dietary patterns pose a challenge to achieving the Sustainable Development Goals (SDGs) due to their significant contribution to environmental degradation and global mortality rates (Liu et al., 2022).

Recent shifts in consumer preferences have exerted considerable influence on the food system, necessitating swift adaptations in both production and consumption stages (Gençdağ, Görgüç & Yılmaz, 2021; Grobe, 2020; Vasileska & Rechkoska, 2012). Factors driving these changes include a growing demand for regional and plant-based diets, increased awareness of "Clean Label" products, and efforts to reduce waste (Ang, Pontes & France, 2023). Clean Label products promote healthier lifestyles by aligning with consumer preferences for transparency, sustainability, and nutrition, emphasising simplicity, minimal processing, and natural ingredients (Ahmad, Qureshi, Akbar, Siddiqui, Gani, Mushtaq, Hassan & Dhull, 2022; Asioli et al., 2017). Moreover, sustainability trends in the food industry have been further reinforced by the COVID-19 pandemic, alongside the rise of eCommerce-linked freight services (Nakat & Bou-Mitri, 2021). Consequently, retailers are confronted with the challenge of engaging and retaining consumers in a multichannel environment (Lerro, Raimondo, Stanco, Nazzaro & Marotta, 2019; Joung, Goh, Huffman, Yuan & Surles, 2015; Iannario, Manisera, Piccolo & Zuccolotto, 2012).

The shift toward plant-based consumption is a direct response to the pressing environmental and public health challenges we face. Unlike animal-based products, plant-based foods have significantly lower environmental impacts, contributing far less to greenhouse gas emissions, water consumption, and deforestation (Springmann et al., 2021). As a result, plant-based diets are critical to reducing the global ecological footprint and achieving sustainability goals. The growing consumer awareness of the environmental consequences of food choices underscores the urgency of adopting plant-based alternatives as a necessary step toward sustainable food systems. In addition to environmental concerns, plant-based diets offer substantial public health benefits. These diets are associated with lower risks of chronic diseases such as cardiovascular diseases, diabetes, and cancer (Chen, 2022; WHO, 2022). Importantly, plant-based foods also have a lower environmental footprint, making them a dual-benefit solution—improving both health and sustainability (Canton, 2021).

The rising demand for PBPs, particularly among younger generations, illustrates a significant market shift. Consumers increasingly seek products that reflect their values of transparency, sustainability, and ethical sourcing (Rosenfeld, Rothgerber & Tomiyama, 2020). This shift is evidenced by the growing popularity of plant-based meat alternatives, dairy-free milk, and vegan meats, indicating the viability of these products in the global market. However, challenges remain, including issues with taste preferences, cost, and accessibility, which highlight the need for targeted research on the drivers and barriers to PBP adoption.

Investigating PBP consumption is not only timely but also crucial in supporting a sustainable food system that aligns with both global health goals and environmental sustainability targets. The increasing body of research and consumer demand suggests that plant-based diets are poised to play a central role in addressing the complex, interconnected challenges of today's global food system.

The Earth's resource capacity is being stretched to its limits, exacerbated by the escalating consumption rates of current resources. This trend has led to a widening gap between the affluent and the impoverished segments of society, accompanied by heightened pollution and waste levels. Consequently, various aspects such as empowerment, health, equity, and education are adversely affected (Gençdağ, Görgüç & Yılmaz, 2021; Sabaté & Soret, 2014). In response to these challenges, there has been a growing demand for sustainable consumption practices among individuals, coupled with increased Corporate Social Responsibility (CSR)

requirements within organisations. Accordingly, sustainability has become a prominent theme in consumption research, reflecting the imperative to address environmental and social concerns (Hemler & Hu, 2019; Vinnari & Vinnari, 2014).

The concept of sustainability in agriculture pertains to farming practices that aim to preserve natural resources while minimising environmental impact in both plant and animal production (UNEP, 2022; Ghosh & Banerjee, 2022). Environmentally Sustainable Food Consumption (ESFC) aligns with this ethos by prioritising the efficient use of resources to meet current needs while safeguarding the needs of future generations. ESFC strategies may involve opting for seasonal produce and favouring organically or locally produced goods, although these practices may not be feasible in all cases (Xiao & Li, 2011; Grobe, 2020; Fuchs & Lorek, 2005). Furthermore, promoting more environmentally sustainable behaviours includes reducing meat consumption and exploring alternatives such as plant-based or insect-based products (Faber et al., 2022). While high in sugar and processed items may have adverse effects on health, they often have a higher environmental impact due to their production and processing methods. (Jallinoja, Niva & Latvala, 2016; Sabaté & Soret, 2014).

The consumption of food transcends mere sustenance, with human culture playing a pivotal role in shaping food choices, habits, and preferences. Food habits are deeply entrenched within individuals' lifestyles and socio-cultural environments, thereby rendering them resistant to change (Laff & Wendy, 2022; Pappas & McKelvie, 2022; White, 2022). However, food companies and marketers wield significant influence over dietary norms and behaviours, further complicating decision-making processes related to food choices (Ghosh & Banerjee, 2022; Vainio, 2019). The decision-making process surrounding food choices is multifaceted, influenced by numerous elements such as affective, environmental, cognitive, and social influences. These contextual factors often pose challenges to efforts aimed at promoting ESFC (Klemm, 2021; Beverland, 2014).

Promoting healthy diets is paramount for nations and individuals alike, as it contributes to overall nutrition and good health. A healthy diet encompasses the consumption of diverse foods while minimising intake of sugar, sodium, and saturated fats. Such dietary practices have been shown to prevent numerous chronic illnesses, including diabetes, cancer, and heart diseases (Chen, 2022; World Health Organisation, 2022). Moreover, foods associated with better health outcomes often have minimal environmental impacts. This suggests that dietary changes aimed

at reducing noncommunicable diseases (NCDs) can also contribute to achieving environmental sustainability goals (Canton, 2021). For instance, plant-based foods such as fruits, vegetables, legumes, and fish are known to be beneficial for health and have low environmental footprints, with fish exhibiting a lower impact compared to red and processed meats. Conversely, the consumption of processed and unprocessed meats is linked to the highest negative environmental effects, as well as increased risk of various diseases (Liu et al., 2022; World Health Organisation, 2021).

The concept of sustainable eating, which involves making food choices that are beneficial to both our bodies and the environment, is gaining increasing importance worldwide. It is imperative for nations across the globe to raise awareness about sustainable eating and encourage individuals to adapt their diets accordingly (Beacom, Bogue & Repar, 2021; De Boer, Schösler & Aiking, 2014). This emphasis on sustainable eating is driven by the need to sustainably meet the basic dietary needs of a growing global population, which is placing significant strain on our finite resources. In accordance with the EAT-Lancet Commission (2019), one approach to addressing this challenge is to promote more plant-based food consumption on a global scale. By adopting a sustainable and nutritious diet that includes a greater proportion of plant-based foods, it is believed that the nutritional needs of the expanding population can be met in a sustainable manner. This shift towards sustainable eating habits holds promise for both human health and environmental sustainability (Allen & Locasale, 2021).

2.5 An Overview of the Plant-Based Industry

Plant-based diets, which include a broad spectrum of foods derived from plants, are gaining significant attention globally. These diets emphasise foods like fruits, vegetables, legumes, and grains, while minimizing or excluding animal-based products such as meat, dairy, and eggs (Bogue & Repar, 2021; Vainio, Irz & Hartikainen, 2018). This shift is particularly relevant in light of the environmental and health crises facing the world today, making it a timely area for further research. These PBPs can be categorised into two main groups: foundational plant-based foods and plant-based alternatives.

- Foundational Plant-Based Foods

  The primary segments of plant-based food products that form part of the foundation for a plant-based diet fall under this category. It includes the following: fruits and vegetables,

nuts and seeds, grains, and cereals, as well as legumes. Figure 2.3 summarises the foundational products.

Figure 2.3: Foundational Plant-Based Foods



Source: Davison (2023)

- Plant-Based Food Alternatives

  Plant-based alternatives are items crafted to replicate conventional animal-based products, yet exclusively comprise of plant-derived ingredients (Faber, et al., 2022; Gençdağ, Görgüç & Yılmaz, 2021). They serve as substitutes for individuals aiming to transition away from animal-derived products in their dietary choices. While plant-based meat is a relatively new type of food in this category, it is completely made from plants and replicates conventional meat through sensory experiences. (Ghosh & Banerjee, 2022; Jallinoja, Niva & Latvala, 2016). Furthermore, the market is diversifying, from meat alternatives to other plant-based alternatives such as spreads, milk, and egg substitutes (Takefuji, 2021; Grobe, 2020). Various non-animal substitutes created to reflect traditional meat and dairy products are known as plant-based alternatives in the spectrum of food (refer to Figure 2.4). This segment includes plant-based dairy, plant-based protein, meat, and egg substitutes made from products that fall within the foundational PBP's segment, in the figure above.

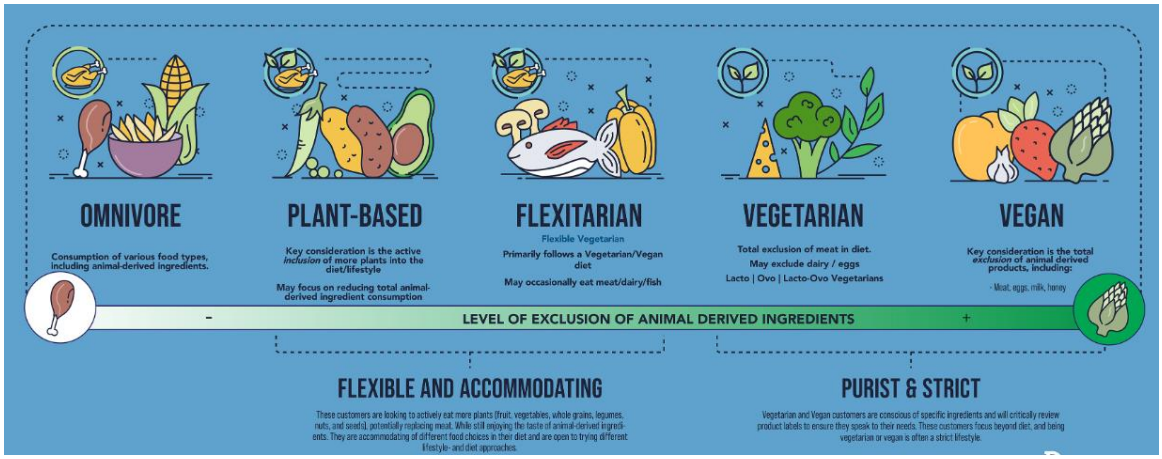
Various dietary patterns for plant-based eaters can be identified from the available options, encompassing a broad spectrum of consumption habits. These include, but are not limited to, veganism and different forms of vegetarianism, such as lacto-vegetarian, lacto-ovo-vegetarian, ovo-vegetarian, pesco-vegetarian, and semi-vegetarian diets (Chen, 2022; Allen & Locasale, 2021). Some consumers are noted for consuming animal-derived products sparingly, while others prefer to exclude them entirely from their diet (Ghosh & Banerjee, 2022; Baldwin, 2011). Table 2.1 and Figure 2.4 provide a summary and visual representation of these different types of plant-based diets.

Table 2.1: Types of Plant-Based Diets

Diet	Description
1. Vegan	Excludes ALL animal products.
2. Lacto-vegetarian	Exclude: meat, fish, poultry, and eggs Include: dairy
3. Lacto-ovo vegetarian	Exclude: meat, fish, and poultry Include: dairy and eggs
4. Ovo-vegetarian	Exclude: meat, poultry, fish, and dairy Include: eggs
5. Pesco-vegetarian (or pescatarian)	Exclude: meat Include: fish, eggs, and dairy
6. Semi-vegetarian (or flexitarian)	Mostly PBPs while allowing meat and other animal products in moderation.

Source: Authors own construct (2022)

Figure 2.4: Types of Plant-Based Diets



Source: Havenga and Gray (2022)

2.5.1 Growing Popularity and Market Demand for Plant-Based Products

Market demand for plant-based foods is rapidly expanding as consumer preferences align with growing concerns about health, sustainability, and animal welfare. The rise of flexitarians, with individuals reducing meat consumption while not necessarily adopting a fully plant-based lifestyle, demonstrates the broad appeal of PBPs (Rosenfeld, Rothgerber & Tomiyama, 2020). In the US, around one-third of the population identifies as flexitarian, highlighting a major societal shift towards reduced animal product consumption (Allen & Locasale, 2021; Gervis, 2018). This trend indicates an ongoing transformation of dietary patterns, which underscores the importance of investigating PBP consumption as a major element of this dietary evolution.

2.5.2 Environmental Imperative: The Need for Sustainable Food Systems

The environmental impact of animal agriculture including its contribution to greenhouse gas emissions, land use, water consumption, and deforestation has prompted urgent calls for dietary shifts. Plant-based foods, by contrast, typically have a lower environmental footprint, requiring fewer resources to produce (Springmann et al., 2021). Thus, a shift toward plant-based diets has been identified as a key strategy to reduce the global ecological footprint and help mitigate climate change (Azman, Muhammad, Ramli & Bakar, 2023). Given the increasing awareness of these environmental challenges, PBP consumption is positioned at the forefront of efforts to transition to more sustainable food systems. Moreover, as the global population grows, adopting sustainable eating habits is critical to meeting the nutritional needs of billions without further depleting the planet's finite resources (EAT-Lancet Commission, 2019). Thus, researching how and why people are shifting toward plant-based diets and the role of PBPs in this transition is crucial for advancing sustainability research.

2.5.3 Health Benefits of Plant-Based Diets

The health benefits of plant-based diets are well-documented, including a lower risk of heart disease, diabetes, and certain cancers (Chen, 2022; WHO, 2022). As more consumers recognize the preventive health benefits of plant-based eating, demand for PBPs continues to rise. In fact, a global survey found that over 50% of respondents cited health reasons as their motivation for adopting a vegan diet, while 64% were motivated by sustainability concerns (Ang, 2022). The growing body of evidence linking plant-based diets to better health outcomes suggests that PBP consumption is not only beneficial for individuals but could also reduce the global burden of chronic diseases, thus making it a timely area of research. Additionally, the increasing availability of plant-based food alternatives, such as plant-based meats, dairy-free products, and

egg substitutes, makes transitioning to a plant-based diet more accessible and practical for consumers (Takefuji, 2021; Grobe, 2020). This, in turn, creates an opportunity for research into consumer preferences, including factors (example: taste, price, health benefits) that drive the adoption of these products. Investigating PBP consumption patterns is therefore crucial for understanding how to further promote the health benefits of plant-based eating.

2.5.4 Ethical Considerations: Animal Welfare and Consumer Consciousness

As consumers become more ethically conscious, the demand for PBPs is also driven by concerns about animal welfare (Vinnari & Vinnari, 2014). For many, adopting plant-based diets represents a commitment to reducing animal suffering in the food industry. Ethical motivations are now a major factor behind the growth of the plant-based food sector, with many people seeking to avoid products that rely on animal exploitation. The rise of plant-based alternatives to meat and dairy products, such as plant-based burgers and milk, further reflects this shift towards more compassionate eating practices (Gençdağ et al., 2021).

In this context, studying the ethical considerations surrounding plant-based food choices can provide valuable insights into how consumer values influence purchasing behavior. As consumer demand for PBPs is increasingly motivated by ethical concerns, this area of investigation becomes increasingly relevant for researchers, policymakers, and food companies aiming to promote ethical consumption.

2.5.5 Market Opportunities and Consumer Preferences

The growth of the plant-based market presents numerous opportunities for food companies. As the market diversifies from meat substitutes to plant-based dairy, eggs, and even snacks (Faber et al., 2022). It is important to understand consumer preferences and the factors that drive purchasing decisions. Health, sustainability, and ethical considerations are now central to consumers' choices, with many prioritizing factors like high nutritional value, quality protein, and low sodium content when selecting PBPs (Jeske, Zannini & Arendt, 2018; Gençdağ et al., 2021).

In line with this, food labelling plays a crucial role in helping consumers identify plant-based options and make informed choices. Transparent labelling that clearly distinguishes PBPs from animal-derived ones ensures that consumers can easily select items that align with their dietary preferences and ethical values (Morrison, 2023; Albrecht & Mauch, 2021). Investigating how

consumers interact with product labels and how this influences their purchasing decisions is a promising avenue of research for understanding and supporting the growth of the PBP market.

2.5.6 The Role of Flexitarians and the Mainstreaming of Plant-Based Eating

The flexitarian diet which focuses on plant-based eating while allowing occasional consumption of meat and animal products has gained significant traction in recent years. Flexitarians now represent a substantial portion of the population, particularly in Western countries (Rosenfeld, Rothgerber & Tomiyama, 2020). This group exemplifies the shift towards reduced meat consumption, which has been made easier by the increasing availability and variety of plant-based food products. Research into the flexitarian trend is essential for understanding how plant-based eating can be adopted by the masses, even among those not fully committed to vegan or vegetarian diets (Derbyshire, 2017). As PBPs become more mainstream, the flexitarian movement offers an opportunity to study consumer motivations for partial dietary shifts, the barriers to complete dietary change, and how food companies can cater to this growing demographic.

Overall, the growing demand for PBPs, driven by health, environmental, and ethical concerns, makes the investigation of PBPs consumption a highly relevant and timely area of study. As consumers increasingly turn towards plant-based eating patterns, understanding the underlying motivations, preferences, and barriers to adoption will be crucial in supporting the transition towards more sustainable and health-conscious food systems. Given the increasing market opportunities, the potential health benefits, and the urgent need for sustainable food practices, research into plant-based consumption can significantly contribute to shaping the future of global food systems.

2.6 International State of Plant-Based Food Products

Efforts in new product development are underway to fully capitalise on the potential of PBPs as a solution within the global staple food system (Chen, 2022; Takefuji, 2021). This holistic approach considers the entire range of factors, including nutrition, sensory characteristics, and sustainability (Szejda et al., 2021; Faughnan, 2020; Milford et al., 2019; Vainio, 2019). Over the years, PBPs have steadily gained market share in many developed countries, such as the UK and the US, driven by the expansion of product ranges in leading retail outlets (Ahmad et al., 2022; Clark & Bogdan, 2019). In 2019, the US plant-based market reached $5 billion, with double-digit growth recorded annually within the plant-based food sector. According to the

2021 Bloomberg Intelligence (BI) report titled Plant-Based Foods Poised for Explosive Growth, the plant-based food market is projected to represent nearly eight percent of the total protein market by 2030, highlighting significant growth potential. This expansion of plant-based food options is driven by key industry players, such as Beyond Meat, who are partnering with food chains and restaurants to offer a wide variety of plant-based alternatives, thereby catering to the increasing global demand for PBPs (Szenderák, Fróna, & Rákos, 2022; Wickramasinghe et al., 2021).

Retailers are also embracing PBPs by integrating them into their product offerings in response to consumer demand (Tziva, Negro, Kalfagianni & Hekkert, 2020). For example, Tesco, the UK's largest grocery store, anticipates a 300% increase in PBP sales by 2025, while Unilever expects a fivefold increase in sales of plant-based meat and dairy compared to 2020 (Ang, 2022). As the market thrives, many plant-based organisations are experiencing remarkable growth, with companies like Beyond Meat achieving a billion-dollar IPO and others, like The Very Good Food Company, increasing revenue by 680% from 2020 to 2021 (Ang, 2022). Restaurants are also responding to consumer demand by offering plant-based options on their menus, catering to the dietary requirements of a more health-conscious and environmentally aware customer base (Beacom, Bogue & Repar, 2021; Stevens, 2021). Moreover, government support is further fuelling the growth of the plant-based food industry. For instance, the Canadian government has recently unveiled its intention to allocate $150 million towards the plant-based foods industry. This initiative involves a collaboration with Protein Industries Canada aimed at supporting research and development, fostering technological innovations, and enhancing food manufacturing processes for PBPs (Ngapo, 2022). This support from both private and public sectors underscores the rapid expansion of the plant-based industry, which is expected to continue its growth trajectory in the coming years.

Jennifer Bartashus, a senior analyst specializing in consumer staples at BI, argues that plant-based alternatives are not just a temporary trend, but a sustainable and expanding market phenomenon. Bartashus's scenario analysis suggests that if the growth in sales and adoption of meat and dairy substitutes continues, the plant-based food industry could become a firmly established and preferred option in both supermarkets and restaurants. The increasing global population, which puts pressure on resources, further contributes to the rise of plant-based food consumption. This is particularly evident in the Asia-Pacific region, where food supply constraints, coupled with a projected population of 4.6 billion by 2030, position the plant-based

protein market for substantial growth (Bloomberg Intelligence, 2021). The market for plant-based proteins in this region is expected to reach $64.8 billion by 2030, up from $13.5 billion in 2020 (Bloomberg Intelligence, 2021). Dairy products are projected to hold the largest share of the plant-based protein market in the Asia-Pacific region, accounting for 57% by 2030. In contrast, Europe and North America are anticipated to generate approximately $40 billion in sales, while Africa, the Middle East, and Latin America are expected to see sales of $8–9 billion (Bloomberg Intelligence, 2021).

The upward trajectory of PBPs is evident in the US market, with a 167.8% increase in sales of plant-based eggs in 2020, totalling $27 million (Ang, 2022). PB milk remains the most popular product, constituting 35% of the entire plant-based food market, although spreads and egg substitutes are also gaining traction (Aschemann-Witzel et al., 2021; Sethi, Tyagi & Anurag, 2016). The surge in plant-based milk sales is indicative of the potential for significant expansion in the alternative meat market, with projected growth from $4.2 billion to $74 billion by 2030, according to BI analysis (Bloomberg Intelligence, 2021). Technological advancements and innovations are also playing a role in the growing demand for food consumption. For example, another area of traction is around cell-cultured meat, which is lab grown from animal cells, making it biologically the same to traditional meat (Bryant & Barnett, 2020; Mohorčich & Reese, 2019). Many new companies such as MeaTech3D and UPSIDE Foods have gone public with cell-cultured meat. The innovations are poised to disrupt the conventional meat market, with cell-cultured meat expected to encompass nearly 40% of the global meat market by 2040 (Ang, 2022). Meat substitutes are anticipated to capture a considerable portion of the plant-based food market by 2030, reflecting changing consumer preferences towards healthier and more sustainable food choices.

The rapid growth of the plant-based food industry reflects changing consumer preferences and increasing awareness of health and sustainability benefits. With support from both private and public sectors, along with technological innovations, the plant-based food market is expected to continue its upward trajectory, offering consumers worldwide a viable and sustainable alternative to traditional animal-based products (Allen, 2020, Grobe, 2020; Corrin & Papadopoulos, 2017).

2.7 Local State of Plant-Based Food Products (African & South African)

Plant-based diets might seem new as plant-based dairy, meat and other substitutes receive an increased prominence in Western shops. However, in many countries across the world, minimal to no meat consumption has been the basis of traditional dishes (Mikulić, 2021; Clarck, 2018). Africa is the perfect example, where vegetarian food was common years before being colonised by the Europeans (Smith, n.d). For several African regions, small quantities of meat and fish formed part of the diet. However, meat consumption is rapidly increasing today. Many nations are witnessing a nutritional transition as the economy grows. The desire for items that may not have been as accessible during childhood could explain the increasing appetite of the middle class, including their higher consumption of meat (Ho., 2021; Hemler & Hu, 2019). In contrast, the largely unregulated food system is exploited by fast food establishments as a market for potential growth. This nutritional transition is a result of a change in dietary patterns that coincides with the development of the economy. This change entails the move away from fibre and grain rich diets towards more heavily processed meat – Western diets trends (Szejda, Urbanovich & Wilks, 2020).

Historically, the ancestors of Africans thrived with plant-based diets that consisted of mainly consumed organic foods with very minimal meat products, leading to longer lifespans compared to modern societies plagued by various illnesses (Clarck, 2018; Beverland, 2014). However, colonisation brought about significant changes in dietary patterns, access to land, and the introduction of processed foods, leading to the current rise in lifestyle-related diseases like type-2 diabetes. Despite the increase in meat consumption, there is also a growing interest in plant-based alternatives in Africa. This shift is driven by factors such as food insecurity, protein deficiency, and environmental concerns associated with meat production (Singh, 2020). The rapid population growth forecasted for the continent exacerbates these challenges, creating both a need and an opportunity for food producers and innovators to explore plant-based alternatives (Mikulić, 2021).

The highest rate of food insecurity is evident in the African region and the population is forecasted to rapidly increase over the next three decades, contributing to the existing problem. The highest protein deficiency around the global is the African continent, whilst a lack of nutrition is on the rise for children are lacking. Sources of protein gained from animals are currently not enough and is highly unlikely to keep up to meet the populations demand with the rapid increase rates (Hemler & Hu, 2019). As a result, there is both a need and an opportunity

in the market for food producers and innovation. Agricultural processors and producers are sparked with the opportunity nationally and in Africa with the market expansion for plant-based alternatives. For instance, an innovation hub in Rwanda collaborates with various local and foreign sectors (such as agriculture, universities, and financial services) to increase the availability of plant-based food products in Africa. Additionally, the first vegan burgers were introduced in Nigeria by the leading agricultural company, Chi Farms (Morrison, 2023).

The South African government has acknowledged that industrialisation and agriculture are causing irreversible climate damage (Havenga & Gray, 2022). According to the National Climate Change Response White Paper, human activities like clearing forests and unsustainable agricultural practices not only increase greenhouse gas emissions but also diminish the earth's natural capacity to absorb these gases. The evidence overwhelmingly supports the idea that current global warming is primarily caused by human activities associated with industrialisation and modern agriculture (Argent, 2022; Wickramasinghe et al., 2021). A recent report from the Intergovernmental Panel on Climate Change (IPCC) affirms that a worldwide shift towards a more plant-based diet is imperative if we hope to remain within the limits set by the Paris Agreement on global warming (Argent, 2022).

Plant-based meat is an innovation that fits within usual diet plans with similar sensory elements as meat but with a smaller environmental footprint (Mikulić, 2021; Szejda et al., 2021; Beverland, 2014). Thus, one of the best responses towards the increasing demand for meat worldwide can be the promotion of other protein sources that are accepted culturally, especially in developing countries like SA, as consumers are generally less willing to decrease their consumption of meat (Ho., 2021; Hemler & Hu, 2019; Clarck, 2018). Major retailers in SA, such as Woolworths, Checkers, Pick 'n Pay, and SPAR, have stocked both international and local brands of PBPs, making them more easily accessible (Ho., 2021; Szejda, Urbanovich & Wilks, 2020). Fry's, a well-known vegan meat brand from SA, is one of the brands that are widely available in the shops. They specialise in providing plant-based alternatives for a variety of traditional dishes.

Transitioning towards plant-based diets not only offers health benefits but also contributes to environmental sustainability. Embracing plant-based alternatives aligns with global initiatives such as the SDGs and national development plans, moving us closer to a more sustainable future (United Nations, 2022; African Union, 2022; National Development Plan, 2022).

2.6 Consumer Motivations and Barriers Towards Plant-Based Consumption

Consumer motivations and barriers play a pivotal role in shaping the adoption and consumption of plant-based foods. Understanding these factors is essential for developing effective strategies to promote plant-based diets and overcome obstacles to their adoption.

2.6.1 Consumer Motivations for Plant-Based Food Consumption

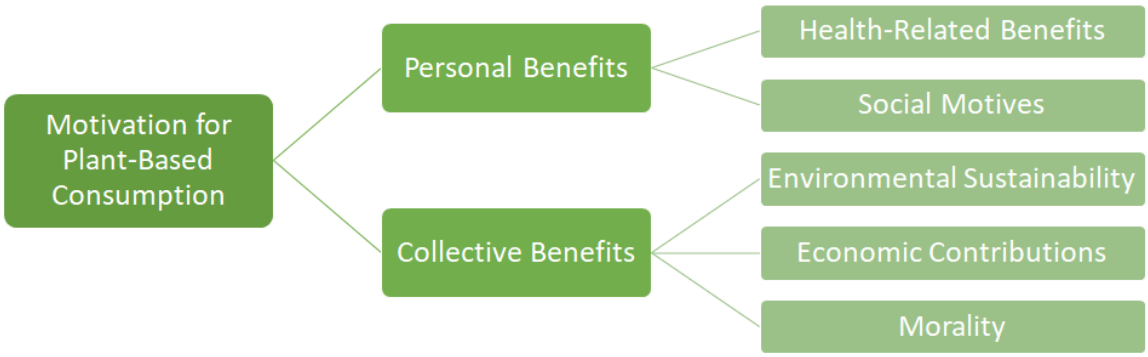
The motivation behind adopting plant-based diets and products is multifaceted, influenced not only by personal determinants such as values, dietary motives, knowledge, and attitudes, but also by sociocultural factors and social impacts, including social identities and standards (Allen & Locasale, 2021; Aschemann-Witzel et al., 2021). Changes in consumer dietary patterns are often driven by policy and media influences, ranging from large-scale religion-related policies and SDGs to smaller-scale media channels such as influencers and news outlets (Beacom, Bogue & Repar, 2021; Taufik, Verain, Bouwman & Reinders, 2019). Additionally, plant-based food consumption is affected by temporal and situational variables; for example, variations in meat consumption have been observed between home or solitary settings and social gatherings (Mikulić, 2021; Taufik et al., 2019). The COVID-19 pandemic has further influenced temporal and situational variables in consumers' PBPs purchasing behaviour due to health concerns and disruptions in meat supply chains (Lovell, 2020).

Motivations driving consumers to choose PBPs and adopt plant-based diets may stem from concerns about animal welfare or sensory aversions to certain meat products (Chen, 2022; Ploll, Petritz & Stern, 2020; Mohorčich & Reese, 2019). Research suggests that ethical or moral considerations, rather than economic factors like pricing, drive the motivation behind plant-based diets and products, leading to dietary changes aimed at reducing meat consumption or adopting flexitarian diets (Brown, 2022; Pohlmann, 2021; Wang, Yuan & Tang, 2021; Weinrich, 2019). Individuals are increasingly reducing meat consumption and embracing flexitarian diets due to a combination of health and ethical concerns (Gervis, 2018; Derbyshire, 2017).

The willingness of the younger demographic to change eating patterns and explore new or unfamiliar foods serves as a potential catalyst for expanding the plant-based market. Although motivations for food choices are diverse and complex, there is significant potential for transition under conducive conditions, incentives, and sufficient information (Wickramasinghe et al., 2021; Grobe, 2020). The benefits of plant-based diets and increased consumption of PBPs

encompass both personal and collective advantages, including health-related benefits, social motives, environmental sustainability, economic contributions, and mortality reduction (Ghosh & Banerjee, 2022; Rosenfeld, Rothgerber & Tomiyama, 2020). Figure 2.5 illustrates the benefits of plant-based food consumption.

Figure 2.5: Consumer Motivations For Plant-Based Consumption



Source: Authors own construct (2022)

2.6.1.1 Personal Benefits

Any reason that encourages, betters or results in personal advantages for an individual or their immediate family's well-being are referred to as personal benefits (Costello, Dare, Dontje & Straker, 2020). Determinants that fall under personal benefits includes both health-related benefits and social motives.

a. Health-Related Benefits

Plant-based food consumption is instrumental in promoting human health, impacting various health aspects positively through dietary shifts (Ahmad et al., 2022). Substituting PBPs for meat and dairy significantly reduces health risks due to their higher potassium content, which contributes to heart health by lowering blood pressure, viscosity, and lipid levels (Fuentes & Fuentes, 2022; Clark & Bogdan, 2019; Rosenfeld & Burrow, 2017). Furthermore, adopting a plant-based lifestyle can enhance mental health by addressing behavioural, emotional, and cognitive aspects through self-investment (Wirnitzer, Motevalli, Tanous, Gregori, Wirnitzer, Leitzmann, Hill, Rosemann & Knechtle, 2021).

The discussion surrounding the benefits of plant-based diets for sports performance and weight loss is not only prevalent in academic literature but also popularised by the media and influential athletes, as seen in documentaries like "The Game Changers" on Netflix (Hartwell et al., 2022; Vainio, 2019). Athletes are increasingly embracing plant-based diets for their potential to reduce inflammation and support improved recovery through higher antioxidant intake (Geissdoerfer, Vladimirova, & Evans, 2018). Moreover, individuals following plant-based diets tend to have lower body weights compared to those consuming meat-based diets, as evidenced by studies showing that PB diets promote calorie burning and reduce fat storage post-meal consumption (Anjani & Perdhana, 2021; Lovell, 2020). Additionally, plant-based consumption can address obesity concerns, particularly in countries like New Zealand, which ranks third among OECD countries for adult obesity rates. plant-based diets, rich in fibre and complex carbohydrates with low energy density, promote satiety and energy expenditure, fostering leaner body compositions and enhancing performance (Lacy-Nichols, Hattersley & Scrinis, 2021; Vainio, 2019). The high-fibre content of PBPs compared to processed foods also supports digestive health and sustained energy levels (Jaspan, 2023; Stevens, 2021).

Choosing a plant-based lifestyle can potentially yield significant cost savings in healthcare expenses, potentially amounting to billions of euros across Europe, owing to its beneficial effects on human well-being. In contrast, excess consumption of processed red meat was associated with approximately 2.4 million global deaths and corresponding healthcare expenses of €240 million in 2020 (Albrecht & Mauch, 2021; Beacom, Bogue & Repar, 2021). Thus, embracing a plant-based lifestyle is not only a healthy choice but also a cost-effective one, driven by health-related benefits as a self-motivational factor.

b. Social Motives

A form of sustainable behaviour by consuming plant-based foods can improve self-aesthetics and identity for individuals through both online and offline presence (Grobe, 2020; Beverland, 2014). Pro-environmental self-identities are openly extended through diets by vegans specifically. The perception of plant-based consumption is becoming more normalised and desired by society (Chen, 2022; Rosenfeld & Burrow, 2017). The immediate gratification from plant-based consumption results in a positive effect towards the society by promoting the trend to others (Fuentes & Fuentes, 2022; Geissdoerfer, Vladimirova, & Evans, 2018). An outline of social identity may be provided through the shared values and beliefs regarding animal-based consumption among vegans and vegetarians, which leads to common food lifestyles. This

characterised group often view of themselves in a specific manner and think of others in another manner, which outlines social representation (Nezlek & Forestell, 2020; Fox & Ward, 2008). Studies indicate that private and public considerations are different even through vegans and vegetarians frequently stick together. Public consideration for vegans and vegetarians is often low, as omnivores frequently exhibit negative attitudes toward them. However, the public tends to have a more positive view of others, while being particularly critical of omnivores (Lacy-Nichols, Hattersley & Scrinis, 2021; Takefuji, 2021; Rosenfeld & Burrow, 2017). These comparisons indicate the important requirement for a positive social identity.

Platforms where individuals express their identities through plant-based diets are on the rise, as these diets represent more than just a standardized dietary preference (Clark & Bogdan, 2019). Individuals' broader life philosophies can be reflected in their food choices, which can also guide their studies, activism, and career paths over time. These diets connect to personal and social identities by linking individuals to communities that share similar eating lifestyles (Azman et al., 2023; Plante et al., 2019; Rosenfeld, 2018). Overall, the social motive is to facilitate effective communication and promote the benefits of sustainable eating.

2.6.1.2 Collective Benefits

A collective benefit refers to the positive contributions or gains for more than one person at the expense of an individual doing something to gain the benefit. It is likely that someone can benefit from a collective performance without having to contribute towards it (Szenderák, Fróna & Rákos, 2022; Costello et al., 2020). Determinants that fall under collective benefits include environmental sustainability, economical contributions, and morality.

a. Environmental Sustainability

The benefits of plant-based diets extend beyond the improvement of human health, encompassing a reduction in the adverse environmental impact associated with high consumption of animal-derived foods such as meat and dairy products (Beacom, Bogue & Repar, 2021; Henchion et al., 2017; De Boer, Schösler & Aiking, 2014). Notably, both processed and unprocessed red meat pose significant health risks and contribute to negative environmental effects.

In comparison to animal-based foods, plant-based foods have a significantly lower greenhouse gas emission footprint (Mikulić, 2021; Vainio, 2019; Geissdoerfer, Vladimirova, & Evans,

2018). Transitioning to plant-based diets is crucial for reducing carbon emissions associated with the meat and dairy industries, preserving biodiversity, and minimising ecological footprints by reducing the need for grazing land and livestock rearing (Klemm, 2021; Vainio, Irz, & Hartikainen, 2018). To safeguard both human and planetary health, it is essential to decrease the consumption of both processed and unprocessed red meat. Notably, the environmental impact of every individual in the US refraining from meat and dairy consumption for just one day per week is equivalent to removing 7.6 million vehicles from the road (Nieves, 2022). Therefore, a more sustainable lifestyle can be achieved through conscious choices regarding consumption patterns (Jaspan, 2023; Chen, 2022).

b. Economic Contributions

According to economic research, most Western economies generate less than two percent of their GDP from the meat industry, and this figure could potentially be halved through the growth of the plant-based market. Shifting towards a plant-based diet could lead to the production of more food, which would help feed an additional 350 million people in the United States alone (Sabaté & Soret, 2014). A reduction in livestock production would naturally follow this surplus in food production. Moreover, by 2050, the global economy could face a loss of approximately $1.6 trillion if meat consumption continues to rise instead of transitioning to a more balanced, plant-based diet (Hargreaves, Raposo, Saraiva & Zandonadi, 2021; Eswaran, 2018).

The plant-based food industry's economic activity is rapidly growing worldwide, providing promising opportunities to promote plant-based lifestyles. This transition also enables governments to implement policies that motivate the agricultural industry to adapt. Ultimately, research indicates that plant-based economies will contribute to a healthier environment, improved public health and wellness, and reductions in hunger and non-communicable diseases (Stevens, 2021; Pais, Marques & Fuinhas, 2020; Shogren, Wood, Orts & Glenn, 2019).

c. Morality (poverty and animal welfare)

Instead of allocating land for human consumption, a significant portion of the world's agricultural land, approximately 68%, is dedicated to feeding livestock for meat production, which demands additional energy, water, and land resources compared to plant-based agriculture (Jaspan, 2023; Allen, 2020; Faughnan, 2020). Such resource allocation exacerbates global issues like hunger and food scarcity, with approximately 19 million tonnes of food

annually diverted to feed animals, food that could otherwise help alleviate hunger (Brouwer, D'Souza, Singaraju & Arango-Soler, 2022; Ho, 2021). Moreover, as the global population continues to grow, maintaining current consumption patterns will likely worsen food shortages and place increasing pressure on the environment (Brouwer et al., 2022; Ho, 2021).

Factory farming practices worldwide subject animals to considerable suffering on a large scale, a situation that could be significantly mitigated by increasing the consumption of plant-based meals and reducing the demand for meat (Takefuji, 2021; Wickramasinghe et al., 2021; Bryant & Barnett, 2020; Henchion et al., 2017). Animal welfare concerns are widely recognised as a crucial factor influencing the adoption of vegan diets. Consequently, a decrease in meat consumption would necessitate a reduction in animal breeding rates, thereby positively impacting environmental sustainability by conserving resources and reducing carbon emissions (Gençdağ, Görgüç & Yılmaz, 2021; McManus, 2021; Grobe, 2020).

2.6.2 Consumer Barriers Against Plant-Based Consumption

Despite all the motivations and benefits driving the consumption of PBPs, it is still a lifestyle that has not been wieldy adopted and accepted yet. The main factors hindering plant-based consumption are as follows (refer to Figure 2.6): enjoyable consumption routines, health concerns, unfamiliarity, product availability, social constrains, and financial challenges.

Figure 2.6: Consumer Barriers Against Plant-Based Consumption



Source: Authors own construct (2022)

a. Enjoyable Consumption Routines

Meat consumption constitutes a significant aspect of individuals' daily dietary habits worldwide, with people expressing a strong preference for its rich flavour and high nutritional content (Pohjolainen, Vinnari & Jokinen, 2015). Extensive research underscores the entrenched commitment associated with meat consumption, as individuals often struggle to relinquish meat due to a reluctance to modify established dietary patterns and social norms (Allen & Locasale, 2021; Grobe, 2020; Clark & Bogdan, 2019). Indeed, in many societies, meat consumption is deeply ingrained within cultural and traditional practices. Moreover, sensory attributes play a crucial role in shaping preferences, with PBPs often perceived as less appealing compared to meat products (Markowski & Roxburgh, 2019).

b. Health Concerns

The high nutritional and protein content linked to meat consumption is a concern when considering consuming more PBPs or transitioning to a plant-based diet (Chen, 2022; Gomez-Zavaglia, Mejuto & Simal-Gandara, 2020). Even though there are much research evidence that show no significant difference between the protein content of animal and plant diets, rejectors of plant-based diets still argues it as a risk linked to their health (Graça, Godinho & Truninger, 2019; Reipurth, Hørby, Gregersen, Bonke, & Cueto, 2019; Pohjolainen, Vinnari & Jokinen, 2015).

Some studies indicate that out of different household types, “families with kids” deem meat necessarily, for nutritional reasons. Older age groups and people with lower education seem uninterested in transitioning towards more PBPs because of the nutrition attributes (Fehér, Gazdecki, Véha, Szakály & Szakály, 2020; Corrin & Papadopoulos, 2017; Lea, Crawford & Worsley, 2006). Furthermore, a study was conducted on young women to collate their health status between omnivores and vegetarians. The results showed that vegetarians were more open to trying unusual new things; however, at their own discretion, they reported lower levels of mental health and a greater vulnerability to depression (Pohjolainen, Vinnari & Jokinen, 2015). (Pohjolainen, Vinnari & Jokinen, 2015).

c. Unfamiliarity and Lack of Knowledge

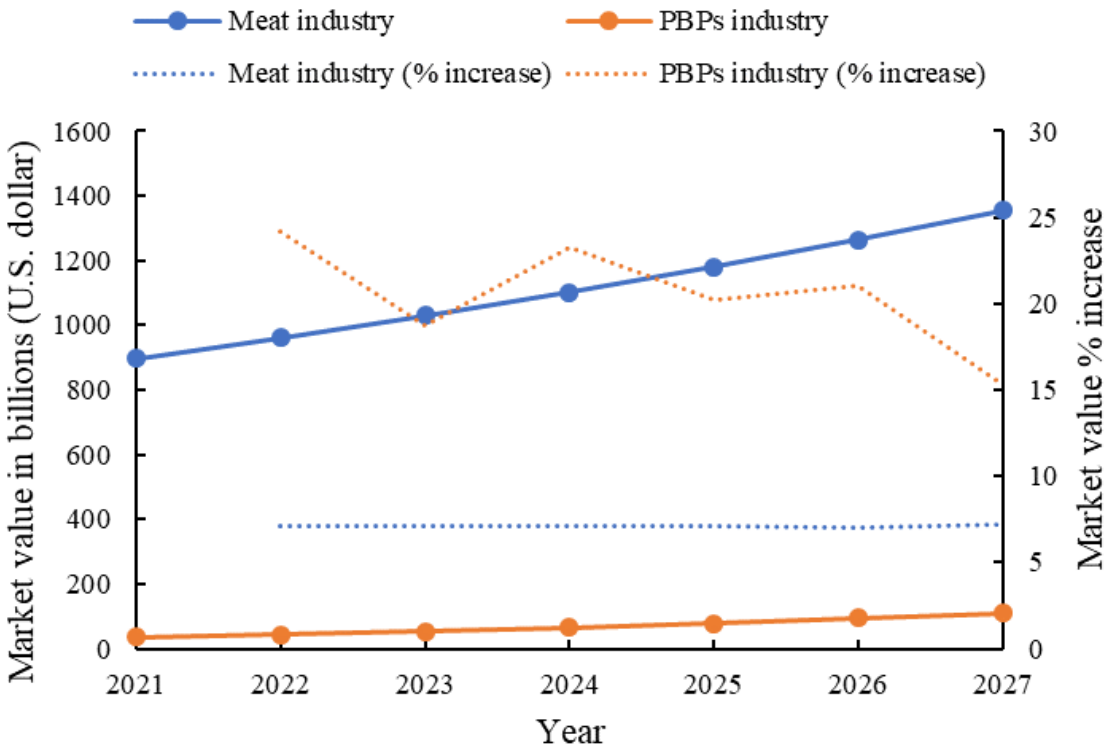
Individuals that are planning to or have reduced their consumption of meat find it difficult to prepare meals because they feel like they do not know how to and what to prepare (Ahmad et al., 2022). The information around the dishes that can be prepared, and the ingredients requires

research (Perez-Cueto, Rini, Faber, Rasmussen, Bechtold, Schouteten & De Steur, 2022). Many people feel like it requires too much effort to do the research and try out something different. They are unfamiliar with the different types of plant-based options that is suitable to replace meat (Reipurth et al., 2019; Niva, Vainio & Jallinoja, 2017; Lea & Worsley, 2003). Moreover, restaurants and supermarkets provide little to limited options available, causing the diet to become boring easily (Schneider et al., 2011). There is a lack of promotion and advertisements around PBPs, people are unaware of the exceeded consumption benefits, do not know where to find the products or struggle to find them (Markowski & Roxburgh, 2019).

d. Product Availability

Based on recent market data and projected trends, there is a notable increase in the availability of PBPs globally (Wunsch, 2021). However, in comparison to the meat industry market, the availability of PBPs remains significantly lower, with a substantial disparity in market value, amounting to 861.9 and 1245.4 billion US dollars in 2021 and 2027, respectively (refer to Figure 2.7). Furthermore, when examining the percentage increase over a projected seven-year period, although the PBPs industry demonstrates a higher rate of growth compared to the meat industry, its values exhibit considerable fluctuations, contrasting with the stable trajectory of the meat industry. These fluctuations in the PBPs market suggest that the surge in availability may be driven by increased demand, as dictated by the economic principle of supply and demand (Shahbandeh, 2023; Wunsch, 2021; Clark & Bogdan, 2019). Despite the growing popularity of PBPs, challenges in production processing, including heightened processing and production costs, limit the industry's capacity to match the availability of meat products, particularly given the expanding global population. Consequently, the persistent disparity in availability poses a significant challenge for a society towards plant-based diets.

Figure 2.7: Food Industry Market Value Increase 2021 - 2027



Source: Shahbandeh (2023)

e. Social Constraints

Many individuals adopt a plant-based diet with the intention of managing or reducing their weight, which may introduce the risk of eating disorders and various illnesses. Consequently, negative stereotypes persist regarding nutrient deficiencies associated with plant-based consumption, reflecting entrenched societal opinions (Perez-Cueto et al., 2022; Reipurth et al., 2019). Resistance from family members who do not support the transition to a plant-based diet can pose another significant barrier (Takefuji, 2021; Grobe, 2020). Individuals' dietary patterns and habits are often influenced by the social environment, with research indicating that the adoption of plant-based diets by popular celebrities or influencers can influence their followers to do the same, thus diverting attention away from primary concerns such as health and ethics (Markowski & Roxburgh, 2019). Additionally, socio-demographic factors play a role in plant-based diets, with men often expressing greater concern than women regarding taste and nutritional value (Allen & Locasale, 2021; Gençdağ, Görgüç & Yılmaz, 2021).

f. Financial Challenges

The perception that healthier options are often perceived as "more expensive" and "premium," catering primarily to a niche demographic, has been widely acknowledged (Fehér et al., 2020).

This perception is reinforced by the inherent challenges in the production process of healthier products, which frequently entail increased processing complexity and additional production costs (Chen, 2022; Corrin & Papadopoulos, 2017). Despite the growing availability of PBPs in recent years, accessibility to plant-based ingredients remains a significant obstacle for many consumers. Consequently, the perceived high cost of healthier options serves as a deterrent, hindering the affordability of daily meals for certain segments of the population (Pohjolainen, Vinnari & Jokinen, 2015; Lea, Crawford & Worsley, 2006).

Consumers attribute varying levels of importance to different product attributes, highlighting the interconnected nature of many barriers to adoption.Therefore, a comprehensive understanding of both the benefits and barriers associated with plant-based food products is essential. Such understanding enables companies and marketers to effectively address consumer concerns and leverage persuasive strategies tailored to consumers' perspectives, thereby facilitating informed decision-making, and promoting the adoption of plant-based food products.

2.7 Plant-Based Products Consumer Profiling

There are different types of plant-based consumers with different attributes and needs as discussed. According to the different plant-based diets, there are different products that caters specifically to the consumer. Previous researchers indicate that plant-based dietary transition is mainly motivated by two factors, namely: health concerns and environmental stability (McManus, 2021; Wickramasinghe et al., 2021; Beverland, 2014). This study will examine those factors along with others, to provide a broader and more detailed overview into how consumers can be persuaded into the adopting of plant-based food products.

Studies that examine the consumption of PBPs have determined that men consume less plant-based meals than women (Sridhar, Bouhallab, Croguennec, Renard & Lechevalier, 2022; Fiorentini, Kinchla & Nolden, 2020; Van Loo, Hoefkens & Verbeke, 2017). Additionally, younger generations are driving the trend, with Generation Z emerging as the leading force in the plant-based movement, as 79% of them consume plant-based meals 1–2 times per week. In comparison, 45% of Millennials report trying to reduce their meat consumption, though they have not fully adopted a plant-based diet (Jed, 2018). Generation Y and Z is more willing to try new and different products as they also favour natural ingredients in the products they consume, linking to their strong believes around creating a sustainable environment (Faughnan, 2020;

Szejda, Urbanovich & Wilks, 2020). Therefore, to fully understand the adoption of PBPs for young South Africans, it is crucial to determine the generational attributes because similar behaviours and attitudes are often shared. This type of segmentation ensures effective product development and marketing for the potential to create and ensure long-term plant-based adoption.

2.7.1 The Strawberry Generation

The term "Strawberry Generation" pertains to individuals born after 1990, encompassing both Generation Y and Z, who are characterised by a perceived tendency to be emotionally delicate and susceptible to external pressures. Unlike preceding generations, they are often perceived as less resilient and more influenced by peer dynamics. Moreover, this demographic is commonly associated with affluent backgrounds and parental overprotection, mirroring the cultivation of strawberries in sheltered environments for optimal growth and yield (Urban Dictionary, 2021). The choice of the term "Strawberry" is fitting within the context of plant-based themes and resonates with the generation most inclined to embrace a plant-based diet. This research aims to explore the attitudes and behaviours towards plant-based diets within the delineated age range of 20 to 35 years, encompassing both younger Generation Y and older Generation Z cohorts. The Strawberry Generation emerges as a pivotal target demographic for this investigation.

2.7.1.1 Generation Y

Generation Y, also known as Millennials, comprises individuals born between 1980 and 1994, currently aged between 25 and 40 years. This demographic cohort is characterised by ubiquitous mobile phone usage, often maintaining multiple social media accounts (Lerro et al., 2019). Despite the prevalence of mobile technology, a study by Fry (2020) revealed that 32% of Generation Y individuals still prefer to make product purchases via computer. This generation exhibits a penchant for personalisation, actively seeking out new products, stores, and brands to align with their evolving preferences. Moreover, their decision-making process in purchasing is characterised as experimental or exploratory, as they prioritise goods and services that offer perceived value (Deloitte, 2019). Through online platforms, Generation Y engages in socialisation, self-assessment, and transformation, displaying confidence and a propensity for risk-taking compared to older generations. Notably, food consumption among Generation Y is viewed through a lens of fashion and self-expression, embodying a "me" consumer ethos (Lerro et al., 2019).

A distinctive attribute of Generation Y, as highlighted by the Deloitte Global Millennial Survey (2019), is its heightened awareness of environmental and social issues, with 29% expressing concerns about environmental sustainability. This conscientiousness has spurred Generation Y to actively participate in contemporary green movements (Lea & Worsley, 2005). Beyond mere awareness, this generation embraces the responsibility of seeking solutions to environmental challenges, reflecting a proactive approach to addressing sustainability issues.

2.7.1.2 Generation Z

This demographic cohort, born between 1995 and 2015, spans the ages of 12 to 27 years. Often referred to as Generation Z, they are recognised for their familiarity with advanced technology and digital innovations. Their proclivity for technology can be attributed to early exposure to the internet, social media platforms, and software applications, leading to a profound dependency on these digital tools throughout their lives (Iorgulescu, 2016). The pervasive accessibility of the internet has fuelled their inclination towards technological engagement, facilitating constant connectivity with others and the effortless dissemination and retrieval of diverse resources (Shatto & Erwin, 2016).

Distinct from preceding generations, Generation Z demonstrates altered behavioural patterns influenced by technological progress, fostering heightened environmental awareness and problem-solving skills (Costello et al., 2020). Inherited environmental sustainability ideologies, coupled with a proactive approach to societal issues, motivate this generation to seek solutions for a world they perceive as requiring substantial improvement or adjustment (Faughnan, 2020; Jed, 2018). Despite facing socioeconomic challenges, such as those observed in SA in 2018, Generation Z exhibited resilient spending habits, managing to maintain expenditure within inflation rates and demonstrating a propensity for savings (Dimock, 2019; Turner, 2015). While their inclination towards self-sustainability bodes well for the future, it is noteworthy that many rely on parental support as their primary source of income (Maggs, 2019).

Compared to older and younger cohorts, the Strawberry Generation exhibits distinctive behaviours characterised by seamless integration of technology and sustainable living practices into their daily lives. This emotionally connected demographic is drawn to products and organisations that resonate with their personal values and experiences. Their emotional attachment to brands fosters empowerment and cultivates a sense of loyalty, highlighting their unique consumer behaviour and preferences.

2.8 Conclusion

In this chapter, the direction and purpose of the study was shaped through the detailed discussion of the literature. This section further emphasised the importance of adoption and transition towards a plant-based diet in South Africa to create a sustainable environment for future generations. It is therefore crucial to understand consumer perceptions and attractions towards plant-based products to successfully persuade them in choosing these alternatives. The next chapter discusses the theoretical groundings.

CHAPTER 3: THEORETICAL GROUNDINGS

3.1 Introduction

This chapter provides an extensive discussion of the theoretical groundings underlying the study. Three theories are discussed. Firstly, the Elaboration Likelihood Model by Petty and Cacioppo (1980) is discussed, followed by the Behavioural Reasoning Theory (Westby, 2005); and lastly, a description of McCarthy's (1960) Marketing Mix is provided.

3.2 Elaboration Likelihood Model (ELM)

Over the past few decades, consumer attitudes have garnered significant attention in marketing research. This focus stems partly from studies indicating that an individual's behaviour is most accurately predicted by their attitude (Fishbein & Ajzen, 1975). Petty and Cacioppo (1986) define attitudes as the "general evaluations" individuals hold regarding themselves, others, things, and situations. Given that individuals encounter numerous influencing factors daily, including marketing efforts aimed at altering attitudes toward specific goods and services, it becomes challenging to address each influencing factor exhaustively (Erkli, 2022; Kulhavy et al., 1993). However, it is evident that these factors cannot be entirely disregarded.

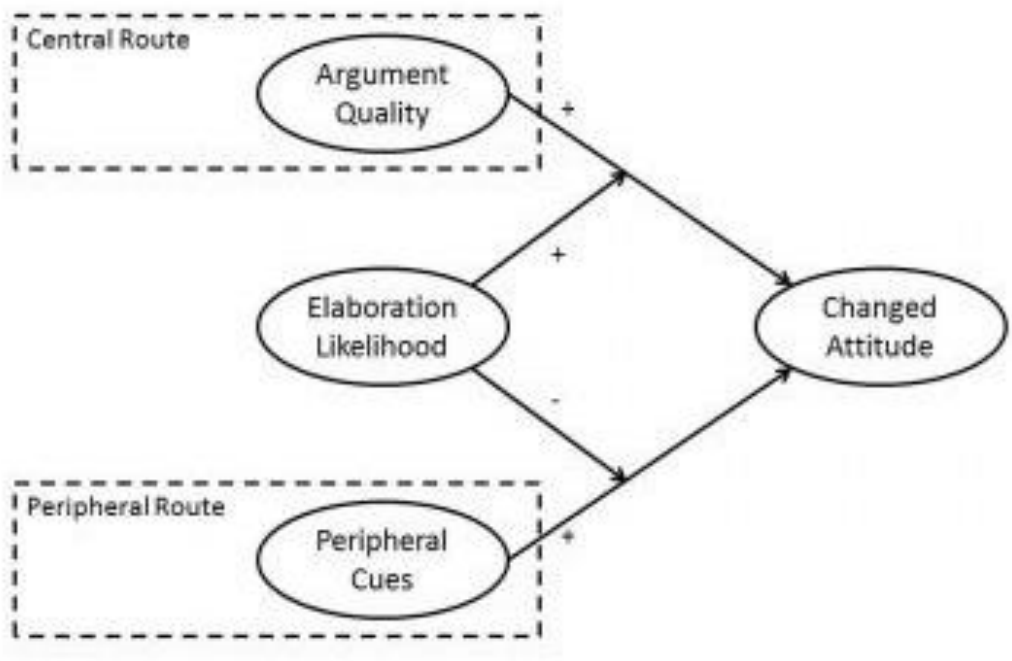
Understanding how individuals choose which influences to consider, how they are processed, and the situational and individual factors that shape attitudes can be elucidated through the ELM (Hsu, 2018; Geddes, 2015; Cacioppo, Petty, & Stoltenberg, 1985). The ELM stands out as one of the most influential theories in marketing research due to its capacity to predict changes in attitude based on the level of information processing. the ELM is a dual-processing theory designed to shed light on how individuals form and modify their attitudes, with persuasion outcomes influenced by both individual and situational factors (Allison et al., 2017).

As individuals acquire and process information, their attitudes are shaped and modified based on the depth of processing involved. This theory elucidates the formation of judgments, encompassing the change itself, the variables influencing the change, and the level of persuasion instigating the change (Geddes, 2016; Petty & Cacioppo, 1986). The ELM comes into play when individuals make judgments and focus on significant arguments. When individuals are highly interested, they exhibit high involvement and elaboration, often investing time in researching and comprehending the presented stimuli. Those with lower interest levels display reduced involvement and elaboration, seeking cues to form and guide their attitudes and

behaviour (Erkli, 2022; Hsu, 2018; Petty & Briñol, 2011). Consequently, high elaboration is associated with the central route of persuasion, while low elaboration tends towards a peripheral route (Petty & Cacioppo, 1986).

As depicted in Figure 3.1, the ELM delineates the two distinct routes prompted by the elaboration likelihood concerning attitude change, employing constructs of argument quality for the central route and peripheral cues for the peripheral route. These routes diverge based on the extent of thoughtful information processing or the level of involvement and elaboration by individuals (Petty & Cacioppo, 1986).

Figure 3.1: Elaboration Likelihood Model



Source: Geddes (2016)

When processing messages, several researchers have argued for the differentiation between situational and personal elements, namely opportunity and ability (Geddes, 2015; Petty & Briñol, 2011). Individuals may possess the necessary ability or knowledge to comprehend a message but may lack the opportunity to process it due to situational constraints, such as environmental distractions or limited exposure to the message itself (Erkli, 2022). Despite many revisions to the theory, marketing literature has consistently emphasised the importance of elaborative antecedents, focusing on motivation, opportunity, and ability (Chen, Yang, Zhang & Yang, 2018). This emphasis may stem from the prevalence of advertisements that go

unnoticed, resulting in no impact due to lack of exposure. Moreover, even if individuals are motivated and capable of processing a message, if they are underexposed or distracted by environmental factors, the intended impact of the message is unlikely to be received (Allison et al., 2017).

Depending on whether consumers receive adequate information or not, their attitudes can shift either positively or negatively. These attitudes can subsequently influence consumer behaviour. Therefore, it becomes imperative to obtain valuable product information from reliable sources to guide consumers' decision-making processes. With the rapid advancements and developments in technology, there has been an increase in distractions and greater transparency among consumers (Geddes, 2016; O'Keefe, 2013).

Erkli's (2022) research in the food and beverage industry demonstrates that consumers purchase food products across different categories by focusing on quality, which can be reflected through central or peripheral routes. Furthermore, Hsu (2018) explored the significance of customers' perceptions of green food images, revealing positive relationships between customer loyalty and satisfaction based on their level of processing. Hsu (2018) also empirically tested consumers' knowledge, self-efficacy, and attitudes towards personalised messages relative to the ELM of persuasion, indicating that individuals' behaviours are more likely to be influenced as the motivated messages increase the level of involvement when processing the message to form attitudes.

While Kulhavy, Stock, Woodard, and Haygood (1993) argue that the ELM is appropriate for its dual function, they note limitations in how stimuli are assessed. Therefore, Lee's (2022) research suggests that individuals' behaviours can also be influenced by their current values, beliefs, and norms, in addition to their level of processing. Furthermore, the ELM acknowledges that individuals are naturally motivated to analyse the quality of a message to adopt the right attitude, with the perception of having the right attitude based on motivation (Chen et al., 2018; Allison et al., 2017). There will be little to no motivation expected to analyse if individuals do not recognise any benefits. Consequently, the ability to process information is inconsistent across individuals or circumstances within the ELM framework (Gu et al., 2017).

3.2.1 Central Route (Argument Quality)

Central processing (high elaboration) is when the individual explores the contents of the message due to high levels of motivation, instead of general reading (Cacioppo, Petty & Stoltenberg, 1985). The central route requires individuals to critically think about the topic in an instructive message, evaluate the respective relevance and value, gather several arguments that are sometimes conflicting, before developing an overall informed judgement about the target behaviour (Erkli, 2022; O'Keefe, 2013). In short, information is assessed based on individuals' existing knowledge and attitudes compared with applicable arguments. In the plant-based context, such an argument may be linked to the product knowledge and benefits of the adoption.

The argument quality is used to form an attitude. Since these individuals know what is important to them, they will take the time to investigate and focus on the strengths of the message conveyed (Petty, Cacioppo & Kasmer, 2015). As a result, more related thoughts are created by the arguments whereby, perceptions are more stable, last longer and more predictive (Erkli, 2022; Chen et al., 2018; Gu, Xu, Xu, Zhang & Ling, 2017). Persuasion coming from the central route is dependent on the degree of thought put into deciphering the contents within the message and one's congruence with the desired behavioural outcome. Petty and Cacioppo (1984), suggest that an increased number of existing cognitions is created by central processing. It is necessary to drill and remind and maintain the attitude of individuals, especially if some aspects have been forgotten. Thus, the importance of the new attitude is unlikely to be changed as it is retained with more confidence, resulting in individuals who are even more willing to act based on their attitude (Hsu, 2018).

3.2.2 Peripheral Route (Peripheral Cues)

Peripheral processing (low elaboration) is when the individual is easily influenced and distracted; they are not digging deeply into the message conveyed because of low motivation and/or ability to process the information (Miller, Freimund & Powell, 2018; Kulhavy et al., 1993). These individuals are aware of wanting the product but uncertain about the details linked to it (Cacioppo, Petty & Stoltenberg, 1985). If the message is conveyed successfully to them, they will follow through with it unless a very convincing justification comes along. The peripheral route includes less cognitive work, where individuals depend on cues related to the target behaviour. The cues often lead to separate or less thoughts as it is linked to a lack of issue-relevant elaboration, whereby individuals only need to relate with simple positive or

negative cues (Geddes, 2015). For instance, individuals can be persuaded by a credible source, someone they look up to or even experts and celebrities (trend of celebrities going vegan). Attitudes that are resulted by the absence of elaborative processing does not last long, it can easily be changed and are less likely to influence the behavioural outcome. Secondary factors of the message are more interesting to this group as they are not focusing on the message itself but the physical appeal. Repetition is necessary as they are easily distracted, and attention levels are lower (Petty & Briñol, 2011).

3.2.3 Elaboration Likelihood

Individual attitudes are formed by specific persuasion processes based on variations of motivation and ability to elaborate the argument. The ELM states that motivation and ability to process information are the two elements that function under elaboration likelihood (Gu et al., 2017). Hence, elaboration is found across the continuum connected by central and peripheral route processing. The elaboration likelihood is a moderator of individuals' attitudes impacted by argument quality and peripheral cues. The term "elaboration" suggests that beyond basic verbatim ciphering of the provided information, individuals include something of their own to the communicated message (O'Keefe, 2013). As ability and motivation increases the likelihood to elaborate becomes stronger. It is likely that higher levels of elaboration will lead to more research being conducted to process the information. Therefore, one would probably be persuaded by argument quality instead of peripheral cues. In comparison, individuals that are more likely to be persuaded by peripheral cues have less motivation and ability (Allison et al., 2017).

The most demanding type of processing uses experiences and knowledge from the past to analyse and elaborate on the information shown. Individuals that are not particularly able or motivated can still analyse the information but there will be less to analyse and not as thorough (Hsu, 2018). Therefore, individuals that review several arguments can either only analyse a few (low elaboration) or, go over each individual item under the argument (high elaboration). It is very rare that an individual processes information entirely through argument quality or peripheral cues. The ELM states that based on an individual's level of elaboration likelihood, an understanding between the routes to central and peripheral processing appears. The level of elaboration is dependent on the quantitative amount of applied thought instead of qualitative thought. Furthermore, motivation to elaboration is influenced by personal relevance and/or the

thought process behind behavioural outcome of an individual or collective decision (Allison et al., 2017; Geddes, 2016).

3.2.4 Changed Attitude

Attitudes are primarily shaped by an individual's access to past experiences and the behaviours that result in positive, neutral, or negative feelings, or even a combination of these emotions. Behaviours are often influenced by attitudes formed from past experiences or the effort invested in assessing available information (Hsu, 2018; Allison et al., 2017). Behavioural outcomes can be influenced by attitudes in both effortful and effortless ways. An individual's attitude may bias the way they assess information, guide behaviour automatically without much thought, or increase scrutiny in an objective manner depending on the circumstances (Erkli, 2022).

The ELM theorises those individuals persuaded through different routes (central and/or peripheral) can experience the same outcome. Regardless of whether individuals are influenced by argument-based or cue-based routes, they can arrive at the same result—changed attitudes. (Example: choose PBP's). Basically, the theory proposes that responses generated across the same influence process can be both different and similar depending on the elaboration likelihood caused by surrounding factors (Miller, Freimund & Powell, 2018; O'Keefe, 2013). Essentially one can appeal to both central and peripheral individuals, without risking the one being disregarded. Overall, altering attitudes focuses on altering behaviours or shaping the intended message in a manner that persuades and targets both routes (Gu et al., 2017; Geddes, 2015).

3.3 Behavioural Reasoning Theory (BRT)

Several theoretical frameworks have been developed to understand consumer behaviour, particularly in relation to the adoption of new products. These include the Diffusion of Innovation (DOI) Theory (Rogers, 1962), the Technology Acceptance Model (TAM) (Davis, 1989), and the Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB) (Fishbein & Ajzen, 1975; Ajzen, 1991). These theories have been foundational in consumer behaviour research, explaining how external factors—such as social influence, attitudes, and perceived ease of use—shape consumer decisions. However, while they are useful in explaining the factors that promote consumer acceptance, they have been critiqued for their limited focus on the negative aspects, specifically inertia or resistance to change. This gap is particularly

relevant in the context of sustainable eating, where understanding consumer reluctance to reduce meat consumption is crucial.

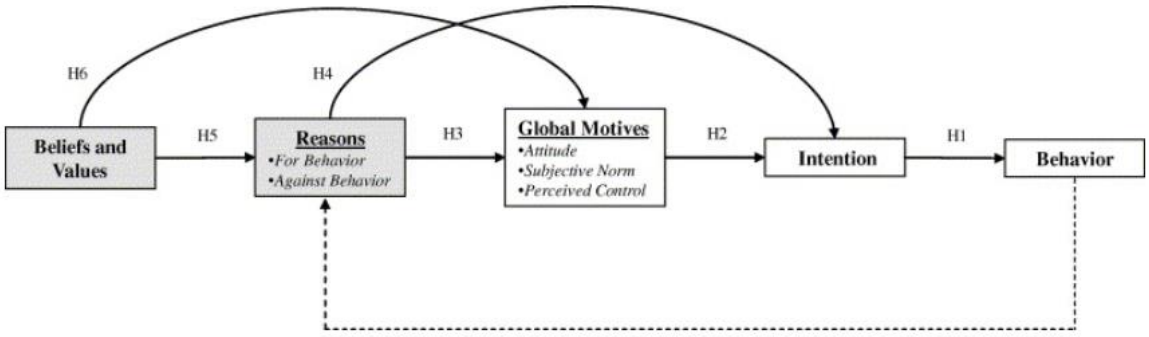
Existing models primarily focus on positive factors such as health benefits, ethical motivations, and social norms, but largely overlook the negative influences such as consumer inertia, resistance, or lack of motivation (Vainio, Irz & Hartikainen, 2018). This limitation has been recognized by researchers, who argue that without addressing these barriers, businesses may fail to understand why some consumers resist plant-based food products or sustainable eating habits (Sreen, Chatterjee, Bhardwaj & Chitnis, 2022; Norman et al., 2012). The absence of a more holistic view of consumer decision-making, one that considers both promoting and hindering factors has led to a call for the development of new behavioural models that provide a more comprehensive understanding of consumer choices (Mitrofanova, Pummell, Mulrooney & Petróczi, 2021).

The BRT, developed by Westby (2005), allows researchers to explore the impact of both "reasons for" and "reasons against" behavioural intentions. By distinguishing between these reasons, the theory offers a more comprehensive understanding of decision-making. BRT posits that reasoning is closely linked to individuals' beliefs, values, global motives, intentions, and behaviour (Nguyen & Dang, 2022).

Consistent with other theories, the BRT suggests that behaviour is primarily predicted by intentions, which are influenced by attitudes, subjective norms, and perceived control. What sets BRT apart is its focus on how reasons, through validation and defence mechanisms, shape attitudes, subjective norms, and perceived control (Sahu, Padhy & Dhir, 2020). These mechanisms not only affect attitudes and norms but also directly influence intentions.

As illustrated in Figure 3.2, the BRT incorporates the concept of post-decision rationalisation, which draws on cognitive dissonance theory to explain how consumers, after making a decision, may reinforce their behaviour by rationalising it. This process helps to maintain consistent behaviour over time, even in the face of conflicting information or external pressures (Sreen et al., 2022; Dhir, Koshta, Goyal, Sakashita & Almotairi, 2021). In other words, after a decision is made, individuals may strengthen the reasons for their behaviour to reduce cognitive dissonance and justify their actions, thus ensuring that their decision aligns with their beliefs and values in the long term (Westaby, 2005).

Figure 3.2: Behavioural Reasoning Model



Source: Westby (2005)

The BRT is an adaption of Fishbein and Ajzen's (1975) and Ajzen's (1991), theories of Reasoned Action (TRA) and Planned Behaviour (TPB), respectively. Based on their theories, intention can be predicted by the behavioural attitude, with intentions the cause of carrying out behaviour, and behaviour is the intention to carry out the scenario. The concept towards this is that behaviour is more likely to result from stronger behavioural intentions. The two theories are mainly differentiated by TPB's attempts to overcome the limitations of TRA by considering the volitional control of behaviour (Westaby, Probst & Lee, 2010). Additionally, the theoretical framework in the BRT comprises context-specific reasons to better understand individuals' behavioural intentions and outcomes. Recent empirical research has indicated that compared to other frameworks on acceptance, the inclusion of reasons in the BRT interprets higher level of variance in user intentions (Sreen et al., 2022; Dhir et al., 2021; Huang & Qian, 2021; Norman, Conner & Stride, 2012).

Several researchers have used the BRT to determine consumer behaviour in different contexts. Westby developed and introduced the BRT by conducting four studies with American respondents, specifically designed to create and test the theoretical framework (Westaby, 2005). He went on to conduct another study using his developed theory. The second study was based on managerial decision making to establish if reasons for and against will impact the global motives and intentions of managers. The results showed associations between the constructs to further prove the validity of his model (Westaby, Probst & Lee, 2010).

The BRT has also been applied to the topic of organic foods, where values and attitudes were positively connected to consumption reasons and buying intentions (Bhatt & Ghuman, 2022; Tandon, Dhir, Kaur, Kushwah & Salo, 2020; Tarkiainen Sundqvist, 2005). A research study conducted by Gupta and Arora (2017), in India about the adoption of mobile shopping indicated that the reasons for and against attitudes and intentions for behavioural adoption is pre-determinant by the reasons. The research also showed that reasons for adoption was positively influenced by individual's openness, but it did not impact reasons against or attitude. Some of the other researched areas includes the following: green buying behaviour (Sreen et al., 2022); students binging alcohol (Taufik et al., 2019) and dietary restrictions (Mitrofanova et al., 2021).

In this study, the BRT is utilised to better understand relationships caused by the reasons associated with intentions towards choosing PBPs. The concept around studying PBP's using the BRT is relatively new and has not been used, according to the author's research and understanding. Therefore, this study is beneficial in contributing to the existing literature and it also provides an opportunity to examine the BRT constructs within the plant-based industry.

3.3.1 Beliefs and Values

Beliefs and values form part of a crucial component in the BRT framework as decision making, and subjective argument is linked to cognitive structures in relation to values (Westaby, Probst & Lee, 2010). The Expectancy-Value Theory hypothesises that reasons resulting in behaviour is directly impacted by beliefs and values. Thus, it presumes that individuals' beliefs about the expectations and outcomes significantly influence motivational processes (Sreen et al., 2022). Attitudes are also direct impacted by the beliefs and values. Hypothetically, it suggests that reasons may be partially dormant while individuals can still automatically function (Lahti, 2021). The BRT also proposes that reasons are not the same as beliefs or values. To explain individual's behaviour, beliefs and values requires much more cognitive processing in comparison to reasons (Norman, Conner & Stride, 2012).

3.3.2 Reasons

The intention and behaviour of individuals during their decision-making processes are formed by certain cognitions from reasons (Huang & Qian, 2021). Distinctive insights are provided by reasons in multiple decision-making situations, which explains and defends individual's behaviour and actions (Sreen et al., 2022). In relation to the BRT, reasons include both for behaviour and against behaviour. Researchers are now able to clearly differentiate between the

two for a more comprehensive study. By using a single decision-making theoretical framework, researchers can evaluate the influence on consumer intentions and behaviours in detail (Bhatt & Ghuman, 2022). Besides, researchers have investigated that, reasons for resistance are not always the opposite of reasons against acceptance and the comprehensive understanding of consumer behaviour cannot be achieved without analysing both the reasons.

3.3.3 Global Motives

In the BRT model, global motives refer to fundamental, broad elements that consistently influence various behavioural outcomes. These global motives are comprised of three primary components: attitude, subjective norm, and perceived control (Westaby, Probst, & Lee, 2010). Attitude reflects an individual's global evaluation of performing a behaviour, which is shaped by intentional and cognitive assessments (Fishbein & Ajzen, 1975). Subjective norm refers to the social pressure an individual perceives from peers or society to engage in a specific behaviour, while perceived behavioural control involves an individual's sense of their ability to control their actions (Ajzen, 1991).

In relation to the connection between global motives and intentions, the BRT suggests that reasoning is impacted by self-worth preservation, as individuals seek to justify and explain their actions, thereby reinforcing their intentions (Sahu, Padhy, & Dhir, 2020; Westaby, 2005). The global motives are seen as essential elements that shape individuals' behavioural intentions. This aligns with Ajzen's (1991) framework, where these three constructs—attitude, subjective norm, and perceived control—are described as broad factors that influence intentions. Research has shown that these global factors are often evaluated at a broader level and significantly predict intentions (Sahu, Padhy, & Dhir, 2020; Rhodes & Courneya, 2003; Ajzen, 2001).

Furthermore, the relationship between global motives and intentions is linked to individuals' beliefs and reasoning about specific behaviours. In this sense, individuals may use context-specific reasons to justify their behaviours, which may differ from their general attitudes toward that behaviour (Westaby, 2005). In this way, global motives serve as an overarching framework, while specific beliefs and reasons can provide more context-dependent justifications for behaviour.

3.3.4 Intentions and Behaviour

Intentions are defined as an individual's commitment or inclination to engage in a behaviour in the BRT, which is guided by both positive and negative reasons for the behaviour. These intentions are influenced by the individual's beliefs and values regarding the behaviour (Westaby, 2005). Behaviour, in turn, refers to the actual execution or outcome of the intended action (Taufik et al., 2019; Ajzen, 2001). According to the BRT, behavioural intentions are strongly predicted by the reasons for and against the behaviour, which shape individuals' attitudes and perceptions of control (Sahu, Padhy, & Dhir, 2020; Westaby, Probst & Lee, 2010). Previous models, including the TRA and the TPB, suggest that intentions are positively correlated with behaviour, particularly when the individual is motivated by strong reasons or perceived social norms (Huang & Qian, 2021; Westaby, Probst & Lee, 2010). A significant body of literature confirms the predictive relationship between intention and behaviour, further supporting the notion that individuals are more likely to perform a behaviour when their reasons for doing so are strong (Sreen et al., 2022; Filieri, Lin, Pino, Alguezaui and Inversini, 2021; Tandon et al., 2020; Tarkiainen & Sundqvist, 2005).

3.4 Marketing Mix (4Ps)

All organisations wish to make a profit, but in order to generate revenue one must be able to meet the requirements and demands of consumers. It is important that consumers are successfully targeted with the most desirable message to encourage behaviour (Kotler, Burton, Deans, Brown & Armstrong, 2015). Principles of consumers' decision-making process can be identified, and marketers can design offerings based on the marketing mix to meet consumer needs (Išoraitė, 2016; Borden, 1964). The marketing mix is a conceptual framework that was developed with microeconomics theory from Price (McCarthy, 1964). The marketing mix is also known as the four Ps (4Ps), a way of translating marketing preparations into action. The 4Ps refer to product, price, place, and promotion (Novkovic, 2023; Ray & Yin, 2020). Figure 3.3 presents a visual representation of the four elements.

Figure 3.3: The Marketing Mix Elements



Source: Authors own construct (2022)

3.4.1 The Evolution of the Marketing Mix

The marketing mix concept is often likened to baking bread: just as a baker adjusts ingredients and quantities based on the type of bread being baked (Goi, 2009), businesses adapt the elements of the marketing mix to suit different market conditions and customer needs. This analogy helps simplify the concept of marketing strategy, which, since its inception, has become central to both marketing theory and practice. By modifying the marketing mix elements—product, price, place, and promotion—companies can enhance their competitive position, streamline operations, and differentiate marketing from other business functions (Anjani & Perdhana, 2021). The marketing mix also serves as a valuable tool for defining a marketing manager's responsibilities, especially when comparing a company's offerings to its competitors (Nguyen-Viet, 2022). Marketing managers are tasked with allocating resources across these elements, shaping the company's overall marketing philosophy (Ray & Yin, 2020; Išoraitė, 2016).

The origins of the marketing mix can be traced back to 1948, when Culliton used the term "mixer of ingredients" to describe business directors. This idea was later introduced to Borden (1965), who is often credited with coining the term "marketing mix." The "mixer" analogy suggests that directors follow a general recipe while adapting to available resources and experimenting with new ingredients (Lazer, Culley & Staudt, 1973). Building on this,

Rasmussen (1955) developed the parameter theory, identifying advertising, price, quality, and service as essential elements in driving sales and competition. This theory evolved into the Product Life Cycle Concept. In his 1965 work, Borden outlined twelve fundamental elements of the marketing mix, including advertising, branding, distribution networks, pricing, and servicing. These elements were divided into two categories: "means and methods" (e.g., advertising and distribution) and "proposing category" (e.g., branding and pricing) (Išoraitė, 2016). Other scholars, such as Kelly & Lazer (1958), proposed dividing the marketing mix into three categories: the communication mix, the supply mix, and the products and services mix.

In 1964, McCarthy refined Borden's proposal, consolidating the mix into the now famous 4Ps: Product, Price, Place, and Promotion. Over time, this model expanded to the 7Ps, which added three internal elements—People, Process, and Physical Evidence—tailored to the specific needs of service marketing. While the 4Ps remain a foundational framework, critiques have emerged regarding its limitations. In particular, its focus on traditional marketing practices has been seen as inadequate in addressing the complexities of modern, customer-centric, and digital marketing (Singh, 2012; Goi, 2009). As consumer behaviour increasingly shifts towards interactive, personalised experiences, researchers have called for frameworks that better account for these changes. Despite these critiques, the 4Ps framework continues to be a valuable tool for guiding marketing strategies across various industries. Its principles are still widely applicable, though increasingly adapted to meet evolving market dynamics (Nguyen-Viet, 2022; Išoraitė, 2016).

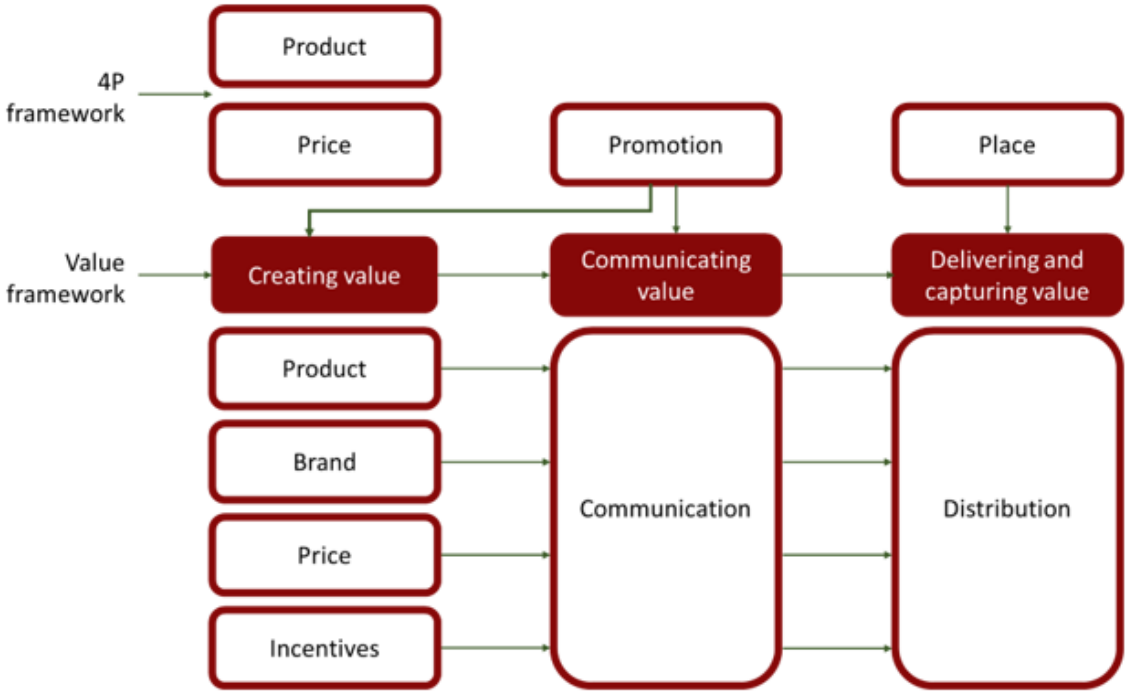
3.4.2 An Overview of the Marketing Mix

A market offering (product) that satisfies consumer needs must first be developed to fulfil the business's value proposition. Once the offering is created, the pricing (price) of the product must be determined, along with where the offering will be made available to the target market (place). Finally, communication strategies (promotion) must persuade consumers of the product's benefits to drive purchasing decisions (Oxford College of Marketing, 2020; Ray & Yin, 2020). It is essential that businesses ensure their target customers receive the intended value through the effective integration of the marketing mix elements.

Figure 3.4 illustrates how value is connected to the 4Ps. While the marketing mix model simplifies the complexities of marketing, it effectively summarises the critical elements marketers must focus on to generate and communicate value, as well as implement appropriate pricing strategies to capture value from customers (Kotler et al., 2015). In the context of this

study, the marketing mix offers key areas of focus for determining consumer intentions when choosing plant-based food products. By incorporating the marketing mix framework, the researcher can gain deeper insights into consumer behaviour within the plant-based market. This approach allows for a more detailed analysis of each of the four elements to better capitalise on current market trends (Nupurjain, 2023; Thabit & Raewf, 2018; Goi, 2009; Constantinides, 2006).

Figure 3.4: Linking the 4Ps Marketing Mix to Value



Source: Kotler et al. (2015)

The core foundation of a business's marketing efforts and the basis of any marketing attempt should be focused on the marketing mix elements. The concept of marketing is based on two ends: the customer and the manufacturer or marketer (Nguyen-Viet, 2022; Thabit & Raewf, 2018; Išoraitė, 2016). The business is required to create and produce a good or service, design, package, share claims and distribute. Each and every decision required to reach the final good or services falls under the marketing mix elements. Kotler et al (2015) and Nupurjain (2023) summarise the components that fall within each P, in Figure 3.5 and Figure 3.6 respectively.

Figure 3.5: The 4Ps of the Marketing Mix



Source: Kotler et al. (2015)

Figure 3.6: Elements of the Marketing Mix



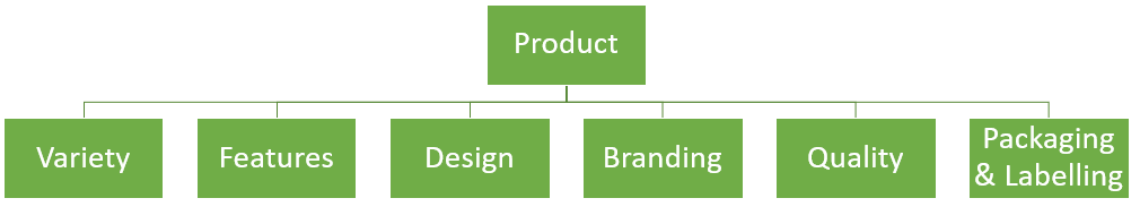
Source: Nupurjain (2023)

3.4.2.1 Product

A product refers to the good or service created and provided by a company, including any value-added benefits that enhance its appeal (Pomering, 2017). Since customer preferences are constantly evolving, it is essential to continually improve existing offerings or develop new

versions to meet changing demands (Oxford College of Marketing, 2020). Behind every final product, there is a considerable amount of detail involved, such as formulation, ingredients, and packaging (Ingnaszewski, 2022; Singh, 2012). The tactical marketing tools for product strategy, adapted from Figures 3.5 and 3.6, are summarised in Figure 3.7, which illustrates the product mix elements. These elements include variety, features, design, branding, quality, packaging, and labelling.

Figure 3.7: Tactical Marketing Tools for Product



Source: Authors own construct (2023)

a. Product Variety

Customers have become increasingly discerning and demanding compared to the past, therefore, businesses must adapt to their evolving needs and preferences to remain relevant (Trattner, Hvam, Herbert-Hansen & Raben, 2017; Kotler et al., 2015; Berger, Draganska & Simonson, 2007). The term "product variety" refers to the range of different goods or services offered by a business, representing the variety of options available for customers to choose from (Fisher & Ittner, 1999; Lancaster, 1990). It is important to note that product variety does not refer to the quantity of each item in stock, but rather to the number of distinct variations of a product that are available (ElMaraghy, Schuh, ElMaraghy, Piller, Schönsleben, Tseng & Bernard, 2013; Ramdas, 2003). For example, if a beverage store offers drinks in various flavours and cup sizes, each combination of flavour and size constitutes a distinct product type, contributing to the overall variety available. Specialty shops that focus on specific niches offer selections that are more limited in product variety (e.g., gourmet food products). In comparison, shops that specialise in general merchandise provide a wider range of available products (Goi, 2009; Berger, Draganska & Simonson, 2007).

Offering a diverse array of goods and services can attract a larger customer base and enhance potential sales. The range of product variety is often regarded as an indicator of a business's competitiveness. By offering unique product variations, businesses can differentiate themselves

and capture consumer attention (Conlon & Mortimer, 2010; Lancaster, 1990). Product variety can encompass different variations of existing items or entirely new products, whereby maintaining a wide range of offerings provides a business with a competitive edge by offering customers a broader selection. Therefore, the probability of satisfying the customers' needs and wants increases, resulting in customer loyalty and satisfaction (Borden, 1964). However, having too many product offerings can also negatively affect sales and a customer's experience in shopping. The various choices can cause strain and confusion during customers decision making process. As a result, it is important for businesses to consider the needs and preferences of customers when deciding on an optimal range of product offerings (Trattner et al., 2017; Ramdas, 2003).

When determining the range of products to offer, it is crucial to consider elements such as the demographic and psychographic profile (Berger, Draganska & Simonson, 2007; Fisher & Ittner, 1999). For instance, it would be prudent to include a selection of eco-friendly goods if the target market primarily comprises younger generations who are environmentally conscious and prioritise sustainability and ethical practices. Informed decisions can also be made around product variety, by keeping up with the industry's trends (Kotler et al., 2015). If there are emerging trends or technology that resonates with the standards of the specific target audience, new customers can be attracted, and existing ones can be engaged by incorporating relevant products that resonates with them (Elsya & Indriyani, 2020; Constantinides, 2006). Overall, the marketplace is constantly changing, and it is necessary to remain relevant and meet customer needs to be the preferred option. As a result, businesses that consider widening their range of offerings needs to keep the target audience in mind.

b. Product Features

The characteristics of a good or service are considered as the product features. It is the component of the good or service that meets a customer's requirement also falls under product feature. These attributes can consist of elements such as taste, colour, texture, and shape (Iannario et al., 2012; Archak, Ghose & Ipeirotis, 2011; Nowlis & Simonson, 1996). Product features presents neutral and factual information around the nature and capabilities of the product. Collectively, the features shape the identity of good or service and set it apart in the market.

Customers can better understand the purpose and benefits of the good or service if the business clearly defines the product features (Kauffmann, Peral, Gil, Ferrández, Sellers & Mora, 2019). During the development of product features, managers assess the standards and the market itself to establish the objectives and construct a roadmap outlining the product process. To better user experience, businesses make amendments to the product features throughout the development phase, which impacts the overall pricing of the product. The end desirable advantage delivered to the consumer is the main attribute for any product feature (Schleenbecker & Hamm, 2013).

c. Product Design

In the space of developing exceptional products, design is the utmost crucial deciding factor. Product design is the factor that dominates when it comes to differentiating companies from one another and providing a distinct advantage over competitors. Product design involves identifying a potential market opportunity, clearly defining the issue at hand, creating an appropriate solution for that problem, and confirming the effectiveness of the solution through user validation (Cross, 2021; Babich, 2018; Morris, 2016). The process of product design involves the systematic and strategic generation and development of ideas, ultimately resulting in the creation of products. Designers with expertise in their field frequently employ design thinking methodologies in both physical and digital product design. This approach emphasises the entire product development process rather than solely focusing on the design phase (Ray & Yin, 2020).

In pursuit of high-quality products or features, designers must possess a thorough understanding of the business objectives. They need to grasp the fundamental principles of good design and be capable of addressing the core issues at hand, identifying the target audience affected by these issues, and aligning the design solutions with the overarching business objectives and goals (Trattner et al., 2017). By addressing these 3 points, designers gain a comprehensive understanding of the user experience associated with a product, considering not only the interaction or visual aspects but also the product as a whole (Ceschin & Gaziulusoy, 2016).

In a perpetually evolving world, our consumer culture undergoes continuous transformation. With technological advancements increasingly permeating our daily lives, we now anticipate seamless accessibility and personalised experiences in all aspects of our interactions (Cross, 2021). Whether it's using our phones to place shopping orders or exploring an app to find a new property, we have become dependent on various technologies to fulfil a wide range of needs.

Thus, emphasising the importance of product design to create differentiation amongst competitors through simplicity and convenience (Ceschin & Gaziulusoy, 2016).

Quality practices of product design permeate every stage of the product's life cycle. Product design is pivotal in shaping the initial user experience and defining the product offering, spanning from pre-ideation user research to concept development, prototyping, and usability testing (Elsya & Indriyani, 2020). However, its significance extends beyond these initial stages. Product design maintains an ongoing role in enhancing the customer experience, seamlessly integrating additional functionalities and capabilities in a manner that is both discoverable and non-disruptive. Throughout the product's lifecycle, maintaining brand consistency and facilitating evolution remain fundamental responsibilities of product design until the product reaches the end of its lifespan (Babich, 2018).

d. Branding

Branding falls under one of the most crucial factors to consider by marketing professionals in the product mix. Organisations incorporate branding to determine if the good or service will be advertised through the brand name itself or a general name. Businesses, goods and/or services are identified through their unique brand name product, or service, setting it apart from other similar brands in its industry (Harvey, 2022; Yan, Hyllegard & Blaesi, 2012; Robertson, 1989). For marketers, a brand represents a product or organisation with a recognisable identity in the eyes of consumers. This identity is established through various components that form part of a product which can include the following: product design, packaging, and even promotion, which collectively differentiates the good from its competitors (Forbes, 2022).

It is important to ensure that the name is distinctive compared to the competitors as it will help set the organisation apart, even prior to the opportunity for the customer to assess the offerings. Brand equity is impacted by the products manufacturing organisation. A well-established brand brings significant value to an organisation by granting it a competitive advantage within its industry (Yan, Hyllegard & Blaesi, 2012; Rao & Monroe, 1989). Consequently, most organisations will acquire trademarks to legally protect and rightfully own the brand name. The identity of an organisation can be established through the crucial role of having a brand name. Customers are then able to better set the brand apart from competitors and with time the reputation of the brand through its name will establish trust amongst customers, facilitate brand recall and enhance product professionalism (Harvey, 2022).

e. Product Quality

Product quality encompasses the extent to which a product serves its intended functions, meets customers' requirements, and adheres to industry standards. When assessing the quality of a product, businesses take into account various crucial elements, such as its ability to address a particular issue, operate efficiently, and cater to the needs of customers (Berry & Waldfogel 2010; Sebastianelli & Tamimi, 2002; Kuehn & Day, 1962).

The quality of a product is crucial as it impacts the businesses success and reputation in the eyes of customers. When a company can produce top-notch goods and services that consistently satisfies customer needs, cost of production can be decreased, linked a boost in revenue. Customers place significant importance on the quality of a product, relying on the company's attention to detail and responsiveness to their needs (Bisbis, Gruda & Blanke, 2018). Businesses develop products to meet specific market demands, and consumers expect these products to fulfil the advertised need. They seek products that foster a connection with a brand, ensuring trust in the business's offerings. High-quality products provide customers with secure and efficient solutions to address their needs (Manova & Yu, 2017; ElMaraghy et al., 2013).

The perceived and actual quality of a product plays a crucial role in determining customer satisfaction and loyalty. In other words, the way your customers perceive the quality of your product affects their initial decision to make a purchase, their likelihood of choosing your brand again in the future, and their willingness to pay a higher price for your supposedly "high-quality" product compared to lower-quality alternatives (Mahaputra & Saputra, 2021).

In the broader context, customer loyalty and the maintenance of a strong customer base significantly influence overall profitability. By increasing customer retention rates by a mere five percent, profits can see a substantial boost of 25% to 95%. With these figures in mind, it becomes abundantly clear that producing subpar products is an incredibly risky and unwise move. When a product fails to meet customer expectations, it can quickly spiral into a costly ordeal of refund requests, damaging the reputation of the brand, and causing customers to abandon the product (Siwiec & Pacana, 2021). Different target groups have different perceptions and expectations of what they define as a good quality product. Therefore, it is crucial to understand the target and asses their needs accordingly so the business can create the ideal quality product, best suited for the market (Hargreaves et al., 2021; Bisbis, Gruda &

Blanke, 2018). Ultimately, the perception of your customers holds utmost importance. It is their viewpoint that will ultimately determine the level of success or failure of a product.

f. Packaging and Labelling

Product packaging is usually the initial encounter customers have with the product, emphasising the importance of the first impression that leads to lasting brand loyalty. Therefore, the significance of product packaging should never be underestimated by manufactures (White, 2019). However, this was not always the case, in the past manufactures did not put too much consideration into packaging besides protecting the good for transportation purposes. Branding the packaging was not expected by the customers at the time. The development of the industry and market has led to the opportunities created for businesses to use the packaging as a marketing strategy to communicate, engage and attract customers (Ang, Pontes & France, 2023; Kwiatkowski, 2018). Whereas labelling is on the packaging for consumers to identify information about the specific product or service. Examples of the labels on products includes the product name, manufactured and expiry date, ingredients etc. Other than the general information about the product the labelling should be able to include details that will influence their purchase decision (Century Label, 2021).

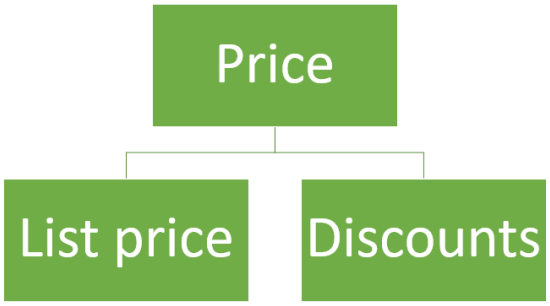
Product packaging lies beyond ensuring that the product is protected for transport, storing, and keeping the product in good condition. Packaging is a crucial marketing instrument that reinforces branding by creating exceptional customer experience and highlighting the finest product features (Nguyen-Viet, 2022; Jain, 2013. Brands can express their values with the opportunity present to communicate the message on pack. Information can be provided on pack about the brand, the product itself or even direct customers to their digital platforms (Raheem, Vishnu & Ahmed, 2014). On the contrary, product labelling is presented on the packaging. The manner that the labelling is illustrated is an important aspect to escalate brand desirability and awareness to customers (White, 2019). Labelling can create expand brand visibility and trust with the customers as they become familiar with the product label, that is used as a form of identification. Thus, customers can tell similar products apart based on the label. The description of the product is listed on the label, so customers are provided with all the information they need to know about the product (Century Label, 2021; Hargreaves et al., 2021).

In general, product packaging is an element that can make the product distinctive on shelf. The goal of packaging is creating the desire effect for customers to purchase by simply being attracted to the packaging. It is necessary for the packaging to be fascinating enough to create a mood and lead to a series of emotions for the customer (Rubik & Frankl, 2017). Essentially, the packaging requires to evoke the customer to ponder about the brand beyond the product offerings in reference to the general foundational values of the brand itself. Additionally, companies are increasingly moving towards to environmentally friendly (recyclable) packaging to reduce waste production and environmental damage (Díaz, Fernández-Ruiz & Cámara, 2020; White, 2019).

3.4.2.2 Price

The one and only tactic that helps the company generate revenue is Price. It requires extensive research to set the price and position the offering in the market in relation to customer and competitor influences (Oxford College of Marketing, 2020). In general, customers are highly price sensitive, a small shift in a products price can result in customers opting for competitor offerings (Nupurjain, 2023). As a result, the decisions relating to the price mix is crucial, it is associated with price fixing, competitor pricing, commodity demand, etc (Thabit & Raewf, 2018; Singh, 2012). There are many factors that a marketer should consider when price fixing commodities, that goes beyond marketing tools. For instance, cost to produce, raw materials, objectives of pricing, customer demand, legal and government requirements (Anjani & Perdhana, 2021). Importantly, price focuses on the profitability for the business by assessing the final Profit and Loss (P&L) statement that summarises the margins and impacts from elasticity. Overall, there are many factors to analyse and consider when determining the best price strategy. Selected pricing strategies are discussed in Figure 3.8, namely, List Price and Discounts.

Figure 3.8: Tactical Marketing Tools for Price



Source: Authors own construct (2023)

a. List Price

The price that the supplier or manufacturer determines before any negotiations for their offerings is considered the list price. The list price is also commonly referred to as the recommended retail price (Aerikkala, 2023). This standard price shared by the manufacturer allows customers to compare retailers and it is also a guide to negotiate the price of the product offering. Transparency for the retail price is crucial in several companies to ensure that customers can access the price that comprises transparent explanations of any extra fees or charges (Nupurjain, 2023; Pomering, 2017). Therefore, the transparency will build long-term relationships and trust between the supplier and the customers.

There are many ways to determine the retail price, the most frequent methods are as follows: cost-based pricing, competitive pricing, and value-based pricing (Aerikkala, 2023; Schindler, 2011; Dolgui & Proth, 2010). Cost-based pricing refers to the process of establishing all the costs involved to manufacture the final product and then include a markup to reach the retail price (Amaral & Guerreiro, 2019). The price markup for a product, after accounting for all raw material costs, is necessary not only for the company to make a profit but also to cover additional overheads, such as marketing, research, and development expenses, which may arise before or after the final product is offered (Kneschke, 2023). In contrast, competitive pricing involves determining the price by assessing and aligning it with the prices of competitors. This pricing strategy is beneficial for companies and brands that enter a new market or category as they are able price their products according to the industry benchmark (Novkovic, 2023; Kienzler & Kowalkowski, 2017). Lastly, value-based pricing is positioned and driven according to the given market and their perceived value of the specific offering (Netseva-Porcheva, 2011). The price can be changed according to the off-peak (peak) times. This pricing strategy focuses on the customer as opposed to the traditional methods that assess the cost of product and competitor review (Ingnaszewski, 2022; Liozu, Hinterhuber, Boland & Perelli, 2012).

b. Discounts

A reduction from the initial price of an offering or service with the purpose to drive sales and move stock is done through a form of promotional pricing, discounts. Discount price strategy often drives customers to switch from competitor offerings by initiating a sense of urgency for consumers as people are price sensitive in many instances and enjoy the feeling of knowing that they have scored a deal (Nupurjain, 2023; Taghizadeh-Hesary, Rasoulinezhad & Yoshino,

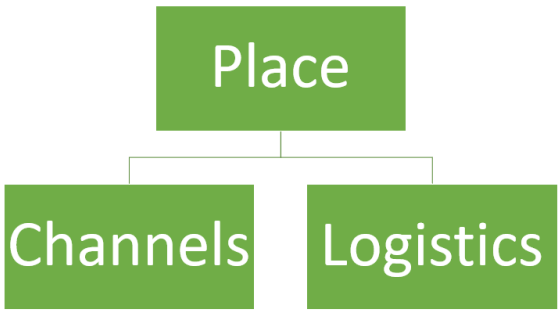
2019). Businesses generally offer discounted prices as part of their promotional deals for holidays, seasons, and bulk purchases. There are several discount pricing strategies regardless of how all discounts aim to reduce a specific percentage from the original list price (Archak, Ghose & Ipeirotis, 2011; Schindler, 2011).

It is important for companies to be conscious of the different strategies available to implement the ideal strategy aligned the objective of the discount as they do not have the same impact on purchases and sales (Kienzler & Kowalkowski, 2017). The most common discount strategies are as follows: seasonal pricing, clearance pricing and volume pricing. Firstly, seasonal pricing is as the title suggests, discounts are introduced based on seasonal products or the specific season. However, during some cases seasonal pricing can also be implemented to drive sales on out-of-season products, for instance, clothing (Ingnaszewski, 2022). Secondly, clearance pricing is usually offered to push sales through uncommon discounts for limited periods for products that are about to expire, discontinued or not moving on the shelf (Kneschke, 2023; Dolgui & Proth, 2010). Businesses that are about to liquidate can also drive clearance sales to get rid of stock on hand. Lastly, volume pricing motivates customers to buy products in bulk, this often applies to combining various items or large quantities (Aerikkala, 2023).

3.4.2.3 Place

Place is a marketing tool that refers to the process of moving products from the production location to the consumption destination (Kotler et al., 2015; Jain, 2013). The location where customers can buy the final product offering or service is either physically (in-store) or online. Companies can decide to offer the goods and services through their own platforms or even sell through intermediaries which then incorporates logistics and distribution (Oxford College of Marketing, 2020). In order for customers to buy the product or service it is required for it to be available to the customer, at the correct time and place. The place mix is more than just the product seen on shelf, it requires a lot of decision making, from warehousing, storing, transporting and even the market for distribution, etc (Nupurjain, 2023; Nguyen-Viet, 2022; Thabit & Raewf, 2018). Figure 3.9 shows the tactical marketing tools for Place, namely: Channels of distribution and Logistics that is discussed in more detail to better understand the important elements that fall within the place mix.

Figure 3.9: Tactical Marketing Tools for Place



Source: Authors own construct (2023)

a. Channels

Distribution channels refers to the process of getting a good or service from the manufacture to the end consumer through a network of systems managed by individuals and companies. A successful operations company relies heavily on the distribution channel (Nupurjain, 2023; Ray & Yin, 2020). These channels are more than just a route for the movement of goods and services, they pave the road to increase growth, penetrate the market and even capitalise on revenue growth. Channels of distribution is critical to make sure that the final good and service is at the correct place within the given time to maximise consumer convenience in terms of availability and accessibility in the market (Išoraitė, 2016; Singh, 2012). The purpose of the distribution channel is to ensure that products are distributed in a logical and coherent manner, increase market penetration and bettering overall customer satisfaction to retain and encourage repeat purchases (Anjani & Perdhana, 2021). Channel falls under an element within marketing as it provides the platform for promoting the product or service by increasing demand and generating awareness amongst customers within specific regions (Gowtham, 2023).

There are intermediaries within the channels that ensure that the products move smoothly through the system. These intermediaries in the channels of distribution also provides the business with valuable insights obtained from the consumers and in trade, to evaluate the company strategies (Gowtham, 2023; Ray & Yin, 2020). The two distinct channels of distribution, that can either be direct or indirect. Direct channels refer to the distribution level where the supplier sells directly to the customer without a third party involved. For example: Nike (producer) sells directly to the customers (Amiruddin & Modding, 2021).

Indirect channels of distribution include a third-party or intermediary in the distribution process, that can be based on three levels, the levels from one to three respectively are based on the number of intermediaries involved. One Level Channel includes the supplier and a customer (retailer) that will sell the products to the end consumer. For example: Farmers (producer) supply Woolworths (retailer) with fresh fruits to sell to the public (customer) (Gowtham, 2023). Two Level Channel is the most frequently used distribution channel that includes two intermediaries (the wholesaler and the retailer). The manufacture sells their goods in large quantities to wholesalers, who then supplies retailers with the products. For example: Samsung (Producer) sells TVs to Hirsch's (wholesaler) who then sells to Pick n Pay (retailer) to sell to the end customer (Gowtham, 2023). Lasty, the Three Level Channel includes three intermediaries between the sale of the goods from the producer to the customer. The involved parties are the same as two level channels but includes an agent or broker before it reaches the wholesaler. Generally, the three-level channel is used for cross regional or international sales that require and agent or broker to assist with the purchases (Gowtham, 2023; Amiruddin & Modding, 2021).

b. Logistics

The logistics that falls under the place mix includes the elements required to ensure physical distribution of the products. These elements focus on four managerial decisions, namely: order processing, transportation, warehousing, and inventory (Madhani, 2017; Grishchenko, Kireev, Dubrova, Yanenko & Vakulenko, 2016.).

Order processing refers to the time and procedure included from when the customer places and order and generates the receipt to the product being delivered. Customers ultimately seek for fast and reliable delivery services that ensure that their products are packaged and stored safely upon delivery, all the way up until timely arrival (Nupurjain, 2023; Gowtham, 2023; Ray & Yin, 2020). If the order processing system is dragged out consumers may easily change to available competitor offerings. Therefore, to better customer satisfaction an effective distribution process that includes fast and accurate order processing is necessary. Marketers are now shifting towards information technology-based approaches with computer systems that can speed up the process when handing orders (Grishchenko et al., 2016).

Followed by one of the most crucial processes that forms part of logistics and physical distribution, transportation. It is known as the movement of products and services from one

location to a different location, through which, adding value by the means of availability and convenience (Thabit & Raewf, 2018). There are several methods of transportation that ranges from air (airplane), land (railways, cars, etc.) and even water (boats or ships). The type of transportations methods requires detailed considerations based on what best suits the product due to the nature of each transportation method that may differ in costs due to the availability, speed, capacity etc (Gowtham, 2023).

The procedure of keeping and preserving the product before being transported to the buyer is referred to as warehousing. Warehousing is a part of the logistics process that needs to be considered to store the products and services safely and accurately in between the time gap leading to final consumption (Gowtham, 2023; Pomering, 2017). The requirement of storage or warehousing is evident when production is seasonal and consumption is continuous, vice versa. Dependant on the type of product and duration of storage required warehouses are usually located close to, if not on the premises of the manufacturing plant or either close to the retailer's store. The purpose of the ideal warehouse placement is to drive efficiencies for the business to deliver to the customer timeously and less costly manner. It is important for the business to consider and balance the warehousing costs and level of customer service provided (Nupurjain, 2023).

Lastly, inventory refers to the stock on hand and inventory control is the process of determining, maintaining, and managing the available stock on hand for distribution. Although high inventory ensures that the product is always readily available it can lead to increased costs and stationary revenue with the stock in storage and low inventory levels results in the product not being able to be readily available for the customer when required. As a result, marketers are taking into consideration the nature of the product (perishable) and opting for accurate predictions of inventory required or Just-in-Time Inventory (JIT) to maintain the cashflow of the business and overall customer satisfaction (Gowtham, 2023; Madhani, 2017).

3.4.2.4 Promotion

Promotion is used by marketers to generate awareness of the product offering and to communicate the desired message across about the offering in hope to increase sales. This also goes about deciding on the type of media to showcase the message such as: newspapers, billboards, TV and so on (Oxford College of Marketing, 2020). Promotional communication is a tool used by businesses to inform individuals of the product benefits, by providing them with

a reason to purchase the products over competitor offerings using persuasive messaging (Nupurjain, 2023). The four main pillars of the promotion mix include Advertising, Personal Selling, Sales Promotion and Public Relations (Figure 3.10).

Figure 3.10: Tactical Marketing Tools for Promotion



Source: Authors own construct (2023)

a. Advertising

An identified sponsor that gets paid to promote the concept of a good or service without directly referencing it is known as advertising. Advertising is one of the most common elements in the promotion mix that assists companies in creating an indirect link with their customers (Azmi, Shihab, Rustiana & Lazirkha, 2022; Rödl, 2018). Individuals can be made aware of products and their details such as product features, price, and availability with the use of advertising. There are different ways to advertise but they all share a common goal, to generate increased sales for the company (Belch & Belch, 2018). The different forms of advertising create mass reach with platforms such as TV and radio, it can also be an economical approach to promotion as the total cost to advertise is spread across the mass reach.

Advertising amplifies customer loyalty through obtaining their confidence and satisfaction as the product is publicly advertised and gains authenticity (Belch & Belch, 2018). Advertising has become a leading method of communication and necessity for brands to successfully express their product offerings. However, marketers are required to put more though and effort into advertising compared to the past, as the indirect contact from advertising is not as forceful and individuals are more distracted and bombarded daily with countless of advertisements (Anjani & Perdhana, 2021). Additionally, it may be difficult to obtain immediate and precise feedback from individuals on their thoughts about the advert, even if feedback is received it is difficult for the company to be able to slightly alter the advert to better suit the target, as it is

generally a standardised message and would be very costly to do so (Nupurjain, 2023; Belch & Belch, 2018).

b. Personal Selling

Personal selling refers to physically communicating, informing and interaction with the customer with the intentions of persuading purchase. Personal selling isn't necessary convincing the customer to purchase but to provide information and ensure customer satisfaction (Singh, 2012; Kotler et al., 2015). The business can employ a sales team or salesperson on the ground to generate awareness about the product offering. Personal selling is flexible as the sales team can alter the product display through creative means to attract customers and best suit the region (Išoraitė, 2016). This method of promotion also ensures that the business obtains direct and instant feedback from the customer. The role of personal selling is to minimise wastage of promotional efforts, build lasting relationships with customers, gain immediate market information to identify needs and address concerns (Jain, 2013; Constantinides, 2006).

c. Sales Promotion

A short-term incentive or promotional activities offered by the retailer to persuade customers towards immediate purchase is referred to as a sales promotion. Sales promotions assists the other tools under the promotional mix such as supplementing personal selling and advertising as it comprises of all the activities to increase sales over a short period (Azmi et al., 2018). This technique is beneficial for companies when they wish to temporarily boost sales, clear inventory, or even gain competitor share. Sales promotions capture customer attention by offering incentives to choose your product over others. They are particularly beneficial when introducing new products to the market, as promotions such as samples or lower prices motivate customers to try out the new offerings (Belch & Belch, 2018). Nonetheless, if used incorrectly or too frequently the reputation of the company can be negatively impacted as customers will start to associate the product with low demand and quality hence incentives are offered (Nupurjain, 2023).

d. Public Relations

A strategic management element used to manage the businesses reputation and adds value by maintaining a mutual understanding with the public intentionally and continuously is public relations (PR) (Pomering, 2017). Public relations is necessary as it includes more than just the

customer but all the individuals and entities involved to ensure smooth business operation, ranging from the key stakeholders to the manufacture, intermediaries and even the government (Thabit & Raewf, 2018). The goal of PR is used to create healthy relationships for a desired brand image, with the help of independent media sources that will project the desired message on behalf of the business. Examples of PR tools can include the following: Experiential's, Newsletters and Press releases. The aim of PR is to build the desirable corporate image of the brand through creditable voices adjunction to the promotional mix (Grishchenko et al., 2016).

3.5 Theoretical Integration

This research employs three interconnected theories — ELM, BRT, and the Marketing Mix— to investigate consumer decision-making in the context of plant-based food products. These theories collectively form a cohesive conceptual framework that guides the quantitative analysis of factors influencing consumers behavioural intention.

The ELM is used to evaluate how consumers process messages about plant-based food products, focusing on how motivation and processing capacity influence decisions. The theory distinguishes between two routes of processing: the central route (involving high motivation and careful evaluation of product attributes like knowledge and packaging design) and the peripheral route (where low motivation leads to more superficial cues such as packaging or brand familiarity). By applying the ELM, the study assesses how different factors influence consumer perceptions and the likelihood of choosing PBPs.

The BRT complements this by offering a more comprehensive understanding of consumer decision-making. Unlike ELM, which focuses on message processing, the BRT considers both positive and negative motivations—accounting for reasons for and against adopting plant-based diets. The theory incorporates cognitive processes and resistance factors, shedding light on why some consumers embrace plant-based eating, while others resist despite positive messages. By considering both motivating and inhibiting factors, BRT enriches the framework, allowing a more nuanced understanding of consumer behaviour and helping to explain discrepancies in consumer choices.

The Marketing Mix theory is included to address the practical, strategic aspects of influencing consumer behaviour. By applying this framework, the research assesses how product offerings, pricing, place, and promotion align with consumer motivations derived from ELM and BRT.

The marketing mix acts as the tactical element, offering insights on how businesses can effectively target and engage the plant-based market. By integrating the marketing mix, the study can recommend actionable strategies for marketers to better connect with potential customers based on the findings of ELM and BRT.

Together, these three theories form a comprehensive framework that not only explains consumer decision-making processes but also provides a strategic foundation for understanding how businesses can shape their marketing efforts to align with consumer perceptions, motivations, and resistance. This integrated approach allows for a deeper exploration of the factors influencing plant-based food choices and provides practical insights for both marketing practitioners and researchers in the field.

3.6 Conclusion

The theoretical groundings around the Elaboration Likelihood Model (Petty & Cacioppo, 1980) Behavioural Reasoning Theory (Westby, 2005) and the Marketing Mix (McCarthy, 1960) were discussed in detail. The next chapter will focus on the research design and methodology.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

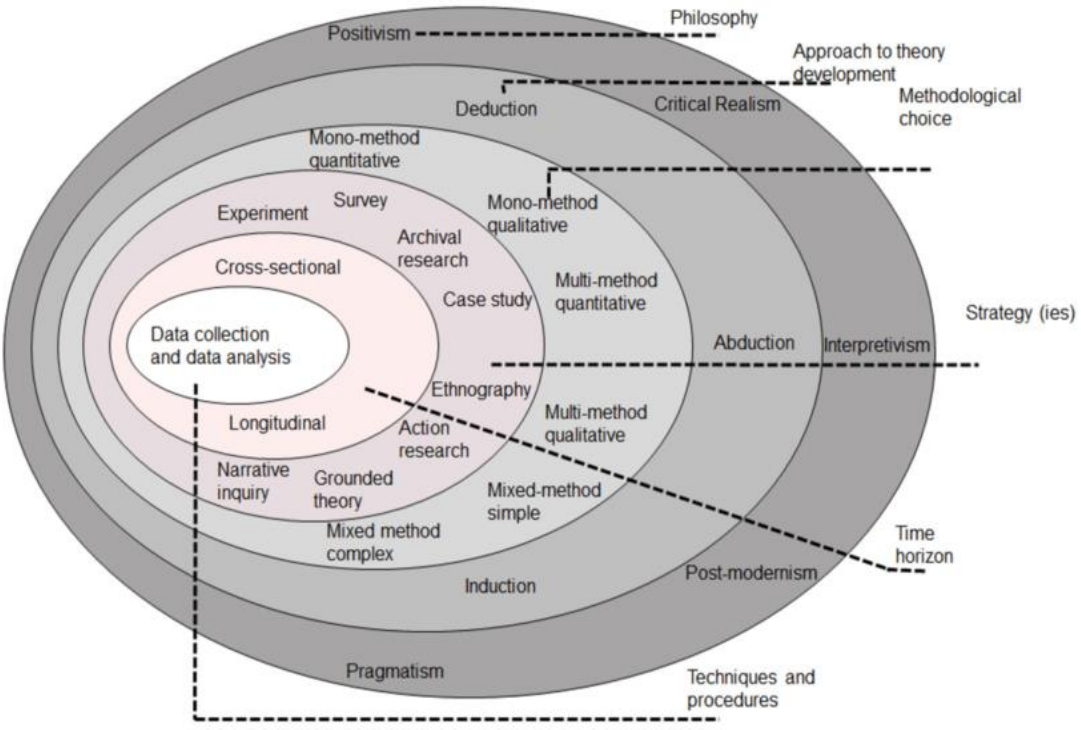
4.1 Introduction

This chapter provides a critical discussion of the research design and methodology employed in the study. The theoretical underpinnings are outlined, focusing on the research philosophy, design approach, sampling method, and the statistical techniques utilised in the study.

4.2 Research Method and Design

Data collection and analysis for marketing research is structured through the research design, by ensuring that the research problem and objectives are appropriate to attain the study's intended purpose (Marczyk, DeMatteo & Festinger, 2010; Collis & Hussey, 2009). Saunders, Lewis and Thornhill (2007) developed a framework called the "research onion". It illustrates different layers respective to the many different decisions required in the process of creating a robust research methodology. This study follows the guidelines within this framework, to ensure that the stages of the research process is clear and precise. The different layers of the framework are depicted in Figure 4.1 below. This section will include the discussion of the research philosophy and design, followed by the rationale of the adopted methods.

Figure 4.1: The Research Onion



Source: Saunders, Lewis & Thornhill (2007)

4.2.1 Research Philosophy

An extensive range of paradigms is illustrated by research philosophy, encompassing both objective quantitative methods and subjective qualitative research. Alternatively, research philosophy also refers to the conceptualisation and thought processes by which researchers develop knowledge (Sileyew, 2019; Melnikovas, 2018). The term paradigm to a framework or set of fundamental beliefs that guide researchers in organising their reasoning and interpreting findings. Research philosophies are typically categorised into five main paradigms: positivism, critical realism, interpretivism, post-positivism, and pragmatism. However, other research paradigms, such as realism, critical theory, constructivism, feminist theory, postmodernism, and hermeneutics, may also be relevant depending on the research context, objectives, and methodologies (Abdelhakim, 2021; Guba & Lincoln, 1994).

These research philosophies can be classified into three main schools of thought: ontology, epistemology, and methodology. Quantitative, or deductive research methods usually falls under positivism and post-positivism, which involve testing hypotheses (Bell, Bryman & Harley, 2022; Marczyk, DeMatteo, & Festinger, 2010). In some cases, however, qualitative research approaches can also align with post-positivism. These schools of thought emphasise the laws of cause and effect, and they tend to be objective in nature. In contrast, qualitative, or inductive research methods are more closely associated with critical theory and constructivism, which generally focus on expanding topics through subjective and interpretive approaches (Marczyk, DeMatteo & Festinger, 2010; Collis & Hussey, 2009; Saunders, Lewis & Thornhill, 2007). Table 4.1 provides a summary of the research paradigms.

Table 4.1: Research Philosophy Paradigms

Research Paradigm	**Ontology** (Nature of Reality)	**Epistemology** (Nature of Knowledge)	**Axiology** (Role of Values)	**Methodology** (Approach to Research)	**Key Features**
Positivism	Objective reality exists independently of human perception. It is conventionally summed up in time and context-free generalisations and is based on cause-effect laws.	Knowledge is objective and can be measured through empirical observation (facts).	Research should be value-free, and objectivity is paramount.	Quantitative methods (experiments, surveys, statistical analysis) focused on testing hypotheses.	Focuses on causal relationships and predictions. Emphasizes scientific rigor and reproducibility.
Critical Realism	Reality exists independently, but our knowledge of it is always mediated and incomplete. There are underlying mechanisms and structures behind observable phenomena.	Knowledge is fallible and mediated by human experiences, but it aims to uncover deeper, causal mechanisms.	Recognizes that values can influence research but aims for objective insights into reality.	Mixed methods (quantitative and qualitative); focuses on understanding the underlying causes of observable phenomena.	Seeks to explore the depth of reality, acknowledging both observable events and deeper structures.
Interpretivism	Reality is socially constructed and subjective, varying by individuals or cultures.	Knowledge is subjective, constructed through human interpretation and social context.	Research is inherently value-laden; the researcher's perspective plays a key role.	Qualitative methods (interviews, ethnography, case studies) to understand people's experiences and the meanings they attach to them.	Focuses on understanding the meaning behind human experiences, often from the participant's perspective.
Post-positivism	Reality exists, but it is complex, and our knowledge of it is always tentative and imperfect.	Knowledge is based on empirical observations but is fallible and never absolute.	Recognizes that values influence research but strives for objectivity and scientific rigor.	Both quantitative and qualitative methods; aims to test theories and understand causal relationships.	Combines positivist and interpretivist approaches, acknowledging that absolute knowledge is unattainable.
Pragmatism	Reality is flexible and pragmatic; it can be understood through practical inquiry.	Knowledge is practical and judged by its usefulness in solving real-world problems.	Values are context-dependent and influence the research process based on practical goals.	Mixed methods (flexible use of both qualitative and quantitative approaches) focused on solving practical problems.	Focuses on what works in a given context, emphasizing the practical application of research findings.

Source: Guba and Lincoln (1994)

This study adopts a mixed-methods study using pragmatism, combining both qualitative and quantitative research approaches to address the research problem by drawing on the strengths of each method (Tenuche, 2018). The pragmatist philosophy emphasises practical solutions and the real-world applicability of findings, guiding the choice of methods based on the research question rather than adhering to a single approach (Bell, Bryman & Harley, 2022; Tengli, 2020; Denscombe, 2008). This allows researchers to gather both numerical data (quantitative) and in-depth, contextual insights (qualitative), providing a comprehensive understanding of the issue.

The focus is on producing results that are not only statistically significant but also useful and applicable in real-world contexts. (Schoonenboom & Johnson, 2017; Edwards, 2010).

In reference to Saunders, Lewis and Thornhill's (2007) research onion, the research philosophy forms part of the outer layer. The three schools of thought (research assumptions) remain the same whereas, the research philosophy has been adapted to positivism, critical realism, interpretivism, postmodernism and pragmatism (Sileyew, 2019; Teddlie & Tashakkori, 2011). This study follows the pragmatism philosophy, in which the concepts are only significant once the action is supported. This research philosophy aims to accommodate mixed-method studies, with objective (positivism) and subjective (interpretivism) views. It focuses on being practical, emphasising that knowledge is not set in stone, but rather is continuously questioned, and interpreted.

4.2.2 Research Approach

The theory development process during a research study comprises two main approaches: inductive and deductive (Abdelhakim, 2021; Marczyk, DeMatteo, & Festinger, 2010). Inductive research empirically observes reality to conceptualise theory, shifting from specific to general deductions of reality. This approach involves conceptualising a theoretical framework or concept from empirical research, often with little to no existing theoretical foundation. It is primarily used in qualitative methods to explore unknown circumstances by forming theories based on the results of data collection (Creswell & Poth, 2016). Conversely, deductive research empirically examines hypotheses derived from conceptual models based on existing theories. This approach is generally utilised in quantitative methods, beginning with a theory that aims to expand or test the research (generalisation to specification) (Tengli, 2020; Tenuche, 2018).

This study adopts both inductive and deductive approaches, also known as the abductive approach, which combines elements of both methods in a mixed-methods study. The abductive approach integrates elements of both methods to form a more comprehensive framework for mixed-methods research. It begins with specific observations or data points that are often surprising or unexplained, and from these, it generates possible explanations or hypotheses. These explanations are then refined and tested by comparing patterns and linking them to broader theoretical insights (Denscombe, 2008). In other words, the approach moves from specific observations to the generation of hypotheses, which are further developed and tested

through additional data collection. This process helps to build and refine a conceptual framework, which can then be empirically tested, allowing for a deeper understanding of the research problem (Schoonenboom & Johnson, 2017).

4.2.3 Methodological Choice and Research Strategy

The research choice pertains to whether the study will use a mono-method (either qualitative or quantitative), a mixed-method (both qualitative and quantitative), or multi-methods (utilising different methods at various stages). The research strategy involves selecting an overarching approach, such as experiments, surveys, case studies, or ethnography, based on the nature of the problem and the type of data required (Saunders, Lewis & Thornhill, 2007). Both the research choice and strategy are guided by the research philosophy and objectives, ensuring that the chosen methodology aligns with the research goals and provides a coherent framework for data collection and analysis.

Quantitative research is the most common method used to predict and explain human behaviour, by following a positivist philosophy and deductive approach (Melnikovas, 2018). It typically involves the use of numerical data to explain social phenomena by formulating hypotheses and statistically testing causal relationships between constructs derived from objective theories (Marczyk, DeMatteo, & Festinger, 2010). This method follows a structured process of data collection, utilising precise measurement instruments, and its findings are generally repeatable when applied to other groups within the population. Surveys, as a quantitative data collection method, are highly effective and practical for gathering insights from large numbers of respondents, and the data collected tends to be representative of the target population (Sileyew, 2019; Tenuche, 2018).

Qualitative research is used to explore and interpret behaviour, aiming to gain a deeper understanding of individuals or groups, typically within an interpretivist philosophy and an inductive approach (Creswell & Clark, 2017). Unlike quantitative research, the data collection methods in qualitative research are generally less structured. The data analysis process relies on transcripts, reflections, and open-ended discussions around the research topic (Schoonenboom & Johnson, 2017). Respondents share their perspectives on the given topic, and the researcher then analyses and interprets the meaning of the findings inductively. Qualitative research methods tend to involve smaller sample sizes, and as such, the findings are non-representative and less generalisable (Abdelhakim, 2021; Tengli, 2020).

Mixed-methods research involves the integration of both qualitative and quantitative data collection methods to elucidate, understand, and empirically examine relationships. Accordingly, one research method can be employed to aid in interpreting the relationship between emerging variables from the other research method (Creswell, 2014). The research philosophy for mixed-methods research is pragmatism, with an abductive approach. Data collection is conducted twice, utilising both unstructured and structured approaches that encompass smaller and larger quantities of respondents. The study's outcomes can generalise findings and provide more robustness to the research by amalgamating the two research methods (Tenuche, 2018; Edwards, 2010).

4.2.4 Time Horizon

In the Research Onion framework, the time horizon refers to the temporal scope of the study, determining whether data will be collected at a single point in time or over an extended period. The choice of time horizon has a significant impact on the overall research design and methodology, influencing both the nature of data collection and the type of analysis performed (Saunders, Lewis, & Thornhill, 2007).

There are two main types of time horizons commonly used in research: cross-sectional and longitudinal. A cross-sectional study is one that collects data at a single point in time, providing a snapshot of the phenomenon under investigation (Bell, Bryman & Harley, 2022). This type of time horizon is particularly useful for research aiming to understand or describe the situation in a specific population or context at a given moment. For instance, a survey on consumer preferences conducted over a short period is considered cross-sectional, as it focuses on understanding current trends without tracking changes over time (Saunders et al., 2007). On the other hand, a longitudinal study involves collecting data over a longer duration, allowing researchers to track changes, developments, or trends in a particular phenomenon over time (Creswell & Clark, 2017). This type of study is ideal for exploring causal relationships or understanding how variables evolve over time. Longitudinal research is often used in areas such as public health, education, or social sciences, where it is important to observe the effects of interventions or trends over an extended period (Bryman, 2016).

The choice between a cross-sectional and longitudinal time horizon is influenced by the research objectives, the nature of the study, and the types of insights the researcher seeks to gain. Cross-sectional studies are typically quicker to conduct and suitable for descriptive or

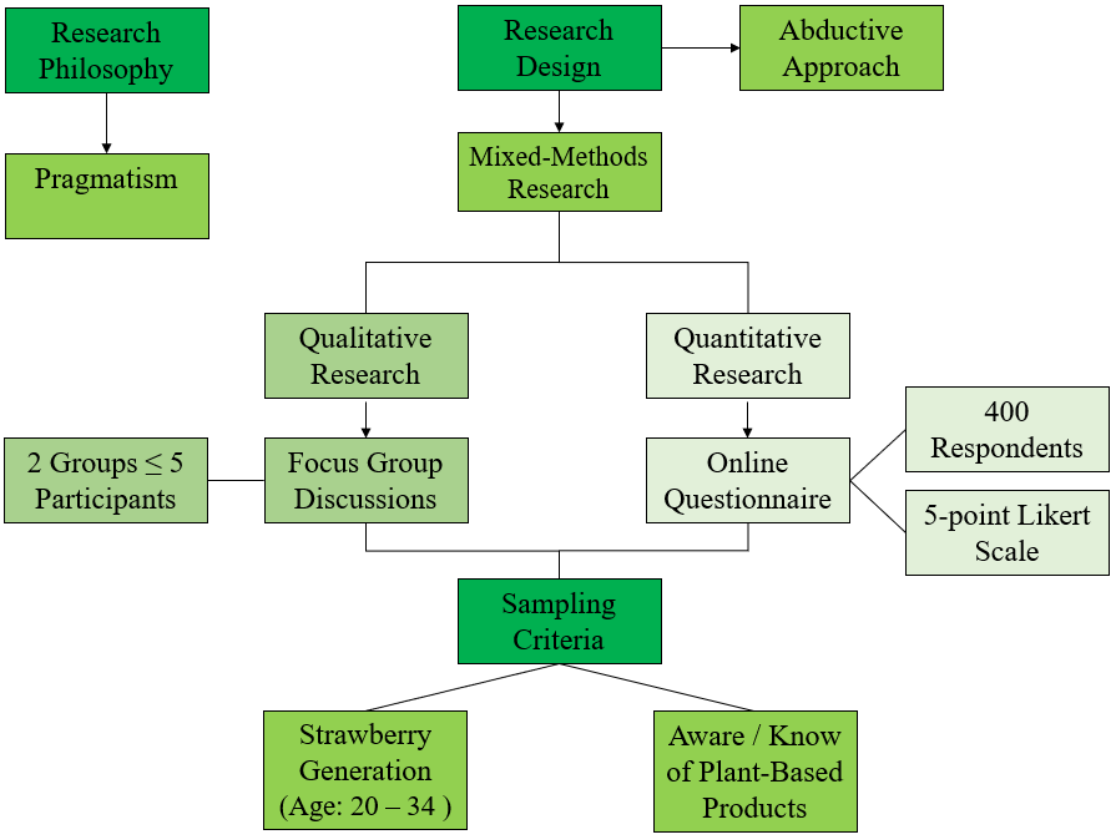
exploratory research, while longitudinal studies, though more time-consuming, provide a deeper understanding of cause-and-effect relationships and long-term trends (Saunders et al., 2007).

This study follows a mixed-methods approach where qualitative focus groups are conducted first, followed by quantitative surveys based on the qualitative findings, the time horizon typically aligns with a longitudinal approach. This design involves two stages of data collection, that span over an extended period. During the qualitative phase (focus groups), in-depth insights into participants' experiences, perceptions, or opinions is collected. After analysing the qualitative data, the researcher then moved on to the quantitative phase, where surveys were developed based on the themes and insights derived from the focus groups.

4.2.5 Research Process Adopted for this Study

An innovative and dynamic method is used to conduct this study through a sequential mixed-methods approach. This approach integrates operational and practical decisions by first assessing qualitative data, followed by quantitative data, to collectively seek solutions for the initial research problems identified (Parvaiz, Mufti & Wahab, 2016; Denscombe, 2008). This study employs a sequential mixed-methods approach to provide a more in-depth assessment and understanding of the research problem, as opposed to relying solely on one approach (Abdelhakim, 2021; Melnikovas, 2018). The research approach for this study is illustrated in Figure 4.2.

Figure 4.2: Research Design Adopted for This Study



Source: Compiled by Researcher (2022)

4.2.5.1 Rationale for Mixed-Methods Research

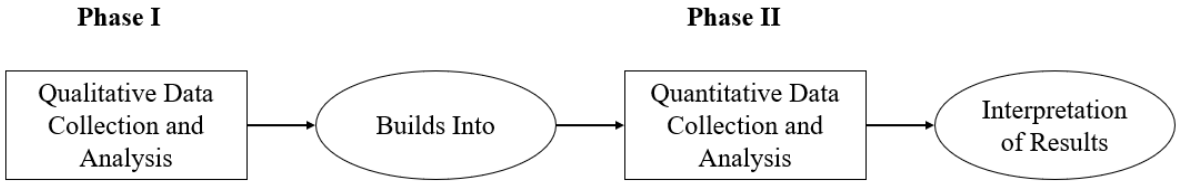
Mixed-methods research involves the researcher(s) to incorporate segments of qualitative and quantitative research methods in order to enrich the understanding and authentication of the findings (Tengli, 2020; Schoonenboom & Johnson, 2017; Teddlie & Tashakkori, 2011; Marczyk, DeMatteo, & Festinger, 2010). This research design is applicable to the current study as the qualitative component will examine the contextualised theory to assist companies and marketers, in relation to customers' (respondents) level of processing and reasoning towards the emerging plant-based trends. Moreover, the incorporation of the quantitative component within mixed-methods research allows the research findings to be broadened and generalised (Creswell & Clark, 2017; Creswell & Poth, 2016). Therefore, the knowledge and validity for the topic of this study is enhanced. In summary, the integration of two research approaches (qualitative and quantitative) within a single study enhances the findings and addresses potential gaps, compared to employing only one method. The strengths of qualitative research often mitigate the weaknesses of quantitative research, and vice versa. (Braun, Clarke, Boulton,

Davey & McEvoy, 2021; Creswell & Tashakkori, 2007). In this case, the qualitative component of the study will assure that the findings from the collected data are comprehensive and contextualised, whereas the quantitative component ensures that the external data is justifiable and generalisable to further authenticate the results.

4.2.5.2 Mixed-Methods Research

The present research explores a new connection between plant-based food products, potential thought processes that can be altered through persuasion and intentions that can forecast the thought process and the marketing strategies to be followed. Therefore, it is necessary for the study to first get an understanding of the plant-based market's perspective, to create a conceptual framework. The study was based on an exploratory sequential mixed-methods approach that was executed in three phases, depicted in Figure 4.3. The research process of this method was to utilise the findings from the qualitative method to assist with the development of the conceptual model that was tested quantitatively (Sileyew, 2019; Creswell & Clark, 2017; Schoonenboom & Johnson, 2017).

Figure 4.3: Explanatory Sequential Mixed-Methods Design



Source: Creswell and Clark (2017)

The two-phase approach commenced by gathering and analysing qualitative data that builds into developing a conceptual framework. The framework was then tested through quantitative means and the data was interpreted to form the concluding findings of the study. Hence, the two-phases of the research approach were as follows:

Phase I: Qualitative research in the form of focus group discussions was used to explore the perceptions around the plant-based market in relation to the theoretical groundings (ELM, BRT, and marketing mix). Prominent themes were identified from the discussion to form a conceptual framework for the study.

Phase II: Quantitative research in the form of surveys was used to test the conceptual framework developed from the Phase I. The conceptual framework that merged the ELM and BRT constructs served as a guide in developing the survey.

a. Qualitative component (Phase I):

Through a qualitative method, an interpretive abductive research approach was initially employed to comprehend customers' cognitive processes and reasoning regarding plant-based food products. This approach aimed to develop a comprehensive conceptual model that integrates elements from the ELM, BRT and marketing mix. The research strategy utilised for this approach was focus group discussions (FGD). Focus groups involve bringing together groups of individuals to be interviewed, with a focus on a specific topic. Participants are encouraged to interact by sharing their perceptions and discussing their views on the emphasised topic (Kinalski, Paula, Padoin, Neves, Kleinubing & Cortes, 2017; McLafferty, 2004; Morgan, 1996).

Focus groups were chosen for this study because they provide a substantial amount of information on the topic of PBPs and the theoretical foundations within a relatively short timeframe. This approach allowed the researcher to gain further insights into the broader views of PBPs and explore motivations surrounding the topic. During the FGDs, interviews were recorded and transcribed simultaneously using Microsoft Teams. Two FGDs were conducted for this study to provide a more accurate and detailed sense of direction for the research (Hennink, Kaiser & Weber, 2019; Morgan, Krueger & Scannell, 1998). Subsequently, a conceptual framework was developed based on the findings and identified theoretical groundings for the study.

b. Quantitative component (Phase II):

For an empirical study, a positivist deductive reasoning approach was adopted, based on the developed conceptual framework derived from the theoretical elements and existing knowledge identified in the inductive research. Surveys (questionnaires) were employed as the research strategy for this approach. Surveys involve structured questions directed at respondents, allowing the researcher to collect quantitative data, which can then be analysed using various statistical methods (Nardi, 2018; Denscombe, 2008). By using surveys, the researcher was able to collect data from a large and diverse sample in a cost-effective manner. The structured format of the survey ensured standardised data collection, minimising interviewer bias, and facilitating

the quantification and statistical analysis of responses (Nayak & Narayan, 2019; Van Selm & Jankowski, 2006). Additionally, surveys provide flexibility in distribution—whether online, by phone, or in person—and can encourage honest responses by maintaining anonymity (Braun et al., 2021; Sue & Ritter, 2012).

A questionnaire was designed based on the proposed hypothesis and conceptual framework to best suit the study objectives. 400 online surveys were distributed using Google Forms. The survey included two screening questions to ensure that respondents met the criteria for the study. The first screening question verified that respondents fell within the required age category of the Strawberry Generation, specific to this study (age 20 to 34), while the second confirmed their awareness or knowledge of plant-based food products.

4.3 Sampling Design

Since it is very difficult to interview the entire South African population on the plant-based topic, the population had to be sampled. This procedure involves outlining the target population, sample frame and size along with determining the sampling method to use.

4.3.1 Target Population

The population of interest refers to a specific identified group from which the researcher would like to generate conclusions for a certain area of study. The criteria used to identify this group are broad, as they may include a sample of countries, businesses, and individuals. Normally, it is agreed that the population subset is a sample, which forms part of the research's central element (Casteel & Bridier, 2021). The population of interest for this study included all races and income groups that falls within the realm of Generation Y and Z consumers, more specifically referred to the Strawberry Generation for the purpose of this study.

4.3.2 Sampling Frame and Sample Size

The sampling frame refers to the set or list of individuals or units from which the sample is drawn and defines the scope of the target population (Acharya, Prakash, Saxena & Nigam, 2013). For this study, the sampling frame was restricted to individuals who met the criteria of being aware or knowledgeable about PBPs, between the ages of 20 to 34. In contrast, the sample size refers to the number of individuals or units selected from the sampling frame for participation in the study. The sample size is a critical aspect of research, as it directly impacts the reliability and precision of the study's findings. A larger sample size generally improves the

representativeness of the sample and reduces the margin of error, thus providing more accurate estimates of the population (Sileyew, 2019; Creswell & Poth, 2016). Larger samples are considered more reliable, as they are more likely to reflect the diversity of the target population, whereas smaller samples may risk bias or overrepresentation of certain subgroups (Casteel & Bridier, 2021; Hennink, Kaiser & Weber, 2019; Creswell & Clark, 2017; Acharya et al., 2013; Saunders, Lewis & Thornhill, 2007).

a. Qualitative component (Phase I):

For the qualitative component of this study, two online focus groups were conducted, each consisting of at least five participants. Smaller sample sizes are typical for focus groups, as they allow for in-depth exploration of participants' perspectives, providing valuable insights into the topic of interest (Hennink, Kaiser & Weber, 2019; Creswell, 1999; Morgan, 1996). In qualitative research, the primary aim is not to achieve statistical representativeness but to gather rich, detailed data from a smaller, targeted group.

Research commonly recommends conducting at least two focus groups to achieve data saturation—the point at which no new themes emerge, and further discussions no longer add significant new information (Kinalski et al., 2017). Beyond two groups, researchers generally observe diminishing returns, with recurring themes becoming more dominant. The decision to limit the number of focus groups to two was therefore driven by this principle of saturation, ensuring that the data collection process would generate meaningful insights without unnecessary repetition (Jackson, Bazeley & Bazeley, 2019). Moreover, the sample frame for the qualitative phase was constrained to individuals within the researcher's network, focusing on those who met the study's inclusion criteria. This allowed for a more targeted selection of participants, increasing the relevance and depth of the data collected (Abdelhakim, 2021; Creswell & Tashakkori, 2007; McLafferty, 2004). The focus groups in this study were conducted online via Microsoft Teams, with discussions recorded and transcribed for analysis.

b. Quantitative component (Phase II):

A larger sample size was required to ensure the reliability and generalisability of the findings for quantitative research. The research strategy entailed a structured form of data collection from a sizable population, utilising surveys (Nardi, 2018). According to Statista (2021), the population of South Africans aged 20 to 34 is approximately 15,694,000. The sample size for this research was determined using Raosoft's Sample Size Calculator (2022) with a 5% margin

of error, a 95% confidence level, and the population size of 15,694,000. This calculation recommended a sample size of 385 respondents.

To enhance the robustness of the findings, the target sample size was increased to 400 respondents. This larger sample size was considered necessary to achieve a high level of statistical confidence and ensure that the sample accurately represented the broader population of South Africans aged 20 to 34, particularly in terms of their awareness and knowledge of plant-based food products. Data collection was conducted using Google Forms, with surveys distributed through various online platforms, including WhatsApp, LinkedIn, Facebook, and the university's database. The survey link was shared on these platforms, with requests for friends, colleagues, and students to participate and re-share. Similarly, the survey link was shared on LinkedIn to encourage business connections to participate and repost to a broader network. Permission to distribute the survey through the university database was granted by the ethics committee and faculty registrar.

4.3.3 Sampling Method

The sampling method describes how participants were selected from the sampling frame to form the study's sample (Abdelhakim, 2021; Acharya et al., 2013). It determines how individuals are chosen to ensure the sample is representative of the population or suitable for answering the research questions. The study utilised different sampling methods for the qualitative and quantitative phases to ensure the most appropriate approach for each data collection method. Sampling methods are broadly categorised into probability and non-probability techniques (Sileyew, 2019; Marczyk, DeMatteo, & Festinger, 2010). Probability sampling involves random selection, giving every individual in the population an equal chance of being chosen, which enhances the generalisability and representativeness of the findings. In contrast, non-probability sampling involves selecting participants based on specific criteria, convenience, or availability, and is often used in qualitative research or when random sampling is not feasible (Schoonenboom & Johnson, 2017). The choice of sampling method depends on the research design, objectives, available resources, and the nature of the population being studied.

a. Qualitative component (Phase I):

A non-probability purposive sampling method was applied in this study, where participants were selected based on specific criteria relevant to the research. This approach was used to gain

insights into perceptions regarding PBPs during the two focus group discussions. The researcher invited friends and colleagues to participate, ensuring they met two key criteria: being aged between 20 and 34 years and having knowledge or awareness of plant-based food products. This method allowed for the selection of individuals with relevant insights, facilitating in-depth discussions and ensuring the sample was well-suited to explore the research topic (Creswell & Tashakkori, 2007). This approach is suitable for qualitative research where the goal is to explore specific perspectives, and participants with relevant characteristics are chosen to contribute meaningful insights (Kinalski et al., 2017; Acharya et al., 2013).

b. Quantitative component (Phase II):

Both convenience sampling and snowball sampling, non-probability sampling techniques, were employed in this study. Convenience sampling involves selecting participants based on their availability and ease of access to the researcher, making it a practical choice when time or resources are limited (Creswell, 2014). In contrast, snowball sampling is a method where initial participants recruit others from their network, thereby expanding the sample through referrals. This technique is particularly effective for reaching hidden or hard-to-reach populations, as it relies on participants' connections to identify additional relevant individuals (Bryman, 2016).

For this study, the researcher initially shared the survey link on social media platforms, targeting participants who were easily accessible through their network, such as friends, colleagues, and social media followers, thus employing convenience sampling. Additionally, the survey was distributed via email through the university database to students, which further expanded the reach. Participants who met the study's criteria (aged 20-34 and knowledgeable about plant-based food products) were encouraged to share the survey link with others, facilitating further recruitment through snowball sampling. This combined approach helped increase the sample size and ensured a broader pool of relevant respondents (Abdelhakim, 2021). As non-probability sampling methods, both techniques do not rely on random selection, meaning the sample may not be fully representative of the population. However, they are valuable for gathering insights from accessible and specific group (Sileyew, 2019; Van Selm & Jankowski, 2006; Evans & Mathur, 2005).

4.4 Data Collection Method

Data collection involves gathering information from various sources and materials to outline the methods and scope of the research study.

a. Qualitative component (Phase I):

Exploratory research, particularly through interviews or discussions, aims to elicit respondents' perspectives and provide detailed insights based on their understanding and experiences (Creswell & Clark, 2017). As a result, data was first collected as part of Phase I of the study through focus group discussions. This process offers participants an opportunity to share information and recall pertinent details on the research topic, potentially uncovering insights they may not have previously considered (Hennink, Kaiser & Weber, 2019; Teddlie & Tashakkori, 2011). It also allows the researcher to probe for answers and adapt questions dynamically throughout the discussion, facilitating efficient data collection with minimal resource expenditure.

Nevertheless, it is important to acknowledge the potential for interviewer bias inherent in this method (Smit, 2021; Halcomb & Hickman, 2015). The researcher has attempted to mitigate this bias by recording the sessions and allowing participants to verify their responses afterward. Additionally, researchers must exercise caution to either cease recruitment or expand focus groups once theoretical saturation is achieved—a point at which no new insights emerge in relation to the research questions (Tenuche, 2018; Kinalski et al., 2017; Schoonenboom & Johnson, 2017; Morgan, Krueger & Scannell, 1998).

In this study, a purposive sampling technique was used to select participants for the focus group discussions. Prior to conducting the interviews, the researcher proactively engaged with potential participants to ascertain they met the pre-established research criteria, which included being aged 20-34 and possessing awareness or knowledge of PBPs. Two focus group sessions were conducted, each comprising six participants, totalling 12 participants for the qualitative phase of the study. Each FGD lasted approximately 45 – 60 minutes, during which participants verbally responded to questions pertaining to the plant-based topic. The researcher prepared eight pre-determined probing questions for the semi-structured discussion, based on the theoretical groundings in correlation to the plant-based topic for the study (Appendix A). The questions were guided and aligned to the research problem and questions, aimed to elicit both

basic information and insights into participants' perspectives on the plant-based topic (Appendix B).

The discussions commenced with participants being informed on the research objectives and provided with context regarding the research topic. Participants were also made aware that their involvement implied consent for their responses to be utilised for academic research purposes and that the session would be recorded. Consent forms were provided to the participants prior the discussion and were read aloud at the start of the focus group discussions. Throughout the discussions, the researcher probed for answers and dynamically adapted questions to delve deeper into emerging themes, guided by participants' responses. The FGD concluded with participants expressing their viewpoints on the visuals displayed on screen (Appendix A), featuring a range of PBPs and brands. This aimed to gather further insights on the 4Ps of the marketing mix. The discussions were conducted online via Microsoft Teams, with recordings and transcriptions facilitated through the platform for subsequent analysis. Transcribed discussions were imported into NVivo, an interpretive analysis software, to identify prominent themes for further analysis.

b. Quantitative component (Phase II):

Researchers are increasingly turning to online data collection methods due to their resource-saving nature and convenience, particularly in light of the technological advancements and the restrictions on face-to-face interactions imposed by the COVID-19 pandemic in previous years (Braun et al., 2021; Lovell, 2020; Tenuche, 2018). Compared to traditional face-to-face questionnaire distribution, online surveys (questionnaires) have the advantage of reaching a larger audience in a shorter time frame, although they typically yield lower response rates (Nayak & Narayan, 2019; Evans & Mathur, 2005). Moreover, the absence of an interviewer eliminates potential bias, allowing respondents to complete the questionnaire at their convenience. However, it is important to note that this approach may exclude individuals without internet access or a significant online presence (Newman, Bavik, Mount & Shao, 2021; Sileyew, 2019). Additionally, respondents may exhibit different response patterns, such as selecting neutral options or indicating uncertainty more frequently (Abdelhakim, 2021; Clark & Bogdan, 2019).

Regardless, online questionnaires were chosen as the preferred method for Phase II – quantitative data collection and analysis, primarily due to their effectiveness in testing the study's hypotheses. It also offered a safe means of data collection during the COVID-19 pandemic, ensuring compliance with social distancing measures. Furthermore, the majority of the target demographic, the Strawberry Generation (young adults), could be easily reached online via their devices. The online data collection approach leveraged digital (social media) platforms and university databases to distribute the survey. The aim was to obtain at least 400 valid responses from the online distribution. However, the response rate gradually declined and eventually ceased after receiving 352 responses.

Due to time constraints, the researcher opted to print physical questionnaires and distribute them among students on campus for completion. A total of 448 responses were initially collected; however, after excluding participants who did not meet the study's inclusion criteria (ages 20–34 and/or knowledge of plant-based food products), the final sample size was narrowed down to 426 usable responses. This exceeded the initially targeted sample size of 400 respondents, which is considered adequate for ensuring reliable results. A sample size of 426 is sufficient to achieve meaningful statistical analysis, providing adequate factor loadings and supporting the validity of the study’s findings.

The structured online questionnaire distributed to the target population included two screening questions to ensure alignment with the study's criteria (age 20-34; awareness or knowledge on PBPs). Drawing on insights from Phase I's qualitative component, in line with the theoretical frameworks (ELM, BRT, 4Ps), the questionnaire was developed in detail. Specifically, the questionnaire comprised 76 statements grouped into 11 sections, each examining constructs integral to the theoretical groundings. These sections covered various aspects including product knowledge, quality, packaging design, availability, values and beliefs, reasons for and against, global motives (attitude, subjective norm, perceived behavioural control), behavioural intention, and perceived price. Additionally, demographic information such as gender, age, monthly household income, average monthly food expenditure, and plant-based consumption frequency was collected. The measurement items were tailored to suit the current study's objectives, as presented in Appendix C.

4.4.1 The Measurement Instrument

The researcher aimed to ensure and explore a comprehensive collection of data in light of potential omission. Therefore, the design of the measurement instrument was informed by a synthesis of the literature and guided by the theoretical groundings (ELM and BRT) and findings from the thematic analysis conducted in Phase I. The constructs from the grounding theories provided a structure for the detailed analysis, focusing on the evaluation of 11 constructs (Refer to Appendix D). Existing scales for each construct were adjusted to suit the self-administered online questionnaires utilised in this study.

Recognising the impracticality of directly observing a large population, questionnaires were considered the most effective method for gathering original data that precisely reflects the characteristics of the specific demographic under investigation. As a result, the measurement instruments designed for this study underwent preliminary testing among a small sample of 22 respondents before wider distribution. The purpose of pre-testing the questionnaire was aimed at assessing the accuracy of the measurement scales and identifying any potential biases in interpreting the data obtained from Phase I (qualitative analysis).

4.4.2 Measurement Scales

Measurement scales were delineated and categorised through pattern identification in Phase II, as part of the quantitative analysis. This process involves the automatic recognition of data regularities to facilitate structured findings (Shalender, 2017; Saunders, Lewis & Thornhill, 2007). To evaluate the study's research propositions, a 5-point Likert scale was employed to structure responses and assess the impact of independent, dependent, and moderator variable(s). Likert scales offer a spectrum of responses, enhancing precision in respondents' answers. Such scales improve measurement levels by allowing for varying degrees of agreement, typically ranging from seven-point (1-7) to five-point (1-5) scales, thereby enabling the determination of response intensity across different statements (Schwab, 2013; Hair, Bush & Ortinau, 2009). Both five-point and seven-point scales commonly span from 'strongly disagree' to 'strongly agree'.

Research suggests that respondents tend to select more options when presented with a broader range of scale choices, thus favouring the seven-point scale (Costello et al., 2020; Shalender, 2017; Malhotra, 2020). However, Finstad (2010) found no significant preference for either scale length. Therefore, this study opted for a five-point Likert scale (see Table 4.2) for its user-

friendliness, particularly for respondents using mobile devices to complete the questionnaire rather than laptops.

Table 4.2: 5-Point Likert Scale

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

4.4.2.1 Independent (Predictor) Variables

An independent or predictor variable is often denoted by the letter χ. It is generally used alongside other variables to describe a specific response (Burns, Bush & Sinha, 2014). The independent variable can influence other variables, depending on how the researcher manipulates or utilises it, whether those variables are other independent variables or dependent variables (Shalender, 2017; Malhotra, 2020). Based on the findings from the thematic analysis conducted in Phase I, the main themes were identified and used to compile the questionnaire. To test the identified variables, existing measurement scales were adapted to suit the context of the current study. All constructs were measured using a 5-point Likert scale. This section outlines the measurement scales employed to test the independent variables, which include: product knowledge, product quality, packaging design, availability, values and beliefs, reasons (for and against), and global motives (attitude, subjective norm, perceived behavioural control).

a. Product Knowledge

Product knowledge was measured using an adapted 5-point Likert scale from academic literature. These scales were developed by Seiders, Voss, Godfrey and Grewal (2007) and Sharma and Patterson (2000), presented in table 4.3. Participants were asked to rate their level of agreement on a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The following items were used to measure product knowledge.

Table 4.3: Product Knowledge Scale

I can identify PBP's among other products.
I can recognise PBP's among other products.
I am aware of PBP's.
I know the difference between PBP's and standard products.

I have a great deal of knowledge about PBP's.
I consider myself an expert on PBP's.
I have a great deal of experience with PBP's.
I generally know more than my friends about PBP's.

*Plant-Based Products

b. Product Quality

Yu, Luo, and Zhu's (2018) scale were modified to measure product quality using a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The following items, as shown in Table 4.4, were used to measure product quality:

Table 4.4: Product Quality Scale

There is a variety of PBP's available.
PBP's looks tasty.
The presentation of PBP's is visually attractive.
PBP's appears fresher than animal-based products.

*Plant-Based Products

c. Packaging Design

A 5-point Likert scale was used (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree) to measure the importance of packaging design. Specific scale items were selected from Kauppi and van der Schaar (2020) to measure packaging design, as presented in Table 4.5.

Table 4.5: Packaging Design Scale

The information on the packaging of food products is important.
The description of the product properties (i.e., taste, texture) on the packaging is important.
The preparation suggestions on the packaging is important.
The products packaging plays a huge role on my purchase decision.
PBP's packaging should be easy to carry.
PBP's packaging should be user-friendly/easy to store.

PBP's packaging should be recyclable.
The packaging should be simple.
PBP's packaging should be attractive in colour.
PBP's packaging should be transparent so I can see the contents.
PBP's packaging should be visually appealing.

*Plant-Based Products

d. Availability

The scale that measured availability was adapted from Yoo, Donthu and Lee (2000) using a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The following dimensions, as presented in Table 4.6, were used to measure availability.

Table 4.6: Availability Scale

I can easily determine where I can buy PBP's.
Buying PBP's is convenient.
PBP's are easy to find.
I know where to find PBP's.
PBP's are readily available.

*Plant-Based Products

e. Values and Beliefs

Values and beliefs were measured by adapting Lahti's (2021) scale to fit the context of this study, as shown in Table 4.7, using a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The following dimensions were used to measure values and beliefs.

Table 4.7: Values and Beliefs Scale

I do not follow plant-based diets because for me meat consumption is part of my identity. *
I do not follow plant-based diets because I attach a stigma to it. *
I do not follow plant-based diets because I think it is feminine. *

I do not follow plant-based diets because it does not match my self-identity. *
I follow plant-based diets because it meets my values.
I follow plant-based diets because I get a positive feeling from making right decisions.
I follow plant-based diets because I want to be responsible by not supporting the meat industry.

*Plant-Based Products

f. Reasons

This section of the measurement instrument focuses on the reasons for and against PBPs. Albrecht and Mauch's (2021) research were used as a reference to develop specific measurement items related to reasons for PBP adoption. For this study, items from the following authors were adapted from a 7-point scale to a 5-point scale: Hopwood, Bleidorn, Schwaba, and Chen (2020), Lindeman and Väänänen (2000), Steptoe, Pollard, and Wardle (1995), and Wallace, Buil, and De Chernatony (2020). Additionally, Lahti's (2021) measurement scales were selected and modified to suit the reasons-against scale. A 5-point Likert scale was used (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree) to measure the following items related to these reasons, as shown in Table 4.8.

Table 4.8: Reasons Scale

Reasons For - Benefits
PBP's have less of an impact on the environment than animal products.
PBP's are sustainable.
PBP's are environmentally friendly.
Through the consumption of PBP's, I contribute to the protection of animals.
Through the consumption of PBP's, I prevent animals from experiencing pain.
Consuming PBP's is nutritious.
Consuming PBP's keeps me healthy.
Consuming PBP's is good for my skin/teeth/hair/nails etc.
It increases my self-respect when people in my environment notice my consumption of PBP's.
It makes me feel good when people in my environment notice my consumption of PBP's.
I like to show my consumption of PBP's so that people know I am a good person.
I like to post purchased PBP's on social media because it makes me look good.

Reasons Against - Barriers
I do not follow a plant-based diet because I believe it does not have enough protein. *
I do not follow a plant-based diet because I believe it does not have enough vitamins. *
I do not follow a plant-based diet because many believe that it is not nutritious. *
I do not follow a plant-based diet because many believe that it does not provide sufficient energy. *
I do not choose PBP's because I am used to consuming animal-based products. *
I do not choose PBP's because consuming animal-based products is a tradition. *
I do not choose PBP's because it is difficult for me to change eating habits. *
I do not choose PBP's because it tastes different than animal-based products. *
I do not choose PBP's because I like the taste of animal-based products better. *

*Plant-Based Products

g. Global motives (Attitude; Subjective Norm; Perceived Control)

Global motives include three key elements: attitude, subjective norm, and perceived behavioural control. Attitude was measured by adapting Sainsbury and Mullan's (2011) five semantic differential scales into a uniform 5-point Likert scale. The subjective norm scale, originally developed by Fishbein and Ajzen (1975), was also modified to suit the context of this study. Finally, to measure perceived behavioural control, Han, Hsu, and Sheu's (2010) 7-point scale was adapted to a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The specific items used to measure these global motives are presented in Tables 4.9, 4.10, and 4.11.

Table 4.9: Attitude Scale

It is valuable for me to choose PBP's.
PBP's are enjoyable.
I find PBPs to be good
PBP's are beneficial for me.
PBP's are pleasant.

*Plant-Based Products

Table 4.10: Subjective Norm Scale

When it comes to choosing PBP's, it is likely that I do what my friends or family say I should do.
I am likely to choose PBP's because other people think I should.
I am likely to listen to what other people say I should do when choosing PBP's.

*Plant-Based Products

Table 4.11: Perceived Control Scale

It is easy for me to choose PBP's.
I am confident that if I want to, I can choose PBP's.
I have enough resources and time to choose PBP's.

*Plant-Based Products

4.4.2.2 Dependent (Outcome) Variable

The dependent or outcome variable can also be represented by the letter γ. It is the variable that is of the researcher's primary interest and under main investigation as a viable factor. The dependent variable is a result of the independent variable(s) (Schwab, 2013; Hair, Bush & Ortinau, 2009; Saunders, Lewis & Thornhill, 2007). For the present study, behavioural intentions act as the dependent variable.

a. Behavioural Intention

Behavioural intention was measured by adapting Honkanen, Verplanken and Olsen's (2006) 7-item Likert scale, however, for the purpose of this research, the scale was amended to be a 5-item Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree). The items used to measure behavioural intention are presented in Table 4.12.

Table 4.12: Behavioural Intention Scale

I expect to choose PBP's.
I plan to choose PBP's.
I will try to choose PBP's.

*Plant-Based Products

4.4.2.3 Moderator variable

The moderating variable has the potential to alter or influence the intensity of the relationship between independent and dependent variable(s). Its role is to modify the nature or trajectory of the association between the mentioned variables (Shalender, 2017; Schwab, 2013). In this scenario, perceived price serves as the moderator, exerting an influence on the causal relationship between the independent and dependent variable(s).

Perceived price was selected as a moderating variable in this study due to its significant influence on consumer decision-making, supported by several theoretical frameworks. According to the ELM, perceived price affects how consumers process product information, either through the central route (careful evaluation) or the peripheral route (quick, heuristic decisions) (Petty & Cacioppo, 1980). The BRT emphasises that perceived price impacts the reasons consumers give for or against purchasing, influencing their behavioural intentions (Westaby, 2005). Additionally, the Marketing Mix framework highlights the pivotal role of price in consumer behaviour, particularly in determining perceived value and affecting purchase decisions (McCarthy, 1960). Insights from the focus group discussions further validated this choice, as participants consistently indicated that price was a critical factor in their willingness to choose PBPs.

a. Perceived Price

The scale for perceived price was adapted from Dodds, Monroe, and Grewal's (1991) 7-point Likert scale (ranging from 'very high' to 'very low'), as shown in Table 4.13. For this study, a 5-point Likert scale (1 – strongly disagree; 2 – disagree; 3 – neutral; 4 – agree; 5 – strongly agree) was used. The following items were used to measure perceived price.

Table 4.13: Perceived Price Scale

Based on the price, PBP's are very economical.
PBP's offers good value for money.
PBP's are a good buy.
I consider the price for PBP's to be acceptable.
PBP's are a bargain.
The value of PBP's is a bargain.

*Plant-Based Products

4.5 Pre-testing (Piloting) the Questionnaire

A pilot study was conducted during the development of the questionnaire to pre-test the measurement instruments. The purpose of the pilot test was to assess the clarity and effectiveness of the questionnaire before its full implementation. This process involved evaluating the questionnaire for any ambiguities, errors, or issues with the questions, response options, or formatting. By identifying and addressing these issues, researchers could enhance the reliability and validity of the questionnaire, ensuring that it accurately captures the intended data and is easily understood by respondents. Ultimately, pre-testing contributes to improving the overall quality of the research instrument and the data collected (Shalender, 2017; Burns, Bush & Sinha, 2014; Hair, Bush & Ortinau, 2009)."

The pilot test for this study was conducted for a sample of 22 participants, who were asked to complete an online survey designed using Google Forms. The survey contained the same items intended for the main study. This aimed to evaluate the functionality, item content, precision of instructions, and language used in the questionnaire (Schwab, 2013). The sample was selected using convenience and snowball sampling techniques. The researcher shared the survey link online with an immediate network. Furthermore, the sampling techniques and participant demographics were designed to match those of the main study, ensuring consistency and allowing for meaningful comparison, i.e., individuals between the ages of 20 – 34 who are aware or knowledgeable of PBPs. Participants were informed about the pilot nature of the questionnaire and were given the opportunity to provide feedback through an optional open-ended question at the end of the survey. This allowed them to share any comments, concerns, questions, or suggestions based on their experience with the questionnaire. The feedback collected was then considered when developing the official version of the survey. Feedback from the pilot study highlighted a few areas for improvement in spelling and structural amendments to rectify inaccuracies, otherwise the questionnaire was generally well received.

The results from the pilot study affirmed the adequacy of the research instruments, aligning with the study. The data exhibits normal distribution as indicated by standard deviations falling within the range of -2 to +2 for all constructs (Creswell & Clark, 2017; Burns, Bush & Sinha, 2014). Additionally, the inter-construct correlation matrix reveals correlations below 1 for each correlation, implying that the constructs are not perfectly correlated. This suggests that the data accurately reflects the variability and independence among the constructs under investigation (Halcomb & Hickman, 2015). The Cronbach's alpha results, presented in Table 4.14,

demonstrated satisfactory reliability with values exceeding 0.7 (Hopwood et al., 2020; Heale & Twycross, 2015). Following confirmation of the quality of the measurement instruments through the pilot study, the remainder of the data was collected and analysed to further assess the research instruments.

Table 4.14: Pilot Testing Cronbach's Alpha Coefficient

Research construct	No. of items	Cronbach's Alpha Coefficient
Product Knowledge	8	0.818
Product Quality	4	0.835
Packaging Design	11	0.863
Availability	5	0.876
Values and Beliefs	7	0.733
Reasons	21	0.937
Attitude	5	0.969
Subjective Norm	3	0.958
Perceived Control	3	0.868
Behavioural Intention	3	0.955
Perceived Price	6	0.961

4.6 Data Analysis

Data analysis involves gathering and evaluating participant responses in accordance with the research questions of the study (Shalender, 2017; Burns, Bush & Sinha, 2014). The data collected for this research was tested statistically in both Phase I and II. Thematic analysis was employed to assess the focus group results (qualitative data) as part of Phase I, using Computer-Assisted Qualitative Data Analysis Software (CAQDAS) in NVivo. Additionally, systematic

analysis was performed using IBM SPSS software and SmartPLS to assess the questionnaire results (quantitative data) as part of Phase II.

a. Qualitative Component (Phase I):

Computer-Assisted Qualitative Data Analysis Software (CAQDA), such as NVivo, plays a significant role in facilitating thematic analysis, a method commonly used in qualitative research to identify, analyse, and report patterns (themes) within data (Smit, 2021; Creswell & Tashakkori, 2007). NVivo (2020, R1) was employed to analyse the data collected during the focus group discussions in Phase I (Qualitative), which were subsequently integrated into the development of the theoretical framework to be tested in Phase II (Quantitative).

Thematic analysis, a flexible and widely used method in qualitative research, involves the active and systematic process of identifying and interpreting patterns within data (Kinalski et al., 2017). In this study, the thematic analysis was characterised by abductive reasoning, where the researcher integrated existing theories (e.g., BRT, ELM, and the Marketing Mix) with the emerging data from the focus group discussions. This approach allowed for a dynamic process of refining and extending the conceptual model by drawing from both theory and new insights identified during the analysis. Reflexivity was an essential component of this process, with the researcher reflecting on how their positionality and biases might influence the interpretation of the data. The analysis focused on subjective experiences, aiming to uncover common discussion patterns and key themes emerging from the focus group discussions, which were then used to guide the development of a conceptual model that aligned with the research questions (Smit, 2021; Creswell & Tashakkori, 2007).

The data were generated through Microsoft Teams, where the focus group discussions were conducted, recorded, and transcribed simultaneously. The thematic analysis process involved reviewing, editing, and organising the transcriptions within NVivo. This process included abductive coding, a technique used to identify and categorise meaningful segments of data. The coding process was guided by predefined categories derived from the existing theories, but also allowed for the emergence of new insights from the data. NVivo facilitated this by grouping data based on keywords, phrases, or concepts, which were stored within nodes (Edwards-Jones, 2014). These nodes served as containers for coded data, where each node represented a particular theme or category. Quotes from the transcripts were linked to the relevant nodes, allowing for the identification of patterns and the formation of overarching themes (Jackson,

Bazeley & Bazeley, 2019; Wong, 2008). These themes were continuously refined and adjusted to reflect the nature of the study and the research questions, based on both theoretical insights and the emerging data.

NVivo not only assisted with data organisation but also played a crucial role in the interpretation process, helping to guide the development of the conceptual model. This model, derived from the qualitative findings, was later used to inform the design of the measurement instrument for Phase II (quantitative research), ensuring that the conceptual framework was both grounded in the qualitative data and aligned with the theoretical foundations from the qualitative phase (Creswell, 2014).

Several studies recommend that focus groups typically include a minimum of two and a maximum of 40 participants to ensure diversity while keeping the group manageable (Braun et al., 2021; Creswell, 2014; Creswell & Poth, 2016; Teddlie & Tashakkori, 2011). Due to time constraints, this study conducted two focus groups, which was deemed sufficient to maintain the validity of the research while managing the complexity of data collection.

Reliability in qualitative research refers to the consistency of the research process, ensuring that data collection methods and conditions are stable and repeatable over time (Hennink, Kaiser, & Weber, 2019). In this study, reliability was enhanced by testing participants under consistent conditions, thus minimising the influence of external factors. Additionally, the study ensured that participants were provided with the same information across focus groups to avoid inconsistencies (Mitrofanova et al., 2021; Mohajan, 2017). Dependability, a key concept in qualitative research, was maintained through adherence to clear protocols, with precautions taken to mitigate any potential bias from the moderator. This was crucial, as the moderator's influence could inadvertently shape the discussions and affect the results.

In contrast, validity refers to the credibility and trustworthiness of the findings, focusing on whether the research accurately represents the participants' experiences and perspectives (Wong, 2008). A moderator's biases can compromise validity by steering the group towards specific conclusions or encouraging participants to withhold their true opinions (Jackson, Bazeley & Bazeley, 2019). To address this, the study employed strategies to prevent moderator bias, such as strictly following the discussion guide. Additionally, to avoid group bias and ensure the diversity of perspectives, the moderator ensured that each participant had an equal

opportunity to speak, emphasising that there were no right or wrong answers (Braun et al., 2021). These strategies contributed to maintaining the credibility of the findings and ensured they reflected a true range of participant perspectives.

b. Quantitative Component (Phase II):

The research framework and hypotheses developed in Phase I were subjected to statistical testing in Phase II using the IBM Statistical Package for the Social Sciences (SPSS 27) (IBM SPSS, 2022) and partial least squares structural equation modelling (PLS-SEM) with SmartPLS (Hair, Sarstedt, Ringle & Mena, 2012; Hu & Bentler, 1999). SPSS was primarily employed in this study to analyse descriptive statistics for the measurement instruments, in terms of central tendency (mean, median) and dispersion (standard deviation, variance) measures. SPSS also facilitated data cleaning by identifying missing values, outliers, and analysis errors (IBM SPSS, 2022; Hinton, McMurray & Brownlow, 2014; Arbuckle, 2011).

For the more complex analysis, PLS-SEM was used through SmartPLS to evaluate the structural relationships between the variables and test the hypotheses (SmartPLS, 2023). Specifically, PLS-SEM was employed to assess both the measurement model and the structural model, following a two-step approach in which the measurement model is tested first to ensure the reliability and validity of the constructs, followed by the evaluation of the structural model to investigate causal relationships (Hair et al., 2017; Ramayah, Cheah, Chuah, Ting & Memon, 2018)

PLS-SEM is particularly suited for this study because it handles complex models with multiple constructs and indicators, making it effective for modelling both formative and reflective constructs. Reflective constructs are measured by multiple indicators that are assumed to reflect the same underlying concept, while formative constructs are defined by indicators that cause or form the construct itself (Hair et al., 2017; Ringle, Silva & Bido, 2015). PLS-SEM allows for a comprehensive analysis of these types of constructs and avoids potential identification problems that arise in other methods, such as covariance-based structural equation modelling (CB-SEM), when dealing with single-item constructs or models with high complexity (Arbuckle, 2011).

A key advantage of PLS-SEM is its ability to handle small sample sizes, which is a common challenge in research where data collection is costly or time-consuming (Hair Jr., Hult, Ringle

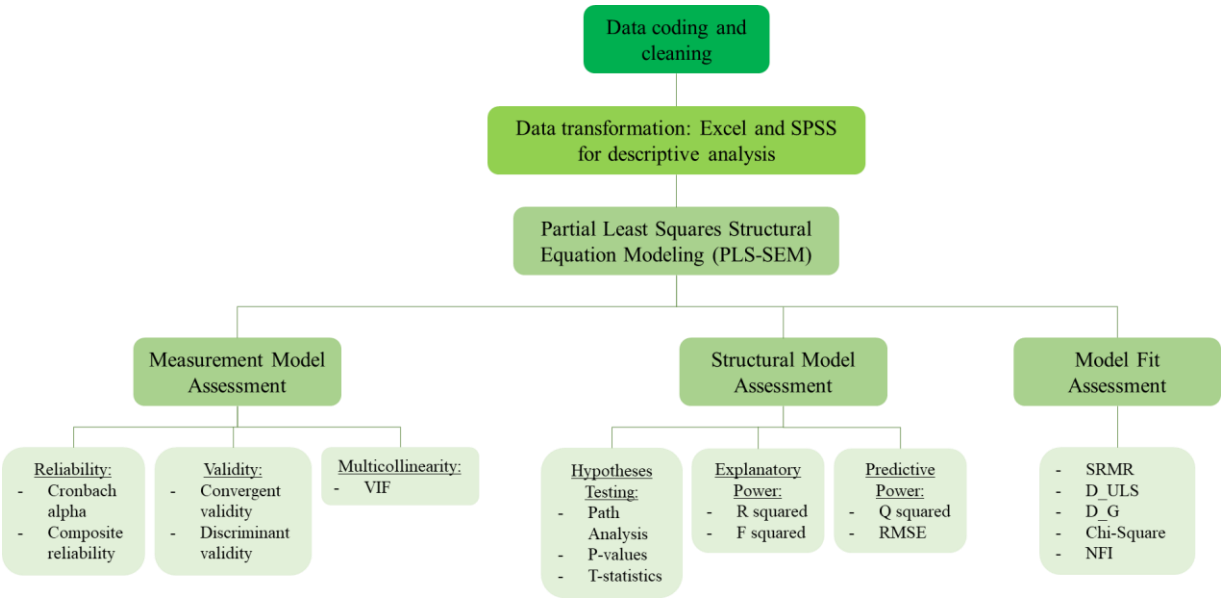
& Sarstedt, 2017). This makes PLS-SEM particularly effective in situations where large datasets are not available, as it does not rely on large sample assumptions and can still produce valid estimates for model parameters. Additionally, PLS-SEM has been shown to produce more precise mediation effects and stronger statistical power in estimating parameters compared to traditional structural equation modelling techniques (Kline, 2015; Wong, 2013; Hair, Ringle & Sarstedt, 2011).

In this study, PLS-SEM was used to assess the theoretical model by estimating direct, indirect, and total effects among the constructs. The method's ability to model complex relationships and its robustness in parameter estimation make it the preferred choice for analysing the hypotheses developed in Phase I and testing the theoretical framework in Phase II (Hair et al., 2017; Ringle et al., 2015).

4.7 Statistical Modelling

The following section provides an overview of the statistical analysis applied for the quantitative component (Phase II) of the study. Figure 4.4 summarises the statistical analysis process.

Figure 4.4: Quantitative Data Analysis Process



Source: Authors own construct (2023)

4.7.1 Data Coding, Cleaning and Transformation

Following data collection, the study proceeded to prepare the dataset for analysis using cleaning and coding techniques. Initially, data from Google Forms was exported to Excel for cleaning and coding, particularly based on Likert Scale responses ranging from 1 (strongly disagree) to 5 (strongly agree). Secondly, data collected from the physical survey distributions were manually entered into the same Excel sheet. For efficient coding, certain responses and items were abbreviated, with a codebook provided in Appendix E. During this process, any errors, blank, or incomplete responses were identified and removed (cleaned), specifically for the physical surveys collected. Since Google Forms automatically required participants to complete all mandatory questions, the primary focus shifted to reviewing the screening questions. This ensured that participants who did not meet the study's eligibility criteria, based on their responses to the screening questions, but who still proceeded to complete the full questionnaire, had their responses excluded from the analysis. A total of 22 responses were excluded from the 448 surveys collected to incomplete responses or screening-related discrepancies. The remaining cleaned data was then analysed using descriptive statistics with the SPSS software program.

4.7.2 Descriptive Statistics

Descriptive statistics refers to data that can be quantitively expressed and categorised, as it relates to the measure for different elements within a population (Arbuckle, 2011). It summarises the sample and aspects to show important data components of the demographic profile relevant to the study. This research used SPSS to analyse and summarise the descriptive statistics regarding demographic characteristics, such as the age, gender, monthly household income, average monthly food expenditure and PBP's consumption frequency. These results can be presented in the format of tables or charts to better illustrate the data (Hinton, McMurray & Brownlow, 2014; Connolly, 2007).

4.7.2.1 Central Tendency and Dispersion Measures

To enhance comprehension of the dataset's central tendencies, variations, and distributions, enabling the interpretation of findings and the detection of trends or patterns, statistical measures such as mean and standard deviation are indispensable (Shalender, 2017). The mean, or average, represents the typical value of the data by summing the values and dividing it by the total count. In contrast, standard deviation quantifies the extent of variability or spread of data points around the mean. It indicates the average distance between each data point and the

mean of the dataset (Mohajan, 2017). Generally, lower standard deviation values in a dataset suggest a robust distribution of responses, indicating agreement within the sample. Conversely, higher standard deviation figures imply greater dispersion of responses from the distribution mean, reflecting widespread variability within the sample (Vinzi, Trinchera & Amato, 2010). By considering both mean and standard deviation together, researchers gain a comprehensive understanding of the central tendencies and variability within their dataset. This nuanced analysis allows researchers to identify patterns, trends, or outliers that may inform future research directions or interventions (Ringle, Da Silva & Bido, 2015).

4.7.2.2 Normality Assessment

Normality assessment is a fundamental aspect of statistical analysis, where the validity of many parametric tests depends on the assumption that the data follows a normal distribution (Hinton, McMurray & Brownlow, 2014; Field, 2013). A normal distribution is symmetrical, bell-shaped, and centred around the mean, and deviations from this pattern can influence the results and lead to incorrect conclusions (IBM SPSS, 2022; Arbuckle, 2011; Connolly, 2007). Normality is critical because many statistical tests assumes that the data adheres to this distribution. When data does not meet this assumption, the results of these tests may be biased, affecting the robustness and reliability of the findings (Tabachnick & Fidell, 2013). Therefore, it is essential for researchers to check for normality, especially when using parametric methods, to ensure that the assumptions for these tests are met.

Skewness and kurtosis are key descriptive statistics used to assess the shape of the distribution. Skewness indicates the symmetry of the distribution, where a skewness value of 0 suggests a perfectly symmetric distribution, where values between -2 and +2 are considered acceptable in most cases (IBM SPSS, 2022). Positive skewness indicates that the tail on the right side is longer, while negative skewness indicates a longer left tail. Kurtosis measures the "peakedness" of the distribution. A kurtosis value close to 3 suggests that the data has a normal peak, while values significantly higher or lower than 3 indicate a departure from normality (IBM SPSS, 2022; Pallant, 2020).

4.8 Statistical Approach

PLS-SEM was used by importing data from SPSS into Smart-PLS to evaluate causal models, with the aim of maximising the explained variance of latent dependent variables (Hair, Sarstedt & Ringle, 2019; Arbuckle, 2011; Hair, Ringle & Sarstedt, 2011). Within PLS-SEM, causal

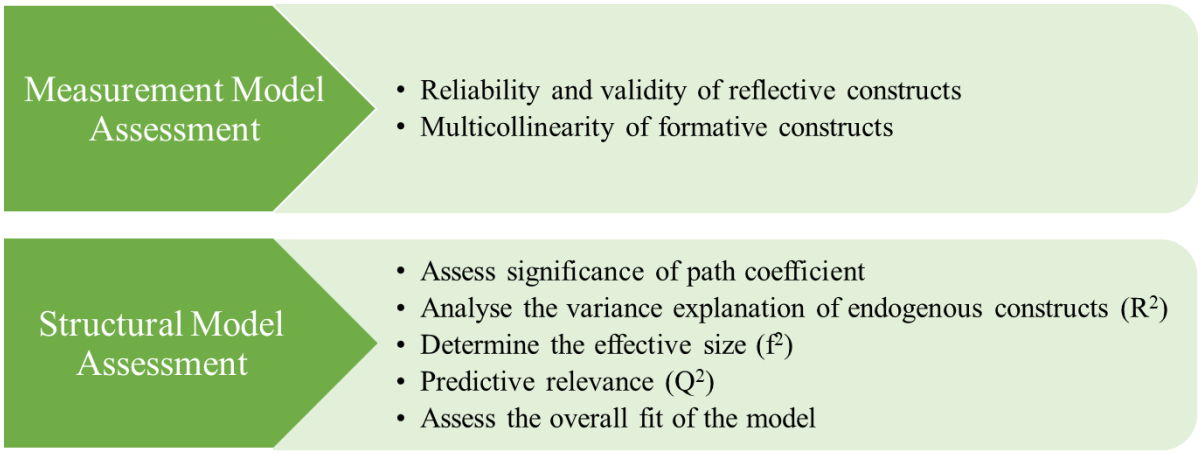
relationships are assumed both within the inner model (latent variables) and between the outer model (latent variables and indicators) (Ramayah et al., 2018).

Through partial least squares regression (PLS) within SEM, adjustments can be made to accommodate model complexity by incorporating both lower-order components (LOC) and higher order constructs (HOC) (Hair Jr, Hult, Ringle, Sarstedt, Danks & Ray, 2021; Sarstedt, Hair Jr, Cheah, Becker & Ringle, 2019). Higher order constructs represent latent variables composed of various dimensions or subdimensions and they can take various forms such as formative-formative, reflective-formative, formative-reflective, or reflective-reflective components, each characterised by distinct relationships between variables (Wong, 2013; Johnson, Rosen, Djurdjevic, & Taing, 2012). Reflective-reflective components indicate that the variable is influenced by its indicators but is not defined by them and remains unchanged if one or more indicators are removed. Conversely, reflective-formative components imply that the variable is both defined and created by its indicators (Sarstedt et al., 2019).

The reflective-reflective component was included in this study using a disjoint two-stage approach to analyse the relationships between HOC and LOC constructs. Initially, reflective constructs are formulated based on indicators, constituting the first stage of the process. Subsequently, in the second stage, the focus shifts to examining the relationships among these reflective constructs. This approach ensures a clear demarcation between the measurement model, which encompasses reflective constructs and their respective indicators, and the structural model, which delves into the interrelationships between these constructs. Such an approach offers enhanced clarity and flexibility in exploring intricate connections within the model framework.

The PLS-SEM methodology typically involves a two-step process: 1) assessment of the measurement model; 2) evaluation of the structural model (as illustrated in Figure 4.5).

Figure 4.5: Two-Step Process of PLS-SEM Assessment



Source: Authors own construct (2023)

4.8.1 Measurement Model Assessment

The outer measurement model assesses the overall fit and estimates individual factor loadings using algorithms (Vinzi, Trinchera & Amato, 2010). Confirmatory factor analysis (CFA) is employed to ensure the validity of the model. Structural Equation Modelling (SEM), which includes CFA, is extended to identify potential measurement errors (Mohajan, 2017; Hair et al., 2012). Specifically, it addresses observed indicators that fail to adequately represent the latent constructs. The following section provides an overview of the statistical methods used to test the central measures, reliability, and validity of the measurement instrument.

4.8.1.1 Reliability Assessment

The reliability of the measurement instrument indicates the degree of consistency when the analysis results are retested (Heale & Twycross, 2015). Retesting instruments is essential to ascertain their reliability, ensuring the production of stable and consistent findings (Roberts & Priest, 2006). In this study, Cronbach's alpha coefficient and composite reliability (CR) are utilised as internal consistency measures to assess the reliability of items quantifying specific variables. Researchers often use both Cronbach's alpha and CR to ensure a comprehensive evaluation of internal consistency.

a. Cronbach’s Alpha Coefficient

Cronbach's alpha, an internal reliability coefficient, is commonly used to gauge the reliability of scale data or determine the average correlation among items (Heale & Twycross, 2015). A Cronbach's alpha coefficient value higher than 0.7 indicates a reliable scale (Hopwood et al,

2020). A value greater than or equal to 0.8 denotes a good scale, while a value of 0.6 is acceptable for exploratory purposes (Mohajan, 2017). However, Nunnally (1978) suggests that a reliable scale can be acceptable with a Cronbach's alpha coefficient between 0.5 and 0.6. It is important to note that reliability assessment with Cronbach's alpha can be conservative (Hopwood et al., 2020; Heale & Twycross, 2015).

b. Composite Reliability

Composite reliability (CR), also known as construct reliability, is an alternative coefficient used to measure internal consistency based on the factor loadings (Heale & Twycross, 2015). It assesses the variance shared by latent constructs and observed variables, particularly for testing reliability in PLS-SEM. CR values range from 0 to 1, with higher values indicating greater reliability. A CR value above 0.7 is typically considered acceptable, while a value greater than 0.8 indicates good reliability (Shalender, 2017; Hair, Sarstedt & Ringle, 2019). Unlike Cronbach's alpha, CR is less influenced by the number of items in the scale and is therefore considered a more robust measure of reliability in SEM studies (Hair, Bush & Ortinau, 2009).

4.8.1.2 Validity Assessment

Quality research is contingent upon both internal and external validity, which assess whether the identified variables are accurately measured by the chosen scales (Heale & Twycross, 2015). Internal validity pertains to whether the research design supports the research questions without methodological errors, while external validity concerns the generalisability of findings to the entire target group based on sample results (Mohajan, 2017). Construct validity, akin to external validity, is associated with generalisability, assessing whether the inferences drawn from observed latent variables are suitable for the study. This section discusses convergent and discriminant validity, two fundamental elements of construct validity (Roberts & Priest, 2006).

a. Convergent Validity – Average Variance Extracted (AVE) and Factor Loadings

Convergent validity examines the correspondence between scales and other measures of the same construct, ensuring consistency in the same direction (Schwab, 2013). In the context of this study's PLS-SEM analysis, Average Variance Extracted (AVE) and factor loadings are employed to assess validity (Hair, Bush & Ortinau, 2009).

1. Average Variance Extracted (AVE)

The Average Variance Extracted is a crucial metric used in SEM to evaluate the convergent validity of constructs. It represents the proportion of variance captured by the indicators of a construct relative to measurement error, providing insights into the extent to which the indicators reflect the underlying construct (Hair, Ringle & Sarstedt, 2011). A higher AVE value indicates stronger convergent validity, suggesting that the indicators are effectively measuring the intended construct. Typically, researchers aim for an AVE value above 0.5, indicating that more than half of the variance in the indicators is attributed to the construct itself. A value below 0.5 may raise concerns about the construct's ability to adequately explain the variance in its indicators, highlighting potential issues with convergent validity assessment (Vinzi, Trinchera & Amato, 2010).

2. Factor Loadings

Examining the factor loadings of construct items is integral to research endeavours for several significant reasons. Firstly, factor loadings serve as a critical indicator of construct validity, revealing the strength of the relationship between individual items and the underlying construct (Schneider et al., 2011). Secondly, these loadings assist in evaluating the adequacy of the measurement model, providing insights into how effectively items are capturing the intended construct. Moreover, they facilitate the identification of poorly performing items, offering the opportunity for refinement or elimination to enhance the accuracy of the measurement model (Ringle, Da Silva & Bido, 2015). Additionally, factor loadings inform decisions regarding item retention or deletion, guiding researchers in optimising the representation of the construct. Lastly, ensuring consistency and precision in the measurement model underscores the importance of examining factor loadings, thereby enhancing confidence in the validity of research outcomes Factor loadings exceeding 0.5 indicate the validity of the items (Schwab, 2013).

b. Discriminant Validity – Heterotrait-Monotrait Ratio of Correlations (HTMT) and Fornell-Larcker Criterion

Discriminant validity can be assessed through the Heterotrait-Monotrait Ratio of Correlations (HTMT) and Fornell-Larcker Criterion. It ensures that different constructs in a research model are distinct from each other. These measures examine the correlations between constructs and their respective indicators, as well as the correlations between different constructs, to confirm

that each construct captures unique variance and does not overlap with others (Cheah, Thurasamy, Memon, Chuah & Ting, 2020).

1. Heterotrait-Monotrait Ratio of Correlations (HTMT)

   Heterogeneity among different constructs is confirmed through discriminant validity. The Heterotrait-Monotrait Ratio of Correlations (HTMT) is used for further confirmation on validity, aside from AVE. HTMT values within the confidence interval of -1 and 1 indicate distinctiveness among constructs, with scores under 0.85 ensuring no discriminant validity issues (Schwab, 2013).

2. Fornell-Larcker Criterion

   The Fornell-Larcker Criterion suggests that the square root of the AVE for each construct should be greater than the correlation between that construct and any other construct in the model. This ensures that each construct shares more variance with its own indicators than with indicators of other constructs, thus confirming discriminant validity (Heale & Twycross, 2015).

4.8.1.3 Multicollinearity

Multicollinearity refers to the presence of high correlations among predictor variables in a regression model, which can lead to inflated standard errors, imprecise parameter estimates, and challenges in interpreting the results. Multicollinearity issues can arise when predictor variables exhibit strong correlations with each other, thereby potentially confounding the estimation of the model parameters (Cheah et al., 2020). Detecting and addressing multicollinearity involves scrutinising the correlation matrix and variance inflation factor (VIF) values for each predictor variable. High VIF values exceeding a predefined threshold, typically 5 or 10, indicate problematic multicollinearity, prompting researchers to consider strategies such as variable elimination, data transformation, or the application of regularisation techniques to mitigate its effects. By proactively addressing multicollinearity, researchers can enhance the accuracy and reliability of their SEM models and derive more robust insights from their data (Hair et al., 2012; Vinzi, Trinchera & Amato, 2010).

4.8.2 Structural Model Assessment

In addition to measurement model assessments, the constructs were subjected to inferential statistical analysis using Structural Equation Modelling (SEM). SEM serves as a method to evaluate complex relationships in a predictive manner (Wong, 2013). This involves conducting factor and multiple regression analyses based on the proposed model, which investigates six distinct relationships (Ramayah et al., 2018). SEM surpasses regression analysis in its ability to examine the correlations between multiple dependent and independent variables related to the hypotheses (Hair, Ringle, & Sarstedt, 2011), making it particularly suitable for this study. Within this study, a total of one dependent variable (behavioural intention) and nine independent variables (product knowledge; product quality; packaging design; availability; taste; values and beliefs; health concerns; environment; social influence), along with one moderator (perceived price), were effectively examined using SEM techniques. The remaining measurement and structural models were then evaluated based on fit or performance indices to observe, validate, and refine the model.

4.8.2.1 Path Coefficient and Hypotheses Testing

Hypothesis testing entails the examination of three elements, specifically the t-statistics, path coefficients, and p-values to evaluate the significance of relationships between latent variables, wherein the formulated hypotheses are subject to scrutiny for acceptance or rejection. Statistically, the process of hypothesis testing entails conducting a Bootstrapping analysis on SmartPLS.

A nonparametric bootstrap procedure is used to examine the estimated path coefficients significant in PLS-SEM. Bootstrapping statistics is a method used to analysis the hypothesis that produces a multitude of simulated samples by resampling an individual dataset. It is classified under the broader group of resampling approaches with replacement that imitates the sampling process by using random sampling (Henseler, Ringle & Sarstedt, 2015). Measures of precision are provided by bootstrapping to estimated samples, to tests the hypothesis, calculate biasness, confidence intervals, variance. Coefficients are processed using bootstrapping from SmartPLS and the significance of estimated path analysis is also decided. Subsamples are generated from the original dataset, based on random observations in bootstrapping (Wong, 2013; Hair et al., 2012). The PLS path model is then estimated by the subsample. This procedure is duplicated until a generous number of random subsamples have been generated, which is usually around 10 000.

In the path model, the direct effect of the dependent variable impacted by the independent variable is presented by the path coefficient (β), a standardised regression coefficient (beta). Path coefficients represent the strength and direction of the associations between constructs hypothesised in the research model (Cheah et al., 2020). It is generally used to determine causal relationships and represented by structured linear regression measures (Hair Jr et al., 2021). Variables are either exogenous (independent) or endogenous (dependent), where the exogenous and endogenous variables either correlate or do not. Hair, Sarstedt, and Ringle (2019) suggest that a statistically significant path coefficient is typically considered significant if its value exceeds a threshold of 0.05 for the p-value, rather than the coefficient itself.

In SmartPLS the t-statistic associated with each path coefficient indicates the ratio of the estimated path coefficient to its standard error, providing insights into the magnitude of the effect relative to its variability. A significant bootstrapping value for t-statistics should be greater than 1.96 at the level of 0.05 (Henseler, Ringle & Sarstedt, 2015). Correspondingly, the p-value associated with each path coefficient signifies the probability of observing the estimated coefficient value under the null hypothesis of no relationship between the variables (Vinzi, Trinchera & Amato, 2010). Typically, researchers consider path coefficients with t-values exceeding a critical threshold and p-values below a predetermined alpha level (e.g., $p < 0.05$) as statistically significant.

4.8.2.2 Moderation Analysis

Moderation analysis constitutes a pivotal methodological approach aimed at elucidating the influence of an additional variable, known as a moderator, on the relationship between two primary variables in a SEM (Sarstedt et al., 2019). This analytical procedure enables researchers to ascertain how the interaction between the independent and moderator variables alters the strength or direction of the relationship between the independent and dependent variables. By introducing interaction terms between the primary variables and the moderator, researchers can effectively probe the nuanced variations in these relationships across different conditions or levels of the moderator variable (Kline, 2015). The moderation relationship is assessed the same way as the other hypotheses, by examining the path coefficients, associated t-values and p-values (Hair Jr et al., 2017).

4.8.2.3 Explanatory Power

Explanatory power is assessed using both f squared and R-squared, providing insights into the effect size and variance explained by predictor variables on the endogenous variables in the structural equation model (Henseler, Ringle & Sarstedt, 2015; Hair et al., 2012).

Partial Least Squares regression (PLS) is an approach used to predict a smaller group of predictors by minimising the variables. The foundation for the basic linear model is developed from the statistical evaluations of R-squared and adjusted R-squared. The predictor variable in the sample (R-squared) and the estimated population (adjusted R-squared) is described by the outcome variables level of variance (Hair Jr et al., 2017). The acceptable degree of R^2 indicates a greater degree of the estimated precision, that is reliant on the research area with higher values. A value that is equal to or greater than 0.75 for R^2 is considered significant, whereas a score of 0.5 is moderate and 0.25 is low (Hair Jr et al., 2021).

The effect size or the practical significance of the predictor variables in a structural equation model can be assessed using f-squared (f^2). It measures the proportion of variance explained in the endogenous variables by a specific exogenous variable, considering both the direct and indirect effects (SmartPLS, 2023; Hair Jr et al., 2017). Essentially, f squared quantifies the additional explanatory power gained by including a particular predictor variable in the model compared to a null model without that variable. A larger f squared value indicates a more substantial impact of the predictor variable on the endogenous variable, highlighting its significance in influencing the observed outcomes (SmartPLS, 2023).

4.8.2.4 Predict Power

Q-squared (Q^2) is a measure used to assess the predictive relevance or predictive power of the model. It evaluates how well the model predicts the endogenous constructs based on the exogenous variables. A higher Q-squared value indicates better predictive accuracy, suggesting that the model effectively captures the variance in the endogenous constructs (Ramayah et al., 2018).

4.9 Model Fit

Model fit assessment provides insights into the adequacy of the proposed theoretical frameworks. In SmartPLS, model fit is evaluated through various fit indices, each serving as an indicator of how well the hypothesised model aligns with the observed data. Commonly used

fit indices include the Standardized Root Mean Square Residual (SRMR), Unweighted Least Squares and Geodesic Distance (d_ULS and d_G), chi-square test (χ^2), the normed fit index (NFI) and Variance Inflation Factor (VIF). These indices assess different aspects of model fit, such as overall fit, incremental fit, and parsimony fit (Bido, da Silva, & Ringle, 2014). By scrutinising these indices, researchers can ascertain whether their model adequately represents the underlying relationships among variables in the data (Kline, 2015).

Achieving acceptable model fit is imperative for ensuring the validity and reliability of study findings, ultimately contributing to the advancement of knowledge within the research domain. While SmartPLS does not provide standardised cut-off values for fit indices, researchers typically rely on general guidelines established for SEM analysis (SmartPLS, 2023; Cheah, Thurasamy, Memon, Chuah & Ting, 2020; Kline, 2015). The statistical measures used to assess the fit of the proposed model for this study is summarised in Table 4.15.

Table 4.15: Model Fit Indices

Model Fit Measure	Ideal Threshold	Reference
SRMR (Standardized Root Mean Square Residual)	0 ≤ SRMR ≤ 0.10	Hu and Bentler (1998)
d_ULS (Unweighted Least Squares Distance)	Closest to 0	Henseler et al. (2015)
d_G (Geodesic Distance)	Closest to 0	Henseler et al. (2015)
Chi-Square (χ^2)	p-value > 0.05	Hair et al. (2017)
NFI (Normed Fit Index)	≥ 0.90	Bentler and Bonett (1980)
Variance Inflation Factor (VIF)	5 < VIF > 10	O'Brien (2007)

4.10 Ethical Considerations

This study involved human participants for data collection; therefore, ethical clearance was required. The researcher adhered strictly to the ethical guidelines established by the University of the Witwatersrand throughout the course of the research. The university's ethics committee reviewed the study to ensure compliance with ethical standards and granted ethical clearance (Appendix F) prior to the commencement of data collection. The ethics approval number for the study is H22/10/03. Participation was entirely voluntary, and all participants were informed of the nature and purpose of the research before agreeing to take part. The data collected was used exclusively for research purposes.

4.11 Conclusion

In this chapter, the research methodology employed for data collection has been meticulously outlined. Utilising the research onion framework as a guide, the chapter began by elucidating the research strategy, encompassing the philosophical method, theory, and research approach aligned with the study's objectives. A detailed rationale for the chosen methodology was provided, emphasising its alignment with the research goals. Additionally, the sampling design and data collection techniques, covering both qualitative and quantitative approaches were discussed. The development and adaptation of measurement scales tailored to the study was discussed. Lastly, the chapter reviewed the data analysis procedures, encompassing measurement and structural model analysis. The subsequent chapter will delve into Phase I, focusing on the qualitative data analysis and findings, thereby advancing the understanding of the research topic.

CHAPTER 5: QUALITATIVE DATA ANALYSIS AND RESULTS

5.1 Introduction

This chapter presents the findings from Phase I, which pertains to the qualitative component of the research. Firstly, it outlines the demographic profile of the focus group participants to facilitate the interpretation of the study's findings. Secondly, a comprehensive exploration of the emerging themes provides insights into consumer perceptions. Lastly, the conceptual model and hypotheses for the study are derived from the identified emerging themes.

5.2 Demographic Profile of Respondents

The demographic profile of the participants included individuals between the ages of 20 and 34 years old - the Strawberry Generation, located within SA. The participants possess knowledge of or familiarity with PBPs. Table 5.1 illustrates the demographic profile of the respondents.

Table 5.1: Respondents Demographic Profile

Participants	Gender	Age Group
Focus Group Discussion 1		
Respondent 1	Female	26 - 30
Respondent 2	Female	20 - 25
Respondent 3	Female	20 - 25
Respondent 4	Male	26 - 30
Respondent 5	Male	20 - 25
Respondent 6	Female	20 - 25
Focus Group Discussion 2		
Respondent 7	Female	26 - 30
Respondent 8	Female	26 - 30
Respondent 9	Male	26 - 30
Respondent 10	Female	31 - 34
Respondent 11	Female	20 - 25
Respondent 12	Female	20 - 25

The majority of respondents were aged between 20 and 25 years, followed by those in the 26-30 age bracket, with the highest representation observed in the 31-34 age range. In total, 12 participants took part in both focus group sessions, with six participants in each group. Notably, the composition of the focus groups included nine female participants and three male participants.

5.3 Coding Process

Thematic analysis was employed to analyse the data collected from the focus group discussions. In this process, key concepts were identified from the transcribed data to provide insights into participants' experiences and perceptions (Braun et al., 2021; Creswell & Clark, 2017; Morgan, 1996). An interpretive abductive approach was used for coding, which combines both inductive and deductive reasoning. This approach facilitates the development of emergent themes that evolve throughout the coding process (Teddlie & Tashakkori, 2011). It allows for a flexible and iterative analysis, where findings are continuously shaped by both the data and the researcher's interpretations. The abductive reasoning process further enables the exploration of new and unexpected explanations, offering theoretical insights that help refine and deepen the analysis (Creswell & Poth, 2016).

General themes were identified based on grounding theories and subsequently grouped according to a hierarchical coding system, thus creating, and structuring a conceptual order (Kinalski et al., 2017; Edwards-Jones, 2014; Kulhavy et al., 1993). The hierarchical coding approach involves categorising codes under main themes (Wijngaarden, 2022; Wong, 2008; McLafferty, 2004). In this study, codes were generated in NVivo, as part of data analysis, with quotations from discussions being assigned to corresponding codes. The codes were subsequently grouped, linking them to overarching themes by identifying recurring patterns and key concepts. The essence of the discernible themes and their related codes was captured to ensure a comprehensive interpretation of the dataset (Hennink, Kaiser & Weber, 2019). NVivo, was utilised for this study due to its suitability for employing a thematic approach to analyse unstructured data (Wong, 2008; Godau, 2004). NVivo facilitates the management, extraction, and comparison of large volumes of information, thereby enhancing the transparency and credibility of the data analysis process (Jackson, Bazeley & Bazeley, 2019).

Saturation was deemed to have been reached after two focus group discussions in this study. Upon analysis of the data, it became evident that no new themes or significant insights were

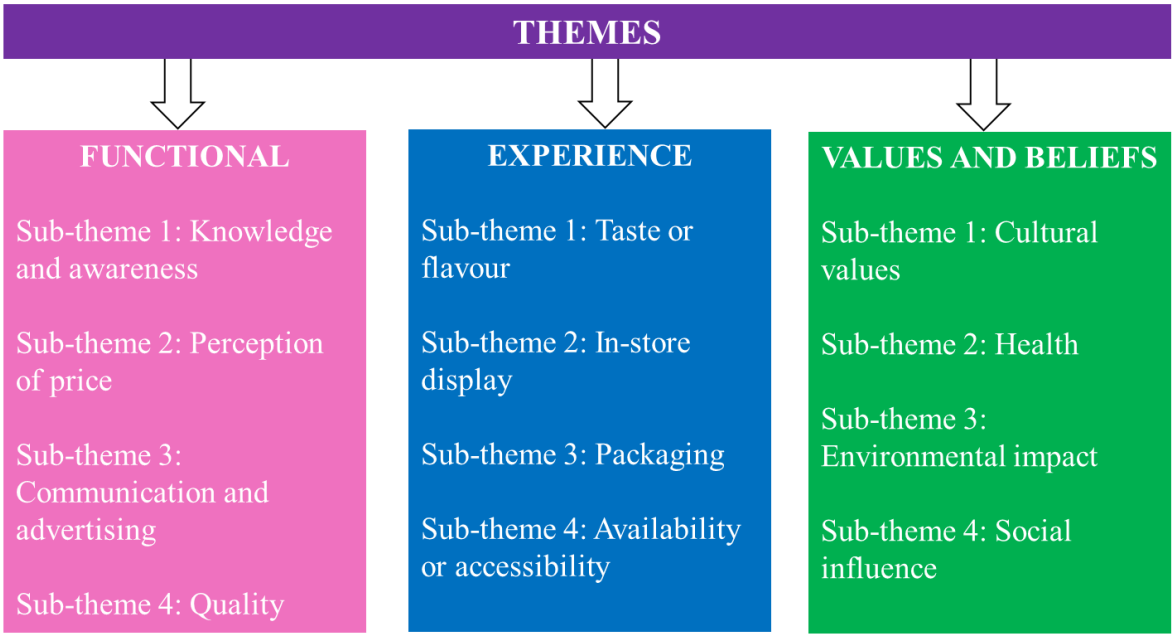
emerging after the second focus group (Mitrofanova et al., 2021). The responses from participants were largely repetitive, with each additional participant contributing little to the identification of new ideas or perspectives. The primary themes had already been thoroughly explored in the first session, and further discussions merely reinforced these findings (Jackson, Bazeley & Bazeley, 2019). Given the homogeneity of the participant group, the researcher concluded that additional focus groups would not substantially alter or expand the data, thus confirming that data saturation had been achieved. This decision aligns with established qualitative research guidelines, which suggest that saturation can often be reached after two to three focus groups, particularly when the sample is relatively uniform (Braun et al., 2021; Wijngaarden, 2022).

Following the iterative process of thematic analysis and coding, the development of theory was a dynamic and evolving aspect of this study. As the themes emerged and were refined through abductive reasoning, the researcher continually revisited and integrated these findings with existing theoretical frameworks. This constant interplay between the data and the literature allowed for the creation of a robust theoretical understanding that was grounded in the participants' lived experiences. Theoretical insights were derived not only from the recurring patterns identified in the data but also from the unexpected explanations and new perspectives uncovered during the coding process. By interpreting these insights, the researcher developed a conceptual framework that explained the relationships between the key themes and provided a deeper understanding of the research phenomenon. The final theory represents an ongoing synthesis of data-driven discoveries and theoretical refinement, ensuring that the developed theory is both contextually relevant and theoretically grounded.

5.4 Discussing the Emerging Themes

Three primary themes emerged from the participant narratives: functional, experience, and values and beliefs system. Figure 5.1 illustrates these themes, followed by a detailed discussion expounding upon their significance. The identification of sub-themes under each main theme facilitates a comprehensive understanding of various aspects of the overarching experience. By examining the breakdown of sub-themes, specific elements or disparities in the respondents' encounters can be highlighted (Kinalski et al., 2017).

Figure 5.1: Summary of Themes

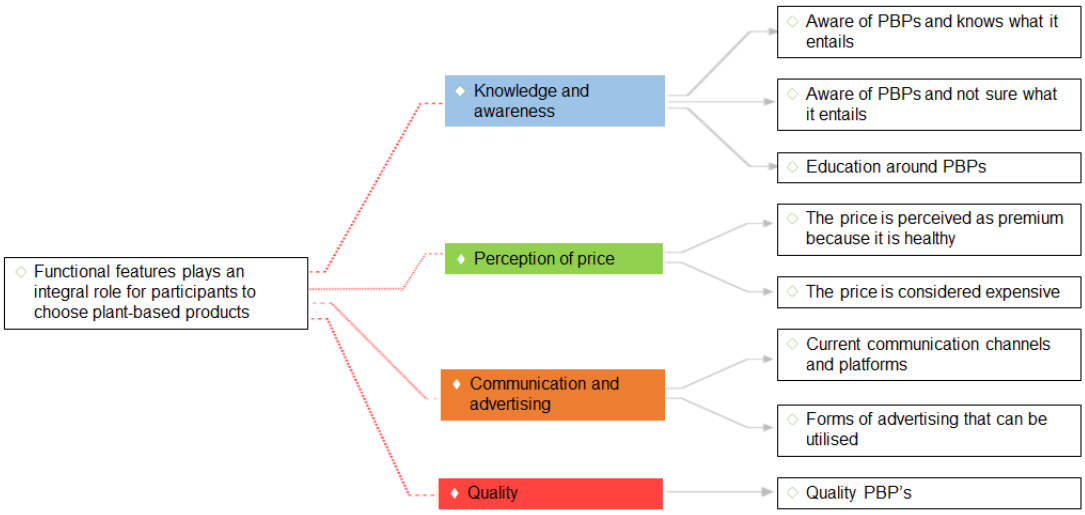


Source: Authors own construct (2022)

5.4.1 Theme 1: Functional Factors

The consumers evaluation journey around the plant-based topic starts off with assessing the understanding about the product in relation to the context, the quality they associate with the product and the perceived price that leads to purchase intentions (Bisbis, Gruda & Blanke, 2018; Ceschin & Gaziulusoy, 2016). Additionally, the effectiveness of marketing communication regarding the product significantly impacts product awareness. Furthermore, consumers' habits and routines in their daily lives ultimately affect their decision-making process. This evaluation, occurring before purchase, serves as a determinant of behavioural intentions and plays a pivotal role in consumers' considerations regarding the product's value (Faber et al., 2022; Frolova, 2014; ElMaraghy et al., 2013). Theme 1, focusing on functional features, encompasses the following sub-themes: knowledge and awareness, perception of price, communication and advertising, and quality. The graphical representation depicted in Figure 5.2 provides a summary of the functional features influencing behavioural intentions for participants to opt for PBPs, along with the categories explored and the codes utilised to express participants' views on the theme.

Figure 5.2: Functional Features in Choosing Plant-Based Products



*Plant-Based Products

5.4.1.1 Sub-Theme 1: Knowledge and Awareness

Consumer perception of product information, coupled with prior experiences, constitutes product knowledge (Elsya & Indriyani, 2020; Lin & Chen, 2006). This encompasses consumers' ability to recognise and recall details about a specific product. Conversely, product awareness, as noted by Odunlami and Akinruwa (2014), pertains to the recognition of a product's existence in the consumer's mind, albeit without comprehensive understanding. The extent of product awareness varies among consumers, depending on their level of product knowledge. Acquiring the necessary knowledge about a product's existence is the first step toward product purchase.

Awareness assumes significance for consumers to acquaint themselves with a product, gather information, and distinguish it from similar offerings, thereby influencing their decision-making process (Wang & Hazen, 2016). Product awareness, which fosters product knowledge, can enhance purchase intentions, as elucidated by Spacey (2017), Lin and Chen (2006), and Hoyer and Brown (1990). This consumer behaviour correlates with their understanding of product utility and associated benefits. Table 5.2 presents the discussion results on the knowledge and awareness sub-theme.

Table 5.2: Knowledge and Awareness Discussion Results

Knowledge and Awareness		
Respondents exhibited varying levels of knowledge and awareness regarding the plant-based topic. While all respondents were familiar with or had a basic understanding of the term, their depth of knowledge differed. Individuals with limited knowledge of PBPs* expressed a belief that education about the topic would alter their perspective on the product itself and influence their consumption patterns.		
CODE	**INSIGHT**	**QUOTES**
Aware of PBPs and knows what it entails.	Some respondents were well-aware of PBPs and can go into detail with the description and provide examples of the products they are familiar with.	*"I'm familiar with plant-based products. I've actually tried a few." – Respondent 2*
		"It's anything that doesn't include meat, so it's either a replacement of meat. But it's not just food, it can also be like dairy and ingredients… there's this plant-based patty at Checkers that immediately comes to mind…" – Respondent 6
		"I feel like it's a lot of plant based, the variety has got a lot more than what it started with, and I think gives us like more options to choose from." – Respondent 12
Aware of PBPs and not sure what it entails.	Other respondents were aware of PBPs but were unsure of the exact meaning of the term and what it entails.	*"I personally haven't really looked much into it, but when I think of plant-based products, I think of it quite literally as anything that's made from both plants and it's alternative too. And the first thing that comes to mind is preservatives. I don't know why." – Respondent 3*
		"I don't know. I think anything that its really healthy." – Respondent 5
		"I'm also still learning, but I would say maybe it's the movement from us coming from eating genetically modified foods, going to more healthier eating." – Respondent 9
		"I don't have much information about it … I would think that it's more of a natural food, that are based on more health-conscious food that are less processed." – Respondent 10

Education around PBPs.	Many individuals feel that if they are more educated around PBPs it would change their perspective and understanding towards it. They will be more willing to choose PBPs as they will know which products to look for and where to find it.	*"I haven't been exposed much to plant-based foods. No one in my family is also a big person at that. I also never go to a grocery shop looking for plant-based products, but I think I would need a crash course or being close proximity with someone who is very big on that to educate me so that I can know what I'm buying and the benefits" – Respondent 9*
		"The information so out there, just that we don't know, we not educated…" – Respondent 4
		"I don't really have the education behind a lot of plant-based products which is why I don't really buy them. I am opening to learning about them because for me I want to change my style of eating." – Respondent 7

*Plant-Based Products

The plant-based market has experienced notable growth due to heightened awareness of its health benefits. The COVID-19 pandemic has further raised awareness among consumers regarding the environmental implications of human actions (UnivDatos Market Insights, 2022). Moreover, widespread lockdowns prompted individuals to adopt healthier eating habits, spurred by a heightened awareness of overall health importance (Mintel, 2023). Mintel (2023) also suggests that to enhance consumer awareness and understanding of plant-based brands and products, it is crucial to highlight desirable qualities and diversify the range of plant-based offerings. Drawing from previous research, the significance of product knowledge is underscored, as it greatly influences product repurchase behaviour (Elsya & Indriyani, 2020). Conversely, research by Faber, Castellanos-Feijoó, Van de Sompel, Davydova and Perez-Cueto (2020), suggests that knowledge around PBPs is limited amongst young adults. In contrast, Havenga and Gray (2022) explored the South African plant-based market, emphasising the increasing awareness necessary for innovation opportunities and market expansion in the food industry.

5.4.1.2 Sub-Theme 2: Price Perception

When customers contemplate a particular item or category, the prevailing notion of its worth in terms of price is termed as their price perception. In essence, price reflects the perceived value of the product (Aerikkala, 2023; Rao & Monroe, 1989). Price exerts a direct influence on

customers' purchase intentions in most cases. Customers' attitudes toward price can be categorised into two dimensions. The first is positive, wherein customers are inclined to purchase an item because its price is perceived to align with its quality. On the contrary, the other dimension entails negative associations with parting with monetary resources in exchange for a product (Taghizadeh-Hesary, Rasoulinezhad & Yoshino, 2019). Striking a balance between these dimensions—perceived quality and sacrifice—is crucial. Pricing the product in a manner that maintains a certain level of perceived quality while also attracting a wide customer base is imperative (Aerikkala, 2023; Novkovic, 2023). Price holds significant sway over the success or failure of a product or service as it influences customer perception, requires consideration of competitor analysis, and contributes to profitability and revenue augmentation (Novkovic, 2023). Findings from the FGD on perceived price is presented in Table 5.3.

Table 5.3: Price Perception Discussion Results

Price Perception		
Respondents often associate PBPs* with health benefits, leading to a tendency for them to perceive the prices of these products as relatively high compared to other items.		
CODE	**INSIGHT**	**QUOTES**
The price is perceived as premium because it is healthy.	Most respondents associated healthy products to premium pricing, along with quality. It is linked with a "better for you" perception.	*"…when I look at that section from a distance, that's why I'm saying it's a perception, right. I would think it's very expensive." – Respondent 10*
		"I don't know if it's like a vegan section, but it's like a health-conscious section and they usually are more expensive." – Respondent 6
		"When I think of healthy food, I immediately think of it's quite expensive because I find it very difficult to find and if something is very difficult to find that means the price is quite heavy too." – Respondent 7
		"I think because there's not a lot of people, especially in Africa, that are buying these products or maybe I just don't know about it. So, they kind of have to price it higher cause it's not as many options. They have this kind of niche market that they can price higher, especially since I feel

		like it's more upper middle-class people are buying it, so they kind of go with that." – Respondent 6
The price is considered expensive.	Many respondents felt that PBPs are more expensive, and it is not something that they willing to try or purchase on a regular basis because of the price. They would rather opt for cheaper non-plant-based alternatives.	*"The face products and stuff are so expensive like a natural, like non-chemical-based cleaning product." – Respondent 1*
		"I live in a household of like 5 people, so buying like those small little Fry's packages with like maybe 4 little sausages inside or something is unreasonable. So I always find if I'm going plant based for something, it's just expensive as compared to if I were to buy like a chicken or something and cook that at home." – Respondent 2
		"When I went to the shop and I looked at the price, I was like to. It is very expensive." – Respondent 9
		"They are quite pricey because when I looked at the plant-based milk that I was buying I was paying about R40 something and normal milk I would only like pay like Max R19 or something." – Respondent 7

*Plant-Based Products

Researchers consistently emphasise that price significantly influences consumer interest in PBPs (Novkovic, 2023; Taghizadeh-Hesary, Rasoulinezhad & Yoshino, 2019; Rao & Monroe, 1989). In the competition with conventional meat products, it is crucial for PBPs to position their prices in alignment with affordability levels to access the broadest market of omnivores (Ingnaszewski, 2022). Ingnaszewski (2022), further illustrates that the current range of PBPs is often perceived as premium-priced, potentially due to limited production. However, as the plant-based market expands and production scales up, the price disparity is expected to diminish, aligning more closely with conventional products. The Global Food Institute (GFI) and Mindlab conducted research on consumer purchase intentions towards plant-based food products, highlighting price as the second most influential factor in purchase decisions (Global Future Institute (GFI), 2019). Additionally, a Mintel study in 2021 revealed that individuals perceive the premium price of PBPs as a barrier to adoption, consumption, and purchase (Aerikkala, 2023). Furthermore, Kneschke (2023), in a study for ProVeg Corporate, found that individuals perceive the price of PBPs as relatively high, making them more challenging to afford compared to meat products.

5.4.1.3 Sub-Theme 3: Communication and Advertising

In attempts to market a product or service, enterprises employ persuasive communication strategies to sway consumer purchasing behaviour (Azmi et al., 2018; Wright & Lynch Jr, 1995). Before consumers make purchases, they must first become acquainted with the product. Thus, it becomes imperative to utilise prominent channels and platforms tailored to the product's target demographic for effective communication (Mahaputra & Saputra, 2021; Frolova, 2014; Preston, 1982). Furthermore, ensuring consistent messaging across communication channels is crucial for both maintaining customer loyalty and fostering lasting relationships (Belch & Belch, 2018). Communication and advertising not only disseminate product information and awareness but also serve as mechanisms for businesses to gather feedback from consumers, thereby discerning the reception of the product and potential avenues for improvement. Overall, adept advertising strategies have the capacity to capture consumers' attention by evoking emotional responses and establishing connections with the brand and/or product (Rödl, 2018). Table 5.4 summarises the discussion on communication and advertising.

Table 5.4:Communication and Advertising Discussion Results

<table>
<tr><th colspan="3">Communication and Advertising</th></tr>
<tr><td colspan="3">Communication and advertising efforts surrounding PBPs* are currently limited, with most promotional activities being recognised by respondents actively seeking out PBPs. An opportunity exists for companies and marketers to enhance their communication techniques to increase awareness of PBPs.</td></tr>
<tr><th>CODE</th><th>INSIGHT</th><th>QUOTES</th></tr>
<tr><td rowspan="3">Current communication channels and platforms.</td><td rowspan="3">Advertising for PBPs is mostly evident on social media platforms. However, the group of individuals that usually sees the promotional messages around PBPs are existing users who are familiar with the products.</td><td>“The restaurant Kauai or something. It's on Uber Eats. Yeah. They have some nice place there you can get.” – Respondent 7</td></tr>
<tr><td>“On social media or like friends recommending places for me…. I follow like pages and then it just pops up like in the ad section.” – Respondent 12</td></tr>
<tr><td>“I have seen, especially on social media, I see with USN as well… I remember seeing this plant protein shake.” – Respondent 10</td></tr>
</table>

		"I mostly see it like in store and on social media I think once a company goes plant-based, they advertise it rather broadly cause I think it appeals to a niche group. So, once I think that group finds out like hey this well-known brand is going plant based, they tend to just flock there. So, it's mostly social media or yeah in store big banners app. So that's where I'm mostly see it." – Respondent 2
		"It's been a little bit more subtle, especially with the at the grocery stores. It's like the plant-based foods just there all of a sudden" – Respondent 6
Forms of advertising that can be utilised.	Currently, many individuals share the same sentiment around the limited marketing for PBPs. There are different techniques that were suggested to better promote the product and drive awareness.	*"… food festivals, food that you actually want to eat because when you think of it in my mind it's boring… So, I get interested into eating it because like there's different types of stalls of food at food festivals." – respondent 7*
		"Food tasting at probably at a local supermarket. I think for plant-based where someone's not too into it or when it's new to someone, they have to taste it in order to be like oh okay, this is nice and let me buy it or try more of it."- Respondent 12
		"Maybe if they had specials or promotions and things that could also help encourage people to want to buy the products." – Respondent 6
		"I think they can also share a little bit of stats… you don't realise how bad our health condition worsens as we have too much red meat, blood pressure, cholesterol. … the information is out there, just that we don't know – Respondent 4
		"We are like a digital generation… So, if they used a lot of influencers to get us to try out the

		products and we actually see them trying them out, it's something that we can actually follow. This generation feels a lot when it comes to social media influencers and stuff" – Respondent 7

*Plant-Based Products

In contrast with previous research, Kozlowka (2021) underscores the importance of disseminating consistent, lucid, and authentic messages to consumers, recognising two primary segments: 1) Those already familiar with and regularly consuming plant-based food products; 2) individuals who need persuasion to try PBPs. The first group was well-informed and typically seeks clear indications, such as certifications, verifying that a product is plant-based. Conversely, the second group exhibited less openness towards trying PBPs due to limited understanding, lacking compelling reasons to alter their consumption habits. Therefore, messaging should focus on educating them about the product's properties and benefits. While targeting the first group remains significant, expanding the plant-based market hinges greatly on appealing to the second group. It is imperative to educate individuals about the product and link it to familiar concepts (Kozlowka, 2021). Conversely, Mcdonald (2021) emphasises the significance of comprehending and selecting the optimal communication platforms (e.g., social media, radio) to effectively reach diverse target market segments.

5.4.1.4 Sub-Theme 4: Quality

Product quality refers to its alignment with designated functions to fulfil customer needs and adherence to industry standards. Quality is strongly associated with durability and reliability (Hargreaves et al., 2021; Manova & Yu, 2017; Takeuchi & Quelch, 1983). Consumers who perceive high product quality are more inclined to trust the brand and make purchases. Building product quality requires time and accurate communication of product claims. Ideally, the focus on quality should be consumer-centric to achieve the desired impact and fulfil the potential promise of the product or brand (Pohlmann, 2021; Kuehn & Day, 1962). Numerous factors such as brand image, word-of-mouth, experience, performance capabilities, and ease of use can influence the perception of quality. It is essential for businesses to ensure that quality considerations align with consumers' needs throughout the entire product journey, including post-sale services, to enhance customer retention (Bisbis, Gruda & Blanke, 2018; Sebastianelli & Tamimi, 2002). Product quality also impacts business profitability, as higher perceived

quality in consumers' minds typically leads to greater returns (Siwiec & Pacana, 2021). The discussion on quality is presented in Table 5.5.

Table 5.5: Quality Discussion Results

Quality		
Respondents place significant importance on product quality, aiming to ensure that their expenditure reflects the value they receive in return.		
CODE	**INSIGHT**	**QUOTES**
Quality PBPs*.	The quality of the product is greatly linked to the taste and pricing.	*"Look tasty, I would say, and also within the ingredients there is not a lot of like preservatives or a lot of processed stuff." – Respondent 12*
		"…but definitely taste is one of the biggest factors for me." – Respondent 11
		"I would want to have a product whereby I trust the brand … a brand people can actually trust. It's already known in the market." – Respondent 7
		"If it is slightly expensive like just a little bit, I wouldn't mind paying the extra mile for the quality." – Respondent 12
		"…of quality but affordable and it can give me the benefits that I'm looking for." – Respondent 7

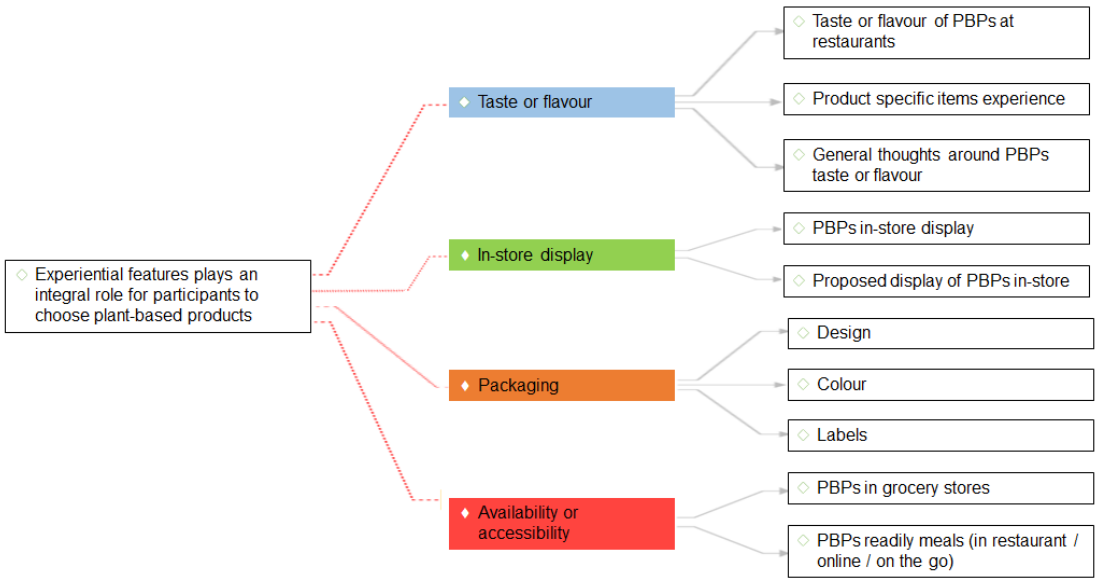
*Plant-Based Products

In the realm of food manufacturing, the paramount concern lies in ensuring both the quality and safety of food products (March, 2022; Hargreaves et al., 2021). For many respondents, the attributes defining quality in PBPs are often linked to those found in meat products. Quality, from the respondent's perspective, is closely tied to the freshness and flavour of the product. Particularly, taste exerts a considerable influence on perceived quality, with individuals frequently seeking out meat-like textures and flavours in their plant-based food choices (Ahmad et al., 2022). Research conducted by Zulkosky (2023), underscores the importance of taste, revealing it to be the foremost consideration among consumers, even surpassing factors such as nutrition and healthiness in driving interest towards PBPs.

5.4.2 Theme 2: Experiential Factors

Subjective and personal elements significantly influence decision-making processes, thereby shaping overall individuals' experiences with products or services. The experiences participants have with plant-based food products, whether positive or negative, determine their willingness for further engagement. Specifically, the product experience of plant-based participants in understanding perceptions surrounding the topic offers insights into their behavioural intentions. The participants experience on product taste is one of the most important factors that can influence future and/or consistent consumption. Additionally, effective in-store product displays can enhance awareness and drive purchases when strategically positioned, emphasising the importance of convenience. Similarly, product packaging serves as a pre-consumption impression and a source of information for participants. Product availability and accessibility enable consumers to opt for certain products over others. Overall, the product experience directly influences behavioural intentions, empowering consumers to make choices based on their experiences. Derived from the theme of experiential features, sub-themes include taste or flavour, in-store display, packaging, and availability or accessibility. Figure 5.3 graphically represents how these experiential features contribute to behavioural intentions in choosing PBPs, highlighting the categories investigated and the codes used to express participants' views on the theme.

Figure 5.3: Experiential Features in Choosing Plant-Based Products



*Plant-Based Products

5.4.2.1 Sub-Theme 1: Taste or Flavour

Taste, as one of the five fundamental sensations experienced by the tongue and mouth, contributes to the overall flavour of food. Flavour encompasses all sensations encountered during food consumption. Both taste and flavour are influenced by sensory stimuli, resulting in a comprehensive profile and experience of food (Breslin, 2013). Consumer food choices and consumption behaviours are directly influenced by their taste or flavour preferences, as well as perceptions of food quality (Kerry, 2023). Importantly, consumers can gain insights into taste and flavour without physically consuming a product, often seeking opinions from others or consulting posted reviews that describe specific taste or flavour attributes positively (Wang, Li, Luo, Fu, Ye & Deng, 2022). Expectations surrounding taste and flavour are deeply ingrained in individuals due to the fundamental nature of food as a human necessity. While perceptions of taste and flavour may vary among individuals, there are basic sensory experiences associated with a pleasant taste and flavour. The product experience related to taste and flavour significantly impacts food purchase and consumption behaviours (Trelohan & Stefan, 2018). Table 5.6 presents the discussion findings on sub-theme taste or flavour.

Table 5.6: Taste or Flavour Discussion Results

<table>
<tr><th colspan="3">Taste or Flavour</th></tr>
<tr><td colspan="3">The taste or flavour of PBPs* can vary significantly among individuals, contingent upon factors such as the specific type (brand, category, and composition) of PBP utilised and the method of preparation.</td></tr>
<tr><th>CODE</th><th>INSIGHT</th><th>QUOTES</th></tr>
<tr><td rowspan="2">Taste or flavour of PBPs at restaurants.</td><td rowspan="2">There was a mixed sentiment amongst individuals around the taste and flavour of PBPs. The experience is dependent on the store and the type of PB food products that they use. The different types of</td><td>“We tried quite a few vegan restaurants, and I think there's quite a big difference in terms of taste and flavour…. the flavours are quite natural because some don't taste natural like artificial and some taste too plain, and some are just right. So, there is a very big variety depending on the type of plant-based product that are using and the restaurants.” – Respondent 4</td></tr>
<tr><td>“Burger King had like that plant-based special or something like that. I was trying to be adventurous but that is what I tried in was rather nice, A little pricey but nice” – Respondent 2</td></tr>
</table>

	products vary largely in terms of the taste and flavour experienced by the respondents.	*"The first time I had like a pure plant only based meal was when I went to LEXI'S with one of my friends. I don't understand why my friend wanted to take me there because I hate vegetables, but I was pleasantly surprised. And then another time was at a party, there was these mince tacos, and I thought it was actual mince I didn't think it was plant based or anything like that" – Respondent 5*
		"I've actually tried the beyond burger. I didn't like it. I don't know, it was like. I don't know. I see colours when I eat, it was very dark, and I did not enjoy it." – Respondent 1
		"I think and there's actually a particular place that I really like… not completely plant-based but I think the plant-based food has been the best I've ever tried. It's never fails with taste; price and it really just takes the cup." – Respondent 3
Product specific items experience.	The experience of the specific PBP offerings depends on the type of product and range, there are products that taste good and others that are not the best. The method of preparing the products also influences the taste or flavour.	*"I think it was something chicken. Chicken taste. Don't know if it was chicken Nuggets or something like that, but it was very nice." – Respondent 9*
		"I haven't really tried anything, but I have considered, I don't know tofu. Some substitutes like tofu, but taste wasn't the best. I think that's maybe comparing it to meat and you want something as close as a meat alternative. So, it wasn't the best. But definitely open to trying out more." – Respondent 8
		"Their stuff is pretty good (Checkers, Simply Truth) …Quinoa and stuff like that when I have it, I have to have it with something else, I can't have it on its own, otherwise I don't really like the flavour on its own. It's nice with a sauce or something to add on to it." – Respondent 6

		"I'd go for soy milk. I've tried almond milk brands, but the ones I've tried is a little bland." – Respondent 11
General thoughts around PBPs taste or flavour.	The experience and thoughts of PBPs for respondents were mostly negative. There is a big variance amongst the different product offerings. Respondents often felt like all the products taste the same and they need to "spice" it up in order to enjoy the consumption of it. Individuals also associated PBPs with natural flavouring which is preferred.	*"I usually find if I make the plant-based stuff at home, it's cardboard, very much so I tried to spice it up with like that hot Nando's sauce or something, but it's not very flavourful for me." – Respondent 2*
		"I have tried out some plant-based food and I feel like some of them are very bland. It's like depends on what brand you buy and some of them are like really bland to like really, really salty." – Respondent 12
		"I really prefer homemade vegan food or plant-based food I think the flavours you can actually taste like the beans and the and chickpeas. You can actually taste the food in that, and it doesn't seem so plasticky." – Respondent 3
		"I found that the soy products all just taste exactly the same and I don't really like it. The same with soy mince. It all just tastes the same." – Respondent 6
		"I would say my take on it would be it's not the best or maybe I'm not trying the ones that taste nice." – Respondent 2

*Plant-Based Products

Both an opportunity and a challenge are presented to plant-based producers in the development of PBPs, as the focus must be on the taste and texture of the product. Individuals are unwilling to compromise these elements when seeking better or healthier alternatives. Consequently, manufacturers aim to create products that offer consumers similar sensory experiences to meat products, encompassing appearance, texture, and taste itself (Chadwick, 2022). However, according to Kerry (2023), formulating vegetable-based meat alternatives can often lead to taste or flavour implications. For instance, soybean formulations may result in undesirable earthy, cardboard-like, or heavy bean flavours. Additionally, plant derivatives may struggle to replicate the depth of flavour and juiciness found in meat. Research by Gronewold in 2021 suggests that the taste requirements for PBPs are frequently unmet, and the plant-based market would gain

wider appeal if taste concerns were addressed effectively. Individuals often encounter issues such as over- or under-seasoning, along with an inauthentic flavour experience due to artificial flavours. Consequently, achieving a balanced taste for PBPs that feels natural yet offers the "right" amount of flavour remains an ongoing opportunity for research and development, while also posing a challenge to manufacturers (Gronewold, 2021).

5.4.2.2 Sub-Theme 2: In-store Display

Product placement within stores, strategically employed to underscore benefits, heavily relies on visual representation as it marks customers' initial interaction with products in most instances (Han, Chandukala & Li, 2022; Damien, 2021). In-store display is not solely about visually attracting customers' attention; it also serves to maintain product freshness and protection (Çetin, Mersereau & Parlaktürk, 2020). Through optimal product positioning, a constant appeal is ensured, facilitating customers' easy access to the products. Consequently, sales stand to increase through optimal product display, effectively highlighting product features and benefits (Breugelmans & Campo, 2011). The discussion relating in-store display is presented in Table 5.7 below.

Table 5.7: In-store Display Discussion Results

In-Store Display		
Product placement and convenience play crucial roles in individuals' purchase decisions regarding PBPs*. Respondents did not always know where to find PBPs in-store or were unaware that the products are plant-based. The products need to be visually appealing and visible for individuals.		
CODE	**INSIGHT**	**QUOTES**
PBPs in-store display.	Respondents have seen PBPs in local stores, it is evident that PBPs are often separated from other products.	*"I've seen the Checkers one, but I always pass it." – Respondent 7*
		"At the grocery stores it's like the plant-based foods just there all of a sudden… It's not easy to find. You have to like, go to a specific aisle in the shop" – Respondent 6
		"It says clearly plant powered protein and then I think what they do is they put all the other pizzas

		and patties so you at least you know where to go…" – Respondent 1
		"In SPAR for example, they have all the Fry's and now that section is getting bigger and bigger" – Respondent 3
Proposed display of PBPs in-store.	The product display of the product was important for the respondents, to want to purchase the products.	*"When you look at the product and see that it's actually edible, so but even though you know that you are taking a product that is more on a healthy conscious." – Respondent 10*
		"If you walk in a store like Burger King and you know how everything is displayed, if you're going to display a plant-based meal, it has to be appetising, pleasing to the eye for you to see and be like, OK, that's definitely what I want to try." – Respondent 7

*Plant-Based Products

The plant-based industry is relatively young, and retailers are still exploring the most effective methods for selling products within this segment while ensuring convenience for customers (Faber et al., 2022). Shoppers often face confusion in stores when PBPs are scattered across multiple aisles and sections (Garwood, 2023). Research conducted by the GFI (2023), suggests that integrated-segregated retailing is the recommended strategy for PBPs. This involves placing PBPs next to conventional products but in separate sections. Stores that adopted this approach, such as placing natural and organic products alongside conventional ones, witnessed an increase in total sales for the category. This shift reflects the movement of the plant-based market from being niche to more mainstream. Given the smaller size of the plant-based market compared to conventional options, placing PBPs in completely separate sections reduces visibility and limits the opportunity for customers to purchase them, unlike integrated-segregated product placement. The aim of this strategy is to empower consumers to make healthier lifestyle choices and decisions at the point of purchase (Skeggs, 2021).

5.4.2.3 Sub-Theme 3: Packaging

Product packaging serves as the initial point of contact for customers when encountering an item, encompassing the design and construction of the packaging itself (Lacy-Nichols, Hattersley & Scrinis, 2021). It plays a pivotal role in several aspects of the product, including promotion, protection, transportation, and storage facilitation (White, 2019). Customers are often drawn to products based solely on the design and colours of the packaging. Additionally, product packaging provides essential information such as ingredients, usage instructions, and nutritional details (Century Label, 2021). However, packaging is typically temporary, serving a one-time use purpose and is often discarded after opening or consuming the product. Despite its many functions, packaging contributes significantly to global waste production, leading businesses to seek sustainable alternatives for packaging materials (Tiuttu, 2020). Good packaging is characterised by four key factors: 1) Protection of the product; 2) Alignment with intended purpose; 3) Conservation of resources; 4) Minimisation of pollution by using sustainable sources. When incorporating these factors, considerations such as optimised design, environmentally friendly raw materials, and user-friendliness are crucial (Kwiatkowski, 2018; Raheem, Vishnu & Ahmed, 2014). The findings on packaging from the FGD is summarised in Table 5.8.

Table 5.8: Packaging Discussion Results

Packaging		
The product packaging typically forms the initial impression of the product, serving as the first point of contact for respondents. It must contain all the distinguishing details that allow respondents to differentiate it from non-plant-based products.		
CODE	**INSIGHT**	**QUOTES**
Design.	The design refers to the physical appeal that draws the potential consumers into choosing the product (Babich, 2018). Individuals seeks simple visual designs on pack,	*"I think it's clean. Straight to the point, it's a premium product... Not too much going on, so it's pleasing to the eye and the food looks something like I would eat" – Respondent 7*
		"It actually attracts you to want to try out the food just from how the food is presented on the packaging… looks like I wanna eat it because looks tasty." – Respondent 4

	that pleases the eye. The packaging does not necessarily need to reveal the actual product like how meat products are displayed.	*"The leaf is eye catching and I can differentiate it from the other products" – Respondent 6*
		"When there's too much going on in the packaging. I'm just not interested because I just feel like there's a lot going on there" – Respondent 7
		"Beyond meat … the meat doesn't look that good. They've done this transparency thing where you can actually see what's in the box, which the others didn't do, so the meat might look the same, but it doesn't look very appealing." – Respondent 6
Colour.	Respondents that choose PBPs* often appreciate the colour association "green" to clearly differentiate the product. However, individuals that do not normally choose PBPs prefer the packaging to include other colours.	*"With the food that I buy, I like there to be colour, not just white, the white just makes me feel like it's too clean … maybe they're going for a clean look, healthier look. Even when I put it in the fridge, I don't want to have a fridge that's just all white there must be colour variation." – Respondent 9*
		"Not everything has to be green for me to say it's healthy food, it can look, you know have colour" – Respondent 7
		"I can see the green packaging in my head. But I don't even know what the brand name is"
		"It's very obvious that it's plant based or vegan because they're always either green or like yeah it's very easily identified between other products." – Respondent 4
Labels.	The label on the packaging is the most critical element for respondents to identify that the product is plant-	*"It says clearly plant powered protein" – Respondent 1*
		"There's no leaf or anything, just the 100% vegan and plant mentioning, but it's kind of hard to tell that its plant based." – Respondent 6

	based. Respondents will look for the "sign" that will clearly identify the product.	*"I will have to go and look … at it properly because I would never wanna buy a meat product by mistake." – Respondent 4*
		"… I would think that it was just any other normal prepared ready meal… they should do more with how to differentiate it. I don't think the little plant-based thing is enough." – Respondent 5
		"It has a little logo… all the time, telling you that it's a vegan product" – Respondent 1

*Plant-Based Products

Customers are becoming increasingly meticulous in their purchasing habits, scrutinising product labels more attentively. A more favourable perception is emerging among consumers as manufacturers transition towards cleaner labels for PBPs, driven by concerns expressed by consumers regarding the ingredients used in PBPs (Zulkosky, 2023). Plant-based packaging is often designed to evoke a sense of familiarity by subtly mirroring the language and imagery of conventional products. However, certifications and labels play a crucial role in clearly distinguishing 100% PBPs for consumers seeking such products. While mirroring meat products is a common tactic for plant-based companies, some encounter complications due to policies and regulations in certain regions, such as SA, where authorities tried to ban mimicking labels or wording reserved exclusively for meat products (Buxton, 2022; Daniel, 2022).

Unique challenges arise in the processing and packaging of PBPs due to the nature of the products. For instance, plant-based meat alternatives often have a softer texture compared to meat, increasing the risk of distortion during manufacturing (Niva, Vainio & Jallinoja, 2017; Iannario et al., 2012). Therefore, it is imperative to utilise stable packaging to maintain shape and protect the product. Additionally, research indicates that sustainable packaging is a crucial consideration for younger generations, with over 80% of participants expressing willingness to pay more for it. While efforts to minimise environmental impacts and appeal to sustainability in PBPs can be met with recyclable packaging, it is worth noting that sustainable packaging may lead to increased costs for manufacturers, and storage capabilities may differ from traditional packaging, posing potential disadvantages (Mcdonald, 2021).

5.4.2.4 Sub-Theme 4: Availability or Accessibility

Product availability or accessibility refers to the seller's ability to meet customer demand for a specific product, ensuring that the product is in stock and accessible for purchase (Phipps, 2023; Conlon & Mortimer, 2010). This factor directly influences consumer preference and satisfaction, as customers can easily purchase products when they are readily available, leading to increased satisfaction levels (Steinhart, Mazursky & Kamins, 2013). Moreover, the reliability of the seller also impacts customer satisfaction, as it is intricately linked to product availability (Chiang, 2010). Availability also influences customers' product preferences, as they are more likely to choose products that are consistently accessible. Furthermore, product sales are affected by availability, as items that are consistently available or accessible have a higher likelihood of being purchased. Sustainable revenue and customer retention are achieved by providing positive shopping experiences for customers through consistent availability and accessibility of products (Sugai, Higashibayashi & Hanaya, 2018). Table 5.9 showcases the discussion results on product availability or accessibility based on the discussion topic.

Table 5.9: Availability or Accessibility Discussion Results

Availability or Accessibility		
PBPs* were typically not easily available or accessible to respondents. Respondents often need to make a concerted effort to locate plant-based food products in stores and carefully examine packaging labels to identify them.		
CODE	**INSIGHT**	**QUOTES**
PBPs in grocery stores.	Individuals often felt like it is difficult to find PBPs in grocery stores. One needs to specifically look for the product to find it otherwise it will be missed.	*"I've seen this brand before (Fry's) in the Supermarket, I didn't know it was vegan. I've never bought it… I always go to the grocery store with a list. I know what I'm looking for…." – Respondent 1*
		"We know that there is less vegetarian or vegan people out there, they normally will search for products that are vegan. So it doesn't have to be obvious because we would find it" – Respondent 4
		"It's not easy to find. You have to like, go to a specific aisle in the shop." – Respondent 6

		"I've seen it in store, there is too much going on the packaging (Checkers) so I just pass." – Respondent 7
PBPs ready meals (in restaurant / online / on the go).	Convenience is key, respondents want to be able to easily identify PBPs and have on the go options.	*"For some restaurants because they'll have the little green leaf next to some of the items. I think they are generally at the bottom, but I really like that it's easy to see, when I'm looking on Uber eats. I can easily tell that it's a vegetarian dish or a vegan dish. I think the vegan is a V, not a plant, but that's an easy way to spot it." – Respondent 6*
		"It's also included on Uber eats or you said Mr Delivery. When advertising it should be more also accessible. It should also be easy…" – Respondent 10
		"I think with our trend, we're always on the go. So if there's like something great on the go that's plant-based on taste good, that is something that I definitely would purchase." – Respondent 8
		"It will be actually great to have more meals like that (fast food restaurants)" – Respondent 7
		"If you go to a restaurant that isn't necessarily plant-based … the items on the menu that are plant-based are generally like right at the bottom…" – Respondent 5

*Plant-Based Products

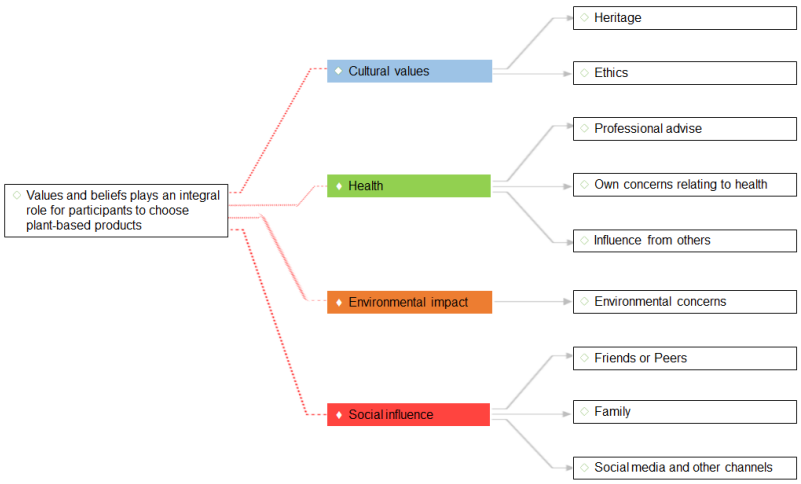
There has been a notable increase in the availability and accessibility of PBPs compared to the past, driven by consumers' growing interest in healthier lifestyles. Hamlett (2023) highlights the importance of further enhancing the accessibility of PBPs to encourage individuals to consume fewer non-plant-based alternatives. However, accessibility to PBPs has faced criticism due to constraints such as the associated increased costs of plant-based alternatives (Neville, 2023). According to the Food and Beverage Reporter (2023), Checkers has significantly expanded its market share in SA, now holding approximately 50% of the South

African PBP market. These findings indicate a positive trend towards increased availability and accessibility of PBPs in local South African grocery stores. McDonald (2021) suggests that the shift towards e-commerce, with an emphasis on convenience and sustainability, could enhance the consumer experience by creating unique touchpoints. These touchpoints refer to distinct and personalised interactions between consumers and brands, such as customised online experiences, targeted marketing, and user-friendly platforms, which can help improve customer engagement and satisfaction.

5.4.3 Theme 3: Values and Beliefs System

The exploration of primary values, convictions, and perceptions significantly shaped perspectives and actions related to plant-based consumption. Subjective and cultural elements, along with experiences and behaviours, played pivotal roles in individuals' decisions regarding PBPs. The cultural upbringing of individuals greatly influenced their consumption patterns, as they became accustomed to specific lifestyles. Additionally, health considerations strongly impacted individuals' choices when purchasing food products. Understanding the environmental implications of food choices was also critical in shaping preferences and ensuring food security. Social influence also had a substantial impact on both behavioural intentions and purchasing decisions, owing to the inherently societal nature of human beings. The values and beliefs system serve as fundamental drivers shaping individuals' behaviours and decision-making processes. This theme encompasses several sub-themes, including cultural values, health perspective, environmental impact, and social influence. These elements collectively influence behavioural intentions, guiding individuals' preferences towards PBPs, as depicted in Figure 5.4.

Figure 5.4: Values and Beliefs System in Choosing Plant-Based Products



5.4.3.1 Sub-Theme 1: Cultural Values

Culture denotes the collective concepts and patterns observed among specific human societies, embodying social behaviours laden with significance, and meaning. It encompasses the transmission of traditions across generations, encompassing values, beliefs (e.g., rituals and religion), language, social norms, attire styles, and artistic expressions (Pappas & McKelvie, 2022; White, 2022). Essentially, culture pertains to the non-biological aspects of human existence, characterised by learned behaviours. Individuals are moulded by the culture they are exposed to, with culture forming an intrinsic component of one's identity. It influences individuals' perception of the world and their lifestyle habits (Laff & Wendy, 2022; Jallinoja, Niva & Latvala, 2016). Furthermore, various skills and abilities can also be shaped by cultural practices. Human behaviour can be elucidated through the lens of culture, with numerous driving factors such as societal expectations, traditions, and regulations. Culture plays a pivotal role in shaping life experiences by moulding behaviour for individuals and society collectively, providing a sense of purpose, belonging, and distinctiveness (Lee, 2022; Klemm, 2021). Cultural values were discussed in depth during the FGD, and the findings are presented in Table 5.10.

Table 5.10: Cultural Values Discussion Results

Cultural Values		
Animal products held significant cultural importance for many individuals, particularly in the context of African culture. Specifically, meat was often perceived as an integral component of cultural identity. In addition, ethical considerations underlying plant-based consumption are commonly disregarded by most respondents.		
CODE	**INSIGHT**	**QUOTES**
Heritage.	Plant-based consumption is not something that is common or familiar in the culture of many respondents.	*"I'm African and I love meat. That's how it is. We love meat" – Respondent 7*
		"It's just part of our culture and of our tradition, being an African. I would find it really difficult to substitute red meat that I love so much with Eggs or lentils" – Respondent 10
		"I'm not against eating meat, but I definitely do want to cut it out and I think that the primarily reason why I eat meat is it's a social norm. That's

		how I grew up. So, I think it's something that was just ingrained in us from a very young age and just continued to adult age but definitely looking for a reason to cut it down." – Respondent 8
Ethics.	Ethical reasons for plant-based consumption are overlooked by most respondents.	*"I grew up Muslim and a lot of our meat products have to be halal in order for it to get certified halal. The animals have to die in a certain way and they have to be looked after in a certain way before they died… so I think Halal things is slightly more ethical in a sense. Eating meat in general it's just not something that I have like a consciousness of ethics or around." – Respondent 5*
		"We've been living as a species for so long and we've been eating animals for so long. Like, why is it now that we need to change the way that we eat and that humans consume food." – Respondent 1
		"I think in the capitalist world that we are in, everything becomes unethical because of profit. So if it's not animals suffering, it's people suffering in factories. I don't really look at it like that because at the end of the day, everyone was trying to make a profit, and if that means pushing plant-based because that is what is going to seem pleasurable or seen better in this time, that's what everyone's gonna go for. And at some point, it's going to revolve back to meat… So, I just don't really look too deep into it." – Respondent 3
		"Not looking too much into it. I haven't really educated myself on the ethics surrounding it, partially because I just don't wanna see it, maybe if I did then I would have the ethical, motivator

		not to eat meat… The ethics thing isn't really a thing for me. Maybe a few years ago I feel like there was a time when there were lots of videos and social media was really kind of pushing the vegan viewpoints on, but I haven't really seen a lot of it recently. So, it's kind of died down for me." – Respondent 6

According to research by Dr. Wrenn (2023), cultural diversity is often cited as a significant concern in the shift towards plant-based diets. The historical process of colonisation has played a key role in increasing the consumption of animal products for human consumption. Plant-based diets have their origins in African nations, aiming to revive traditional dishes and reclaim cultural heritage. However, over time, many individuals have lost awareness of traditional plant-based diets and have instead adopted diets heavy in meat consumption, particularly among tribal communities (Wrenn, 2023). In a study by Wang and Scrimgeour (2021), focusing on individuals' willingness to consume more plant-based in different regions, the results highlighted variations in meat consumption levels among cultures, as well as differing attitudes towards promoting healthier plant-based consumption. Cultural factors, such as hedonism and empathy, influence individuals' decisions to opt for plant-based alternatives (Wang & Scrimgeour, 2021). For certain cultures, meat consumption is viewed as a privilege and source of enjoyment, making the transition to PBPs more challenging. On the other hand, other cultures may exhibit greater empathy towards animal welfare concerns associated with meat consumption, facilitating a smoother transition towards PBPs (Lee, 2022).

5.4.3.2 Sub-Theme 2: Health Perspective

Maintaining good health, which encompasses physical, mental, and social well-being while being free from illnesses, is universally regarded as crucial, as outlined by the World Health Organisation (2023). Health is perceived as a standard condition inherent to individuals from birth and is fundamental for fostering a sense of security and tranquillity. Globally, there is a concerted effort towards promoting health as an essential component of leading a well-balanced life. The National Centre for Chronic Disease Prevention and Health Promotion (2022), underscores the importance of taking proactive measures to enhance health, including engaging in regular exercise, ensuring adequate sleep, and adopting mindful eating habits to prevent and mitigate the impact of potential illnesses. Health significantly influences the body's functioning,

with food serving as a primary source of energy. Therefore, maintaining optimal health requires diligent monitoring and control of consumption patterns (World Health Organisation, 2023). The findings from the discussions are presented in Table 5.11.

Table 5.11: Health Perspective Discussion Results

Health Perspective		
As individuals grow older, health becomes increasingly significant. It is intricately connected to their consumption habits and can be influenced by the people around them. Individuals were willing to choose plant-based alternatives as the healthier option for certain products.		
CODE	**INSIGHT**	**QUOTES**
Professionals advise.	Respondents often consume plant-based alternatives as recommended by healthcare professionals.	*"As a therapist I see a lot of patients and a lot of them are reducing a lot of red meat for a lot of health. Due to health issues, so they get recommended to eat more natural plant-based food" – Respondent 4*
		"For me, the plant-based products I'd normally have a lot of is substitutes for milk since I'm partially allergic to milk and dairy type of things." – Respondent 11
Own concerns relating to health.	Plant-based consumption is a healthy alternative that respondents will move towards.	*"I am opening to learning about plant-based products because for me I want to change my style of eating… I'm growing a bit older, I want to eat more healthier and watch what I put in my body. So, if I have information about it and knowledge, I would definitely be open to buying more plant-based products" – Respondent 7*
		"I don't want to eat too much red meat because too much fat." – Respondent 7
Influence from others.	Friends, family, and social media are all contributors towards healthier living through	*"It's a bit of a mix with my parents, it's more like the views of eating healthy. They kind of put on me, but then they'll ask me, what do you want for dinner?" – Respondent 6*

	the consumption of PBPs*.	*"I think we're (peers) going through the same phases like now we all wanna eat healthier" – Respondent 8*
		"I think the people in herbal life are really appreciating the healthier lifestyle and all of that on Instagram. So that also really influences us to make better decisions." – Respondent 9

*Plant-Based Products

The increasing awareness regarding the health benefits associated with plant-based foods is driving the overall growth of the plant-based market. Health stands out as the primary motivation, among other factors, for consumers adopting plant-based diets (Brown, 2022; UnivDatos Market Insights, 2022). Furthermore, the rise in chronic diseases over time, compounded by the recent COVID-19 pandemic, has underscored the positive impact on health resulting from a shift towards increased plant-based consumption (Hedberg, 2022; Hopwood et al., 2022). Education is also playing a pivotal role in reshaping dietary patterns globally. The growing understanding and awareness surrounding the importance of nutritional food consumption in disease prevention and maintaining good health are evident in the concept of a healthy eating lifestyle (Azman et al., 2023). Research conducted by Ang, Pontes, and France (2023), highlighted that health is a significant motivator for plant-based consumption. Additionally, the use of health star rating labels has proven effective in informing consumers and influencing their purchase decisions by indicating that plant-based food products are healthier than animal products.

5.4.3.3 Sub-Theme 3: Environmental Impact

The environment encompasses all living and non-living components, profoundly influencing the standard of living. It serves as a habitat for diverse species (Chen, 2022; Hedberg, 2022). Environmental impacts arise from direct human actions that have adverse consequences on ecosystems, including air, water, and land (Hopwood et al., 2020; Morgan, 2012; Thompson, Moore, Vom Saal & Swan, 2009). These impacts can manifest as short or long-term effects, depending on the severity of the action. Most notably, adverse environmental effects such as contamination and pollution directly affect standards of living and health. The environment is essential for the survival of all species, yet human activities have led to widespread environmental degradation globally (Baweja, Kumar & Kumar, 2020; Butt et al., 2018). Over

time, human actions, driven by convenience and technological advancements, have exacerbated environmental issues, including pollution from transportation and inadequate waste management. As advancements in technology and improvements in living standards occur, there is a pressing need for proactive environmental measures to mitigate these negative impacts and restore the environment (Hedberg, 2022; LaGrega, Buckingham & Evans, 2010). Table 5.12 indicates the findings on environmental impact from the FGD.

Table 5.12: Environmental Impact Discussion Results

Environmental Impact		
Respondents exhibited a positive inclination towards PBPs* when weighing the detrimental environmental effects stemming from meat consumption.		
CODE	**INSIGHT**	**QUOTES**
Environmental concerns.	PBPs contribute to a better environment as it reduces global warming caused from animal consumption.	*"…It's also better for the environment because there are some stats that show back then if you like meat eaters… the carbon footprint and everything. It also helps to reduce global warming. I think that's it's going towards a good direction." – Respondent 12*
		"Looking at the environmental side as well. As much as we trying to work in industries that are environmentally friendly. Having to have food that is plant based it will also be environmentally friendly." – Respondent 10
		"Environmental health stats like for example the cattle eat I think times two times the amount of food that human eats so the food we produce mostly goes to the cattle rather than to human. Cattle's cause a lot of pollutions." – Respondent 4

*Plant-Based Products

The environmental changes caused by climate shifts have prompted individuals to seek more sustainable dietary options due to concerns over food security impacting both the quality and quantity of food production (Argent, 2022). The availability of crucial resources like water,

land, and fisheries is dwindling as efforts are made to meet the increasing demands for food. Rising temperatures have also led to a decrease in the productivity and quality of animal-derived products such as eggs and meat, attributed to heat stress in livestock, consequently resulting in elevated prices from the consumer perspective. Subsequently, adopting a plant-based lifestyle could serve as a strategy to mitigate the adverse impacts of climate change on our food systems (Jaspan, 2023). A report commissioned by the Intergovernmental Panel on Climate Change (IPCC) (2022), suggests that shifting dietary patterns towards plant-based options can reduce carbon footprints and mitigate climate change effects. Research by Lee and Yun (2015) has shown that consumers' purchase intentions are significantly influenced by their motivation to protect the environment. On the contrary, a study by Liao, Shen, and Shi (2020) found that environmental concerns do not directly affect purchase intentions; instead, consumers become more aware of the environmental consequences of their product choices. Overall, researchers have demonstrated that plant-based food products offer environmental benefits (Lacour et al., 2018).

5.4.3.4 Sub-Theme 4: Social Influence

Social influence denotes to the process through which individuals or groups exert influence on the feelings, actions, thoughts, and behaviour of others. Interactions, norms, and cultural dynamics among people are significantly shaped by social influence (Gass & Seiter, 2022; Costello et al., 2020; Cacioppo, Pett & Stoltenberg, 1985). Human behaviour is often influenced by their social environment, which can manifest in various forms, such as conformity and compliance. Understanding social influence is crucial as it helps explain why people adopt certain behaviours or conform to societal expectations, providing insights into drivers of change and collective influencers of behaviour (McDonald & Crandall, 2015). Seeking guidance and approval from others in purchasing decisions is a common aspect of human nature. Brands can leverage social influence through various means, including social media and influencer promotions, to enhance credibility and brand trust (Mason, Narcum & Mason, 2021; Rödl, 2018). The insight on social influence is presented in Table 5.13.

Table 5.13: Social Influence Discussion Results

Social Influence
Social influence significantly impacted individuals' consumption patterns. Most respondents were inclined to alter their behaviour based on the influence of friends and social media

influencers. However, the inclination of individuals living with their families on consumption patterns may be influenced differently (less).		
CODE	**INSIGHT**	**QUOTES**
Friends or Peers.	The top influencing contributor of PBPs was through friends. Individuals were more likely try PBPs* if their friends suggested it to them.	*"Influence does play a role a lot. If a friend comes to me and says, try lentils, I will try green beans... But on my own it is not on my grocery list. It's not on my priorities. But if they should be any type of influence and somebody says Ohh let's try this together. Regardless of the price. But if I know that it's healthy and it's good for my health and. It's something that I would try" – Respondent 10*
		"Someone would be like ohh you gotta try this cause this is really good and then like OK then let me go try and then they will influence me in that way." – Respondent 12
		"For me it would be my peers because I think we have a lot of shared living experiences and I'm always interested in what my peers are doing. And I mean whatever trend they come across, you know, I always wanna be a part of that." – Respondent 8
Family.	Food consumption for individuals living with family was dependent on what they were consuming.	*"The whole family's pretty much vegetarian" – Respondent 4*
		"My sister… plant-based products are a staple in her house… my mom is also grown into it I'm still taking a distance." – Respondent 1
	Respondents with families' members that consumed PBPs have it as well.	*"I've tried a few because my family is quite health conscious. So, my mom doesn't eat red meat, so she normally buys like the soy sausages and stuff. So, I've tried it through her" – Respondent 6*
	Social media and other channels such as	*"I think the people in herbal life are really appreciating the healthy lifestyle and all of that*

Social media and other channels.	members of the gym increases product awareness of different types of PBPs. The influence is generally health related.	*on Instagram. So that also really influences us to make better decisions" – Respondent 9*
		"I have seen, especially on social media, I see with USN as well… I remember seeing this plant protein shake." – Respondent 10
		"I actually got introduced to almond milk, it's because when I was at gym, it was recommended to me." – Respondent 7

*Plant-Based Products

Changes in consumption patterns are observed among newer generations of parents, who demonstrate an increased awareness and interest in incorporating more PBPs into their family's diets (Kan, 2022). Research conducted by Denver, Nordström, and Christensen (2023) highlights a strong correlation between PBPs, and the familiarity fostered within close family and social circles. Subsequently, surrounding individuals play a significant role in introducing, educating, and influencing dietary choices and behaviours. Despite concerns related to the environment and health, consumption patterns are largely influenced by social factors and socioeconomic status. Often, individuals adjust their diets unconsciously or under the influence of those around them, such as friends and family. Social media platforms serve as effective channels for peer, celebrity and/or content creator influence, displaying lifestyle trends (Ge, Scalco, & Craig, 2022). Additionally, recent studies by Elsey and Moss (2023), suggest that documentaries and digital sources are increasingly impacting plant-based consumption patterns. Particularly social media, but it tends to be more pronounced among younger generations compared to older demographics, who may be less inclined to adopt PBPs into their diets. In general, understanding the power of social influence is crucial, as it fosters a sense of belonging and conformity among individuals. Targeting specific social circles can effectively promote awareness and consumption of PBPs, leveraging advocacy to support plant-based alternatives (Nezlek & Forestell, 2020; Ploll, Petritz, & Stern, 2020; Plante et al., 2019).

To summarise, the three main themes that were identified from the qualitative component of this study were: functional factors, experiential factors, and consumers' values and belief systems.

5.5 Conceptual Model Development

Based on the identified themes, this research proposes a conceptual framework developed in accordance with two foundational theories: the Elaboration Likelihood Model (Petty & Cacioppo, 1980) and the Behavioural Reasoning Theory (Westby, 2005). These theories were selected because of their interconnected concepts, which are best suited to examine and elucidate the research questions of this study. Chapter 3 provides a comprehensive discussion of these theories, while the following sections offers a concise overview as the foundation for developing the conceptual framework.

5.5.1 Elaboration Likelihood Model (ELM)

The ELM shares insights into the cognitive process that defines two ways to persuasion (central and peripheral) based on the depth of processing information, influenced by motivation and ability, and message characteristics in shaping attitude change. In other words, the ELM suggests that the likelihood of changed attitude is based on high or low elaboration (Hsu, 2018; Petty & Cacioppo, 1986). The model is a twofold as illustrated in Figure 3.1, to better understand how individuals form and change their attitudes based on the persuaded outcome. The central route to persuasion focuses on high involvement and elaboration that involves time and research to understand the stimuli. On the other hand, the peripheral route is based on low involvement and elaboration, by seeking cues to help form and guide the attitude and behaviour towards the stimuli (Geddes, 2016).

This study integrated the central and peripheral routes to persuasion from the ELM to formulate a theoretical framework. The utilisation of these routes was informed by the thematic analyses, which offered insights into how central and peripheral routes to persuasion operate within the context of PBPs. Consequently, the study suggests that consumers' inclination to choose PBPs hinges on their processing level. The functional theme aligns with the central route, while the experiential theme corresponds to the peripheral route.

5.5.2 Behavioural Reasoning Theory (BRT)

The BRT elucidates how behaviour is shaped by individual perceptions, beliefs, attitudes, and social influences that impact decision-making processes. It encompasses cognitive processes and social influencers to predict and understand behaviour (Sreen et al., 2022; Westby, 2005). Figure 3.2 illustrates that behavioural prediction is the initial step in the BRT model. The theory proposes that individuals form predictions about their behaviour based on the reasons they have

for acting in a certain way. After the behaviour is enacted, individuals often engage in post-decision rationalisation, which helps resolve any tension that may arise if the action conflicts with their prior beliefs or attitudes (Bhatt & Ghuman, 2022). This rationalisation process aligns with cognitive dissonance theory, which suggests that individuals seek to reduce the discomfort caused by inconsistent actions and beliefs by strengthening justifications for their behaviour (Nguyen & Dang, 2022; Dhir et al., 2021; Filieri et al., 2021). The comprehensive BRT offers insights into the motivations underlying fundamental human behaviours. It suggests that behaviour is influenced by intentions and overarching motives, wherein reasons (both for and against the behaviour) impact intentions, and beliefs and values influence intentions. Additionally, the theory posits that behaviour is not exclusively driven by reasons derived from beliefs and values. Beliefs, values, and reasons are context-specific cognitions utilised to formulate and uphold overarching motives, intentions, and behaviour (Sahu, Padhy & Dhir, 2020; Westby, 2005).

The BRT focuses on five variables that contribute to consumers' intentions to engage in specific pro-environmental behaviours. As such, all five variables from the BRT were integrated to develop a theoretical model for this study. The thematic analyses provided insights into the context of plant-based food products, facilitating the application of the BRT to the conceptual model by furnishing information on all five constructs. Consequently, the three themes encompass elements that align with each construct, suggesting that consumers' behaviour, influenced by social factors, health considerations, and environmental concerns, impacts their inclination to opt for PBPs. Their choices are influenced by values and beliefs, which significantly shape their attitudes towards plant-based food products and ultimately lead them to select plant-based alternatives over conventional meat-based products.

5.6 Hypotheses Development

The proposed conceptual model was informed and developed from the themes that surfaced in the Phase I (qualitative analysis), in line with the research questions of the study. The translation from Phases I to II were guided by the two primary theories that grounds this study, namely the ELM and the BRT. The theoretical groundings provided a solid foundation for constructing the conceptual model that would offer a deeper understanding of the complex phenomena under investigation.

There were three themes identified in Phase I of the study, namely: functional factors, experiential factors, and values and belief system, along with four sub themes under each main theme. The first two themes fall within the ELM framework, assessing the central and peripheral route of persuasion. The first theme, functional factors, formed the basis for the central route to persuasion. This route emphasises the importance of thoughtful consideration and rational information. The following theme focused on the experiential factors identified in the qualitative data, which was translated into the peripheral route, whereby the influence of peripheral cues and emotional responses in shaping attitudes and behaviours was highlighted. The third and last main theme identified from the qualitative focus groups was values and beliefs systems, which formed the basis of the BRT. This theory focuses on how values and beliefs form part of the reasons that drive individual responses and actions, adding another layer of understanding to the conceptual model.

A detailed questionnaire was developed based on the prominent themes identified in the grounding theories, ensuring that key constructs were captured and minimising the risk of omission. This approach also facilitates potential future research analysis. Based on the Phase I discussion in conjunction with the research questions a new conceptual model was developed. Table 5.14 summarises the development of the hypotheses and conceptual model.

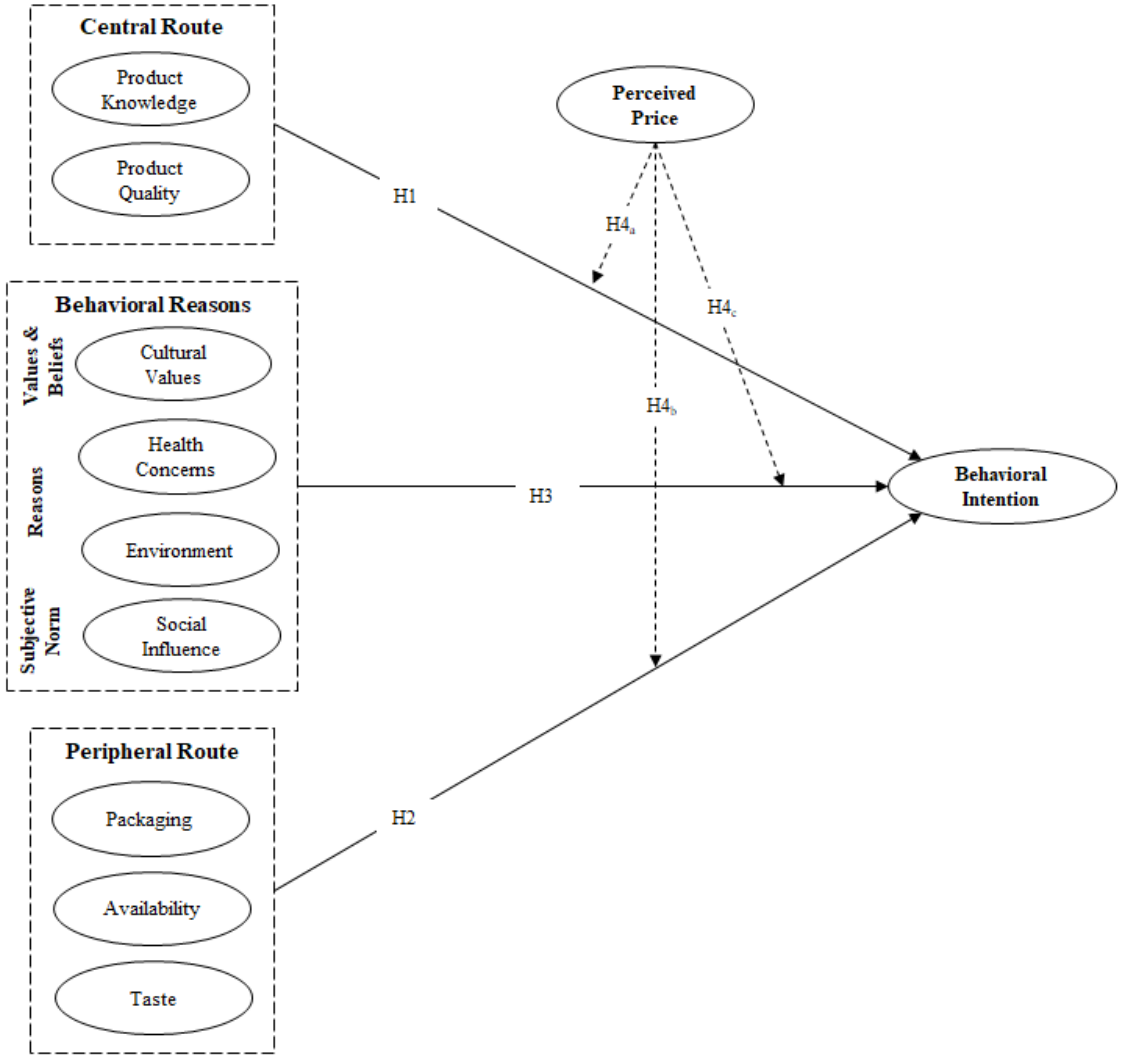
Table 5.14: Summary of Hypotheses Development

Research Question	Theme	Sub-Themes	Theory	Hypotheses	Applicable Marketing Mix Variable	Applicable Quantitative Scales
RQ1: Are *rational appeals* more effective in persuading consumers to choose plant-based food products?	Functional	1. Knowledge and awareness 2. Communication and advertising 3. Product quality	Elaboration Likelihood Model (ELM) – Central route	**H1**: There is a positive relationship between *rational appeals* (central route factors) and *behaviour intention.*	*Promotion* – informative and effective communication. *Product* – emphasis on product quality.	Product knowledge (Seiders et al., 2007; Sharma & Patterson, 2000), Product quality (Yu, Luo & Zhu, 2018), Behavioural intention (Honkanen, Verplanken & Olsen, 2006).
		4. Perceived price		**H4a:** *Perceived price* moderates the relationship between c*entral route factors* and *behaviour intention.* **H4b**: *Perceived price* moderates the relationship between p*eripheral route factors* and *behaviour intention.* **H4c:** *Perceived price* moderates the relationship between *behavioural reasons* and *behaviour intention.*	Price – product value vs monetary value (affordability) for the specified target market, promotional pricing strategies (offers, deals), perception based on product category.	Perceived price (Dodds, Monroe & Grewal, 1991), Behavioural intention (Honkanen, Verplanken & Olsen, 2006).
RQ2: Are *emotional appeals* more effective in persuading consumers to choose plant-based food products?	Experience	1. Taste or flavour 2. In-store display 3. Packaging 4. Availability or accessibility	Elaboration Likelihood Model (ELM) – Peripheral route	**H2**: There is a positive relationship between *emotional appeals* (peripheral route factors) and *behaviour intention.*	*Product* – focus on taste, attractive packaging. *Promotion* – clear and appealing in-store displays. *Place* – readily availability and accessible (convenience).	Packaging design (Kauppi &van der Schaar, 2020), Availability (Yoo, Donthu & Lee, 2000), Reasons (Hopwood et al., 2020; Lindeman & Väänänen, 2000; Steptoe, Pollard & Wardle, 1995; Wallace, Buil & De Chernatony, 2020; Lahti, 2021), Behavioural intention (Honkanen, Verplanken & Olsen, 2006).

Research Question	Theme	Sub-Themes	Theory	Hypotheses	Applicable Marketing Mix Variable	Applicable Quantitative Scales
RQ3: Do consumers' *values and beliefs system* influence their decision to choose plant-based food products?	Values and beliefs	1. Cultural values 2. Health concerns 3. Environmental impact 4. Social influence	Behavioural Reasoning Theory (BRT) – values, beliefs, and reasons	**H3**: There is a positive relationship between *behavioural reasons* and *behavioural intention*.	*Product* –physical composition, product value, tradition and heritage, pros, and cons. *Price* – promotional pricing strategy, perceived value. *Place* – readily availability and accessible (convenience). *Promotion* – informative and effective communication, clear and appealing in-store displays.	Values and beliefs (Lahti, 2021), Reasons (Hopwood et al., 2020; Lindeman & Väänänen, 2000; Steptoe, Pollard & Wardle, 1995; Wallace, Buil & De Chernatony, 2020; Lahti, 2021), Attitude (Sainsbury & Mullan, 2011); Subjective Norm (Fishbein & Ajzen, 1975), Behavioural perceived control (Han, Hsu & Sheu, 2010), Behavioural intention (Honkanen, Verplanken & Olsen, 2006).
RQ4: How can food companies use the *marketing mix* to persuade consumers to choose plant-based food products?	N/A	N/A	Marketing Mix – Product, Price, Place, Promotion	N/A	All 4Ps (Refer to Chapter 7 - Managerial Implications)	Product knowledge (Seiders et al., 2007; Sharma & Patterson, 2000), Product quality (Yu, Luo & Zhu, 2018), Packaging design (Kauppi &van der Schaar, 2020), Availability (Yoo, Donthu & Lee, 2000), Perceived price (Dodds, Monroe & Grewal, 1991), Behavioural intention (Honkanen, Verplanken & Olsen, 2006).

By aligning the identified themes with the appropriate research questions, the researcher was able to develop a robust and comprehensive conceptual model that effectively captured the complexity of the topic under investigation (Appendix D). This integration not only provided theoretical grounding but also enriched the analysis and interpretation of the qualitative data, offering a deeper understanding of the underlying mechanisms and processes. The initial conceptual model in Appendix D was based heavily on the theoretical groundings. The model was adjusted and simplified by removing attitudes and perceived control under global motives as it was not prominent in the qualitative discussions. The conceptual model presented in Figure 5.5 serves as a bridge between the qualitative findings and the existing theories in the motivation literature. Based on the outcomes of the two phases (qualitative and quantitative) an in-depth marketing mix is proposed for consideration and implementation in Chapter 7.

Figure 5.5: Conceptual Model



The section below provides an overview of the proposed hypotheses based on the conceptual model.

5.6.1 Central Route Factors and Behavioural Intentions

H1: There is a positive relationship between *Central Route Factors (Product Knowledge; Quality*) *and Behavioural Intentions*

5.6.2 Peripheral Route Factors and Behavioural Intentions

H2: There is a positive relationship between *Peripheral Route Factors* (*Packaging Design; Product Availability; Taste and flavour) and Behavioural Intentions*

5.6.3 Behavioural Reasons and Behavioural Intentions

H3: There is a positive relationship between *Behavioural Reasons (Values and Beliefs; Reasons; Subjective Norm) and Behavioural Intentions*

5.6.4 The Moderating Effect of Perceived Price

H4a: *Perceived Price* moderates the relationship between *Central Route Factors (Product Knowledge; Quality) and Behavioural Intentions*

H4b: *Perceived Price* moderates the relationship between *Behavioural Reasons (Values and Beliefs; Reasons; Subjective Norm) and Behavioural Intentions*

H4c: *Perceived Price* moderates the relationship between *Peripheral Route Factors (Package Design; Accessibility) and Behavioural Intentions*

5.7 Conclusion

The data collected from Phase I, focus group discussions, were examined, and assessed to present the results in this chapter. The demographic profile of the focus group participants was first summarised, then a detailed discussion on the emerging themes and sub-themes were outlined. Based on the themes from the discussions the theoretical framework was developed in line to the grounding theories and the hypotheses were conceptualised. The next chapter presents the data analysis, and findings from Phase II – the quantitative component of the study.

CHAPTER 6: QUANTITATIVE DATA ANALYSIS AND RESULTS

6.1 Introduction

This chapter conducts a statistical analysis of the quantitative data collected during Phase II of the study. It begins with an overview of descriptive statistics concerning the demographic profile of the respondents. Subsequently, a thorough evaluation of the measurement and structural model is performed, to assess the model along with hypotheses testing.

6.2 Descriptive Statistics

Considering that the purpose of this research is to investigate the role of persuasion in choosing plant-based food products amongst young adults (The Strawberry Generation). Respondents were required to answer two screening questions to ensure that they fall within the targeted sample for this study before commencing with the questionnaire. The first question ensured that respondents fell withing the sampling range, between the ages of 20 to 34 years old. The second question ensured that respondents are cognisant about the research topic – plant-based food products.

The majority (95%) of the respondents who completed the questionnaire met both criteria. A total of 426 responses from the total 448 responses collected was used for statistical testing, as 22 respondents did not meet the screening question criteria. The demographic statistics was assessed and discussed in this section, to understand the respondents better in reference to the plant-based market. Graphs for each of the demographic profile can also be found in Appendix G.

6.2.1 Demographic Profile of Respondents

The demographic information gathered for this study is presented in more detail below, including the participants' gender, age, monthly household income, monthly food expenditure, and frequency of plant-based consumption. Table 6.1 summarises the respondent’s demographic profile.

Table 6.1: Demographic Profile of Respondents

Variable	Sub-Variable	Frequency	Percentage (%)
Gender	Male	144	33.8
	Female	264	62
	Non-binary	7	1.6
	Prefer not to say	11	2.6
Age	20-25	257	60.3
	26-30	89	20.9
	31-34	80	18.8
Monthly household income	Less than R10 000	89	20.9
	R10 001 - R20 000	59	13.8
	R20 001 - R30 000	37	8.7
	R30 001 - R40 000	47	11
	R40 001 - R50 000	35	8.2
	More than R50 000	97	22.8
	Prefer not to say	62	14.6
Monthly food expenditure	Less than R10 000	40	9.4
	R10 001 - R20 000	107	25.1
	R20 001 - R30 000	110	25.8
	R30 001 - R40 000	65	15.3
	R40 001 - R50 000	41	9.6
	More than R50 000	63	14.8
Plant-Based products consumption frequency	At least once a week	236	55.4
	Once a month	79	18.5
	Once every 3 months	54	12.7
	Never	57	13.4

6.2.1.1 Gender

The majority of the respondents were female, consisting 62% of the total sample (426 respondents); whereas 34% of the respondents were male, 2% were non-binary and 3% preferred not to say. This suggests that the study's findings may reflect more of a female perspective, which could influence the results, particularly in areas such as purchasing behaviour, food preferences, and lifestyle choices, where gender differences are often noted.

6.2.1.2 Age

The profile demonstrating age indicates that most of the respondents (60%) were between the ages of 20 and 35, with 21% between 26 to 30, and 19% being 31 to 34 years of age. This age group is typically in the early to mid-career stage, potentially with disposable income and evolving preferences, which may explain their engagement with trends like plant-based food consumption. The prominence of younger participants also suggests that the findings could be

reflective of the attitudes and behaviours common among millennials and early Gen Z individuals, who are often more open to alternative diets and environmental concerns.

6.2.1.3 Monthly Household Income

The income distribution reveals that 42% of respondents earned between R10,000 and R50,000 per month, while 23% earned above R50,000, and 21% earned less than R10,000. Within the middle-income bracket of R10,000 to R50,000, respondents were fairly evenly distributed across different income ranges (R10 001 to R20,000 (14%), R20 001 to R30 000 (9%), R30,001 to R40 000 (11%), and 8% earning between R40 000 and R50 000), suggesting a diverse economic background. This income range reflects a relatively broad demographic, which may have varying levels of access to PBPs, with higher income respondents possibly having more disposable income for premium plant-based foods, while lower-income individuals may have different consumption patterns or restrictions due to price.

6.2.1.4 Monthly Food Expenditure

Most of the respondents (52%) spent between R10 001 to R30 000 on food each month, with 25% between R10 001 to R20 000 and 26% between R20 001 to R30 000. Only 9% of the respondents spent less that R10 000 a month on food, where 15% spend between R30 001 to R40 000, followed by 10% with R40 001 to R50 000 and 15% spend more than R50 000 on food each month. This distribution of food expenditure indicates that a substantial proportion of the respondents allocate a relatively high portion of their monthly budget to food, which may include both traditional and PBPs. The higher spending groups might be more inclined to purchase premium plant-based options, suggesting that food expenditure patterns could correlate with interest in alternative diets.

6.2.1.5 Plant-Based Products Consumption Frequency

The consumption frequency of plant-based foods among respondents is categorised into four clusters. Among them, 55% of respondents consumed plant-based foods at least once a week, while 19% and 13% consumed PBPs once a month or once every three months, respectively. The remaining 13% of respondents reported never consuming PBPs. These figures suggest that while a majority engage with plant-based foods regularly, a significant portion of respondents are either occasional consumers or avoid them altogether. This trend could be influenced by factors such as dietary preferences, awareness, cultural attitudes, and socio-economic factors,

with those who consume plant-based foods regularly possibly being more health-conscious or environmentally aware.

6.2.2 Central Tendency and Dispersion Measures of Constructs

This study incorporated variables comprising multiple items for respondents to indicate their level of agreement or disagreement with individual items falling within specific constructs or themes (Bido, da Silva, & Ringle, 2014; Wong, 2013). Central tendency and dispersion were assessed based on respondents' responses, utilising the overall mean (μ) and standard deviation (σ) respectively. A 5-point Likert scale was employed in this research, where values of two or below indicated disagreement with the statements, while values of four or above signified agreement. A value of three denoted neutrality, indicating that respondents neither agreed nor disagreed with the statements.

a. Mean

   The mean is used as a measure of central tendency by providing an indication of the data based on the average responses. The items for the study were examined under each construct and grouped together to form a variable index by calculating the average response that clusters the data (Hair et al., 2012). The overall mean values for the constructs examined in this study ranged from 2.10 to 4.17. Most of the constructs ranged at a high 3, close to 4, showing that respondents agreed to the statements that were used to assess the certain variables.

b. Standard Deviation

   Standard deviation assessed the variability of the data, it is a measure of dispersion based on the mean to determine the level of data concentrated (Vinzi, Trinchera & Amato, 2010). The values of the standard deviation for this study ranges from 0.873 to 1.524. Data sets with higher standard deviations (e.g., 1.524 – taste; 1.330 – behavioural intention) suggest greater dispersion and diversity in the values, with data points more spread out from the mean, reflecting higher variability. In contrast, lower standard deviations (e.g., 0.873 – packaging design, 1.059 – product knowledge) indicate that the data points are more closely clustered around the mean, suggesting less variability and greater consistency. Overall, most of the data show moderate variability, with certain data sets exhibiting a wider spread, which highlights the varying degree of consistency or diversity across the different subsets of the data.

6.2.3 Normality Assessment

The recommended benchmarks for assessing normality in data are typically between -2 and +2 for skewness and between -3 and +3 for kurtosis (IBM SPSS, 2022). These benchmarks help determine whether the data approximates a normal distribution or shows significant deviations (Tabachnick & Fidell, 2013). Skewness evaluates the symmetry of the distribution, while kurtosis measures its peakedness or flatness relative to a normal distribution (IBM SPSS, 2022; Pallant, 2020). Values outside of these ranges may indicate the presence of significant skewness or excessive kurtosis, suggesting the need for further investigation, such as data transformation or reconsidering the analysis method. A summary of the skewness and kurtosis results for this study is provided below, with the full data available in Appendix H.

Skewness values for most items fall within the recommended range of -2 to +2, indicating that the distribution of responses is roughly symmetric. However, some items show more noticeable skewness, such as PD1 (-2.414), and B3 (-2.242), which are outside the ideal skewness range, indicating slight negative skewness (leftward) or mild deviations from normality. This suggests these items may have a concentration of responses on one side of the scale. Similarly, for most items, the kurtosis values are within the range of -3 to +3, indicating a distribution that is approximately normal in terms of its peak, suggesting normal or near-normal distribution shapes. However, some items exhibit high kurtosis values, such as PD1 (7.412), and B3 (5.076), indicating that these items have distributions with more extreme peaks (leptokurtic distributions). This may suggest a higher concentration of responses around the mean or the presence of outliers, making these distributions less normal.

While most items show acceptable skewness and kurtosis values, PD1 and B3, display deviations that may suggest non-normal distributions. These deviations could influence the results of statistical analyses, which assumes data normality. Although potential data transformation or exclusion of problematic items, such as PD1 and B3, is generally recommended when data deviates from normality, it is important to note that in the context of this study, which utilises PLS-SEM through SmartPLS, normality is not as critical as in traditional covariance-based SEM. PLS-SEM is more robust to deviations from normality, particularly with smaller sample sizes or non-normally distributed data. Therefore, while addressing the skewness and kurtosis of these items might be considered in some cases, it may not significantly impact the reliability or validity of the results in this particular analysis.

6.3 Statistical Analysis – PLS SEM

This research employed the PLS-SEM approach to examine the relationships between various independent and dependent variables in the proposed research model. PLS-SEM is a powerful method for analysing complex models with multiple constructs and paths, especially when the data does not necessarily meet the assumptions of traditional covariance-based SEM methods (Hair Jr et al., 2021; Ramayah et al., 2018; Wong, 2013).

As part of the PLS-SEM process, a CFA was conducted to evaluate and refine the measurement model. This step ensures that the constructs are adequately measured by their respective indicators and that they exhibit sufficient reliability and validity (Hair Jr et al., 2021). The CFA process helps in identifying and correcting any issues with the measurement model, such as poor indicator loadings or discriminant validity concerns. After the measurement model was established, the structural model was assessed to test the hypotheses, evaluate the relationships between constructs, and predict outcomes (Hair Jr et al., 2021).

The study's model includes reflective-reflective HOCs, a sophisticated approach where higher-order constructs are conceptualized as aggregates of LOCs. In this context, a disjoint two-stage approach was employed. In Stage 1, the LOC model was analysed to assess the measurement model, ensuring the validity and reliability of the constructs at the lower level. In Stage 2, the higher-order component model was developed, building on the constructs identified in Stage 1, and used to assess the structural model. This two-stage approach allows for more precise modelling and testing of complex relationships between higher-order constructs.

6.3.1 Measurement Model Assessment

This research dissertation investigates several key constructs, including central route factors (product knowledge, product quality), peripheral route factors (packaging design, availability, taste), behavioural reasons (values and beliefs, health, environment, social influence), perceived price, and behavioural intention. These constructs are central to the study's theoretical framework, drawing on established theories of the ELM, BRT and Marketing Mix.

The model assessment follows a two-stage disjoint approach in PLS-SEM. In Stage 1, the reflective measurement models for the LOCs are assessed to ensure their reliability and validity. The focus in this stage is on evaluating the measurement model for each construct, ensuring that the indicators (items) appropriately measure the latent variables. This is crucial to confirm

the internal consistency and discriminant validity of the constructs before advancing to the next stage. Figure 6.1, generated using SmartPLS, visually presents the LOC conceptual model along with its outer loadings.

Figure 6.1: Stage 1 - Reflective Conceptual Model (LOC)

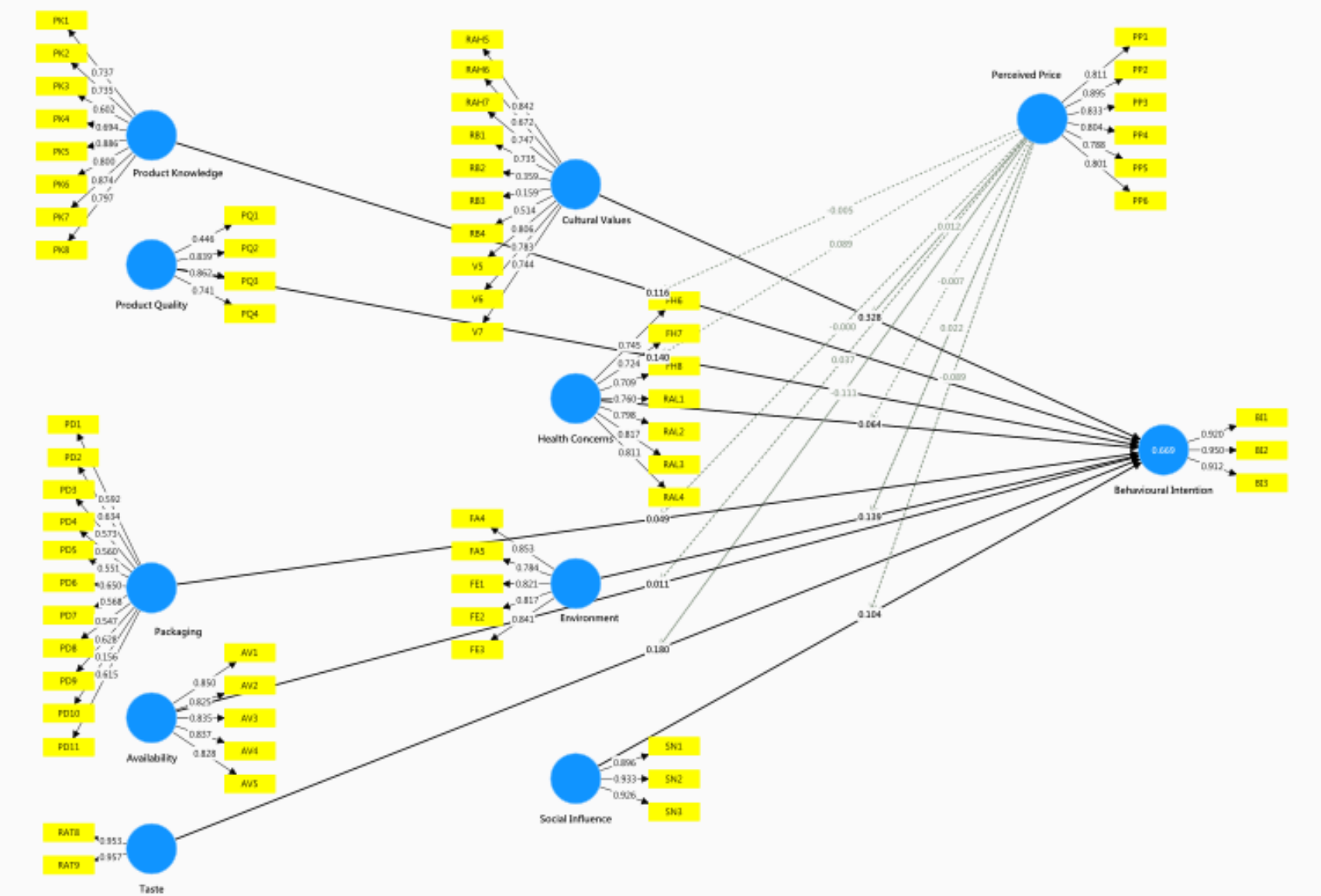


Table 6.2: Accuracy Analysis Statistics

Research constructs		Scale item				Cronbach's test		Composite Reliability	Average Variance Extracted (AVE)	Discriminant Validity	Factor Loadings
		Mean Value		Standard Deviation		Item-total	α value	(rho_c)			
Product Knowledge	PK1	4.030	3.612	0.966	1.059	0.673	0.902	0.920	0.594	0.771	0.737
	PK2	3.988		0.990		0.667					0.735
	PK3	4.547		0.657		0.534					0.602
	PK4	4.272		0.838		0.638					0.694
	PK5	3.314		1.170		0.828					0.886
	PK6	2.430		1.245		0.706					0.800
	PK7	2.990		1.341		0.800					0.874
	PK8	3.323		1.268		0.698					0.797
Product Quality	PQ1	3.808	3.589	1.006	1.081	0.358	0.726	0.822	0.549	0.741	0.446
	PQ2	3.451		1.127		0.620					0.839
	PQ3	3.643		1.038		0.649					0.862
	PQ4	3.455		1.152		0.459					0.741
Packaging	PD1	4.681	4.170	0.626	0.873	0.364	0.794	0.832	0.322	0.567	0.592
	PD2	4.094		0.921		0.436					0.634
	PD3	4.326		0.837		0.462					0.573
	PD4	4.092		0.967		0.537					0.560
	PD5	4.127		0.914		0.532					0.551
	PD6	4.418		0.735		0.599					0.650
	PD7	4.258		0.902		0.340					0.568
	PD8	4.054		0.915		0.452					0.547
	PD9	4.026		0.921		0.533					0.628
	PD10	3.559		1.079		0.147					0.156
	PD11	4.232		0.791		0.529					0.615
Availability	AV1	3.500	3.369	1.144	1.103	0.743	0.894	0.920	0.698	0.835	0.850
	AV2	3.188		1.124		0.719					0.825
	AV3	3.174		1.092		0.775					0.835
	AV4	3.709		1.102		0.688					0.837
	AV5	3.272		1.052		0.770					0.828
Taste	RAT8	2.800	2.879	1.508	1.524	0.826	0.904	0.954	0.913	0.955	0.953
	RAT9	2.958		1.539		0.826					0.957
Cultural Values	B1	3.359	3.481	1.437	1.318	0.706	0.862	0.880	0.450	0.671	0.735
	B2	4.249		0.987		0.419					0.359
	B3	4.533		0.873		0.245					0.159
	B4	4.115		1.182		0.551					0.514
	V5	2.880		1.398		0.614					0.806
	V6	2.979		1.407		0.587					0.783
	V7	2.634		1.472		0.536					0.744
	RAH5	3.082		1.557		0.781					0.842
	RAH6	3.700		1.368		0.652					0.672
	RAH7	3.282		1.498		0.691					0.747
Health Concerns	RFH6	3.878	3.777	1.069	1.173	0.602	0.883	0.909	0.589	0.767	0.745
	RFH7	3.805		1.068		0.572					0.724
	RFH8	3.704		1.052		0.549					0.709
	RAL1	3.538		1.360		0.692					0.760
	RAL2	3.749		1.246		0.751					0.798
	RAL3	3.901		1.170		0.779					0.817
	RAL4	3.862		1.243		0.764					0.811
Environment	RFE1	3.671	3.659	1.123	1.136	0.706	0.881	0.913	0.678	0.824	0.821
	RFE2	3.822		0.971		0.708					0.817
	RFE3	3.782		1.023		0.737					0.841
	RFA4	3.636		1.233		0.759					0.853
	RFA5	3.385		1.331		0.657					0.784
Social Influence	SN1	2.169	2.099	1.267	1.232	0.812	0.909	0.942	0.844	0.918	0.896
	SN2	1.920		1.163		0.827					0.933
	SN3	2.209		1.267		0.811					0.926
Behavioural Intention	BI1	3.045	3.298	1.329	1.330	0.820	0.918	0.948	0.860	0.927	0.920
	BI2	3.277		1.375		0.877					0.950
	BI3	3.573		1.285		0.810					0.912
Perceived Price	PP1	2.601	2.754	1.119	1.109	0.738	0.906	0.926	0.677	0.823	0.811
	PP2	2.885		1.118		0.823					0.895
	PP3	3.232		1.087		0.693					0.833
	PP4	2.768		1.102		0.725					0.804
	PP5	2.352		1.075		0.739					0.788
	PP6	2.685		1.150		0.724					0.801

As summarised in Table 6.2, all constructs have undergone testing, justification, and analysis using the LOC model. The measures of central tendency and dispersion, as well as the reliability and validity outcomes of the identified constructs for this study, are elaborated upon in the following sections.

6.3.1.1 Reliability and Validity of Constructs

Testing reliability and validity for interpretation of the results is necessary to ensure the accuracy and credibility of the results and to ascertain whether the constructs under investigation are reliable and valid for both current and future research purposes (Ringle, Da Silva & Bido, 2015). The findings obtained from reliability and validity tests were compared against predefined threshold values, including Cronbach's Alpha (> 0.7), Composite Reliability (CR > 0.7), Average Variance Extracted (AVE > 0.5), and Heterotrait-Monotrait Ratio of Correlations (HTMT < 0.85) (Hair Jr et al., 2021; Mohajan, H., 2017; Heale & Twycross, 2015).

I. Testing for Reliability

The reliability of measurement instruments can be assessed through two tests, namely: Cronbach Alpha Coefficient and Composite Reliability (CR). It is recommended to run both tests of reliability for more accurate results as the Cronbach Alpha scores can be very conservative (Ringle, Da Silva & Bido, 2015). The below explains the reliability results presented in Table 6.2.

a. Cronbach Alpha Coefficient

The reliability of the measurement instrument was established using the Cronbach's Alpha coefficient. Generally, a Cronbach's Alpha exceeding 0.7 indicates reliability of the variable (Heale & Twycross, 2015). Upon assessing the results for the measurement instruments in this study, it was apparent that all scales exhibit reliability, with Cronbach's Alpha exceeding 0.7. Furthermore, the Cronbach's Alpha coefficients for the variables in this study ranged between 0.794 and 0.918, with the lowest coefficient observed at 0.726 for product quality. This suggests that all measures utilised in this study were reliable, surpassing the threshold value of 0.7 for Cronbach's Alpha.

b. Composite Reliability (CR)

Followed by assessing the Cronbach Alpha Coefficient, the Composite Reliability (CR) index was used to evaluate internal reliability. Similar to Cronbach Alpha, a CR value greater than

0.7 is considered acceptable (Mohajan, 2017). In the context of this study, all variables demonstrate reliability, with CR values ranging between 0.822 and 0.954, surpassing the threshold requirement.

II. Testing for Validity

Validity is tested primarily through the measurement model, which includes checks for convergent validity and discriminant validity. Convergent validity evaluates the extent to which different measures assess the same trait, while discriminant validity assesses the distinctiveness of different traits. The following explains the validity results presented in Table 6.2 (above).

a. Convergent Validity – Average variance extracted (AVE) and factor loadings

The Average Value Extracted (AVE) can be investigated alongside the construct items factor loadings to determine convergent validity:

1. AVE represents the average variance explained by the indicators of a construct relative to the total variance, calculated from the standardised factor loadings. A recommended AVE value should be above 0.50 to confirm adequate convergent validity. However, in cases where Cronbach's Alpha and Composite Reliability are both above the recommended threshold of 0.70, an AVE slightly below 0.50 can be acceptable (Roberts & Priest, 2006; Shalender, 2017). Based on the AVE results for this study, two constructs had AVE results lower than 0.5: packaging design (0.322) and values and beliefs (0.450). The other constructs AVE values ranged from 0.549 to 0.913, the convergent validity requirements were obtained for all constructs, considering all the reliability results were above 0.7.

2. Factor loadings represent the strength and direction of the relationship between each item and the underlying construct in PLS path modelling. A factor loading of 0.7 or above indicates that the item is strongly associated with the construct and is a good indicator thereof. To strengthen the relationship and improve the structural assessment, items with low factor loadings can be deleted (Hair Jr et al., 2017). However, if a factor loading falls below 0.7, and yet the Cronbach alpha and Composite reliability (rho_c) for constructs exceed 0.7, reliability is still confirmed, and there is no necessity to delete the items (Mohajan, 2017). The Cronbach alpha and Composite reliability results for

this study were all above the threshold, although factor loadings were below 0.7. Therefore, no items were required to be deleted.

b. Discriminant Validity – Heterotrait-Monotrait Ratio of Correlations (HTMT) and Fornell-Larcker Criterion

Discriminant validity can be for this study is measured using HTMT and Fornell Lacker ratio to determine the different items from one another.

1. HTMT assesses inter-item correlations by predicting perfect reliability to indicate correlation between two constructs. The acceptable value of conceptually different constructs for HTMT should be below 0.85 (Henseler, Ringle & Sarstedt, 2015). Based on the output generated from SmartPLS in Table 6.3, illustrates the HTMT results for this study, discriminant validity was achieved for all constructs.

Table 6.3: Heterotrait-Monotrait Ratio of Correlations (HTMT) – Matrix

	Availability	Behavioural Intention	Cultural Values	Environment	Health Concerns	Packaging	Perceived Price	Product Knowledge	Product Quality	Social Influence	Taste
Availability											
Behavioural Intention	0.423										
Cultural Values	0.389	0.736									
Environment	0.375	0.585	0.491								
Health Concerns	0.300	0.658	0.775	0.552							
Packaging	0.205	0.213	0.214	0.221	0.251						
Perceived Price	0.365	0.500	0.421	0.471	0.440	0.241					
Product Knowledge	0.576	0.604	0.666	0.377	0.460	0.205	0.307				
Product Quality	0.605	0.601	0.464	0.479	0.557	0.326	0.591	0.513			
Social Influence	0.180	0.225	0.321	0.246	0.175	0.194	0.349	0.144	0.224		
Taste	0.263	0.699	0.840	0.370	0.705	0.119	0.403	0.464	0.452	0.034	

2. Fornell-Larcker Criterion assesses discriminant validity by comparing the square root of the AVE values with the correlation coefficients between latent variables. Discriminant validity is confirmed when the AVE value of a construct is greater than its correlations with other constructs (Heale & Twycross, 2015). In Table 6.4, the adjacent construct values all exceed the corresponding correlation coefficients. Thus, the Fornell-Larcker Criterion supported the justification for discriminant validity in this study.

Table 6.4: Fornell-Larcker Criterion (Correlation Coefficients)

	Availability	Behavioural Intention	Cultural Values	Environment	Health Concerns	Packaging	Perceived Price	Product Knowledge	Product Quality	Social Influence	Taste
Availability	0.835										
Behavioural Intention	0.406	0.927									
Cultural Values	0.392	0.743	0.671								
Environment	0.339	0.528	0.483	0.824							
Health Concerns	0.287	0.597	0.668	0.494	0.767						
Packaging	0.196	0.231	0.126	0.221	0.247	0.567					
Perceived Price	0.335	0.479	0.429	0.436	0.424	0.213	0.823				
Product Knowledge	0.547	0.577	0.652	0.363	0.424	0.193	0.322	0.771			
Product Quality	0.449	0.537	0.450	0.387	0.461	0.284	0.489	0.427	0.741		
Social Influence	0.156	0.211	0.105	0.223	-0.010	0.119	0.311	0.128	0.197	0.918	
Taste	0.255	0.638	0.776	0.332	0.628	0.051	0.392	0.445	0.405	0.005	0.955

6.3.1.2 Multicollinearity Assessment

Multicollinearity is examined in the study by observing the different VIF figures to depict whether the predictors are correlated, the threshold for VIF should be five or less (Hair, Ringle & Sarstedt, 2011). The results for the multicollinearity assessment are illustrated in Table 6.5. Based on the VIF values ranging between 1.079 (PD10) and 4.327 (BI2) collinearity was achieved, no multicollinearity issues were present.

Table 6.5: Multicollinearity Results (VIF)

	VIF		VIF
PK1	3.029	RAT9	3.141
PK2	2.870	RB1	2.153
PK3	1.728	RB2	2.156
PK4	1.965	RB3	1.923
PK5	3.547	RB4	2.235
PK6	2.804	V5	3.162
PK7	3.305	V6	2.702
PK8	2.380	V7	2.420
PQ1	1.173	RAH5	3.339
PQ2	1.825	RAH6	2.357
PQ3	1.936	RAH7	2.617
PQ4	1.335	RAL1	3.217
PD1	1.338	RAL2	4.031
PD2	1.365	RAL3	4.055
PD3	1.351	RAL4	3.552
PD4	1.532	FH6	2.848
PD5	1.698	FH7	3.274
PD6	2.014	FH8	3.009
PD7	1.259	FE1	2.214
PD8	1.347	FE2	2.691
PD9	1.661	FE3	2.730
PD10	1.079	FA4	2.958
PD11	1.649	FA5	2.495
AV1	2.380	SN1	2.951
AV2	2.240	SN2	3.168
AV3	2.809	SN3	2.935
AV4	2.101	BI1	3.231
AV5	2.646	BI2	4.327
RAT8	3.141	BI3	3.035

6.3.2 Structural Model Assessment

The data collected from Phase II of the quantitative approach was analysed using structural model tests on SmartPLS. PLS-SEM is a favourable multivariate statistical framework that is considered comprehensive and advanced for researchers across all fields of study. It is used to model complicated relationships between observed variables, both directly and indirectly (The University of Steffield., 2022; Hair Jr et al., 2021; Ramayah et al., 2018; Wong, 2013).

The structural model assessment is evaluated based on the reflective measurement model of the HOC (stage two of the disjoint two-stage approach), that was derived from the LOC in stage one. The HOC conceptual model presented in Figure 6.2, indicates the factor analysis performed on SmartPLS. While Figure 6.3 presents the path coefficient results from the bootstrapping analysis.

The structural model examines the path coefficients and hypotheses testing to determine the relationships between the constructs. Subsequently, the significance and relevance of the structural model's relationship was determined. An assessment of the model's explanatory power was then discussed, followed by assessing the model's predictive power and model fit (Sarstedt et al., 2019; Hair, Ringle & Sarstedt, 2011).

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Figure 6.2: 2-Stage Disjoint Approach: Stage 2 - HOC

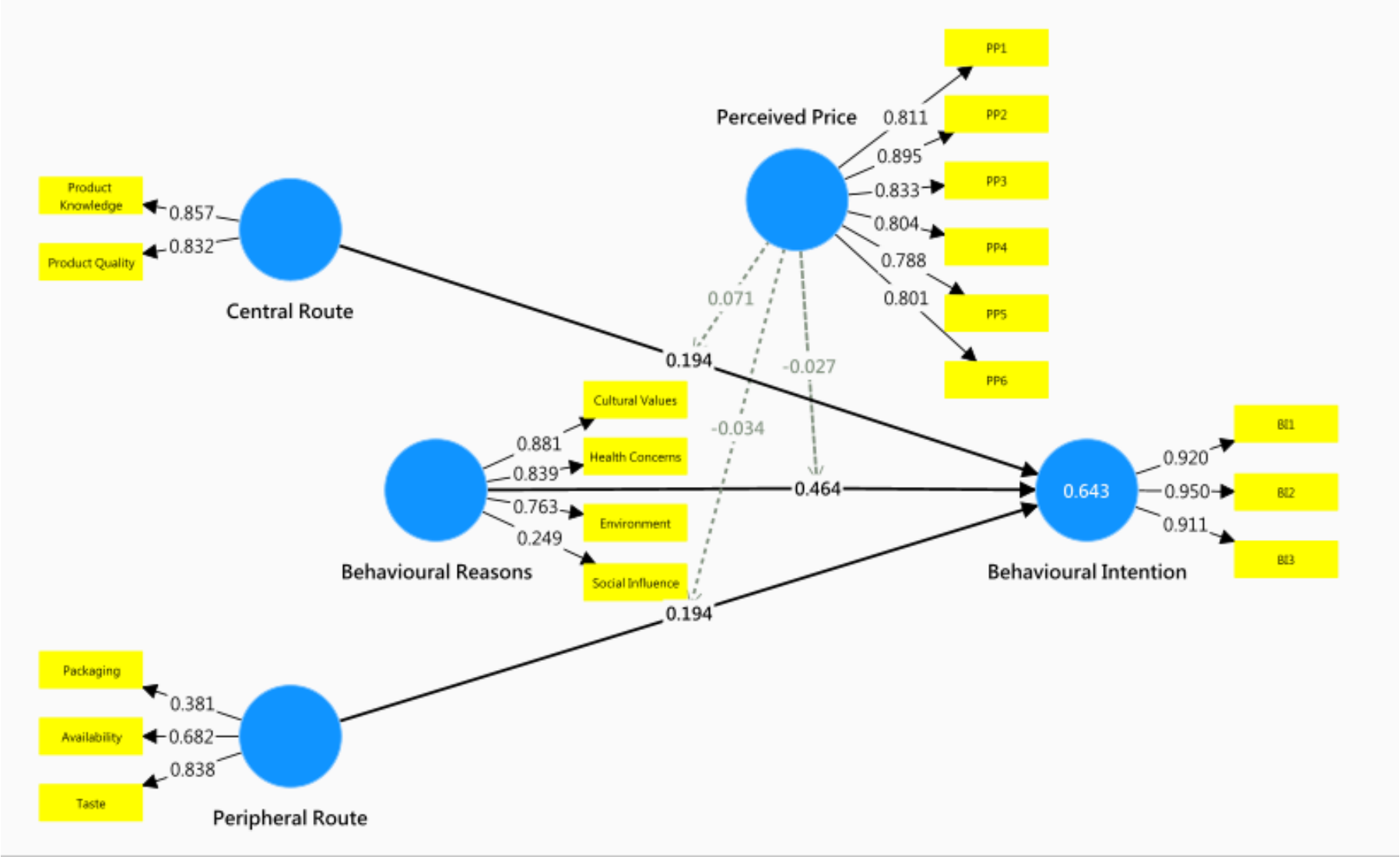
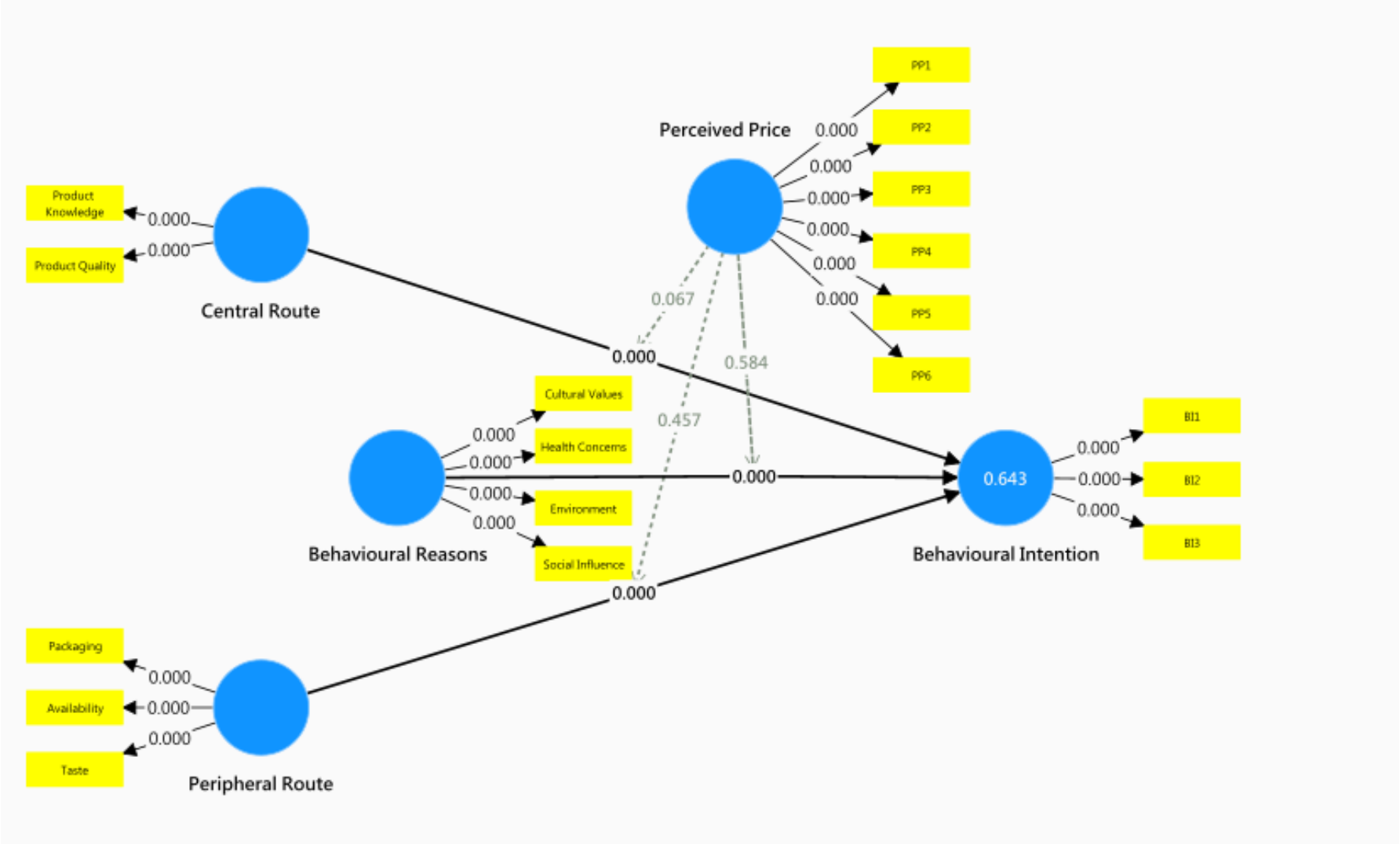


Figure 6.3: Bootstrapping Results for HOC



6.3.2.1 Path Coefficients and Hypotheses Testing

The strength (significance) of the relationship between statistical variables can be assessed by examining the path coefficient figures (total effects matrix), obtained from PLS-SEM algorithm (Hair Jr et al., 2021). The relationship between constructs is positive if the path coefficient is greater than 0 (Sarstedt et al., 2019; Wong, 2013), while bootstrapping conducted using SmartPLS, is employed to ascertain the support for hypotheses by assessing t-statistics and p-values. The recommended threshold for t-statistics is greater than 1.96 (Hair Jr et al., 2021), ensuring a 95% confidence interval, while the p-value is expected to be less than or equal to 0.05. Table 6.6 provides a summary of the structural relationships and the results of hypotheses testing.

Table 6.6: Structural Relationships and Hypothesis Testing

Hypothesis	Path / Proposed Relationship	t-statistics	Path coefficient	p-value	Results
H1	Central Route → Behavioural Intention	3.741	0.194	***	Supported & significant.
H2	Peripheral Route → Behavioural Intention	3.860	0.194	***	Supported & significant.
H3	Behavioural Reasons → Behavioural Intention	11.645	0.464	***	Supported & significant.
H4a	Perceived Price × Central Route → Behavioural Intention	1.835	0.071	0.067	Not Supported & not significant.
H4b	Perceived Price × Behavioural Reasons → Behavioural Intention	0.744	-0.034	0.457	Not Supported & not significant.
H4c	Perceived Price × Peripheral Route → Behavioural Intention	0.547	-0.027	0.584	Not Supported & not significant.

Not all four hypotheses examined in this study were found to be supported and significant. Hypotheses 1 to 3 were accepted, while hypotheses 4a to 4c were rejected. The relationship between behavioural reasons and behavioural intention (hypothesis 3) emerged as the strongest,

with a path coefficient of 0.464, indicating a positive moderate influence. Additionally, hypotheses 1 and 2 exhibited weak but significant positive relationships, each with a path coefficient of 0.194. In contrast, hypotheses 4a to 4c, which tested the moderating effect of perceived price on behavioural reasons and the peripheral route to behavioural intention, showed non-significant relationships with path coefficients of -0.034 and -0.027, and p-values exceeding 0.05. These results suggested that perceived price did not significantly moderate the central or peripheral routes to behavioural intention. In summary, while hypotheses 1 to 3 were supported and significant, the moderating effects proposed in hypotheses 4a to 4c were not supported and not significant.

H1: Central Route Factors → Behavioural Intentions

H1 hypothesised a positive relationship between Central Route Factors (Product Knowledge, Quality) and Behavioural Intentions. The path coefficient of 0.194 indicated a positive relationship between the variables. The t-statistic of 3.741, which exceeds the critical threshold of 1.96, and the p-value of 0.000 (less than 0.05), indicated that the relationship is statistically significant. Therefore, H1 is supported, confirming that Central Route Factors positively influence Behavioural Intentions.

- H1: There is a positive relationship between Central Route Factors (Product Knowledge; Quality) and Behavioural Intentions

H2: Peripheral Route Factors → Behavioural Intentions

H2 posited a positive relationship between Peripheral Route Factors (Packaging Design, Availability, Taste) and Behavioural Intentions. The path coefficient of 0.194 suggests a positive relationship. With a t-statistic of 3.860 (greater than 1.96) and a p-value of 0.000, the relationship is statistically significant. This implies that Peripheral Route Factors positively influence Behavioural Intentions. Thus, H2 is supported, as stated below:

- H2: There is a positive relationship between Peripheral Route and Behavioural Intentions

H3: Behavioural Reasons → Behavioural Intentions

H3 proposed a positive relationship wherein Behavioural Reasons (Values and Beliefs, Reasons, Subjective Norm) significantly influenced Behavioural Intentions. The path coefficient of 0.464 reflected a moderate positive influence. The t-statistic of 11.645 and p-value of 0.000 confirmed that the relationship is both positive and statistically significant. This

denoted that Behavioural Reasons positively influence Behavioural Intentions. Thus, H3 is substantiated, as stated below:

- H3: There is a positive relationship between Behavioural Reasons and Behavioural Intentions

6.3.2.2 The Moderating Effect of Perceived Price

H4a: Perceived Price x Central Route Factors → Behavioural Intentions

Hypothesis H4a proposed that Perceived Price would moderate the relationship between Central Route Factors (Product Knowledge, Quality) and Behavioural Intentions. However, the path coefficient of 0.071, indicated a weak positive relationship, but the t-statistic of 1.835 and the p-value of 0.067 suggested that the relationship is not statistically significant (as $p > 0.05$). Therefore, H4a is rejected, meaning that Perceived Price did not moderate the relationship between Central Route Factors and Behavioural Intentions. The moderating relationship was hypothesised, as per below:

- Perceived Price moderates the relationship between Central Route and Behavioural Intentions

H4b: Perceived Price x Peripheral Route Factors → Behavioural Intentions

H4b posited that Perceived Price would moderate the relationship between Peripheral Route Factors (Packaging Design, Availability, Taste) and Behavioural Intentions. However, the path coefficient value of -0.034 indicated a negative relationship, with a t-statistic of 0.744 and a p-value of 0.457, suggesting an unsupported relationship. Therefore, H4b is rejected, indicating that Perceived Price did not moderate the relationship between Peripheral Route Factors and Behavioural Intentions. H4b is not supported, as hypothesised below:

- Perceived Price moderates the relationship between Peripheral Route Factors and Behavioural Intentions

H4c: Perceived Price x Behavioural Reasons → Behavioural Intentions

Hypothesis H4c hypotheses that Perceived Price would moderate the relationship between Behavioural Reasons and Behavioural Intention. However, the path coefficient value of -0.027, with a t-statistic of 0.547 and a p-value of 0.584, suggested an unsupported relationship that was not statistically significant. Perceived Price did not moderate the relationship between

Behavioural Reasons and Behavioural Intention. Therefore, H4c is rejected, where H4c was stated as follows:

- Perceived Price moderates the relationship between Behavioural Reasons and Behavioural Intentions

6.3.2.3 Explanatory Power

Explanatory power explores the strength of the dependent variables in relation to the variance of a lineal model, indicated by the R-square values (SmartPLS., 2023; Hair Jr et al., 2017). There is only one outcome variable for this study, behavioural intention. The result for this analysis is presented in Table 6.7. Explanatory power was further assessed by examining the influence of variables in the model based on the F-squared values when variables are removed. A higher F-squared value indicates a greater impact of the removed variable relative to the other variables in the model. Table 6.8 summarises the effect sizes of F-squared.

Table 6.7: R^2 Values

	R-square	R-square adjusted
Behavioural Intention	0.643	0.637

Behavioural Intention has a moderate R-squared value of 0.643. This signifies that there were slight differences between the observed data and fitted values.

Table 6.8: f^2 Effect Sizes

	Behavioural Intention
Behavioural Intention	
Behavioural Reasons	0.208
Central Route	0.046
Perceived Price	0.002
Peripheral Route	0.038

The F-square values are indicated for both the independent constructs and dependant construct. From the results, it is evident that if behavioural reasons were removed, it would greatly impact behavioural intentions (f^2= 0.208). Perceived price as a moderator, had little to no effect on behavioural intentions (f^2= 0.002).

6.3.2.4 Predictive Power

The predictive relevance of the model, particularly concerning the dependent variable, is indicated by Q-square, where values exceeding 0 indicate the presence of predictive relevance. Predictive power is further assessed through predictive validity to ascertain the generalisability of study results across populations (SmartPLS, 2023; Vinzi, Trinchera & Amato, 2010). Predictive errors in the model can be computed using the predict test feature in SmartPLS. Predictions are determined by comparing PLS-SEM_RMSE and LM_RMSE, or PLS-SEM_MAE and LM_MAE. The latent variable (LV) analysis presented in Table 6.9 suggests a strong predictive power for behavioural intention. Additionally, Table 6.10 delves into the predictive power of individual manifest variables (indicators) comprising behavioural intention.

Table 6.9: Q^2 Predictive Values - LV

	Q^2predict	RMSE	MAE
Behavioural Intention	0.628	0.612	0.476

The LV (behavioural intention) showed moderate predictive relevance with a Q^2 value of 0.28, indicating that the model explains a reasonable portion of the variance in the outcome variable. The RMSE of 0.612 reveals that the model's predictions deviate from the actual values by an average of 0.612 units, reflecting decent accuracy with room for improvement. Similarly, the MAE of 0.476 suggests that the average prediction error for behavioural intention is 0.476 units, which is acceptable. The overall results indicated that the model provides a moderate to good fit for predicting behavioural intention.

Table 6.10: Q^2 Predictive Values - MV

	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
BI1	0.528	0.914	0.719	0.906	0.703
BI2	0.596	0.874	0.682	0.869	0.671
BI3	0.493	0.916	0.716	0.926	0.723

For the MV, the results showed varying degrees of predictive power across the three behavioural intention items. Behavioural Intention 2 exhibited the strongest predictive relevance with a Q^2 of 0.596, and both the PLS-SEM and LM models showed relatively low prediction errors, suggesting strong predictive accuracy. In contrast, Behavioural Intention 1

and Behavioural Intention 3 demonstrated moderate predictive relevance, with Behavioural Intention 3 showing higher prediction errors. Specifically, PLS-SEM performed better for Behavioural Intention 1 and Behavioural Intention 3, while the LM model performed slightly better for Behavioural Intention 2. Overall, the MV results highlighted that Behavioural Intention 2 was the most accurately predicted construct.

6.3.3 Model Fit Assessment

In this investigation, model fit was scrutinised to assess the alignment of observed data from the sample with the proposed conceptual model, employing the total effect scheme for the estimated model. This assessment of model fit provides insights into the discordance of covariance models (Hair Jr et al., 2021; Ringle, Da Silva & Bido, 2015). The evaluation of model fit in this research, conducted using PLS-SEM (SmartPLS), encompassed several indicators, including SRMR (Standardized Root Mean Square Residual), d_ULS (Squared Euclidean distance), d_G (Geodesic distance), Chi-square, and NFI (Normed Fit Index). Detailed results of the model fit assessment are presented in Table 6.11.

Table 6.11: Model Fit Summary Statistics

	Saturated model	Estimated model
SRMR	0.091	0.091
d_ULS	1.408	1.407
d_G	0.506	0.505
Chi-square	1250.751	1247.145
NFI	0.745	0.746

The model fit assessment results suggest a generally moderate to good fit. The SRMR value of 0.091 is slightly above the ideal threshold of 0.08, but it falls within the acceptable range (0.08 to 0.10), indicating an adequate fit (Hu & Bentler, 1998). Both d_ULS (1.408) and d_G (0.506) are relatively low, with d_G being close to the ideal value of 0, suggesting a good fit (Henseler et al., 2015). The chi-square value showed minimal change from the saturated to the estimated model, but chi-square is less emphasised in PLS-SEM (Sarstedt et al., 2019; Ramayah et al., 2018; Hair Jr et al., 2017). The NFI value of 0.745 is below the recommended threshold of 0.90, indicating a moderate fit.

6.4 Model Adjustment

In light of the findings from the unsupported hypotheses regarding perceived price as a moderator (H4a-c), the researcher proceeded to explore an alternative approach by examining the direct relationship between perceived price and behavioural intention. Additionally, perceived price was tested as a mediator rather than a moderator for Hypotheses 1–3. This additional analysis aimed to provide a more comprehensive understanding of the role of perceived price in shaping behavioural intention, particularly in light of the unexpected results concerning its moderating effect.

6.4.1 Direct Effect of Perceived Price on Behavioural Intentions

To assess the direct relationship between perceived price and behavioural intention, a series of regression analyses were conducted. The results presented in Table 6.12 indicates strong reliability and validity scores. Figure 6.4 and Table 6.13 shows a significant positive direct relationship between perceived price and behavioural intention. Thus, suggesting that with an increase in perceived price, there is also an increase in buying behaviour. In other words, the more affordable the perceived price is of PBPs, the more likely young consumers will choose PBPs.

Table 6.12: Reliability and Validity: Perceived Price on Behavioural Intentions

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Behavioural Intention	0.918	0.927	0.948	0.859
Perceived Price	0.906	0.933	0.926	0.677

Figure 6.4: Bootstrapping Results of Perceived Price on Behavioural Intentions

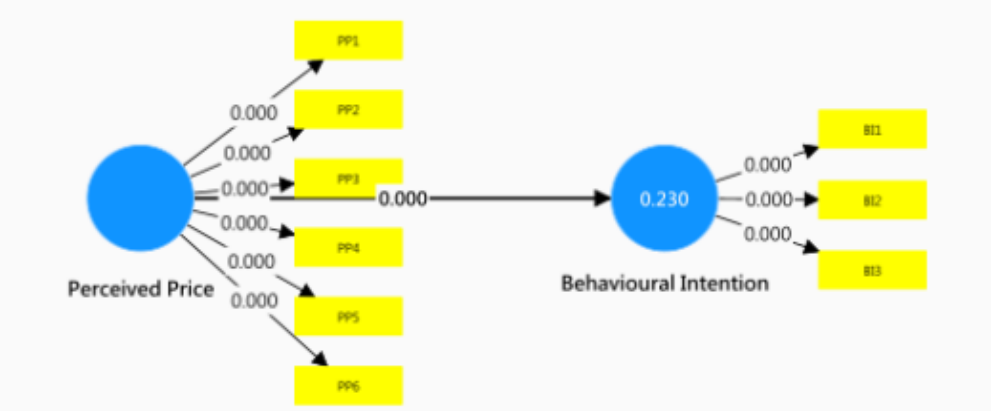


Table 6.13: Hypotheses Testing: of Perceived Price on Behavioural Intentions

	T statistics (|O/STDEV|)	Path coefficients	P values
Perceived Price -> Behavioural Intention	13.352	0.480	0.000

These findings reflect a path coefficient value is 0.480, with a t-statistic of 13.352 and a p-value of 0.000, demonstrating a positive, supported, and significant relationship. This denotes that Perceived Price does indeed have a direct influence on Behavioural Intentions, despite the insignificant moderating effect.

6.4.2 The Mediating Effect of Perceived Price

In addition to examining the direct effects and hypothesised relationships between perceived price and behavioural intention, the potential indirect effects that may not have been previously explored is discussed. Alongside other structural modelling analyses, mediation was conducted using Smart-PLS and employed bootstrapping methods to generate results (Appendix I). Specifically, a bootstrapping method involving five thousand samples, a significance level of 0.05, and a bias-corrected and accelerated (BCa) bootstrap approach was used (Hair Jr et al., 2021; Steffener, 2021; Hair et al., 2011).

These analyses reveal the role of perceived price as a mediator in the model, which means that perceived price helps explain the relationship between two other constructs. Specifically, perceived price acts as an intermediary variable that influences how one construct (e.g., central route factors or behavioural reasons) affects the other construct (e.g., behavioural intention). In this way, perceived price doesn't directly impact behavioural intention, but rather, it alters or strengthens the relationship between the influencing constructs and the outcome variable. This mediating role provides deeper insight into the underlying mechanisms through which the independent constructs affect behavioural intention (Hair Jr et al., 2021; Hair et al., 2012; Vinzi, Trinchera, & Amato, 2010). The findings of these mediating relationships are presented in Table 6.14.

Table 6.14: Indirect Model Effects

	Path coefficient	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Perceived Price -> Central Route -> Behavioural Intention	0.089	0.027	3.357	0.001
Perceived Price -> Behavioural Reasons -> Behavioural Intention	0.273	0.028	9.873	0.000
Perceived Price -> Peripheral Route -> Behavioural Intention	0.099	0.026	3.810	0.000

The results indicated that perceived price emerged as a potential mediator in the study, with complementary mediating effects observed across all the positive relationships highlighted by the path coefficients. The relationships involving perceived price as a mediator between both central and peripheral routes, as well as behavioural reasons, were statistically significant (p-value < 0.05). This suggests that the inclusion of perceived price as a mediator partially explains the relationship between central route factors and behavioural intentions.

Nonetheless, this study did not explicitly investigate any mediating hypotheses or direct relationships necessary for a comprehensive mediation analysis. In research, such analysis typically involves comparing direct and indirect relationships where mediation is observed (Ramayah et al., 2018; Bido, da Silva & Ringle, 2014). Nevertheless, the significance of these mediating effects provides evidence of the relationship present, which could be further explored or supported.

6.5 Conclusion

The quantitative component – Phase II was analysed, justified, and interpreted by means of reviewing the demographic profile of the respondents. Following this, both the measurement and structural model were tested and interpreted. The next chapter will focus on the conclusion, recommendations, and future research.

CHAPTER 7: CONCLUSION, RECOMMENDATIONS AND FUTURE RESEARCH

7.1 Introduction

This chapter provides an overview of the primary findings of the research study. Additionally, it delves into the interpretation of both phases of the current exploratory research. Subsequently, it discusses the contributions and limitations, and concludes with recommendations for future research.

7.2 Overview of the Study

Sustainable marketing and the promotion of sustainable (plant-based) consumption have become increasingly prominent fields of study, given the detrimental effects of meat consumption patterns on the environment and societal well-being. Consequently, marketers and retailers are exploring strategies to influence consumer behavioural intentions, aiming to persuade them to adopt or incorporate plant-based diets into their lifestyle for both personal and collective benefits.

The research utilised a sequential mixed-methods approach, consisting of two phases. In the first phase, qualitative data was gathered through focus group discussions to gain an in-depth understanding of consumer perceptions, values, and decision-making processes regarding PBPs. This led to the identification of key themes, which informed the development of a conceptual framework.

In the second phase, the conceptual framework was empirically tested using quantitative methods to examine the relationships between the identified themes (functional, experiential, and values and beliefs) and behavioural intentions. The study specifically aimed to assess how central and peripheral routes of persuasion, as outlined in the ELM, and the role of behavioural reasoning in guiding decisions (as per the BRT), impacted consumer preferences toward PBPs.

By combining both qualitative insights and quantitative testing, this study sought to provide a comprehensive understanding of the underlying factors that shape consumer attitudes and behaviours toward PBPs. The findings contribute valuable insights for marketers seeking to design more effective communication strategies (marketing mix) that resonate with consumer motivations and enhance the adoption of PBPs.

7.3 Objective Achievement and Hypothesis Discussion

The primary question addressed by this study is: How can marketers and food companies influence consumers to choose plant-based food products and encourage them to adopt a healthier, more sustainable plant-based lifestyle? To address this question, five research objectives were formulated. Based on the results presented in Chapter 5 and 6, the objectives of this study can be revisited to determine if they were achieved. These can be discussed relative to the hypothesised model for the study, as well as that of surrounding literature.

7.3.1 Objective 1

To explore how young consumers process information using rational and emotional marketing messages and which are more effective (by applying the Elaboration Likelihood Model).

The findings for Hypotheses 1 and 2 reveal that both rational (central route) and emotional (peripheral route) marketing messages significantly influence young consumers' behavioural intentions. The central route, involving information-driven and logical processing, and the peripheral route, relying on emotional or heuristic cues, both show a positive path coefficient of 0.194, indicating a moderate effect on behavioural intention. These results suggest that young consumers respond positively to both types of marketing appeals, with neither route proving more effective than the other. Consequently, marketers targeting this demographic should consider employing a balanced approach that integrates both rational and emotional elements to enhance consumer engagement and influence behavioural intentions that result in purchase.

In alignment with previous research on the ELM, as discussed in Chapter 2 and 3, which posits that individuals can be persuaded through two distinct routes: central and peripheral. Petty and Cacioppo (1986) suggested that the central route is activated when individuals are motivated and able to process information deeply, leading to more enduring attitude change. The finding that rational, information-driven messages significantly influence young consumers' behavioural intentions is consistent with this premise, supporting the role of cognitive processing in decision-making.

Similarly, the peripheral route, which relies on emotional appeals and superficial cues (Petty & Cacioppo, 1986), is also found to be significant in this study. This supports the work of other scholars, such as Chaiken (1980), who emphasised the importance of emotional or heuristic-based influences on attitudes when individuals are less involved or motivated to engage with

detailed product information. The findings corroborate those of Fogg (2003), who argued that emotional cues, such as visual appeal or endorsements, can play a key role in shaping consumers' intentions in low-involvement decisions.

Moreover, the equal influence of both the central and peripheral routes in this study echoes previous research suggesting that consumers often process information through a dual pathway, and that both rational and emotional appeals can effectively drive behaviour, particularly in the context of product choices that align with personal values and preferences (Hansen et al., 2020). This finding also complements the work of Mormann and Sanfey (2008), who noted that consumer decisions often involve a combination of cognitive and affective processing, highlighting the importance of integrating both dimensions into marketing strategies.

The results contribute to the growing body of literature on marketing effectiveness, suggesting that young consumers, like other demographic groups, respond to both types of marketing messages. This reinforces the importance of a balanced marketing strategy that leverages both rational information and emotional resonance to effectively engage target audiences (Wang & Hazen, 2016).

7.3.2 Objective 2

- To understand the role of young consumers values and beliefs systems when choosing plant-based food products (using the Behavioural Reasoning Theory).

The values and beliefs systems are strongly supported as the results indicated a significant influence on young consumers' behavioural intentions towards plant-based food products. The path coefficient of 0.464 indicated a moderate to strong positive effect for Hypothesis 3, suggesting that as the behavioural reasons (values and beliefs; reasons; subjective norm) become more salient to consumers, their intention to choose plant-based options increases. Overall, the study underscores the importance of understanding young consumers' values and belief systems, as framed by the BRT, in influencing their intentions toward PBPs. Marketers targeting this demographic should focus on these key drivers to enhance their engagement strategies.

The topic provides similar findings when observing existing literature, particularly in the context of food choices. The BRT as proposed by Westby (2005) suggests that individuals'

behaviours are influenced by their reasoning about the reasons for or against a behaviour, often guided by cultural, health, environmental, and social factors. This theory has been widely applied to understand how these factors influence purchase intentions and behaviours as discussed in detail in Chapter 2 and 3 (Faber et al., 2022; Hagger, Chatzisarantis & Biddle, 2020).

The influence of health concerns on plant-based food choices is well-documented in the literature. For instance, studies by McCarthy, O'Connell and Rees (2020) and Alonso, Olsson and Sattar (2018) highlight that health-conscious consumers are more likely to adopt plant-based diets, reflecting the significant role health plays in shaping dietary intentions. Similarly, the environmental impact of food choices has been shown to be a major motivator for young consumers, as noted by Tanner and Wölfing Kast (2020), who found that concerns about sustainability and climate change drive the adoption of PBPs among younger demographics.

Moreover, cultural values and social influence also feature prominently in previous research on consumer decision-making. Steptoe, Pollard, and Wardle (2013) and Thøgersen (2018) emphasise that cultural beliefs and social norms significantly shape food preferences and behaviours. These findings are consistent with the results of this study, which show that these factors, as part of the broader behavioural reasoning process, strongly influence young consumers' intentions to engage with plant-based foods.

This study contributes to the growing body of literature by integrating multiple behavioural reasons into the BRT framework and demonstrating that behavioural reasons collectively drive young consumers' purchase intentions. These results further validate the importance of understanding the multifaceted nature of consumer decision-making and suggest that marketers should craft messages that resonate with these diverse, underlying motivations to effectively promote PBPs.

7.3.3 Objective 3

To present findings for marketers to develop a comprehensive marketing mix to influence young consumers’ behavioural intentions to adopt a plant-based lifestyle.

The findings from Chapters 5 and 6 offer valuable insights that help marketers develop a comprehensive marketing mix aimed at influencing young consumers' behavioural intentions

to adopt a plant-based lifestyle. By integrating both qualitative and quantitative insights, grounded by the ELM and BRT, marketers can design a nuanced and targeted strategy. The qualitative data uncovers emotional and social drivers, while the quantitative analysis validates and quantifies these insights, providing a more holistic understanding of consumer decision-making. This combined approach enables the creation of a marketing strategy that resonates with the values and motivations of the target demographic.

The qualitative data, derived from in-depth interviews or focus groups, reveals the emotional drivers, values, and belief systems that shape young consumers' attitudes toward PBPs. These insights highlight key factors, such as health concerns and social influences (central to BRT), that can help marketers craft emotional and social cues to connect with consumers. Furthermore, qualitative findings shed light on how health-conscious messaging might influence consumer behaviour, particularly among those motivated by emotional or value-based factors (as per the peripheral route of ELM). On the other hand, the quantitative findings provide empirical evidence that validates the proposed conceptual model and hypotheses, specifically Hypotheses 1-3, offering a stronger foundation for decision-making.

By combining these two approaches, marketers can refine the 4Ps to better align with the values, needs, and motivations of young consumers. This comprehensive understanding enhances their ability to influence both initial adoption and long-term engagement with PBPs, ensuring more effective strategies for promoting a plant-based lifestyle.

7.3.4 Objective 4

- To identify key insights and thematic patterns that explain young consumers' decision-making processes regarding PBPs and their adoption of a plant-based lifestyle, providing actionable implications for marketers.

Key insights and thematic patterns regarding young consumers' decision-making processes toward PBPs and their adoption of a plant-based lifestyle were identified and assessed in Chapters 5 and 6. The research revealed several prominent themes, classified into three main categories: functional, experience, and values and beliefs. Each category encompassed specific sub-themes, providing a comprehensive understanding of the factors influencing young consumers' behavioural intentions to adopt a plant-based lifestyle.

The thematic patterns identified in this study align closely with existing literature on consumer behaviour and plant-based consumption. Health consciousness, environmental concerns, and social influences have been well-documented in previous studies as strong motivators for adopting plant-based diets (Ahmad et al, 2022; Chen, 2022; Faber et al., 2022; Wang & Scrimgeour, 2021; Shogren et al., 2019). Additionally, barriers such as price and product quality have been identified as key factors that hinder broader adoption of PBPs (Kerry, 2023; Costello et al., 2020; Reipurth et al., 2019; Lea, Crawford & Worsley, 2006)

The result for this study thus provides actionable, research-backed recommendations for marketers to optimise the marketing mix and influence young consumers' behavioural intentions toward adopting a plant-based lifestyle. Tailoring marketing messages to resonate with the core values of young consumers will be crucial in fostering long-term engagement with the plant-based lifestyle.

7.3.5 Objective 5

To uncover critical factors influencing young consumers' behavioural intentions towards plant-based foods, and to develop a validated conceptual model that informs marketing strategies aimed at promoting plant-based lifestyles among this demographic.

The research objective of identifying key factors influencing young consumers' behavioural intentions toward plant-based foods and developing a validated conceptual model was achieved through an in-depth examination of various determinants. The conceptual model testing revealed that Hypotheses 1, 2, and 3 were supported, indicating that central route factors, peripheral route factors, and behavioural reasons all have significant relationships with behavioural intentions toward choosing PBPs. However, the moderating hypotheses (H4a, H4b, H4c) were not supported. This indicated that perceived price did not significantly moderate these relationships as initially hypothesised. This unexpected result was particularly notable given that perceived price emerged as a prominent theme during the focus group discussions, where participants frequently mentioned price as a critical factor influencing their decision making in regard to PBPs.

In response to the surprising lack of support for the moderating effect, the researcher explored the possibility of perceived price acting as a mediator. Although mediation was not formally tested in depth, the exploration suggested that perceived price may play a mediating role in how

these factors influence young consumers' decisions. The findings indicated that perceived price could significantly influence the relationship between central, peripheral, and behavioural factors and young consumers' intention to adopt PBPs.

7.4 Discussion of Findings and Conclusion

Building upon the findings presented in Chapter 5 and Chapter 6, this section provides a comprehensive analysis of the outcomes derived from the core findings of the exploratory sequential mixed-methods approach, specifically Phase I (qualitative) and Phase II (quantitative) of the study. Additionally, it incorporates insights from relevant empirical literature related to similar studies.

7.4.1 Qualitative Component (Phase I) – Findings and Conclusion

Three overarching themes emerged from the qualitative focus group discussions as part of Phase I for the mixed-methods approach. The identified themes included functional factors, experiential factors, and values and beliefs, each accompanied by four sub-themes. The first two themes were based on the ELM framework. Functional factors, as the first theme, formed the basis for the central route to persuasion, emphasising deliberate consideration and rational information processing. The subsequent theme explored experiential factors that was translated into the peripheral route, highlighting the influence of peripheral cues and emotional responses on attitudes and behaviours. Lasty, the third theme, focused on values and beliefs systems, underpinning the BRT determining the influence on individuals' attitude and behaviour.

7.4.1.1 Theme 1: Functional Factors

The consumer evaluation of PBPs start with assessing product understanding, perceived quality, and their impact on purchase intentions. Effective marketing communication is essential for increasing product awareness. The functional factors are pivotal in shaping consumer perceptions and decisions, through rational messages (central route to persuasion). The identified sub-themes included product knowledge, perceived price, communication, and advertising along with quality.

a. Product Knowledge

Product knowledge played a fundamental role, as participants determined to understand the features and benefits of a given product within its context. Based on the findings of this research, participants demonstrated varying levels of knowledge regarding PBPs. Individuals

with limited understanding believed that an increased education on the topic could change their views and consumption habits, whereas those who were well-informed were aware of the various brands, products, and places where they could find PBPs. This disparity underscores the importance of education in shaping individuals' attitudes and behaviours toward plant-based options, while also highlighting the potential for informed consumers to make more discerning choices within the market.

b. Perception of Price

Price perception was a key determinant, as participants assessed the perceived value of the product in relation to its cost. Participants commonly perceived PBPs as premium healthy products due to their association with natural ingredients and nutritional value. Consequently, this perception often led them to view the prices of PBPs as comparatively higher than those of conventional products. This phenomenon stemmed from the perceived added value attributed to health-oriented products, as individuals prioritised their well-being and were willing to invest more in products they perceived as healthier. Thus, while participants acknowledged the health benefits of PBPs, the perceived higher prices acted as a barrier to widespread adoption and consumption. In general, the topic of price often surfaced in combination with other themes (sub-themes), indicating that it was something participants were particularly sensitive about.

c. Communication and Advertising

Effective communication and promotion strategies further shape individuals' attitudes and behaviours towards the product, enhancing awareness and influencing purchase intentions. Participants voiced that communication and advertising strategies concerning PBPs are presently constrained, primarily relying on consumers actively seeking out PBPs to encounter promotional efforts. However, this landscape presents an opportunity for companies and marketers to refine their communication techniques to amplify awareness of PBPs. By adopting more proactive and targeted marketing approaches, such as utilising social media platforms, influencer collaborations, and educational campaigns, companies can effectively broaden their reach and engage consumers who may not be actively seeking out plant-based options. This strategic shift has the potential to not only increase awareness but also foster positive perceptions and greater acceptance of PBPs among a wider audience.

d. Quality

Quality directly impacts consumer satisfaction and perceived value of the product. Participants intricately linked the quality of PBPs to both taste and pricing. Participants assumed that PBPs are of high quality, a belief driven by perceptions of health benefits, ethical and environmental considerations, and expectations of value for money. Participants expected PBPs to adhere to high-quality standards to ensure they align with their health, ethical, and sustainability values, while also justifying the typically higher price point associated with such products. Consequently, maintaining, and prioritising product quality is crucial for companies operating in the plant-based market to meet consumer expectations, build trust, and foster loyalty among their target audience.

7.4.1.2 Theme 2: Experiential Factors

Participants experiences with PBPs, whether positive or negative, impact their willingness to engage further, highlighting the importance of understanding perceptions in shaping behavioural intentions. To deepen the comprehension of individuals cognitive processes through emotional messaging (peripheral route to persuasion) on PBPs, the overarching theme of experiential features was subdivided into the following sub-themes: taste or flavour, in-store display, packaging, and availability or accessibility.

a. Taste or flavour

The taste or flavour of PBPs is a pivotal factor influencing current and consistent plant-based consumption. The taste or flavour profile of PBPs can exhibit considerable variation among individuals due to several factors. These include the specific types of PBP, encompassing considerations such as brand, category, and composition. As a result, understanding these multifaceted factors is essential for both manufacturers (research and developments) and consumers in navigating the diverse landscape of plant-based food options effectively.

b. In-store display

Effective in-store product displays play a crucial role in enhancing awareness and driving purchases, particularly when strategically positioned to capture consumer attention. This underscores the importance of convenience in influencing consumer choices. However, particpants often encountered challenges in locating PBPs in stores or in recognising them as such.Therefore, it is essential for PBPs to be visually appealing and prominently displayed to enhance their visibility and facilitate consumer awareness. As such, retailers and manufacturers

must carefully consider product placement strategies and ensure convenient access to PBPs to capitalise on consumer preferences and promote the uptake of plant-based alternatives.

c. Packaging

Product packaging serves as the initial impression of a product, serving as consumers' first point of contact. It formed a vital source of information for individuals, influencing their perception of product quality and attributes. The pakaging must encapsulate all distinguishing details necessary for consumers to differentiate it from non-plant-based products. This includes elements such as labels, colour and design, which play pivotal roles in conveying the product's identity and aligning with consumer expectations. It can be used to communicate essential information, attract consumer attention, provide product protection, and contributes to brand identity and differentiation, ultimately driving sales and ensuring consumer satisfaction.

d. Avalibaility or Accessibility

The availability and accessibility of PBPs in retail outlets and online platforms significantly influences individuals purchasing decisions, allowing them to opt for specific products based on convenience and availability. However, they are frequently characterised by limited availability and accessibility to individuals, posing challenges in their point of purchase. Participants often encountered difficulty in locating plant-based food products within retail spaces, necessitating a deliberate search effort. Furthermore, identifying PBPs amidst a myriad of other products typically required participants to meticulously examine packaging labels for confirmation. Thus, highlighting the importance of enhancing the visibility and accessibility of plant-based options within retail environments. By addressing these challenges, retailers can better cater to the growing demand for plant-based alternatives and facilitate consumers' adoption of healthier and sustainable dietary choices.

7.4.1.3 Theme 3: Values and Beliefs System

Individuals' values and beliefs strongly influenced their choice of plant-based food products. Ethical considerations regarding animal welfare and environmental sustainability, alongside health concerns and the desire to reduce environmental impact, led many participants to opt for plant-based diets. Overall, the role of values and belief systems (behavioural reasoning) collectively shaped individuals' decisions to embrace plant-based consumption as a dietary option. The values and belief systems were supported by the following sub-themes: cultural values, health considerations, environmental impact, and social influence.

a. Cultural values

Cultural background, experiences, and habits significantly influenced individuals' decisions regarding PBPs, as they adapted to certain lifestyles. The findings from the focus group discussions indicated that animal products held significant cultural importance for many individuals, particularly within the context of African culture, where meat was traditionally viewed as an integral component of cultural identity. However, despite the cultural reverence for animal products, ethical considerations underlying plant-based consumption were commonly disregarded by most participants. This suggested a disconnect between cultural values associated with meat consumption and broader ethical concerns related to sustainability and animal welfare.

b. Health

Health concerns heavily influence food choices, and PBPs are increasingly recognised for their potential health benefits across various aspects of human well-being. Individuals are either raised health conscious or health becomes increasingly pronounced as they get older (Ang, Pontes & France, 2023; Corrin & Papadopoulos, 2017). This heightened emphasis on health is deeply intertwined with individuals' dietary habits and is often subject to influence from their social environment (Hemler & Hu, 2019). Within this context, individuals exhibited a willingness to opt for plant-based alternatives as perceived healthier choices for specific products. This inclination towards plant-based options reflects a growing awareness of the health benefits associated with plant-based diets, a trend that is—and can continue to be—further shaped by ongoing societal discussions and interpersonal influences.

c. Environmental impact

Plant-based options typically have lower environmental impacts than animal-based products, by offering environmental benefits, requiring fewer resources, emitting fewer greenhouse gases, and posing less threat to biodiversity compared to animal-based diets, thus promoting sustainability in the food system (Chen, 2022; Hopwood et al., 2020). Considerations and actions regarding negative environmental implications of food choices is necessary to ensure food security as the population growth rapidly increases (Brown, 2022). Participants showed a favourable attitude towards choosing PBPs due to concerns about the environmental impacts associated with meat consumption.

d. Social influence

Social influence significantly shapes the intentions and behaviour towards the adoption and consumption of PBPs (Brouwer et al., 2022; Ge, Scalco & Craig, 2022; Nezlek & Forestell, 2020). Individuals attitude and behaviour were easily and often shaped under the influence of friends, media personalities and online platforms. However, the ones who were residing with their families, encountered greater constraints on their dietary autonomy, as family dynamics and cultural traditions often exerted significant influence over food choices. Overall, social influence played a crucial role in driving the shift towards more sustainable dietary choices (plant-based).

Drawing from the qualitative findings, the researcher formulated a conceptual framework to test the hypothesised relationship for consumers behavioural intentions between the central and peripheral route factors along with the behavioural reasons of PBPs. Figure 5.1 illustrates the conceptual model developed. Based on the three themes, each main theme was incorporated into the theoretical framework as predictor variables to examine their relationship and significance with behavioural intention, the outcome variable for individuals to choose PBPs. Perceived price was selected as a moderator due to its frequent occurrence and overlap with other identified themes and sub-themes during the focus group discussions.

7.4.2 Quantitative Component (Phase II) – Findings and Conclusion

The four hypotheses developed from the conceptual model based on the prominent themes identified in Phase I was assessed quantitatively in Phase II of the mixed-methods approach. The identified hypotheses tested the relationships between the three main themes (functional – central route; experience – peripheral route; values and beliefs – behavioural reasons) towards behavioural intention.

7.4.2.1 Effect of Central Route Factors on Behavioural Intentions

The relationship investigated was between central route factors (product knowledge and product quality) and behavioural intentions. The results revealed that there was a positive significant relationship between all the central route factors and behavioural intention. These findings from Phase II are in line with the outcomes based on the functional theme identified in Phase I. Respondents who were knowledgeable or educated around the benefits of the specific topic were more willing to adopt the specific behaviour. This was also supported by research conducted by Filieri, Lin, Pino, Alguezaui, and Inversini (2021), which tested the

routes of information processing on consumers' behavioural intentions and decisions. The study found that the central route of information processing should be adopted when influencing intention and behaviour. However, based on the results of this study the supported relationship is deemed weak, the findings are in contradiction with other studies that confirm central cues are strong predictors of behaviour intention (Shiau, Zhou & Liu, 2022; Hashim, Zulkiffli, Aziz, Nawi, Awang, Muhammad & Yusoff, 2020; Koo, Lim & Park, 2014). In general, the research findings have indicated that high levels of information (central) processing are indeed a motivator to persuade consumers in changing their attitude and/or behaviour. Although, the participants likelihood of choosing PBPs was influenced weakly by the central route factors of persuasion, there is an opportunity for marketers to better the communication techniques in driving awareness around PBPs.

7.4.2.2 Effect of Peripheral Route Factors on Behavioural Intentions

Peripheral route factors (packaging design, availability, and taste) significantly influenced behavioural intentions. The results support the outcome of the focus group discussions based on the experiential theme, suggesting that emotional information processing (peripheral) such as packaging, taste, and availability impact behavioural attitudes. These findings are consistent with literature, whereby Chen, Yang, Zhang and Yang (2018) posit in their study that cognition elaboration cues' significantly influences intention. Miller, Freimund and Powell (2018) also assessed the relationship between the level of information processing on behavioural intentions. Their findings suggest that the peripheral route of persuasion may be more likely to impact attitudes in comparison to the central route. In line with Park and Lee (2008), confirming that consumers are more likely to process information using the peripheral route as a mental shortcut. However, the present study indicates that both routes of persuasion influence behavioural intentions equally. It is necessary for marketers and retailers to consider emotional or experiential factors when marketing and producing PBPs.

7.4.2.3 Effect of Behavioural Reasons on Behavioural Intentions

The relationship between behavioural reasons (values and beliefs, reasons, subjective norm) and behavioural intentions tested to be the strongest. The findings from this study are consistent with Sahu, Padhy and Dhir (2020). In another study by Bhatt and Ghuman (2022) the findings demonstrated that reasons along with values significantly influences behavioural intentions. Congruent with the BRT, once the underlying reasons behind a behaviour are identified—particularly the cognitive (beliefs, attitudes) and emotional (values, norms) drivers of that

behaviour—this understanding can be used to predict the behaviour. Additionally, intervention strategies can be developed to influence or change behaviour by addressing these key reasons, either by reshaping cognitive beliefs, appealing to emotional values, or altering social norms. In other words, marketers and retailers that understand consumers level of processing and their influencing factors are more likely to persuade individuals attitude and behaviour. Young consumers are significantly influenced by behavioural reasons because they are at the stage where their surroundings shape and influence behaviour drastically (Brouwer et al., 2022; Asioli et al., 2017). Therefore, it is important to target consumers based on the influencing behavioural reasons.

7.4.2.4 Moderating Effect of Perceived Price

The moderating influence of perceived price has been rejected for all three hypotheses (H4a-c). Although perceived price was prominent across all (sub)themes during Phase I, the quantitative results indicated otherwise. Notably, H4a exhibited a positive path coefficient, while H4b and c demonstrated negative path coefficients. Initially, the analysis revealed a significant relationship between the predictor and outcome variables. However, upon inclusion of the moderator variable, this relationship became statistically insignificant. This implies a potential moderating effect of the moderator variable on the relationship, although the impact did not attain levels of significance. Further exploration into the moderating role of the variable is warranted to delve deeper into the dynamics of the relationship.

7.5 Significance and Contribution

The rationale for this study was to investigate the crucial role of persuasion in choosing plant-based food products, in relation to young consumers. Additionally, it examined how the values and belief systems serve as behavioural determinants that can change attitudes and shape consumer behaviour toward PBPs. This research dissertation is important because PBPs contribute significantly to sustainable consumption and food security, thus promoting more resilient and sustainable food systems. The findings of this study contribute to how marketers and food companies can use the different cognitive and behavioural attributes of PBPs to better target young consumers. The purpose of this study was used to determine how marketers and food companies can influence the young individuals to choose plant-based food products and persuade them to adopt a healthier, more sustainable plant-based lifestyle.

While the study primarily aimed to understand the behavioural drivers of young consumers and their decision-making processes regarding PBPs, it is important to note that the sampling method used was convenience sampling. Therefore, while the insights gained are valuable for understanding this specific group, they cannot be generalised to all young consumers. Despite this limitation, the research remains significant as it provides a foundational understanding of how specific attitudes, values, and beliefs influence plant-based food choices within the sampled demographic. These findings are relevant for marketers and policymakers seeking to engage this particular consumer group, offering guidance on how to tailor marketing strategies to persuade young individuals to adopt a healthier, more sustainable plant-based lifestyle.

7.5.1 Theoretical Contribution

This study draws upon the ELM and the BRT to explore consumer decision-making processes regarding PBPs. By integrating these two theoretical frameworks, a comprehensive conceptual model was developed, aimed at capturing the complexity of the cognitive and emotional factors influencing young consumers' behavioural intentions towards PBPs. The theoretical contribution of this study lies in extending existing literature by combining elements of ELM and BRT to address gaps in understanding how consumers process information (rationally and emotionally) and how their values, beliefs, and subjective norms shape their consumption behaviours.

The ELM, which posits that persuasion can occur through two distinct routes—central (rational) and peripheral (emotional)—was employed to examine the cognitive processing of consumers. The findings revealed that both the central and peripheral routes of persuasion had equal influence on participants' behavioural intentions toward choosing PBPs. Specifically, this study found that individuals decision-making was equally driven by rational appeals and emotional appeals. This suggests that marketing strategies targeting PBPs should incorporate both cognitive and emotional elements to engage consumers effectively. This dual-route persuasion model offers new insights into how marketing messages can be designed to appeal to both the logical reasoning and the emotional drivers that shape consumer behaviour, particularly in the context of plant-based consumption.

In contrast, the application of BRT provided a deeper exploration of the motivational factors influencing consumers' intentions. BRT posits that consumers' decisions are shaped not just by immediate cognitive or emotional factors, but also by values, beliefs, and social norms. The

study's findings highlighted that the values, beliefs, and subjective) played a significant role in shaping the behavioural intentions toward choosing PBPs. This underscores that consumers' underlying motivations—such as their desire to support sustainability or improve their health—are critical drivers of behaviour. As such, the study suggests that to influence consumer choices effectively, marketing strategies must address not only emotional and rational appeals but also core values and social influences.

By combining the ELM and BRT, this study provides a comprehensive framework for understanding the decision-making process involved in adopting PBPs. The integration of cognitive, emotional, and motivational factors into a single theoretical model advances our understanding of consumer behaviour in the context of sustainable food consumption. Moreover, this approach expands the scope of both ELM and BRT by applying them to a new domain—plant-based food consumption—thereby offering a more nuanced understanding of how these theories can be used together to predict and explain consumer behaviour.

This research also challenges certain assumptions in the existing literature by highlighting the equal importance of rational and emotional persuasion in consumer decision-making, rather than privileging one over the other, as has often been the case in previous studies. Furthermore, the moderating effect of perceived price, which emerged from the qualitative data but was found to be insignificant in the quantitative analysis, raises important questions about the role of price in shaping consumer behaviour. While the theoretical model initially hypothesised price as a potential moderator, the findings suggest that other factors such as ethical values, health concerns, and social influences may play a more central role in influencing young consumers' adoption of PBPs.

7.5.2 Practical Contribution

The rapidly growing global population presents a pressing challenge to food security and environmental sustainability, particularly driven by the increasing consumption of meat products (Azman et al., 2023; Lee, 2022; Albrecht & Mauch, 2021; Faber et al., 2020; Tziva et al., 2020). As demand for animal-based products continues to rise, concerns about their unsustainable environmental impact and health consequences have become more pronounced. These concerns have intensified the need for alternative food sources, particularly PBPs. In this context, respondents are increasingly inclined to adopt plant-based diets as part of a broader effort to mitigate environmental damage, promote health, and ensure food security. By choosing

PBPs, individuals aspire to contribute to a more sustainable world, one where ethical consumption habits align with ecological stewardship and social responsibility.

The research findings contribute to the advancement of health and nutrition policies aimed at promoting healthier and more sustainable food systems, as mentioned below:

- **Sustainable Development Goal 3 (SDG3):** "Good Health and Well-being: To ensure healthy lives and promote well-being for all at all ages" (United Nations, 2022).

This research supports SDG3 by promoting the adoption of PBPs as a means of improving public health and well-being, addressing chronic diseases, and reducing the environmental footprint associated with meat consumption.

- **African Union (AU) Agenda 2063**: "Healthy and well-nourished citizens" (African Union, 2022).

The findings of this study reinforce the need for healthier, more sustainable food systems, which align with the AU's vision of improving nutrition and promoting food security across Africa.

- **South African National Development Plan (NDP) 2030**: "Decent standard of living" (National Development Plan, 2022).

The research contributes to the NDP's focus on improving the quality of life through sustainable consumption practices, thereby helping achieve long-term food security and environmental sustainability.

In addition to these policy frameworks, the research highlights the responsibility of marketers and food companies to educate the public on the health and environmental benefits PBPs. By addressing the cognitive, emotional, and social motivations for individuals, who are more inclined to embrace plant-based diets, marketers can help shift behaviours towards more sustainable and healthy food choices. Ultimately, the findings of this research provide actionable insights that can help both marketers and policymakers implement effective strategies that drive behavioural change, support sustainable consumption, and contribute to the broader goals of food security and environmental sustainability.

7.5.3 Contextual Contribution

Conceptually, this study offers a meaningful contribution to the understanding of sustainable adoption and consumption of PBPs. Projections indicate a notable CAGR for the plant-based food market at nearly 30% between 2022 and 2030 (Data Bridge Market Research, 2023). Amidst the ongoing urbanisation and population expansion driving meat consumption in SA, there arises a pressing necessity to explore alternative protein sources to accommodate the escalating demand. This imperative not only addresses concerns related to food insecurity and health but also aligns with global initiatives aimed at promoting sustainable and environmentally conscious food production practices (Ho, 2021; Szejda et al., 2021).

As South Africa's urban population expands, the need for sustainable, accessible protein sources becomes even more pressing (Havenga & Gray, 2022). The adoption of plant-based foods presents a viable solution, addressing both environmental and health concerns. The research highlights the critical role of younger generations in driving this momentum toward plant-based diets. This demographic is increasingly aware of the environmental impacts of food choices and is motivated by a strong sense of social responsibility to promote sustainability and healthy living (Ndlela & Murcott, 2021; Szejda, Urbanovich & Wilks, 2020).

While existing literature has primarily focused on generic routes to persuasion for the adoption of PBPs, this study advances the discussion by integrating theoretical perspectives, such as the ELM and BRT, to better understand the cognitive and emotional factors influencing plant-based consumption. By examining the influence of motives such as health, ethics, and environmental concerns on behavioural intentions, the study provides a more comprehensive understanding of how persuasion works in the specific context of PBPs.

7.6 Managerial Implications

While this study focused on a convenience sample of young consumers, specifically from the Strawberry Generation (aged 20-35), the findings offer valuable insights into their cognitive processing and motivational drivers related to the adoption of PBPs. Although the results cannot be generalised to the broader population of young consumers, they still provide important implications for marketers, food companies, and brand managers who aim to engage with this demographic.

The study revealed that both central and peripheral persuasion routes significantly influence consumers' behavioural intentions toward PBPs. For managers, this means adopting dual marketing strategies that combine rational appeals and emotional appeals. Marketers should craft messaging that not only emphasises the functional benefits of PBPs but also connects emotionally with consumers' values and belief systems. Marketers can use these insights to design multi-faceted communication strategies that resonate with the values of sustainability, cultural, and health that are common in this age group. While the sample was not representative of the entire young consumer base, the findings suggest that these emotional and rational cues are influential for many young adults, making them useful for targeted marketing campaigns aimed at this demographic. In additionally, the study's findings underscore the importance of understanding consumer motives or reasoning, who are driven largely by health. Marketers can use these insights to segment their target audience more precisely and develop marketing campaigns that resonate with these specific motivations. For instance, campaigns can emphasise personal health benefits (e.g., better lifestyle, healthier diets) for health-conscious consumers.

One of the key implications of the study is the growing interest among consumers in adopting a sustainable lifestyle. While the sample of this study limits the ability to make broad claims about all young consumers, the research underscores the growing interest in PBPs within the Strawberry Generation, which is already recognised as a key driver of plant-based consumption trends. Managers can capitalise on this trend by positioning PBPs not just as an alternative food choice, but as a cornerstone of a sustainable lifestyle. The study findings suggest that individuals are not only looking for healthy products but also products that align with their broader values of ecological stewardship and social responsibility. To address this, marketers should position PBPs as part of a holistic approach to sustainable living, integrating messaging about eco-friendly packaging, and social impact alongside the product's health benefits. As the study highlights, sustainability is a key driver for consumers when selecting PBPs. Marketers should emphasise sustainable practices across the entire marketing mix, from product development to communication strategies.

The strategic use of digital and social media could be beneficial as the study suggests that individuals are more likely to engage with brands that reflect their personal values. As such, digital and social media platforms represent crucial channels for engaging with this demographic. Marketers can use these platforms to educate consumers about the benefits of

PBPs, engage in sustainability-related conversations, and promote user-generated content around healthy and sustainable lifestyles. This creates an authentic brand narrative that resonates with consumers' desire to make a positive impact on the environment and society. As part of the managerial implications, food industry managers should also consider the broader social and environmental frameworks within which they operate. The findings of this research can guide efforts to align marketing strategies with important global health and nutrition policies such as the SDGs and local initiatives like the South African National Development Plan. By supporting these policies, brands not only enhance their corporate social responsibility but also appeal to conscious consumers who are motivated by the desire to contribute to global sustainability efforts.

Food industry managers must adapt their marketing strategies to align with the evolving values and preferences of consumers, particularly the younger generations who are driving the demand for sustainable and PBPs. A detailed understanding of consumers' cognitive processes and the underlying motives driving behavioural intentions is imperative to create distinctive communication and campaign strategies. Marketers can use the insights garnered from the study to craft targeted marketing strategies based on the marketing mix that leverages both central and peripheral persuasion routes, effectively educating and promoting PBPs. Similarly, understanding consumer motives can aid in tailoring marketing messages to resonate with the specific target segments, thereby enhancing consumers inclination towards choosing PBPs. A deeper understanding of the persuasion mechanisms and motives in PBP selection allows companies to position themselves strategically in the market. By differentiating their offerings based on sustainability, healthiness, and taste, companies can cater to consumer values and preferences, gaining a competitive advantage in the expanding PBP market.

Based on the research findings a comprehensive marketing mix can be developed in line with the topic, providing marketers with a comprehensive analysis on how to influence individuals to choose plant-based food products and persuade them to adopt a healthier, more sustainable plant-based lifestyle. To further substantiate the findings, a discussion on the marketing mix is proposed. This discussion will explore how each element of the marketing mix—Product, Price, Place, and Promotion—impacts the research outcomes and contributes to the understanding of the topic. Thus, to drive adoption and success in the competitive market landscape.

7.6.1 Product

For a product to stand out, it must be both distinctive and relevant. This can be achieved by prioritising product quality and consistency, innovating to meet diverse consumer preferences, differentiating offerings, and educating consumers about the nutritional and sustainability benefits of PBPs. By focusing on these key areas based off the findings from Phase I and II, managers can position their products effectively, attract health-conscious consumers, and drive demand in the competitive plant-based market landscape, the below provides recommendations in line with the research findings and groundings.

a. Product: Knowledge and Quality → Central Route

It is evident that respondents were aware of PBPs, however they did not necessarily know the different products and benefits available. By Investing in comprehensive training programs for sales staff and customer service representatives will ensure they have a deep understanding of the product features, benefits, and value proposition. Equipping frontline employees with extensive product knowledge enables them to address consumer inquiries, overcome objections, and provide personalised recommendations, thereby enhancing the overall customer experience and facilitating informed purchasing decisions.

Marketers can further educate consumers about the importance of product quality and empower them to make informed purchasing decisions, since consumers often link product quality with sensory attributes (peripheral factors) in combination with price. As a result, companies can foster a culture of continuous improvement within the organisation by soliciting feedback from consumers, stakeholders, and industry experts. The feedback can be used to identify areas for enhancement and innovation based on the peripheral route factors, whether it be refining product formulations, improving production efficiency, or enhancing packaging design. By prioritising quality improvement initiatives, companies can stay ahead of evolving consumer preferences and maintain a competitive edge in the market. Additionally, product quality can be leveraged as a key differentiator in the marketplace, positioning plant-based offerings as premium options that provide superior taste, freshness, and nutritional value. By highlighting unique selling points and quality attributes in marketing communications, companies can distinguish their products from competitors and capture the attention of discerning consumers. Investing in premium packaging, labelling, and branding can further enhance the perceived quality and value of products.

b. Product: Packaging Design → Peripheral Route

Packaging design and labelling should be tailored to highlight the sensory attributes of PBPs in a visually appealing and engaging manner. Vibrant colours, appetising imagery, and descriptive language can evoke positive sensory cues and stimulate individuals' appetites, prompting them to try the product without extensive deliberation. Relative to product labelling, there is divergent views on its efficacy in conveying environmental or health-related information. Given the significance of sustainability in driving plant-based food purchases, disclosing environmental impacts on product packaging or digital platforms can positively influence consumers, provided that the information is presented in a clear and credible manner. Additionally, to better target consumers' emotional appeal, it is proposed that the labelling strategy focus on emphasising descriptive terms related to sensory experiences, feelings, and relevant product information, which could enhance the appeal of PBPs.

c. Product: Taste → Peripheral Route

In developing plant-based offerings, manufactures need to prioritise product innovation to cater to diverse consumer preferences and dietary requirements. Based on the interview findings, the improvement of sensory characteristics, particularly taste or flavour and texture, emerged as a priority in enhancing PBPs. In relation to the research groundings, the sensory characteristics falls under the peripheral route to persuasion, where consumers' perceptions and purchase decisions can be easily shaped. Respondents often associate plant-based alternatives with inferior taste or texture, making it essential for marketers to invest in research and development to create products that offer a sensory experience comparable to or better than traditional options. Product development efforts should focus on optimising taste and texture to mimic or surpass those of conventional animal-based products. For instance, Beyond Meat and Impossible Foods have gained traction by offering plant-based alternatives to traditional meat products, such as burgers and sausages, that closely mimic the taste and texture of meat. Moreover, investing in research and development to enhance the nutritional profile and taste of PBPs can differentiate products in the market and appeal to health-conscious consumers.

d. Product: Health → Behavioural Reasons

For manufacturers of plant-based foods, the Product element involves formulating products that align with consumers' health preferences. This includes creating plant-based alternatives to traditional animal-derived products such as meat, dairy, and eggs, which are often perceived as healthier options due to their lower cholesterol and fat content. Offering health focused PBPs

that are perceived as nutritious, wholesome, and beneficial to overall well-being can cater to the growing consumer demand for healthier food options. This includes developing products that are low in saturated fats, cholesterol-free, rich in vitamins, minerals, and antioxidants. Moreover, incorporating ingredients with proven health benefits, such as whole grains, legumes, fruits, and vegetables, can further enhance the health appeal of PBPs. Sustainability, animal welfare, and health as the most compelling motivations for consumers to opt for PBPs, in line with the study's findings around behavioural reasons (health, environment (animal welfare)). While taste and texture improvement have traditionally been the focal points for companies, there is growing recognition of the need to innovate in health and sustainability aspects. It is essential to consider initiatives aimed at enhancing the health and environmental benefits of PBPs to cater to evolving consumer preferences. A healthy PBP offering can attract health-conscious consumers and position their products as viable alternatives for those seeking nutritious and wholesome dietary options. However, it is essential for marketers to ensure that health claims are truthful, substantiated by scientific evidence, and compliant with regulatory standards to maintain consumer trust and credibility.

7.6.2 Price

Price was a prominent theme in Phase I, it was seen intertwined with all concepts one way or another. It suggests that plant-based alternatives were often perceived as more costly compared to animal-based options. Empirical interviews conducted in this study further validated this notion, as participants emphasised various factors contributing to the higher price of PBPs. However, it did not carry across to the results in Phase II. Although there was a direct and mediating effect present, further analysis will provide more insights into the relationship influence.

Generally, pricing strategies must align with the perceived value of PBPs among consumers. This entails conducting market research to understand consumer preferences, price sensitivity, and willingness to pay for such products. Additionally, managers need to consider the competitive landscape and position their products accordingly in terms of pricing relative to competitors. Pricing strategies play a critical role in influencing consumer perceptions and purchase decisions. While PBPs are often perceived as premium products due to their health and environmental benefits, retailers should strive to offer competitive pricing to attract price-sensitive consumers. For example, Oatly, a leading plant-based milk brand, strategically priced its oat milk competitively compared to dairy milk, making it accessible to a broader audience.

This pricing strategy has proven effective in attracting consumers who may have otherwise been deterred by the higher cost of plant-based alternatives. This approach offers a valuable lesson for the South African market, where plant-based milk is typically priced at double the cost of conventional dairy milk. By adopting a more competitive pricing strategy, plant-based milk brands in SA could increase accessibility and appeal to a larger segment of the population, potentially driving greater adoption of PBPs.

Offering promotional discounts and value bundles can incentivise both trial and repeat purchases of PBPs, ultimately driving sales and increasing market share. Such pricing tactics encourage consumers to explore new products while also fostering loyalty among those who have already made a purchase. By creating opportunities for cost savings, these strategies can reduce the perceived risk associated with trying a new product, particularly in the case of PBPs, which may be viewed as a more expensive alternative to traditional products. Several pricing strategies can be considered and implemented for PBPs, as discussed below, to further enhance their appeal and competitiveness in the marketplace.

a. Perceived Value Proposition:

Pricing plays a crucial role in shaping consumers' perceptions of the value offered by PBPs. Managers need to carefully consider the perceived value proposition of their products relative to competitors, taking into account factors such as quality, nutritional content, taste, and brand reputation. Setting prices too high may deter price-sensitive consumers, while setting prices too low may raise concerns about product quality or sustainability.

b. Price Sensitivity Analysis:

Conducting price sensitivity analysis can help managers understand how changes in price may impact consumer demand and revenue. This involves analysing consumer preferences, willingness to pay, and price elasticity of demand for PBPs across different market segments. By identifying price thresholds and demand curves, managers can optimise pricing strategies to maximise profitability while maintaining competitiveness.

c. Value-Based Pricing:

Adopting a value-based pricing strategy involves pricing products based on the perceived value they deliver to consumers. For PBPs, this may involve emphasising the health benefits, sustainability credentials, and ethical considerations associated with plant-based diets. By

aligning prices with the perceived value of these attributes, managers can justify premium pricing and capture value-conscious consumers willing to pay more for products that align with their values.

d. Promotional Pricing Tactics:

Implementing promotional pricing tactics such as discounts, coupons, and bundle offers can be effective in driving trial and repeat purchases of PBPs. Managers can leverage promotions to stimulate demand, attract price-sensitive consumers, and incentivise trial of new product offerings. However, it is essential to carefully manage promotions to avoid eroding brand equity or devaluing the product in the eyes of consumers.

e. Price Communication and Transparency:

Transparent pricing communication is essential for building trust and credibility with consumers, particularly in the plant-based market where ethical and sustainability considerations are paramount. Managers should clearly communicate pricing information, including any premium associated with organic, non-GMO, or sustainably sourced ingredients. Providing transparent pricing signals integrity and can enhance brand reputation and consumer loyalty over the long term.

f. Competitive Pricing Analysis:

Monitoring and analysing competitors' pricing strategies is critical for maintaining competitiveness in the plant-based market. Managers should regularly benchmark their prices against key competitors and adjust pricing strategies accordingly to capture market share, protect margins, and respond to changes in consumer preferences and competitive dynamics.

7.6.3 Place or Availability

Efficient distribution is essential to ensure the widespread availability and accessibility of PBPs to consumers. Retailers should leverage a multi-channel distribution strategy, including supermarkets, specialty stores and online platforms, to reach diverse consumer segments. For instance, Checkers strategically positions PBPs in dedicated sections within its stores, making it easier for consumers to locate and purchase plant-based alternatives. Additionally, the research findings of this study indicated that respondents are actively seeking convenience on-the-go products. It is recommended that the placement of the products is visible in store by either introducing banners or product placement in a specific section to increase awareness and

visibility. Collaborating with foodservice providers such as restaurants, cafes, and catering companies also extends the availability of PBPs to consumers dining out or attending events (For example: Fry's and Beyond Meat as plant-based alternatives in restaurants). Overall, optimising the availability of PBPs across diverse distribution channels helps meet consumer demand and enhances the product's visibility in the market.

7.6.4 Promotion

Promotional efforts are instrumental in raising awareness and generating demand for PBPs. Retailers should develop different targeted marketing campaigns based on the type of consumer diets (Flexitarian, Vegan, etc). The emphasise based on the type of consumption patterns can better reach the consumer, emphasis can be placed on different elements such as health, environmental, and ethical benefits of plant-based eating. Marketers can consider a dual persuasion technique, integrated with assessing consumer motives to best influence consumer intentions as further explained below:

a. Promotion: Knowledge and Quality → Central Route

It is essential for companies to prioritise educational marketing endeavours aimed at augmenting consumer awareness and comprehension regarding the nutritional content, health benefits, and culinary versatility of plant-based offerings. Evident from the research findings, there is a limited understanding about PBPs and the benefits. Communication can be achieved through the dissemination of informative content such as recipe tutorials, nutritional guides, and interactive online platforms. Marketers can also call out the quality attributes and benefits of the products in the same spectrum around educating them about the product. Transparency in labelling and packaging is crucial to effectively communicate and call out essential product attributes, sourcing practices, and sustainability commitments, thereby fostering consumer awareness, trust, and loyalty.

b. Promotion: Packaging Design → Peripheral Route

Not only can the packaging inform and educate individuals it can also attract them through sensory and visual appeals. Key product attributes, such as health benefits, sustainability, and taste appeal, to consumers. Packaging should visually highlight the natural ingredients and nutritional value of PBPs, leveraging imagery and labelling to convey freshness and quality. Emphasising eco-friendly packaging materials and highlighting the product's environmental impact can also resonate with environmentally conscious individuals, aligning with their values

and preferences. Utilising digital platforms and social media channels allows companies to engage with consumers directly, showcasing packaging designs and sharing educational content about the benefits of plant-based eating. By integrating persuasive messaging and visually appealing design elements, companies can effectively promote their plant-based food products and attract individuals seeking healthier, sustainable alternatives.

c. Promotion: Taste → Peripheral Route

Taste plays an integral role to consistent and future consumption, whereby marketers should explore experiential marketing tactics that allow consumers to engage with the product first-hand and experience its taste and sensory attributes in a memorable way. This can include hosting tasting events, pop-up shops, or interactive online experiences where consumers can sample PBPs and share their experiences with others. By providing opportunities for consumers to directly interact with the product, marketers can reinforce positive perceptions and encourage trial and adoption.

d. Promotion: Cultural values → Behavioural Reasons

To better resonate with individuals' intrinsic motivations and value considerations related to plant-based lifestyles it is necessary to align promotional messaging with consumers' core values and beliefs, such as sustainability, animal welfare, and health consciousness. By highlighting the ethical and environmental benefits of choosing PBPs, marketers can appeal to consumers' intrinsic motivations and foster positive attitudes towards these products. Promotional content should emphasise the positive impact of plant-based diets on personal health, animal welfare, and the environment, leveraging BRT to reinforce consumers' ethical considerations and moral reasoning. Marketers can also make use of social proof and peer influence strategies to promote PBPs effectively. The findings of this research conclude that individuals are influenced by the behaviours and attitudes of others, particularly those within their social circles. Therefore, incorporating testimonials, user-generated content, and influencer endorsements into promotional campaigns can leverage social proof to encourage adoption of plant-based diets. By showcasing real-life examples of individuals embracing plant-based lifestyles and experiencing positive outcomes, marketers can tap into consumers' social motivations and facilitate behaviour change. By aligning promotional messaging with consumers' intrinsic motivations, leveraging social proof, and providing educational resources, marketers can drive adoption and acceptance of plant-based diets, ultimately contributing to the growth and sustainability of the plant-based food industry.

e. Promotion: Health → Behavioural Reasons

Highlighting the health benefits of PBPs is crucial across various marketing channels. Advertising campaigns, social media content, influencer partnerships, and educational initiatives can effectively communicate the positive impact of consuming plant-based foods on personal health. Messaging emphasising terms like "heart-healthy," "nutrient-rich," "immune-boosting," or "weight-friendly" can underscore the health advantages of plant-based options over traditional animal-based products. Engaging health professionals, nutritionists, and wellness experts to endorse PBPs adds credibility and authority to brand claims. Collaborating with dieticians for recipe development, hosting educational events, and sponsoring research studies demonstrating the positive effects of plant-based nutrition on various health outcomes further solidifies the health narrative. Brands like Future Life and Herbal Life serve as examples, prominently featured on social media platforms, in stores, and at gyms.

f. Promotion: Environment → Behavioural Reasons

Marketers can utilise promotional strategies that highlight the positive environmental aspects of PBPs, such as reduced carbon footprint, water conservation, and biodiversity preservation. Grounded in the BRT, emphasising these environmental benefits aligns with the theory's premise and the results from this study. Individuals are motivated to engage in behaviours that are perceived as socially responsible and beneficial to society. By incorporating messages that resonate with individuals' environmental values, marketers can stimulate positive attitudes towards PBPs and encourage purchase decisions.

The promotion of PBPs can also capitalise on peripheral cues to enhance consumer perceptions of environmental sustainability. Peripheral cues based on the ELM can include visual imagery, packaging design, and endorsements from environmental organisations or influencers. Marketers can strategically employ these peripheral cues in promotional materials to signal the environmental friendliness of PBPs, thereby influencing consumers' attitudes and purchase intentions. Furthermore, integrating educational components into promotional campaigns can enhance individuals' understanding of the environmental impact of their food choices. By providing transparent information about the sourcing, production process, and ecological footprint of PBPs, marketers can empower consumers to make informed decisions aligned with their environmental values. This educational approach aligns with BRT principles, which

emphasise the importance of providing individuals with relevant information and incentives to facilitate behaviour change.

g. Promotion: Social Influencers → Behavioural Reasons

The younger generation that represents a digital-savvy demographic, offers an opportunity to leverage digital platforms and social media for promoting PBPs. Alongside traditional marketing channels, immersive content such as high-quality images, videos, and interactive experiences can effectively showcase the sensory characteristics of these products. Virtual tastings, recipe demonstrations, and behind-the-scenes footage of product development create anticipation and excitement among consumers. Furthermore, partnerships with influential peers and media personalities can amplify the sensory narrative through authentic and relatable content, fostering advocacy. By sharing personal experiences, testimonials, and innovative recipe ideas, influencers play a pivotal role in shaping consumers' perceptions and purchase intentions. Additionally, collaborating with health professionals, nutritionists, and wellness experts to endorse PBPs lends credibility to health claims. This collaboration may involve recipe development with dieticians, hosting educational webinars, or sponsoring research studies demonstrating the health benefits of plant-based nutrition.

7.6.5 Summary of Managerial Implications

By strategically managing the marketing mix elements of product, price, place, and promotion, retailers and marketers can drive adoption and success of PBPs in the marketplace. Drawing upon the ELM and BRT, it becomes evident that respondents' decision-making processes are influenced by both peripheral cues and central route persuasion tactics. Through strategic product innovation, retailers can develop offerings that align with individuals' values and beliefs systems, appealing to their intrinsic motivations for health and sustainability. Competitive pricing strategies and efficient distribution channels address individuals' external motivations, ensuring accessibility and affordability of plant-based options.

Effective promotion strategies leveraging various marketing channels and communication platforms serve as peripheral cues, raising awareness and generating interest in PBPs. By highlighting the health and environmental benefits of choosing plant-based options, marketers tap into consumers' peripheral processing, influencing their attitudes and purchase intentions. Grounded in the ELM, this approach recognises that consumers' engagement levels vary, and thus, the use of both peripheral and central route persuasion tactics is essential to reach and

influence diverse consumer segments. Through central route persuasion, marketers can provide detailed information and evidence to educate and convince consumers about the benefits and implications of PBPs, fostering deeper engagement and commitment into the plant-based topic. Integrating both peripheral and central route along with understand consumers behavioural motives ensures a comprehensive and persuasive marketing campaign that maximises consumer acceptance and adoption of PBPs.

Retailers and marketers play a pivotal role in advancing sustainability goals (health and nutrition policies) by promoting and advocating for plant-based consumption. By integrating sustainability messaging into promotional efforts and emphasising the positive impact of plant-based choices on the environment, retailers appeal to consumers' values and beliefs system, fostering greater acceptance and adoption of PBPs. Ultimately, by embracing and championing plant-based offerings, retailers and marketers have the opportunity to not only drive business growth and profitability but also to make a meaningful impact on the broader sustainability agenda, one step at a time.

7.7 Research Limitations

This research endeavoured to enhance comprehension regarding consumers' cognitive level of processing information and the motivational factors persuading behavioural intentions. While the study has provided significant contributions to the existing literature and offers valuable insights for marketing practitioners, it is not without limitations. Firstly, the study's confinement within the FMCG sector, restricts the generalisability of findings solely to the food industry. Furthermore, the focus exclusively on food products within the FMCG category implies potential variations in results within the other segments (household, health, and personal care, along with beverages). Furthermore, with regards to context, the sample comprised of individuals from the "Strawberry Generation", within a South African demographic (aged 20-34 years), whose purchasing behaviour may significantly contrast with that of other demographic and psychographic segments. Another limitation is driven by the COVID-19 pandemic, where online discussions and survey’s formed part of the primary data collection methods. Participants may have expedited their responses due to the lack of a researcher present to oversee and regulate the pace of the data collection process. This absence could have led to hasty or less thoughtful responses, potentially impacting the depth and accuracy of the data gathered. The remote nature of the study also raises the likelihood of respondents to be distracted when participating in the research, influencing the response quality. Moreover, both

the qualitative and quantitative phases of the study was designed and conducted in English, which may not align with the primary language proficiency of some respondents, for whom English serves as a secondary or tertiary language of choice, resulting in the potential for misinterpretation as a concern. Lastly, the study's limitations are influenced by the sample size and the associated data analysis methodology. The smaller sample size, which does not meet the standard response-item ratio of 10:1, may limit the ability to accurately represent the population. This limitation highlights the need for further investigation in future studies to address this constraint.

7.8 Recommendations for Future Research

Theories surrounding persuasion and behaviour, particularly those that involve subjective constructs like central and peripheral routes, values, and belief systems, continue to evolve through ongoing research. Despite these advancements, a notable gap remains in the literature: the absence of a universally accepted measurement scale for factors influencing behavioural intention.

To address this gap, future research should focus on measuring reflective-reflective higher-order components, potentially incorporating, or replacing lower-order components as part of more comprehensive models. Additionally, future studies could enhance data quality by incorporating in-person data collection methods, particularly focus group discussions. These interactions would offer richer insights, enabling researchers to observe non-verbal cues and engage in more dynamic exchanges.

Given that the current study primarily focused on South Africa’s "Strawberry Generation," future research could extend its scope, either regionally or globally, to compare how cultural, economic, and regional differences shape consumers' behavioural intentions toward PBPs. A broader geographic focus would help identify potential variations across nations, providing insights into how diverse contexts influence consumer behaviours. To achieve greater generalisability, future research could also employ different sampling methods, such as random or stratified sampling, to ensure a more representative sample from the broader population. This would strengthen the external validity of the findings, making them applicable to a wider range of demographics and regions.

Further, subsequent studies could explore specific generational cohorts or conduct cross-generational analyses. Understanding shifts in behavioural intentions across different age groups would shed light on how generational factors impact attitudes toward sustainability and health. These insights could inform targeted marketing strategies and public policy interventions, particularly in fostering positive behavioural changes.

Considering the predominantly female sample, future research should aim for a more balanced gender representation and include a wider range of demographic variables (e.g., age, income, education) to ensure that the sample better reflects the broader population. This would provide a more holistic understanding of consumer behaviour and enable researchers to draw more generalisable conclusions about the factors that drive persuasion.

In terms factors influencing behavioural intention, price emerged as a critical theme in Phase I of this study, closely intertwined with several other concepts. Interviews confirmed that participants viewed price as a key factor contributing to the higher cost of PBPs. However, this theme did not carry through to the results in Phase II. While there was a direct and mediating effect, further analysis is needed to better understand the relationship between price and behavioural intentions. Future studies should further explore the mediating role of perceived price and examine direct relationships in greater detail.

Finally, expanding the understanding of how various factors—such as consumer motivations, values, and processing levels—affect persuasive strategies could lead to more accurate and actionable insights. By focusing on the relationship strength and significance of these variables, future research will not only advance persuasion theories but also support the development of more effective marketing strategies to promote PBPs. A deeper exploration of the marketing mix, examining the role of individual elements (such as price, product, place, and promotion), will be crucial for assessing their influence on consumer behavioural intentions.

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Appendix's

Appendix A – Qualitative Discussion Guide



RESEARCH TITLE: The role of persuasion in choosing plant-based food products: An application of the Elaboration Likelihood Model and Behaviour Reasoning Theory.

Focus Group Discussion: question guide

Introduction/Engagement questions (10 mins):

Introduce yourself + supervisor and welcome the respondent. Give them some time to introduce themselves and state what their favourite food is.

1. What is your favourite food? Why? (Probing for about 2 reasons per respondent, without using leading statements)
    - Would you consider yourself a sweet person, or sour person? A bitter person?

Exploration questions (50 mins):

2. Have you ever heard of the term Plant-Based-Food products? And if so, what comes to mind? (If not, I will briefly explain it)

3. Have you ever eaten PBF products? If yes, why? If no, why? *(Explore anything around price/ flavour/ availability/quantity etc. in more detail)*
   (If 'price' comes up, probe respondents) (If 'taste' comes up, probe on)

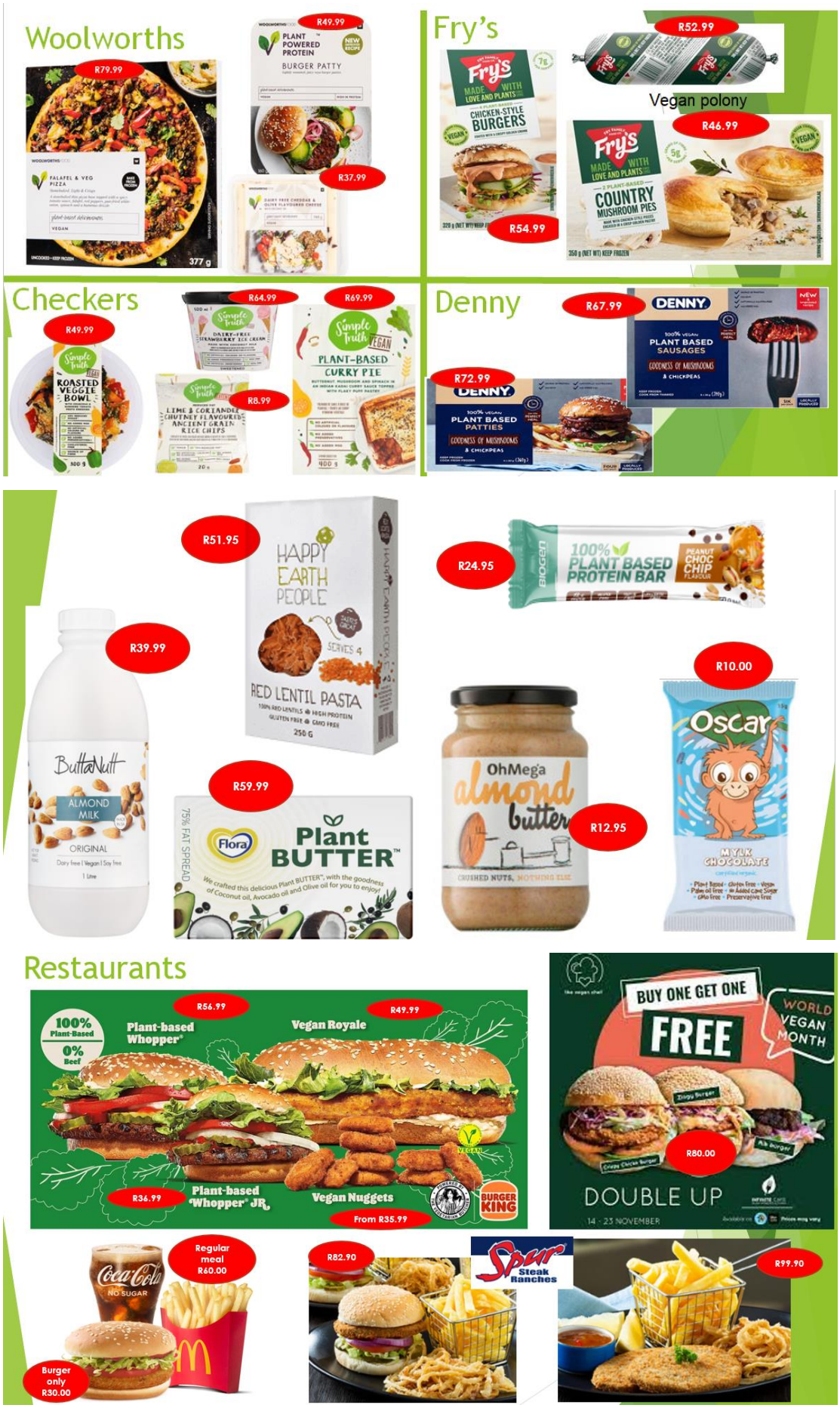
4. If you think about shopping for PBPs, how do you decide which brand to buy?

5. Thinking about the PBPs category, which is the first brand that comes to mind? Why does this brand come up first?
   - Why do you choose this brand? Which products do you buy?

6. How do you feel about eating meat?
   - Why are you pro/against? Probe

7. What is the main reason for you eating PBPs?

8. In your opinion, how can PB food companies increase awareness? (Product, Place, Price, Promotion)


Woolworths
R79.99
R49.99
PLANT POWERED PROTEIN
BURGER PATTY
R37.99
Fry's
R52.99
Vegan polony
R46.99
R54.99
Checkers
R49.99
R64.99
R69.99
R8.99
Denny
R67.99
R72.99
R51.95
R24.95
R39.99
R10.00
R59.99
R12.95
Restaurants
R56.99
R49.99
R36.99
From R35.99
BUY ONE GET ONE FREE
WORLD VEGAN MONTH
R80.00
DOUBLE UP
14 - 23 NOVEMBER
Regular meal R60.00
Burger only R30.00
R82.90
R99.90

Appendix B – Qualitative Discussion Development

	Introduction/Ice breaker			
1.	Participants introduce themselves and state what their favourite food is. What do you like about it? Would you consider yourself a sweet person, or sour person? A bitter person?			
		Theoretical reference		
	Exploration Questions	**Marketing mix**	**ELM**	**BRT**
2.	Have you ever heard of/seen Plant-Based-Food products? Where? E.g Social Media, ads etc.) Probe on visual elements and verbal elements of ads	Promotion Promotion	Central processing (verbal cues) Peripheral processing (visual cues)	Subjective norm (friends, family)
3.	Have you ever eaten/bought PBF products? Yes – why No - why	Product (taste/flavour etc.)	Central processing	Values and beliefs
4.	Do you regularly eat PBF products? Yes – What do you like about it? If not, why not?	Product (taste/flavour etc.) Price		Values and beliefs
5.	Have you got specific brands you regularly buy? Why do you choose that specific brand?	Price Product (taste, packaging etc.) Place (convenience)	Central processing (location/price) Peripherical (in-store experience/packaging – visual elements)	
6.	How do you feel about eating meat? Why are you pro/against? Probe			Values and beliefs
7.	What is the main reason for you eating PBF products?			Subjective norm, attitude, perceived control Values, beliefs
8.	In your opinion, how can PBF companies increase awareness?	Promotion Place Price Product		

Appendix C – Quantitative Questionnaire

https://forms.gle/aSmwmPYfprXMG45A6

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

RESEARCH TITLE: The role of persuasion in choosing plant-based food products: An application of the Elaboration Likelihood Model and Behaviour Reasoning Theory.

Dear Sir / Madam,

My name is Joy Cheng, I am a Master's student in Marketing at the University of the Witwatersrand, Johannesburg. I am investigating "The role of persuasion in choosing plant-based food products: An application of the Elaboration Likelihood Model and Behaviour Reasoning Theory" under the supervision of Dr Marike Venter De Villiers. The aim of this research project is to explore how marketers and companies can promote Plant-Based food products and persuade consumers to choose such products. The final aim is to propose a marketing mix that Plant-Based food companies can use to attract the attention of consumers.

As part of this project, I would like to invite you to take part in answering a questionnaire. This activity is voluntary with several questions that will take around 10 minutes to complete.

There will be no personal costs to you if you participate in this project, you will not receive any direct benefits from participation but there are no disadvantages or penalties if you do not choose to participate or if you withdraw from the study. You may withdraw at any time or not answer any question if you do not want to. The questionnaire will be completely confidential and anonymous as I will not be asking for your name or any identifying information, and the information you give to us will be held securely. Completing and submitting the online survey is taken to mean consent. If you experience any distress or discomfort at any point in this process, you may stop the survey.

Please kindly note that the research gathered will be written up as a dissertation. If you have any questions during or afterwards about this research, feel free to contact me or my supervisor from the details listed below. If you have any concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrec-medical.researchoffice@wits.ac.za

Thank you for your time and cooperation in advance!

Yours sincerely,
Joy Cheng

Researcher:
Joy Cheng | 1707225@wits.ac.za

Supervisor:
Dr Marike Venter De Villiers | marike.venterdevilliers@wits.ac.za

Screening question

(Please circle the relevant answers below)

1. **Are you between the ages of 20 – 34 years old?**
   Yes No
2. **Are you aware or know of Plant-Based-Products?**
   Yes No

IF YOU ANSWERED NO TO ANY OF THE ABOVE QUESTIONS, YOU ARE NO LONGER REQUIRED TO COMPLETE THE REST OF THE QUESTIONNAIRE. THANK YOU FOR YOUR TIME.

Section A: Plant-Based Market

Please indicate the extent to which you disagree or agree with each of the following statements.

Please note that all the questions are based around food products. (PBP's = Plant-Based Products)

Product Knowledge		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PK1	I can identify PBP's among other products.	1	2	3	4	5
PK2	I can recognize PBP's among other products.	1	2	3	4	5
PK3	I am aware of PBP's.	1	2	3	4	5
PK4	I know the difference between PBP's and standard products.	1	2	3	4	5
PK5	I have a great deal of knowledge about PBP's.	1	2	3	4	5
PK6	I consider myself an expert on PBP's.	1	2	3	4	5
PK7	I have a great deal of experience with PBP's.	1	2	3	4	5
PK8	I generally know more than my friends about PBP's.	1	2	3	4	5

Plant based food is defined as a finished product consisting of ingredients derived from plants that include vegetables, fruits, whole grains, nuts, seeds and/or legumes.

Product Quality		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PQ1	There is a variety of PBP's available.	1	2	3	4	5
PQ2	PBP's looks tasty.	1	2	3	4	5
PQ3	The presentation of PBP's is visually attractive.	1	2	3	4	5
PQ4	PBP's appears fresher than animal-based products.	1	2	3	4	5

Packaging Design		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PD1	The information on the packaging of food products is important.	1	2	3	4	5
PD2	The description of the product properties (i.e. taste, texture) on the packaging is important.	1	2	3	4	5
PD3	The preparation suggestions on the packaging is important.	1	2	3	4	5
PD4	The products packaging plays a huge role on my purchase decision.	1	2	3	4	5
PD5	PBP's packaging should be easy to carry.	1	2	3	4	5
PD6	PBP's packaging should be user-friendly/easy to store.	1	2	3	4	5
PD7	PBP's packaging should be recyclable.	1	2	3	4	5
PD8	The packaging should be simple.	1	2	3	4	5
PD9	PBP's packaging should be attractive in colour.	1	2	3	4	5
PD10	PBP's packaging should be transparent so I can see the contents.	1	2	3	4	5
PD11	PBP's packaging should be visually appealing.	1	2	3	4	5

Availability		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
AV1	I can easily determine where I can buy PBP's.	1	2	3	4	5
AV2	Buying PBP's is convenient.	1	2	3	4	5
AV3	PBP's are easy to find.	1	2	3	4	5
AV4	I know where to find PBP's.	1	2	3	4	5
AV5	PBP's are readily available.	1	2	3	4	5

Values and Beliefs		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B1	I do not follow PB diet's because for me meat consumption is part of my identity. *	1	2	3	4	5
B2	I do not follow PB diet's because I attach a stigma to it. *	1	2	3	4	5
B3	I do not follow PB diet's because I think it is feminine. *	1	2	3	4	5
B4	I do not follow PB diet's because it does not match my self-identity. *	1	2	3	4	5
V5	I follow PB diet's because it meets my values.	1	2	3	4	5
V6	I follow PB diet's because I get a positive feeling from making right decisions.	1	2	3	4	5
V7	I follow PB diet's because I want to be responsible by not supporting the meat industry.	1	2	3	4	5

Reasons		Strongly Disagree	Disagree	Slightly Disagree	Neutral	Strongly Agree
	For - Benefits					
FE1	PBP's have less of an impact on the environment than animal products.	1	2	3	4	5
FE2	PBP's are sustainable.	1	2	3	4	5
FE3	PBP's are environmentally friendly.	1	2	3	4	5
FA4	Through the consumption of PBP's, I contribute to the protection of animals.	1	2	3	4	5
FA5	Through the consumption of PBP's, I prevent animals from experiencing pain.	1	2	3	4	5
FH6	Consuming PBP's is nutritious.	1	2	3	4	5
FH7	Consuming PBP's keeps me healthy.	1	2	3	4	5
FH8	Consuming PBP's is good for my skin/teeth/hair/nails etc.	1	2	3	4	5
FV9	It increases my self-respect when people in my environment notice my consumption of PBP's.	1	2	3	4	5
FV10	It makes me feel good when people in my environment notice my consumption of PBP's.	1	2	3	4	5
FV11	I like to show my consumption of PBP's so that people know I am a good person.	1	2	3	4	5
FV12	I like to post purchased PBP's on social media because it makes me look good.	1	2	3	4	5
	Against - Barriers					
AL1	I do not follow a PB diet because I believe it does not have enough protein. *	1	2	3	4	5
AL2	I do not follow a PB diet because I believe it does not have enough vitamins. *	1	2	3	4	5
AL3	I do not follow a PB diet because many believe that it is not nutritious. *	1	2	3	4	5
AL4	I do not follow a PB diet because many believe that it does not provide sufficient energy. *	1	2	3	4	5
AH5	I do not choose PBP's because I am used to consuming animal-based products. *	1	2	3	4	5
AH6	I do not choose PBP's because consuming animal-based products is a tradition. *	1	2	3	4	5
AH7	I do not choose PBP's because it is difficult for me to change eating habits. *	1	2	3	4	5
AT8	I do not choose PBP's because it tastes different than animal-based products. *	1	2	3	4	5
AT9	I do not choose PBP's because I like the taste of animal-based products better. *	1	2	3	4	5

Attitude		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
ATT1	It is valuable for me to choose PBP's.	1	2	3	4	5
ATT2	PBP's are enjoyable.	1	2	3	4	5
ATT3	I find PBPs to be good	1	2	3	4	5
ATT4	PBP's are beneficial for me.	1	2	3	4	5
ATT5	PBP's are pleasant.	1	2	3	4	5

Subjective Norm		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SN1	When it comes to choosing PBP's, it is likely that I do what my friends or family say I should do.	1	2	3	4	5
SN2	I am likely to choose PBP's because other people think I should.	1	2	3	4	5
SN3	I am likely to listen to what other people say I should do when choosing PBP's.	1	2	3	4	5

Perceived Control		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PBC1	It is easy for me to choose PBP's.	1	2	3	4	5
PBC2	I am confident that if I want to, I can choose PBP's.	1	2	3	4	5
PBC3	I have enough resources and time to choose PBP's.	1	2	3	4	5

Behavioral Intention		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
BI1	I expect to choose PBP's.	1	2	3	4	5
BI2	I plan to choose PBP's.	1	2	3	4	5
BI3	I will try to choose PBP's.	1	2	3	4	5

Perceived Price		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PP1	Based on the price, PBP's are very economical.	1	2	3	4	5
PP2	PBP's offers good value for money.	1	2	3	4	5
PP3	PBP's are a good buy.	1	2	3	4	5
PP4	I consider the price for PBP's to be acceptable.	1	2	3	4	5
PP5	PBP's are a bargain.	1	2	3	4	5
PP6	The value of PBP's is a bargain.	1	2	3	4	5

Section B: Demographics
For statistical purposes, the following questions are based around your demographics. (Please circle the relevant answers below)

1. What is your gender?
1. Male
2. Female
3. Non-binary
4. Prefer not to say

2. What is your age?
1. 20 - 25 years old
2. 26 - 30 years old
3. 31 – 34 years old

3. What is your monthly household income (approximately)?
1. Less than R10 000
2. R10 001-R20 000
2. R20 001-R30 000
3. R30 001-R40 000
4. R40 001-R50 000
5. More than R50 000
6. Prefer not to say

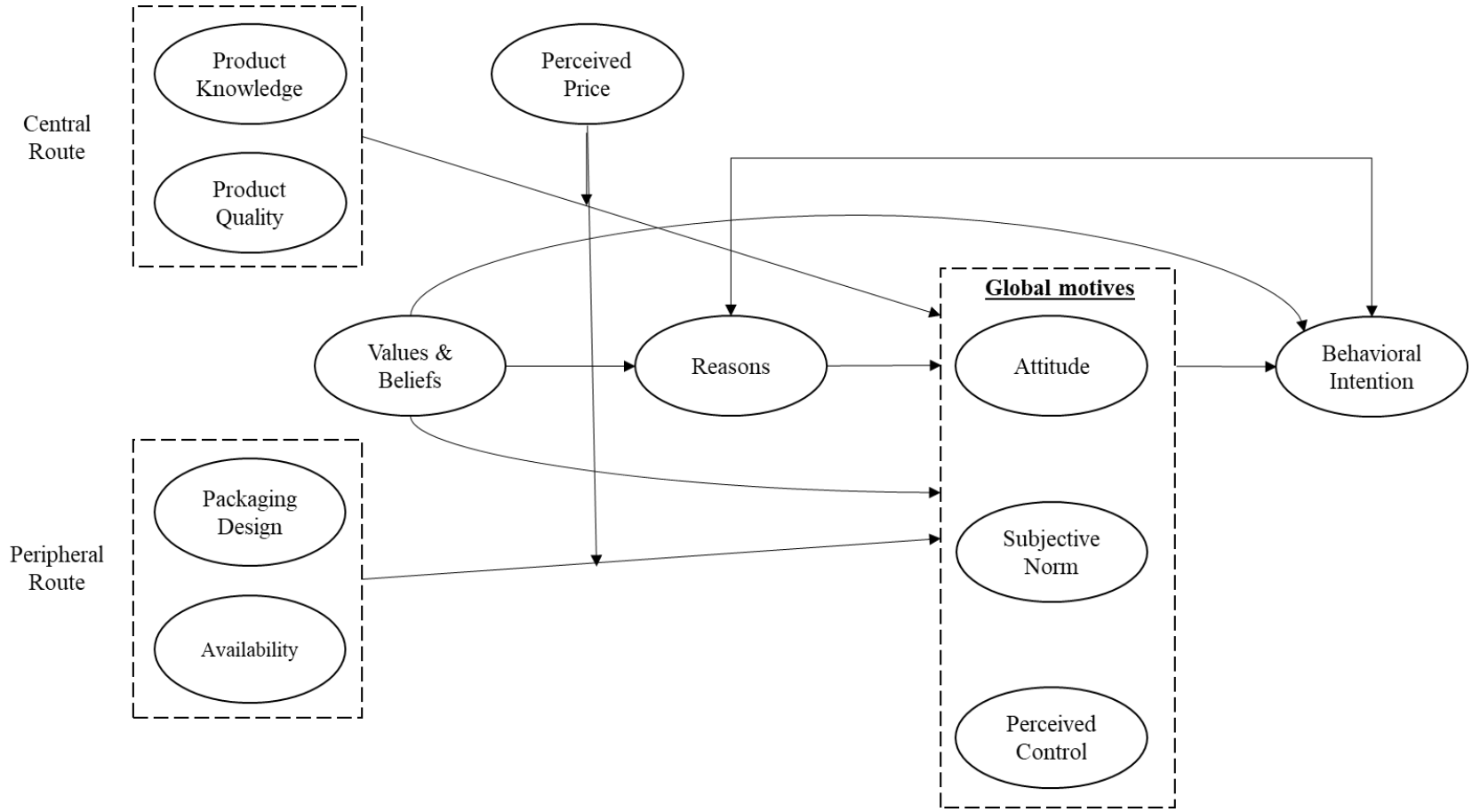
4. On average, how much do you spend on food per month?
1. Less than R1000
2. R1001 - R2000
3. R2001 – R3000
4. R3001 – R4000
5. R4001 – R5000
6. More than R5000

5. How often do you consume PBP's?
1. At least once a week
2. Once a month
3. Once every 3 months
4. Never



Truly appreciate your time & participation.

Appendix D – Conceptual Model



Appendix E – Questionnaire Code Book

Variable	Spss Variable name	Coding Instructions	Label
Identification	ID	Respondents identification number	ID
Product Knowledge			
Product Knowledge 1 (identify)	PK1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I can identify PBP's among other products.
Product Knowledge 2 (recognize)	PK2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I can recognize PBP's among other products.
Product Knowledge 3 (aware)	PK3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I am aware of PBP's.
Product Knowledge 4 (difference)	PK4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I know the difference between PBP's and standard products.
Product Knowledge 5 (knowledge)	PK5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I have a great deal of knowledge about PBP's.
Product Knowledge 6 (expert)	PK6	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I consider myself an expert on PBP's.
Product Knowledge 7 (experience)	PK7	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I have a great deal of experience with PBP's.
Product Knowledge 8 (friends)	PK8	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I generally know more than my friends about PBP's.
Product Quality			
Product Quality 1 (variety)	PQ1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	There is a variety of PBP's available.
Product Quality 2 (tasty)	PQ2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's looks tasty.
Product Quality 3 (presentation)	PQ3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The presentation of PBP's is visually attractive.
Product Quality 4 (fresher)	PQ4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's appears fresher than animal-based products.

Packaging Design			
Packaging Design 1 (information)	PD1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The information on the packaging of food products is important.
Packaging Design 2 (description)	PD2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The description of the product properties (i.e. taste, texture) on the packaging is important.
Packaging Design 3 (preparation)	PD3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The preparation suggestions on the packaging is important.
Packaging Design 4 (purchase decision)	PD4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The products packaging plays a huge role on my purchase decision.
Packaging Design 5 (easy to carry)	PD5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be easy to carry.
Packaging Design 6 (user-friendly/easy to store)	PD6	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be user-friendly/easy to store.
Packaging Design 7 (recyclable)	PD7	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be recyclable.
Packaging Design 8 (simple)	PD8	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	The packaging should be simple.
Packaging Design 9 (attractive in colour)	PD9	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be attractive in colour.
Packaging Design 10 (transparent)	PD10	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be transparent so I can see the contents.
Packaging Design 11 (visually appealing)	PD11	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's packaging should be visually appealing.
Availability			
Availability 1 (determine)	AV1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I can easily determine where I can buy PBP's.
Availability 2 (convenient)	AV2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree	Buying PBP's is convenient.

		5= Strongly Agree	
Availability 3 (easy)	AV3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's are easy to find.
Availability 4 (where)	AV4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I know where to find PBP's.
Availability 5 (readily available)	AV5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's are readily available.
Values and Beliefs			
Values and Beliefs 1 (identity)	B1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow PB diet's because for me meat consumption is part of my identity. *
Values and Beliefs 2 (stigma)	B2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow PB diet's because I attach a stigma with it. *
Values and Beliefs 3 (feminine)	B3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow PB diet's because I think it is feminine. *
Values and Beliefs 4 (self-identity)	B4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow PB diet's because it does not match my self-identity. *
Values and Beliefs 5 (values)	V5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I follow PB diet's because it meets my values.
Values and Beliefs 6 (positive feeling)	V6	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I follow PB diet's because I get a positive feeling from making right decisions.
Values and Beliefs 7 (responsible)	V7	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I follow PB diet's because I want to be responsible by not supporting the meat industry.
Reasons			
For - Benefits	FE1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's have less of an impact on the environment than animal products.
For - Benefits	FE2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	PBP's are sustainable.
For - Benefits	FE3	1= Strongly disagree 2= Disagree 3= Neutral	PBP's are environmentally friendly.

		4= Agree 5= Strongly Agree	
For - Benefits	FA4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	Through the consumption of PBP's, I contribute to the protection of animals.
For - Benefits	FA5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	Through the consumption of PBP's, I prevent animals from experiencing pain.
For - Benefits	FH6	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	Consuming PBP's is nutritious.
For - Benefits	FH7	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	Consuming PBP's keeps me healthy.
For - Benefits	FH8	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	Consuming PBP's is good for my skin/teeth/hair/nails etc.
For - Benefits	FV9	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	It increases my self-respect when people in my environment notice my consumption of PBP's.
For - Benefits	FV10	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	It makes me feel good when people in my environment notice my consumption of PBP's.
For - Benefits	FV11	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I like to show my consumption of PBP's so that people know I am a good person.
For - Benefits	FV12	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I like to post purchased PBP's on social media because it makes me look good.
Against - Barriers	AL1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow a PB diet because I believe it does not have enough protein. *
Against - Barriers	AL2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow a PB diet because I believe it does not have enough vitamins. *
Against - Barriers	AL3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not follow PB diet because many believe that it is not nutritious. *
Against - Barriers	AL4	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree	I do not follow PB diet because many believe that it does not provide sufficient energy. *

		5= Strongly Agree	
Against - Barriers	AH5	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not choose PBP's because I am used to consuming animal-based products. *
Against - Barriers	AH6	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not choose PBP's because consuming animal-based products is a tradition. *
Against - Barriers	AH7	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not choose PBP's because it is difficult for me to change eating habits. *
Against - Barriers	AT8	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not choose PBP's because it tastes different than animal-based products. *
Against - Barriers	AT9	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I do not choose PBP's because I like the taste of animal-based products better. *
Subjective Norm			
Subjective Norm	SN1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	When it comes to choosing PBP's, it is likely that I do what my friends or family say I should do.
Subjective Norm	SN2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I am likely to choose PBP's because other people think I should.
Subjective Norm	SN3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I am likely to listen to what other people say I should do when choosing PBP's.
Perceived Control			
Perceived Control	PBC1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	It is easy for me to choose PBP's.
Perceived Control	PBC2	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I am confident that if I want to, I can choose PBP's.
Perceived Control	PBC3	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I have enough resources and time to choose PBP's.
Behavioral Intention			
Behavioral Intention	BI1	1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree	I expect to choose PBP's.
Behavioral Intention	BI2	1= Strongly disagree 2= Disagree	I plan to choose PBP's.

Appendix F – Ethics Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Cheng

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H22/10/03**
PROJECT TITLE	The role of persuasion in choosing plant-based food products: An application of the Elaboration Likelihood Model and Behaviour Reasoning Theory
INVESTIGATOR(S)	Miss J Cheng
SCHOOL/DEPARTMENT	School of Economics & Business Sceinces/
DATE CONSIDERED	21 October 2022
DECISION OF THE COMMITTEE	Approved Risk Level: Low
EXPIRY DATE	15 November 2025

DATE 16 November 2022 **CHAIRPERSON** _____
(Professor J Watermeyer)

cc: Supervisor : Dr M Venter De Villiers

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

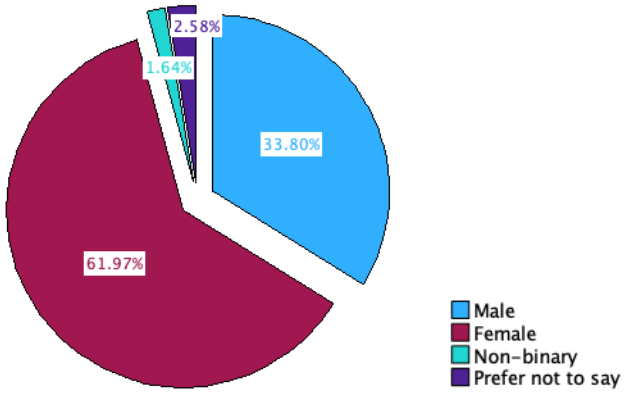
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

_____ 22 / 11 / 2022
Signature **Date**

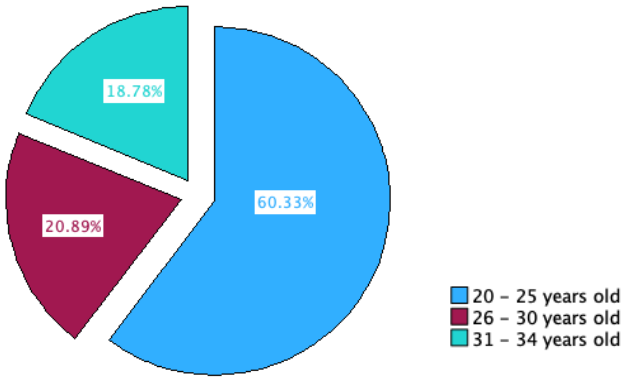
PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix G – Demographic Descriptive Statistics

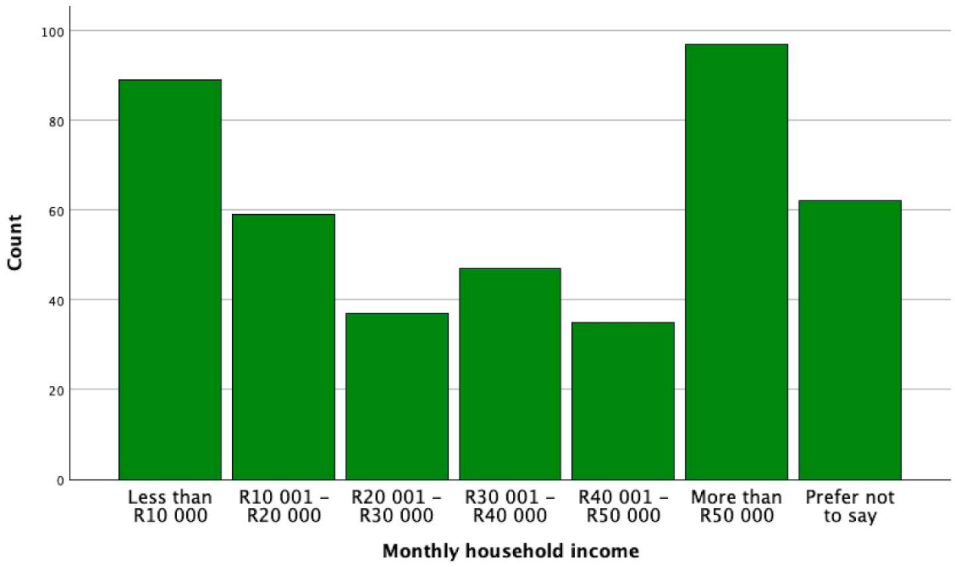
Gender Profile



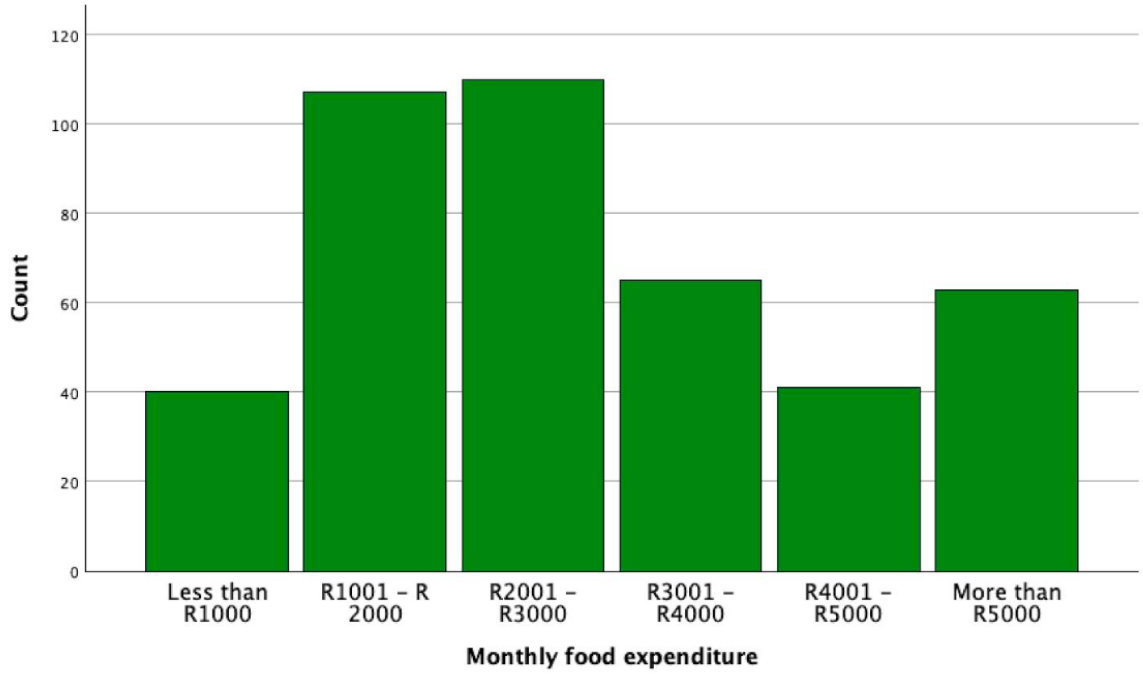
Age Profile



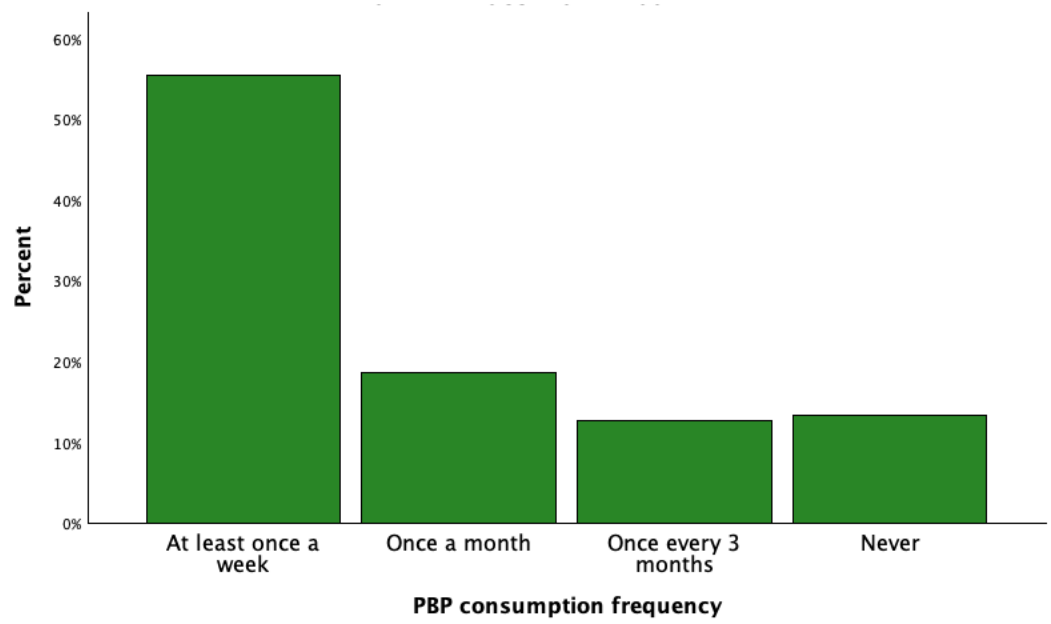
Monthly Household Income



Monthly Food Expenditure



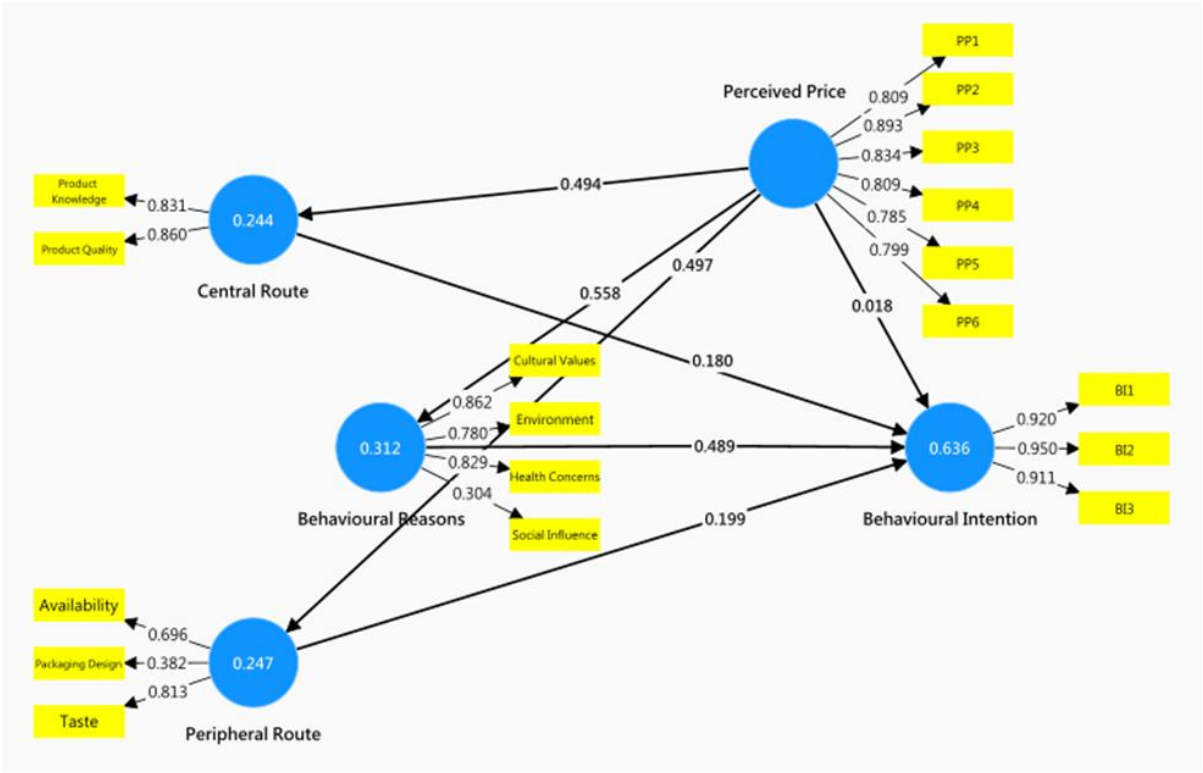
Plant-Based Products Consumption Frequency



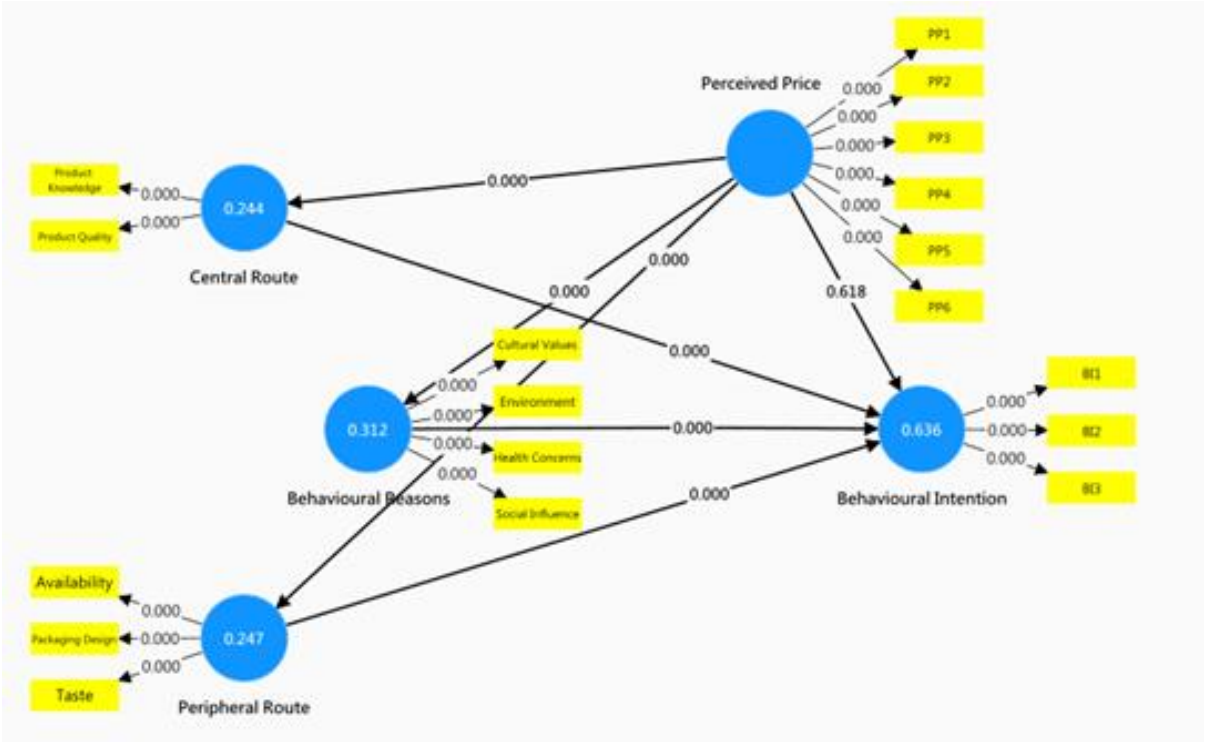
Appendix H –Skewness and Kurtosis Values

Construct Item	Skewness	Kurtosis
PK1	-0.879	0.277
PK2	-0.779	-0.091
PK3	-1.498	2.364
PK4	-1.03	0.552
PK5	-0.021	-0.922
PK6	0.607	-0.568
PK7	0.076	-1.161
PK8	-0.182	-1.035
PQ1	-0.665	-0.094
PQ2	-0.368	-0.634
PQ3	-0.589	-0.163
PQ4	-0.22	-0.889
PD1	-2.414	7.412
PD2	-0.842	0.145
PD3	-1.255	1.426
PD4	-0.921	0.237
PD5	-0.903	0.45
PD6	-1.339	2.23
PD7	-1.035	0.319
PD8	-0.681	-0.07
PD9	-0.614	-0.21
PD10	-0.226	-0.764
PD11	-0.925	0.986
AV1	-0.289	-0.917
AV2	-0.075	-0.701
AV3	-0.066	-0.774
AV4	-0.677	-0.247
AV5	-0.172	-0.593
RAT8	-0.14	-1.441
RAT9	-0.013	-1.49
B1	-0.303	-1.276
B2	-1.417	1.588
B3	-2.242	5.076
B4	-1.222	0.426
V5	0.173	-1.21
V6	0.084	-1.298
V7	0.396	-1.244
RAH5	-0.021	-1.537
RAH6	-0.708	-0.795
RAH7	-0.24	-1.423
RFH6	-0.812	0.078
RFH7	-0.618	-0.319
RFH8	-0.384	-0.528
RAL1	-0.457	-1.083
RAL2	-0.709	-0.568
RAL3	-0.897	-0.103
RAL4	-0.872	-0.355
RFE1	-0.618	-0.292
RFE2	-0.567	-0.084
RFE3	-0.639	-0.065
RFE4	-0.588	-0.627
RFE5	-0.317	-1.041
SN1	0.852	-0.386
SN2	1.21	0.523
SN3	0.717	-0.661
BI1	0.051	-1.118
BI2	-0.23	-1.186
BI3	-0.6	-0.714
PP1	0.378	-0.509
PP2	0.137	-0.615
PP3	-0.118	-0.495
PP4	0.142	-0.65
PP5	0.621	-0.041
PP6	0.338	-0.514

Appendix I – SmartPLS Results



	Specific indirect effects
Perceived Price -> Central Route -> Behavioural Intention	0.089
Perceived Price -> Behavioural Reasons -> Behavioural Intention	0.273
Perceived Price -> Peripheral Route -> Behavioural Intention	0.099



	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Perceived Price -> Central Route -> Behavioural Intention	0.089	0.088	0.027	3.357	0.001
Perceived Price -> Behavioural Reasons -> Behavioural Intention	0.273	0.274	0.028	9.873	0.000
Perceived Price -> Peripheral Route -> Behavioural Intention	0.099	0.101	0.026	3.810	0.000

Appendix J – Plagiarism Report

Joy Cheng Submission.docx

ORIGINALITY REPORT

7%	5%	4%	2%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to University of Witwatersrand Student Paper	1%
2	lup.lub.lu.se Internet Source	<1%
3	scholar.ufs.ac.za Internet Source	<1%
4	digitalcommons.liberty.edu Internet Source	<1%
5	fastercapital.com Internet Source	<1%
6	repository.up.ac.za Internet Source	<1%
7	Raghoebar, Sanne. "How Physical Cues in Micro Food Environments Influence Consumption: A Social Norm Account", Wageningen University and Research, 2021 Publication	<1%
8	Submitted to Mancosa Student Paper	<1%