INFORMATION TO CONSUMPTION: HEALTH-CONSCIOUS CONSUMERISM OF HEALTHY PACKAGED FOOD IN INDIA

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By

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DECLARATION

I, Nishchala Sripathi, hereby declare that the thesis entitled, **"Information to Consumption: Health-Conscious Consumerism of Healthy Packaged Food in India"** submitted by me under the supervision of **Dr Ranjit Kumar Dehury,** School of Management Studies, University of Hyderabad, is a bonafide research work that is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for awarding any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga/INFLIBNET.

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A. Research articles published in the following journals:

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Nishchala Sripathi

Abstract

The rise of health-conscious consumerism has emerged as a significant trend in the global food industry, with India witnessing a notable shift in consumer preferences towards healthier and more nutritious food options. This study aims to investigate the factors influencing the purchase intentions of health-conscious consumers towards healthy packaged foods in India. By examining the interplay between health beliefs, health consciousness, human behavior, and the role of nutritional labels, this research seeks to provide valuable insights for food manufacturers, policymakers, and public health professionals.

The study employs a cross-sectional design and uses a structured questionnaire to collect data from a sample of Indian consumers. The conceptual framework integrates constructs from the Health Belief Model and the Theory of Planned Behavior to develop a comprehensive model of health-conscious consumer behavior. Structural equation modeling (SEM) is used to analyze the data and test the proposed hypotheses.

The findings reveal that health beliefs, health consciousness, and human behavior have significant positive effects on the purchase intention of healthy packaged foods. Additionally, the study highlights the mediating role of nutritional label use in the relationship between health beliefs, health consciousness, and purchase intention. The results also underscore the importance of consumer trust and the perceived credibility of nutritional information in driving health-conscious food choices.

The study explores the impact of demographic factors, such as age, gender, education, and income, on the relationships between the investigated constructs. The findings suggest that food manufacturers and marketers should develop targeted strategies to cater to the unique preferences and expectations of different consumer segments within the health-conscious market.

The insights derived from this research contribute to the existing body of knowledge on health-conscious consumer behavior and provide actionable recommendations for the food industry and policymakers. By understanding the factors that shape consumer attitudes and intentions towards healthy packaged foods, stakeholders can develop effective strategies to promote healthier food choices, improve public health outcomes, and capitalize on the growing demand for health and wellness products in India.

This study lays the foundation for future research on health-conscious consumerism in emerging markets and highlights the need for collaborative efforts between the food industry, government agencies, and public health organizations to create a supportive environment that encourages and enables healthier eating habits.

Keywords: health-conscious consumers, healthy packaged foods, purchase intention, nutritional labels, health beliefs, health consciousness, human behavior, India.

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List of Abbreviations

Acronym	Full Form
HPF	Healthy Packaged Food
TPB	Theory of Planned Behaviour
HBM	Health Belief Model
PI	Purchase Intention
PLS	Partial Least Square
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Sciences
VIF	Variance Inflation Factor
KMO	Kaiser-Meyer-Olkin
AVE	Average Variance Extracted
HTMT	Hetrotrait-Monotraint Ratio
CR	Composite Reliability
SRMR	Standardized Root Mean Square Residual

Notations

Symbol	Description
%	Percentage
H	Hypothesis
α	Cronbach's Alpha
P	Probability value of significance level
f2	Effect Size
Q2	Predictive Relevance
Df	Degrees of freedom
$\chi 2$	Chi-Square
N	Number of observations
M	Mean
SD	Standard Deviation
β	Standardized Beta Coefficient
C	Constant
T	t-statistic
R2	Coefficient of determination

Chapter 1 Introduction

Chapter 1 Introduction

1.1 Background of Health-Conscious Consumerism

The global food landscape has undergone significant transformations in recent decades, driven by rapid urbanization, changing lifestyles, and evolving consumer preferences. The rapid rise in chronic conditions like obesity, diabetes, and cardiovascular disorders has been largely attributed to unhealthy dietary habits and sedentary lifestyles (GBD 2017 Diet Collaborators & Hankey, 2019). In response to this growing health crisis, consumers have become increasingly health-conscious, seeking healthier food options to improve their overall well-being (Euromonitor International, 2021). These changes have a profound impact on the way people consume food, leading to the rise of the packaged food industry. There has been a growing demand for more nutrient-dense and health-conscious food options as consumers become more conscious of the association between nutrition and health.

1.1.1 Global Rise of Health Consciousness and its Impact on the Food Industry

Globally, the predominance of overweight and obesity has reached record levels, prompting consumers to seek out foods that promote health and wellness (WHO, 2021). In reaction to this shift, healthy food manufacturers have started altering their products to craft healthier variations and marketing new product ranges as "healthier alternatives" (Dawson et al., 2008). Furthermore, escalating healthcare expenses and diminishing confidence in domestic health services have resulted in a category of customers who prioritize health and actively search for goods that encourage a healthy lifestyle and well-being (Lewis, 2008).

1.1.2 Indian Food Landscape: Diversity, Urbanization, and Evolving Preferences

India, with its diverse population, exhibits a wide variety of food habits that vary based on culture, staple products, geography, seasons, and other factors. However, urbanization has brought about significant changes in the way Indian consumers approach food, with less time,

more work hours, and increased stress leading to various health issues (Ogundijo et al., 2021). The constant demand for packaged food products in India originates from adapting to newer food trends and imitating other cultures, a phenomenon that has been witnessed in the country for the last few years (Indian Retailing).

1.1.3 Expansion of India's Packaged Food Industry

The food and grocery market in India ranks as the sixth largest globally, with retail sales constituting 70 percent of the overall sales (IBEF, 2021). The packaged food industry in India has undergone rapid evolution and growth over the past decade, expanding at a CAGR of around 11%. The sector is estimated to reach $535 billion by 2025 (IBEF, 2021). This exponential growth has been fuelled by rising incomes, urbanization, busier lifestyles, and evolving food habits that favor convenience (Chhabra & Kaur, 2022). Packaged foods now account for around 80% of total food sales in India.

In 2019, the Indian food and beverage packaging market reached a value of USD 26.28 billion and is projected to achieve USD 122.78 billion by 2025, with a CAGR of 29.88% during the predicted timeframe from 2020 to 2025. (Mordor Intelligence, 2021). This growth can be attributed to various factors, including a growing population, an increase in the number of working women and smaller families, a growing demand for variety as purchasing power increases, and a broad reach of supply chain networks driving the consumption of packaged and ready-to-eat food.

Government policies, such as Make in India, Mega Food parks, and special incentives for food processing units, have played a crucial role in fostering the growth of the packaged food industry in India (Ministry of Food Processing Industries, 2021). These initiatives have encouraged the development of the food processing sector and attracted investments from both domestic and international players (Reardon & Minten, 2011).

Amidst the rapid growth of the packaged food industry, concerns about nutrition, food safety, and responsible manufacturing have also risen. Health consciousness has emerged as a pivotal trend influencing consumer attitudes and shaping brand strategies in India's packaged food sector. Consumers are looking for healthier and more nutrient-dense options, especially in the packaged food sector, as they become more conscious of the effects that the foods they choose have on their health and overall well-being.

This shift in consumer preferences has prompted food manufacturers to focus on developing healthier alternatives, reformulating existing products, and emphasizing transparency in their manufacturing processes (Singh et al., 2017). As a result, in addition to convenience and variety, the growing desire for wholesome, ethically produced food products is now influencing the expansion of the packaged food business in India.

1.1.4 The Rise of the Health-Conscious Consumer Segment in India

Several studies have indicated a marked shift among India's urban consumers towards prioritizing health in their food purchases (Banerjee et al., n.d.). Factors like greater awareness, access to nutrition information, and apprehensions about risks have made Indian consumers more cautious regarding food choices. There is a growing inclination for fresh, farm-sourced produce and home-cooked meals, perceived as hygienic and nutritious options. Packaged and processed foods face skepticism due to perceptions of being 'unnatural', high in preservatives, and risky for long-term well-being.

Segments of health-conscious consumers have exhibited openness to packaged food positioned as 'healthy alternatives' that promise nutritional benefits with natural ingredients and minimal processing. This presents a lucrative opportunity for food brands catering to evolving consumer expectations regarding safety, transparency, and nutrition. Studies estimate India's health and

wellness food market to expand at a CAGR of 10.8% to reach $30.7 billion by 2026, indicating immense potential (Euromonitor International, 2021).

Amidst the growth of the packaged food industry, a significant segment of health-conscious consumers has emerged in India. Ninety million well-to-do, metropolitan, health-conscious people in the nation are aware of and worried about lifestyle-related health issues (Redseer, 2018). These customers have a higher propensity to purchase organic and healthful food, and they also tend to indicate a desire to do so (Iqbal et al., 2021).

1.1.5 Consumer Preferences and Expectations of Healthy Packaged Foods

Consumers have specific preferences and expectations when it comes to healthy packaged foods. They seek out products that are minimally processed, made with natural and organic ingredients, and free from artificial additives and preservatives (Asioli et al., 2017). Clean label claims, such as "no artificial colours or flavors," "non-GMO," and "gluten-free," have become increasingly important to health-conscious consumers (Ingredion, 2021). Additionally, consumers expect healthy packaged foods to be convenient, tasty, and nutritionally balanced, providing them with the necessary nutrients to support their health goals (Kerry, 2019). Food manufacturers and marketers must understand and cater to these evolving consumer preferences to succeed in the competitive healthy packaged food market.

1.1.6 The Impact of Cultural and Pandemic-related Factors on Consumer Preferences

India's ancient medicinal systems like Ayurveda emphasize balance and holistic well-being that have shaped notions of health in the cultural context. Additionally, yoga's global popularity has increased the association of India with healthy lifestyles. This provides cultural reciprocity for health-positioned packaged food drawing from traditional concepts like Ayurveda. However, skepticism regarding commercial exploitation calls for substantiating claims through scientific evidence and transparency.

The pandemic period further augmented consumer interest in health-supporting products. Studies reveal preventive health behaviors increased, with around 40% of Indian consumers becoming more health-conscious since early 2020. Demand surged for food claiming immunity benefits, leading brands to rapidly innovate products leveraging ingredients like turmeric, moringa, and ayurvedic herbs. This reactive focus on self-care through diet underscores the need for nutritious packaged foods aligned with consumer health priorities.

1.1.7 The Importance of Nutritional Labels in Consumer Decision-Making

Nutritional labels are essential for assisting customers in making knowledgeable food-related purchase decisions. By providing information on the calorie content, nutrient composition, and serving sizes of packaged foods, nutritional labels enable consumers to compare products and select options that align with their dietary needs and health goals (Campos et al., 2011). Studies have shown that consumers who read and understand nutritional labels are more inclined to choose foods that are healthier and have better overall dietary quality (Anastasiou et al., 2019). Thus, nutritional labels serve as an essential tool for promoting public health and empowering consumers to take control of their dietary habits.

1.1.8 The Importance of Understanding Health-Conscious Consumer Behavior in India

Examining the variables influencing health-conscious buyer behavior in the environment of packaged foods is crucial given the enormous potential of the health-conscious consumer group and the changing dynamics of the Indian food landscape. When making food decisions, various groups of consumers take a lot of variables into account, including and excluding health-related aspects (Mai & Hoffmann, 2012). In the initial stages of analyzing data, the appropriateness and quality of the data are confirmed while testing the expected correlations and assessing the prediction power of the structural model. Food manufacturers and marketers can create products and strategies that specifically address the needs and preferences of this expanding

consumer segment while also advancing broader public health objectives by having an improved knowledge and understanding of the processes of making decisions and the factors influencing dietary choices of health-conscious consumers.

1.2 Problem Statement

The rapid growth of the packaged food industry in India, coupled with the rising prevalence of lifestyle-related diseases, has highlighted the need to understand the factors influencing health-conscious consumer behavior. Even with growing knowledge about the association between nutrition and health, choosing packaged foods that are healthy can still be a complex and multifaceted task. (Machado et al., 2017). Consumers must navigate a wide array of product attributes, health claims, and marketing messages while also considering factors such as taste, convenience, and price (Loebnitz & Grunert, 2018).

a) The Need to understand the factors influencing health-conscious consumer behavior

Understanding the variables influencing health-conscious customer behavior can have a big impact on India's food sector as well as public health. By understanding the drivers of healthy food choices, policymakers, and public health professionals can design more effective interventions and campaigns to promote healthier eating habits (Hawkes et al., 2015). The food industry can leverage these insights to develop products and marketing strategies that align with consumer preferences and support healthier lifestyles.

b) The lack of comprehensive models addressing the relationships between health beliefs, human behavior, health consciousness, nutritional labels, and purchase intention

Despite the growing body of research on health-conscious consumer behavior in India, there is a lack of comprehensive models that examine the relationships between health beliefs, human behavior, health consciousness, nutritional label, and purchase intention simultaneously. The majority of research has concentrated on particular facets of these relationships, like how health

consciousness affects purchasing intention (Iqbal et al., 2021) or the role of nutritional knowledge in label (Singla, 2010). However, there is a need for a more holistic approach that considers the intricate relationship between these variables in shaping the consumer decision-making process.

c) The need for a holistic approach to understanding health-conscious consumer behavior

It is crucial to take a comprehensive strategy to comprehend health-conscious consumer behavior in India concerning packaged foods that are healthy for several reasons. First, it can provide a precise and nuanced image of the decision-making process, accounting for the multiple influences and trade-offs that consumers navigate(Machado et al., 2017). Second, it can help identify the most critical leverage points for interventions and strategies aimed at promoting healthier food choices (Hawkes et al., 2015). Lastly, it can aid in the creation of more thorough and useful theories of consumer behavior related to the intake of healthful foods.

1.3 Research Aims and Scope

The objective of this research is to examine variables impacting the behavior and decision-making of health-conscious Indian consumers when it comes to packaged goods. By examining the complex interplay between health beliefs, human behavior, health consciousness, nutritional label, and purchase intention, this research aims to provide a thorough comprehension of the drivers and barriers to healthy food choices among Indian consumers.

The primary aim of the research is to build a comprehensive model that encapsulates the connections between important behavioral and psychological variables influencing health-conscious Indian consumers' intentions to buy healthy packaged goods. This model will integrate insights from existing theories, such as the Health Belief Model (HBM) (Rosenstock, 1974) and the Theory of Planned Behavior (TPB) (Ajzen, 1991), while also considering the unique cultural, social, and economic context of the Indian market.

1.4 Scope of the Study

The aims of the investigation are as follows:

a. Healthy packaged foods (HPF): The research will specifically examine consumer behavior and decision-making processes related to packaged food products that are marketed or perceived as healthy, such as those with nutrient-content claims, health claims, or clean labels (Singla, 2010).

b. Target population: The study will focus on health-conscious consumers in India, defined as individuals who actively seek out health-related information and make food choices based on their perceived impact on personal health and well-being (Shetty, 2002). To account for any changes in behavior and preferences, this group will be further split based on demographic parameters like age, gender, income, marital status, and education level.

c. Geographical context: The research will be conducted in urban and semi-urban areas of India, where the demand for healthy packaged foods is rapidly growing due to increasing health awareness, rising disposable incomes, and changing lifestyles. The study will cover diverse geographical regions to account for potential regional differences in consumer behavior and market dynamics.

1.5 Significance of the Study

This study is important because it has the potential to advance the theoretical knowledge of health-conscious consumer behavior, offer direction for the development of HPF products for the Indian market, and educate public health policies and initiatives. Adopting a holistic approach to investigate the factors influencing consumer decision-making processes, this research addresses important gaps in the existing literature and offers valuable insights for various stakeholders.

The current research can add to the corpus of knowledge already existing on health-conscious consumerism by addressing gaps in understanding the information-seeking behavior and consumption patterns of health-conscious consumers in India. It can expand the application of the HBM and TPB in the context of health-conscious food choices and offer perspectives on the variables influencing the purchase intentions of healthy packaged foods.

The food business may be significantly impacted by the study's conclusions. They can direct the creation of focused marketing plans for nutritious packaged foods, provide guidance for decisions made about product development and packaging, and emphasize the significance of truthful and transparent nutritional facts and health claims on food labels. By understanding the preferences and behaviors of health-conscious consumers, food manufacturers, and marketers can better cater to their needs and desires.

The findings of this investigation will be extremely pertinent for policymakers and public health professionals. They can inform them about how to develop effective food labelling regulations and consumer education initiatives for healthy food choices among consumers. The results can contribute to the formulation of policies related to public health interventions aimed at promoting healthy eating habits and preventing diet-related diseases.

This research can hold significant benefits for consumers. It empowers them to make informed food choices based on their health beliefs and nutritional knowledge, raising awareness about the importance of reading and understanding nutritional labels. Furthermore, it can encourage the adoption of health-promoting behaviors and lifestyles, ultimately contributing to improved health outcomes and overall well-being.

By emphasising how individual beliefs, attitudes, and behaviours influence dietary choices and overall health outcomes, this study can add to the larger conversation on health and well-being. It offers an understanding of the complex interplay of psychological, social, and environmental

factors influencing health-conscious consumerism, shedding light on the multifaceted nature of this phenomenon.

1.6 Definition of Key Terms

It is essential to define the key terms related to health-conscious consumer behavior and decision-making processes in the context of healthy packaged foods, to ensure a clear and consistent understanding of the concepts used throughout this study,

Health belief - Health belief refers to an individual's subjective assessment of the likelihood and severity of health-related outcomes, as well as the perceived benefits linked with engaging in health-promoting activities (Rosenstock, 1974). Emphasis on the effect of food choices on individual health, self-efficacy, perceived benefits, and cues to action are included in the study's definition of health beliefs.

Human behavior **-** Human behavior encompasses the actions, decisions, and consumption patterns of individuals about their health and food choices (Norman & Conner, 2005). In this study, human behavior specifically refers to the higher-order construct developed from the theory of planned behavior(TPB) (Ajzen, 1991). Various factors influencing consumers' decision-making when selecting and purchasing healthy packaged foods, such as their attitudes, subjective norms, and perceived behavioral control comprise Human Behaviour.

Health consciousness **-** Health consciousness is defined as the overall orientation of a person towards health and well-being, which reflects their readiness to engage in health-promoting behaviors and their interest in health-related information (Gould, 1988). Within the framework of this research, health consciousness denotes consumers' cognizance of and concern for their health, together with their readiness to make dietary decisions that are consistent with their health objectives and principles.

Nutritional label - Nutritional label refers to consumers' engagement with and utilization of the information provided on food packaging, such as nutrient content, serving sizes, and health claims, to make informed food choices (Campos et al., 2011; Grunert & Wills, 2007). In this study, nutritional label encompasses consumers' awareness, understanding, and application of nutritional information when evaluating and selecting healthy packaged foods (Singla, 2010).

Purchase intention - A consumer's deliberate plan or propensity to attempt to purchase a particular good or service is known as their purchasing intention (Spears & Singh, 2004). In current research, purchase intention refers to health-conscious consumers' willingness and readiness to buy healthy packaged foods based on their evaluation of various factors, such as the product's perceived healthiness, nutritional value, taste, convenience, and price.

1.7 Overview of the Dissertation Structure

There are five chapters in this dissertation, each of which focuses on a different area of the research subject. The chapters are designed to provide a logical and comprehensive presentation of the research background, theoretical foundations, methodology, findings, and implications. The following is an overview of each chapter and its main focus:

Chapter 1: Introduction

The research study is set in motion by the introduction chapter, which gives a thorough overview of the increasing incidence of lifestyle-related diseases in India, the rise in consumer health consciousness, and the significance of comprehending the variables influencing health-conscious consumer behavior about packaged foods that are healthy. The chapter presents the problem statement, the research aims and scope, and the significance of the study. It also defines the key terms used throughout this study.

Chapter 2: Literature Review

This chapter offers an in-depth assessment of the previous studies on health-conscious consumer behavior, focusing on the theoretical underpinnings and practical outcomes related to the key constructs of the study, such as health beliefs, human behavior, health consciousness, nutritional label, and purchase intention. The chapter identifies the gaps in the current literature and establishes the need for a comprehensive and contextually relevant model of health-conscious consumer behavior in the Indian market.

Chapter 3: Research Methodology

This chapter details the research design, sampling strategy, data collection methods, and data analysis techniques employed in the study. It provides a rationale for the selected approach and discusses the ethical considerations and limitations of the research. It also presents the conceptual framework and hypotheses guiding the study, drawing from the insights gained from the literature review.

Chapter 4: Data Analysis and Results

This chapter presents the outcomes of the study in a manner consistent with the research objectives and hypotheses. It includes a description of the sample characteristics, the results of the statistical analyses, and the interpretation of the findings in relation to the research questions. The chapter also discusses the reliability and validity of the data and the statistical techniques used to test the hypotheses.

Chapter 5: Discussion and Conclusion

This chapter synthesizes the key findings of the study and discusses their implications for theory, practice, and policy. It relates the findings to the existing literature and exhibits the unique contributions of the research to understanding health-conscious consumer behavior in the Indian market. Additionally, the chapter recognises the study's shortcomings and offers suggestions for further research. In conclusion, the study highlights the need to promote

healthier eating choices and improve public health outcomes in India by summarising the key findings.

1.8 Summary

The introduction chapter has provided a comprehensive background on the growing prevalence of lifestyle-related diseases in India, the rise of health consciousness among consumers, and the importance of understanding the factors influencing health-conscious consumer behavior toward healthy packaged foods. The research aims to build a comprehensive framework that encapsulates the connections between important behavioral and psychological elements influencing health-conscious Indian consumers' intentions to buy nutritious packaged foods.

The chapter has defined the key terms used throughout the study and provided an overview of the dissertation structure, outlining the importance of each chapter and demonstrating the logical progression of the research study. In the subsequent chapters, this dissertation will delve deeper into the theoretical foundations, research methodology, data analysis, and implications.

Chapter 2 Literature Review

Chapter 2 Literature Review

2.1 Overview

This chapter provides a comprehensive review of the literature, examining the main ideas and theoretical underpinnings of health-conscious consumerism and Indian consumers' intentions to buy healthy packaged foods. The first section of the chapter starts by introducing the growing prevalence of non-communicable diseases and the increasing demand for healthy packaged food products in India. It then delves into the key concepts of health consciousness, healthy packaged food, nutritional labels, and purchase intention. The chapter also discusses the theoretical framework, including the TPB and HBM, and their integration in the context of health-conscious consumerism. The literature review identifies several research gaps, leading to the development of research questions, objectives, and hypotheses. The chapter concludes by proposing a comprehensive model that illustrates the complex relationships between health belief, human behavior, health consciousness, nutritional label, and purchase intention considering healthy packaged foods.

2.2 Background of the Study

The increasing prevalence of non-communicable diseases such as obesity, diabetes, and cardiovascular disorders has been linked to the consumption of unhealthy diets, characterized by high intake of processed and convenience foods (Popkin et al., 2012). The rapid economic growth and urbanization in India have led to significant changes in the dietary habits and lifestyles of its population (Pingali & Khwaja, 2004; Shetty, 2002). Indian consumers are becoming increasingly interested in adopting healthier eating habits and making more informed food selections in response to these medical problems (Goyal & Singh, 2007).

The demand for healthy packaged food products has been on the rise in India, as consumers seek convenient options that align with their health goals. The COVID-19 pandemic has

contributed to an increased consumer focus on immunity-boosting and nutrient-dense food products by raising consumer health consciousness. (Chaudhary et al., 2020; Laguna Cruañes et al., 2020). As a result, the Indian packaged food industry has witnessed a surge in the introduction of health-oriented products, such as fortified foods, organic options, and functional ingredients (IBEF, 2021; Mordor Intelligence, 2021).

Despite the growing interest in healthy packaged food, there is limited research on the factors that influence health-conscious consumerism and purchase intentions in the Indian context (Dangi et al., 2020; Rana & Paul, 2020). Previous studies have primarily focused on developed countries, where consumer attitudes and behaviors towards healthy food choices may differ from those in emerging markets like India (Bimbo et al., 2017; Steptoe et al., 1995). Therefore, it is crucial to examine the unique cultural, social, and psychological factors that shape health-conscious consumerism in India to develop effective strategies for promoting healthier food choices.

2.3 Health Consciousness

A person's level of knowledge and care for their general health and well-being is referred to as their "health consciousness" (Gould, 1988; Jayanti & Burns, 1998). It is characterized by an active interest in health-related information and a commitment to engaging in behaviors that promote physical and mental well-being (Kraft & Goodell, 1993; Newson et al., 2015) Health-conscious individuals tend to be more proactive in seeking out information about healthy lifestyles, nutrition, and disease prevention(Dutta-Bergman, 2004; Michaelidou & Hassan, 2008). They are also more likely to make healthier food choices, engage in regular exercise, and avoid harmful habits such as smoking and excessive alcohol consumption(Divine & Lepisto, 2005). In the context of food consumption, health consciousness has been identified

as a significant driver of consumer preferences for healthier and more nutritious food options (Mai & Hoffmann, 2012; Shamal & Mohan, 2017).

2.3.1 Health-Conscious Consumer Behavior

The rise of health-conscious consumer behavior has been a notable trend in recent years, with individuals increasingly prioritizing their well-being and making informed choices about the food they consume (Asioli et al., 2017; Loebnitz & Aschemann-Witzel, 2016). This shift in consumer preferences has been driven by a growing awareness of the link between diet and health, as well as concerns about the prevalence of lifestyle-related diseases such as obesity, diabetes, and cardiovascular disorders (Goetzke et al., 2014; Mørk et al., 2017).

Consequently, there has been a surge in demand for healthy food options, including organic produce, functional foods, and products with clean labels (Basha et al., 2015; Singh et al., 2017). Consumers are actively seeking out food items that are perceived to be nutritious, natural, and free from harmful ingredients (Pham et al., 2019; Sumi & Kabir, 2018). This trend has also extended to the packaged food industry, where health-conscious consumers are driving the growth of the healthy snacks market and influencing product development and marketing strategies (Nielsen, 2015).

A significant body of literature has explored the various factors that influence health-conscious consumer behavior, such as attitudes, beliefs, knowledge, and socio-demographic characteristics (Brečić et al., 2014; Kushwah et al., 2019; Yadav & Pathak, 2016). Additionally, researchers have examined the role of health consciousness in shaping purchase intentions and actual buying behavior, highlighting its importance as a key driver of consumer decision-making (Hanspal & Devasagayam, 2017; Nagaraj, 2021).

However, despite the existing research on health-conscious consumer behavior, there remain certain gaps that need to be addressed. For instance, there is limited understanding of how

health consciousness interacts with other factors, such as price sensitivity, convenience, and taste preferences, in shaping food choices (Milošević et al., 2012). Moreover, the majority of studies have focused on developed countries, with less attention paid to emerging markets like India, where unique cultural and socioeconomic factors may influence health-conscious consumerism(J. Ali & Kapoor, 2009).

In light of these gaps, further research is needed to develop a more comprehensive understanding of health-conscious consumer behavior, particularly in the context of India's growing market for healthy packaged food. This study anticipates adding to the previous literature and offers useful insights for marketers and policymakers looking to encourage healthier food choices by looking at the interactions between several factors that influence consumer attitudes and purchase intentions.

2.4 Healthy Packaged Food

Healthy packaged food refers to pre-packaged food products that are designed to provide consumers with convenient and nutritious options that align with their health goals (Zafar et al., 2016). These products often feature specific health attributes, such as reduced fat, sugar, or salt content, added vitamins and minerals, or the use of whole grains and natural ingredients(Kozup et al., 2003; Lähteenmäki, 2013). The development and marketing of healthy packaged foods have been driven by the increasing consumer demand for healthier and more transparent food choices (Siró et al., 2008). However, the definition of what constitutes "healthy" packaged food can vary across different contexts and consumer segments (Provencher & Jacob, 2016). Some common categories of healthy packaged foods include organic products, functional foods, fortified foods, and products with clean labels (Asioli et al., 2017; Singh et al., 2017).

For this study, "healthy packaged foods" refers to processed and packaged foods that are made from natural, minimally processed ingredients and fortified with additional nutrients. The scope of healthy packaged foods includes organic foods, whole grains (e.g. flour, rice, millets, pulses), traditional Indian snacks (e.g. makhana, peanut chikki, khakra), breakfast foods (e.g. oats, muesli, wheat flakes), edible oils, beverages (e.g. green tea, malted drinks), nuts, seeds, nut bars, baked snacks, and dairy products. These foods emphasize natural, traditional ingredients while avoiding artificial preservatives, Flavors, colors, and unhealthy levels of added sugars and trans fats. The packaging focuses on retaining nutrients and freshness. The scope aims to align with traditional Indian cuisine and nutrition patterns, providing convenience without heavily processed ingredients. In summary, the scope of this dissertation focuses on packaged foods that build on the foundations of traditional Indian diets by delivering quality, nutrient-rich, minimally processed foods in a convenient format.

2.4.1 Healthy Packaged Food: Growing Demand and Meeting the Needs of Health-Conscious Consumers

The demand for healthy packaged food has been on the rise in recent years, driven by increasing consumer awareness about healthy diet and its influence on food choices and overall well-being (Asioli et al., 2017). As consumers become more health conscious, they are actively seeking out packaged food options that align with their dietary preferences and nutritional goals (Paquette, 2005).

Several factors have contributed to the growing demand for healthy packaged food in India. Firstly, the prevalence of diet-related chronic diseases, such as obesity, diabetes, and cardiovascular disorders, has prompted consumers to prioritize healthier food choices (Chatterjee, 2007; Gaiha et al., 2012). Secondly, the increasing availability of nutrition information, through sources such as food labels and media campaigns, has empowered

consumers to make more informed decisions about their food purchases (T. Ali et al., 2015; Dharni & Gupta, 2015).

The food industry in India has responded to this growing demand by introducing a wide range of healthy packaged food options. Over the past ten years, India's retail value of health and wellness foods has shown a notable yearly rise of 14.3% (T. Ali et al., 2021). Additionally, the market for ready-to-eat food products is expanding at the quickest rate possible 30% annually (Solanki & Sheth, 2015). Concurrently, there has been a notable upsurge in the creation of functional foods, which are intended to offer unique health advantages beyond fundamental nourishment (Singh et al., 2017; Siró et al., 2008). These products often contain added ingredients, such as vitamins, minerals, probiotics, and bioactive compounds, that are associated with various health outcomes (Bigliardi & Galati, 2013; Roberfroid, 2000). However, despite the growing availability of healthy packaged food options, there remain challenges in meeting the diverse needs and preferences of health-conscious consumers. One key issue is the lack of a clear and consistent definition of what constitutes "healthy" food(Paquette, 2005) (Lobstein & Davies, 2009; Paquette, 2005). This ambiguity can lead to consumer confusion and skepticism about the health claims made by food manufacturers (Nocella & Kennedy, 2012; P. Williams, 2005).

Another challenge is the potential trade-off between health attributes and other factors that influence consumer food choices, such as taste, convenience, and price (Lusk & Briggeman, 2009; Mathur & Phadtare, 2021; Verbeke, 2006). Research has indicated that while making food purchases, customers frequently put taste and convenience ahead of health considerations (Carrillo et al., 2011; Raghunathan et al., 2006). Moreover, healthy packaged foods may be perceived as more expensive than their less healthy counterparts, which can be a barrier for price-sensitive consumers (Rao et al., 2013).

Despite these challenges, there are encouraging signs of progress in the healthy packaged food market in India. According to a study, the packaged foods produced by the biggest manufacturers in India were generally not very healthy, although there were noticeable variations in the health of related goods within food categories, indicating room for improvement (A. Jones et al., 2017). Additionally, a comparison study revealed a positive association between health and taste for pulses in both the United States and India, indicating the potential for promoting nutritious agricultural products as healthy and tasty options (Dubé et al., 2016).

The growing demand for healthy packaged food presents both opportunities and challenges for the food industry and public health stakeholders. While there has been progress in the development and marketing of healthier food options, there is a need for further research to better understand the complex factors that influence consumer food choices and to develop strategies to promote the adoption of healthier diets. Future studies should focus on clarifying the definition of "healthy" food, investigating the trade-offs between health and other food choice determinants, and evaluating the effectiveness of different communication and educational approaches. By addressing these gaps in the literature, researchers can contribute to the development of more targeted and effective interventions to meet the needs of health-conscious consumers and improve public health outcomes.

2.5 Nutritional Label

A nutritional label is a panel of information printed on the packaging of food products that provides consumers with data about the nutrients and composition of food. The label typically includes information such as the serving size, calories, macronutrients (fat, protein, and carbohydrates), micronutrients (vitamins and minerals), and the percentage of daily recommended values for each nutrient (Chhabra & Kaur, 2022). Nutritional labels may also

include additional information such as added sugars, artificial additives, health claims, and allergen warnings to assist consumers in making informed decisions about the food they purchase and consume.

Several research has looked into how consumers' attitudes, perceptions, and purchasing decisions are affected by nutritional labels. A systematic review revealed that nutritional information on prepackaged foods is an extensive and reasonably priced intervention that can assist customers in selecting healthier foods (Campos et al., 2011). Similarly, it was concluded that improvements in nutrition labelling could contribute to creating a point-of-purchase environment that encourages the selection of healthier options (Cowburn & Stockley, 2005).

Research has also explored the influence of label design and format on consumer understanding and behavior. It was found that consumers prefer simplified front-of-pack nutrition information (Grunert & Wills, 2007), while it was demonstrated that traffic-light labels and logos can enhance the selection of healthy products, even when consumers face time constraints (van Herpen & Trijp, 2011). Additionally, the effectiveness of interpretive front-of-pack labelling schemes in guiding consumers toward healthier choices was highlighted (Egnell et al., 2018; Khandpur et al., 2019).

The research does, however, also highlight difficulties with consumers' comprehension and application of nutritional labelling. It was noted that while consumers can generally extract simple information from labels, their ability to interpret more complex data accurately may be limited (Cowburn & Stockley, 2005). Furthermore, a discrepancy between the rates at which consumers use and comprehend nutrition labels was identified, suggesting a need for more effective education and communication strategies (Mandle et al., 2015).

It was discovered that when people associate the health advantages of eating a product with its features, their consumption of it is correlated with their understanding of nutrition (Wansink et

al., 2005). Furthermore, it was shown that when the importance of "nutrition" and "family preferences" is emphasised, the usage of nutritional information and health claims grows, but it is less common among consumers for whom "taste" is a major factor in determining their food purchasing behavior (Petrovici et al., 2012).

Even with the wealth of research on nutritional labels, there are still a number of gaps in the body of knowledge. First, there is a lack of research on how label design and format interact with individual characteristics, such as health consciousness and nutritional knowledge, to influence decision-making processes (McPherson & Turnbull, 2000). Second, further research is required to understand how socio-demographic factors intersect with cultural and ethnic backgrounds to shape health-conscious food choices (Chadwick et al., 2013). Third, the long time impact of nutrition labelling on dietary habits and health outcomes remains largely unexplored (Kaskutas & Greenfield, 1997; Petrovici et al., 2012), highlighting the need for longitudinal studies to assess the effectiveness of these interventions over time. Fourth, from a marketing perspective, there is an opportunity to investigate how consumers who prioritize a healthy lifestyle can be viewed as a specific market segment (Yap & Othman, 2010) and how targeted labelling strategies can be developed to meet their unique preferences and needs.

Additionally, while nutritional claims and health claims on food labels are mechanisms for improving consumers' nutritional knowledge, further research is needed to link these claims and actual purchasing behavior (Petrovici et al., 2012). This gap in the research emphasises how crucial it is to comprehend the information provided on nutritional labels translates into real-world consumer decisions and actions.

The existing literature has provided insightful observations on the role of nutritional labels in shaping consumer perceptions and behaviors, but there remain significant opportunities for further research. By addressing the identified gaps, future studies can support the creation of

more efficient and evidence-based nutritional labelling policies that empower consumers to make informed and health-conscious food choices, ultimately promoting better health outcomes at the population level.

2.6 Purchase Intention

Purchase intention refers to a consumer's planned or anticipated future behavior in terms of their likelihood to purchase a specific product or service (Ajzen, 1991; Spears & Singh, 2004). It is considered a key predictor of actual purchase behavior and is often used as a proxy measure in consumer research (Morwitz et al., 2007; B. Sun & Morwitz, 2010). Purchase intention is influenced by various factors, such as consumer attitudes, perceived value, trust, and subjective norms (Kim et al., 2013).

The effect of nutritional labels on consumer attitudes, perceptions, and buying decisions has been the focus of many studies. According to a comprehensive assessment, nutrition labels on prepackaged goods are an extensive and reasonably priced intervention that may encourage consumers to choose healthier diets (Campos et al., 2011). Similarly, it was concluded that improvements in nutrition labelling could contribute to creating a point-of-purchase environment that encourages the selection of healthier options.

Research has also explored the influence of label design and format on consumer understanding and behavior. It was found that consumers prefer simplified front-of-pack nutrition information, while it was demonstrated that traffic-light labels and logos can enhance the selection of healthy products, even when consumers face time constraints (van Herpen & Trijp, 2011). Additionally, the effectiveness of interpretive front-of-pack labelling schemes in guiding consumers toward healthier choices was highlighted (Egnell et al., 2018; Khandpur et al., 2019).

However, the literature also reveals challenges in consumer reading and utilising nutritional labels. It was noted that while consumers can generally extract simple information from labels, their ability to interpret more complex data accurately may be limited. Furthermore, a discrepancy between the rates at which consumers use and comprehend nutrition labels was identified, suggesting a need for more effective education and communication strategies (Mandle et al., 2015).

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2.7 Theoretical Framework

This study draws upon two well-established theories in the field of health behavior and consumer psychology: the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB). The HBM, developed by Rosenstock (1974), posits that an individual's health-related behavior is influenced by their beliefs about the perceived benefits, barriers, and threats associated with a particular action. The TPB, proposed by Ajzen (1991), suggests that an individual's intention to perform a behavior is determined by their attitudes, subjective norms, and perceived behavioral control. By integrating key constructs from both theories, this study develops a comprehensive conceptual framework to investigate the factors influencing health-conscious consumers' purchase intentions toward healthy packaged foods in India. The amalgamation of these theories allows for a more nuanced understanding of the complex interplay between cognitive, affective, and social aspects that shape consumer behavior related

to health-related food choices. The proposed theoretical framework aims to extend the existing literature on health-conscious consumerism and provide a solid foundation for empirical investigation.

2.7.1 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a widely used social-psychological model that aims to explain and predict human behavior in specific contexts (Ajzen, 1991). TPB is an extension of the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975), which posits that behavioral intention is the most proximal determinant of behavior. Accepting that people may have limitations on their capacity to carry out a particular behavior, TPB expands the TRA model by incorporating the concept of perceived behavioural control.

Three factors attitude towards the behaviour, subjective norms, and perceived behavioural control determine an individual's desire to carry out a behaviour, according to the TPB. Positive or negative feelings about carrying out the behaviour are referred to as an individual's attitude. Subjective norms are reflections of perceived social pressure to participate in a conduct or abstain from it. The concept of perceived behavioural control refers to how well an individual perceives their capacity to carry out an action, taking into account any potential obstacles or facilitators.

TPB has been widely applied to explain and predict various health-related behaviors, including healthy food consumption (Godin & Kok, 1996). In the context of healthy packaged food consumption, attitude represents an individual's positive or negative assessment of purchasing healthy packaged foods. Subjective norms are a reflection of the perceived social pressure to buy or not buy healthful packaged goods from important people (family, friends, etc.). The concept of perceived behavioural control pertains to an individual's assessment of their ability

to purchase nutritious packaged meals, taking into account several aspects like accessibility, cost, and awareness (Godin & Kok, 1996).

a) Attitude

Attitude is a key component of the TPB and refers to an individual's positive or negative evaluation of performing a specific behavior (Ajzen, 1991). In the context of healthy packaged food consumption, attitude represents an individual's positive or negative assessment of purchasing healthy packaged foods (Pino et al., 2012). Numerous studies have found that attitude is a significant predictor of healthy food purchase intention(Pieniak et al., 2010).

For example, Pino et al. (2012) found that attitude towards purchasing organic food was positively related to intention to purchase organic food among Italian consumers. Similarly, Pieniak et al. (2010) reported that attitude was a significant predictor of intention to eat sustainably among Belgian consumers. Yoo (2009) also found that attitude toward healthy food purchasing positively influenced consumers' intention to purchase healthy food. These results imply that customers are more likely to have buy intentions for healthy packaged foods if they have more positive sentiments towards them.

b) Subjective Norms

Subjective norms refer to the perceived social pressure to perform or not perform a given behavior (Ajzen, 1991). In the context of healthy packaged food consumption, subjective norms reflect the perceived social pressure from significant others (e.g., family, and friends) to purchase or not purchase healthy packaged foods (Pino et al., 2012). The influence of subjective norms on healthy food purchase intention has been investigated in several studies, with mixed results.

For instance, Pino et al. (2012) found that subjective norms had a significant positive effect on the intention to purchase organic food among Italian consumers. However, Pieniak et al. (2010)

found that subjective norms did not have a significant direct effect on the intention to eat sustainably among Belgian consumers. These findings suggest that the influence of subjective norms on healthy packaged food purchase intention may vary depending on the specific context and target population.

c) Perceived Behavioral Control

Perceived behavioral control represents an individual's perception of their ability to perform a given behavior, considering factors that may facilitate or impede performance (Ajzen, 1991). In the context of healthy packaged food consumption, perceived behavioral control reflects an individual's perception of their ability to purchase healthy packaged foods, considering factors such as availability, affordability, and knowledge (Pino et al., 2012).

Several studies have investigated the influence of perceived behavioral control on healthy food purchase intention. Pino et al. (2012) found that perceived behavioral control had a significant positive effect on the intention to purchase organic food among Italian consumers. Similarly, Pieniak et al. (2010) reported that perceived behavioral control was a significant predictor of intention to eat sustainably among Belgian consumers. These findings suggest that consumers who perceive greater control over their ability to purchase healthy packaged foods are more likely to form intentions to do so.

The TPB offers a helpful framework for comprehending the variables influencing consumers' intentions to purchase healthy packaged foods. Attitude, subjective norms, and perceived behavioral control are significant predictors of healthy food purchase intention in various contexts. However, the relative importance of these factors may vary depending on the specific context and target population. To fully comprehend the intricate interactions between these variables and how they affect the intake of healthful packaged foods, more research is required.

2.7.2 The Health Belief Model (HBM)

The Health Belief Model (HBM) is a widely used psychological model that aims to explain and predict health behaviors by focusing on individuals' attitudes and beliefs (Rosenstock, I. M., 1974). Developed in the 1950s by social psychologists in the U.S. Public Health Service, the HBM suggests that people's engagement in health-related behaviors is primarily based on their perceptions of four key factors: perceived benefits, perceived barriers, perceived susceptibility, and perceived severity.

Over the years, the HBM has been extended to include additional constructs such as cues to action, motivating factors, and self-efficacy (Carpenter, 2010). The model has been applied to a wide range of health behaviors, including dietary choices, physical activity, and preventive health measures (Janz & Becker, 1984).

a) Perceived Benefits

Perceived benefits refer to an individual's belief in the efficacy of the advised action to reduce risk or seriousness of impact (Rosenstock, 1974). In the context of healthy packaged food consumption, perceived benefits may include beliefs about the positive health outcomes associated with choosing healthier food options, such as improved overall health, controlling weight, and lowering the risk of chronic illness (Deshpande et al., 2009).

Perceived benefits have been demonstrated to be a strong predictor of healthy eating choices in an extensive number of previous studies. For example, it has been reported that perceived benefits were positively associated with health consciousness and attitudes toward healthy eating among university students in Taiwan (Y.-H. C. Sun, 2008). Similarly, a study found that perceived benefits were a key determinant of consumers' willingness to use functional breads in four European countries (Vassallo et al., 2009).

b) Cues to Action

Cues to action are the stimuli that trigger the decision-making process to accept a recommended health action (Rosenstock, 1974). These can be internal, such as physical symptoms of a health condition, or external, such as media campaigns, advice from others, or warning labels on a product (Glanz et al., 2008).

While cues to action are identified as a significant component of the HBM, empirical research on this construct in the context of healthy eating is limited. However, some studies have explored the role of nutrition labelling as a potential cue to action. A study found that nutrition labelling was a significant factor influencing consumers' awareness and purchase decisions related to food products in Botswana (Mahgoub et al., 2007).

c) Self-Efficacy

Self-efficacy, a more recent addition to the HBM, refers to an individual's confidence in their ability to successfully perform a behavior (Rosenstock, I. M., 1974). To address the problem of ingrained unhealthy behaviours including tobacco use, overeating, and a sedentary lifestyle, this component was created.

In the context of healthy eating, self-efficacy is a significant predictor of dietary behaviors. For example, a study emphasised the significance of boosting youth self-efficacy to assist them in adopting healthy eating habits and confirmed the value of the HBM as a foundation for understanding eating behaviours in young people (Dumitrescu et al., 2021). Similarly, the HBM has been acclaimed for its potential to predict healthy eating among adults (Febian et al., 2021).

d) Purchase Intentions and the HBM

While the HBM has been extensively applied to various health behaviors, its application to the study of purchase intentions for healthy packaged foods is relatively limited. However, some recent studies have begun to explore this area.

Front-of-package (FOP) labels on products are used by health-conscious consumers based on a number of factors, including the perceived value of a healthy diet, the frequency with which a healthy diet is consumed, the degree of media exposure, favorable attitudes towards FOP labelling reform, and the perceived advantages and significance of reading FOP labels (Shahrabani, 2021).This suggests that elements of the HBM, such as perceived benefits, may influence consumers' intentions to purchase healthy packaged foods.

The HBM emphasizes that consumers have their own choices and make suitable decisions regarding their health (Febian et al., 2021). This principle aligns with the concept of purchase intentions, as consumers' decisions to buy healthy packaged foods are ultimately a matter of personal choice, guided by their beliefs and perceptions about the benefits and barriers associated with these products.

Although the research on purchase intentions for healthy packaged foods has not made extensive use of HBM, its concepts provide an effective structure for comprehending the psychological aspects that might affect customers' choices in this situation. As the demand for healthy food options continues to grow, further research exploring the application of the HBM to this area is warranted.

2.8 Synthesis of Literature

The integration of the TPB and HBM in the context of health-conscious consumerism is crucial for understanding the factors that influence individuals' purchase intentions toward healthy packaged foods. By combining these two well-established theories, researchers can gain a more

comprehensive understanding of the psychological and cognitive factors that drive health-related behaviors, including food choices (Taylor, n.d.).

By integrating the TPB and HBM, researchers can explore a wider range of factors that influence health-conscious consumers' purchase intentions. This approach allows for a more nuanced understanding of the complex interplay between attitudes, social norms, perceived control, health beliefs, and external cues in shaping individuals' food choices (Yastica et al., 2020). Moreover, the combined model can account for a greater variance in the outcome variables, providing a more robust explanation of health-related behaviors (Ataei et al., 2021).

Several studies have demonstrated the effectiveness of integrating the TPB and HBM in predicting various health behaviors. For example, Ataei et al. (2021) examined farmers' intentions to use green pesticides using a combined TPB and HBM framework, revealing that the integrated model could better predict this behavior than either theory alone. Similarly, Yastica et al. (2020) employed an extended TPB and HBM to investigate the factors influencing preventive behaviors related to COVID-19 in Indonesia, highlighting the importance of considering both theories in understanding health-related decision-making.

Sun et al. (2006) used the TPB and HBM to predict consumers' intentions to consume iron-fortified soy sauce, demonstrating the applicability of these theories in the context of nutrition-related behaviors. The authors found that the integrated model could account for a significant portion of the variance in consumption intentions, highlighting the importance of considering both psychological and health-related factors in understanding food choices.

The integration of the TPB and HBM is particularly relevant in the current scenario of healthy packaged food consumption because it permits taking into account both the psychological elements that affect people's decision-making processes (e.g., attitudes, social norms, and perceived control) and the health-related beliefs that shape their perceptions of the importance

and feasibility of adopting healthier eating habits (e.g., perceived susceptibility, severity, benefits, and barriers). By combining these two theories, researchers can develop a more holistic understanding of the complex interplay of factors that influence health-conscious consumers' food choices and purchase intentions.

Moreover, the integration of the TPB and HBM can inform the development of more effective interventions and marketing strategies aimed at promoting healthy packaged food consumption. By identifying the key psychological and health-related factors that influence consumers' intentions and behaviors, researchers and practitioners can design targeted interventions that address the specific barriers and motivators that shape individuals' food choices. This approach can lead to more successful efforts in encouraging the adoption of healthier eating habits and ultimately contribute to improved public health outcomes.

The integration of the TPB and HBM in the context of health-conscious consumerism is crucial for understanding the complex factors that influence individuals' intentions to purchase healthy packaged foods. By combining these two well-established theories, researchers can obtain a thorough understanding of the psychological, social, and health-related determinants of food choices, leading to the creation of interventions received and marketing strategies. As the demand for healthy packaged foods continues to grow, further research exploring the integration of the TPB and HBM in this context is warranted to inform ongoing efforts to promote healthier eating habits and improve public health outcomes.

2.9 Higher-Order Constructs

Higher-order constructs, also known as second-order constructs or multidimensional constructs, are latent variables that are measured by multiple first-order constructs or dimensions (Edwards, 2001; Law et al., 1998). In other words, a higher-order construct is a broad concept that is represented by several more specific sub-constructs or factors. The use of

higher-order constructs in research offers several advantages and has been increasingly applied in various fields, including consumer behavior and health psychology (Rindskopf & Rose, 1988; Sarstedt et al., 2017).

Advantages of Higher-Order Constructs

a) Parsimony: These allow researchers to represent complex multidimensional concepts in a more parsimonious manner (Edwards, 2001). By using a single higher-order construct instead of multiple first-order constructs, researchers can simplify their models and improve their interpretability (MacKenzie et al., 2005).

b) Theoretical clarity: Higher-order constructs help to clarify the relationships between related constructs and provide a more comprehensive understanding of the phenomenon under investigation (Law et al., 1998). By organizing multiple first-order constructs under a higher-order construct, researchers can better articulate the theoretical foundations of their research (Sarstedt et al., 2019).

c) Improved measurement: Higher-order constructs can improve the measurement of complex constructs by accounting for the shared variance among the first-order constructs (Johnson et al., 2012). This approach can lead to more reliable and valid measures of the underlying concept (Rindskopf & Rose, 1988).

d) Enhanced predictive power: Higher-order constructs can exhibit greater predictive power than their first-order constructs. By capturing the common variance among the first-order constructs, higher-order constructs can provide a more comprehensive and accurate prediction of the outcome variables (MacKenzie et al., 2005).

Health Belief and Human Behavior as Higher-Order Constructs

In the present study, two higher-order constructs, Health Belief, and Human Behavior, have been developed based on the HBM and TPB, respectively.

Health Belief: The higher-order construct of Health Belief is derived from the HBM, which suggests that an individual's likelihood of engaging in a health-related behavior is determined by their perceptions of the severity and susceptibility of a health threat, the benefits of taking action, and cues to action (Rosenstock, 1974). In this study, Health Belief is conceptualized as a multidimensional construct composed of these first-order constructs, capturing the overall influence of health-related beliefs on consumers' intentions to purchase healthy packaged foods. (Mahgoub et al., 2007)

Human Behavior: The higher-order construct of Human Behavior is based on the TPB, which posits that an individual's intention to perform a behavior is influenced by their attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In the context of this study, Human Behavior represents the multidimensional nature of the factors that influence health-conscious consumers' intentions to purchase healthy packaged foods, with attitudes, subjective norms, and perceived behavioral control serving as the first-order constructs.

The use of these higher-order constructs in the present study offers several advantages. First, they provide a more parsimonious representation of the complex factors that influence health-conscious consumers' purchase intentions, simplifying the overall model and improving its interpretability. Second, by organizing the first-order constructs under the higher-order constructs of Health Belief and Human Behavior, the study clarifies the theoretical relationships between the HBM and TPB variables and their collective influence on purchase intentions. Third, by taking into consideration the shared variance between the first-order constructs, the higher-order constructs can produce measures of the underlying concepts that

are more valid and dependable. Finally, the higher-order constructs may exhibit greater predictive power than their first-order constructs, giving a more thorough grasp of the contributing variables that drive health-conscious consumers' intentions to purchase healthy packaged foods. By integrating the HBM and TPB variables under these higher-order constructs, the study aims to provide a more comprehensive and nuanced understanding of the psychological and health-related determinants of food choices, contributing to the expansion of the literature on health-conscious consumer behavior.

2.10 Research Gaps

a) Quantifying health consciousness and health-seeking behavior

Prior research has emphasised how consumer preferences and decision-making processes are shaped by health consciousness and health-seeking behaviour. Kaskutas et al. (1997) emphasized the need for more research to quantify the extent of these factors in the general population. While some studies have attempted to measure health consciousness and health-seeking behavior, there is still a lack of large-scale, representative studies that can provide reliable estimates of their prevalence and impact on consumer behavior.

The current study fills this research vacuum by examining health-seeking behaviour and health consciousness in relation to intake of healthy packaged foods. This research can offer insights into the impact of health consciousness and health-seeking behaviour in influencing health-conscious consumer behaviour by analysing the correlations between these factors and purchase intentions. Moreover, the results of this investigation can help guide future studies that measure these variables in more extensive, representative populations and investigate how they affect different health-related outcomes.

b) Role of Health Beliefs and Behaviors in Decision-Making

Previous research has recognized the crucial role of health consciousness in determining individuals' responses to health information and reliable sources of health data. Chen (2013) emphasized the importance of considering health consciousness when designing health interventions and segmenting target audiences. However, there is still a need for further research to understand how health consciousness influences the way people process and act upon different types of health information, particularly in the context of food choices and dietary behavior.

The present study contributes to addressing this research gap by examining the role of health consciousness in influencing consumers' attitudes, beliefs, and intentions toward healthy packaged foods. By investigating the relationships between health consciousness, perceived benefits, perceived barriers, and other relevant constructs, this study can provide insights into how health consciousness shapes individuals' responses to health information in the context of food choice.

c) Linking nutritional labels and actual purchasing behavior

Nutritional claims and health claims on food labels have been identified as important mechanisms for improving consumers' nutritional knowledge (Petrovici et al., 2012). However, the extent to which this knowledge translates into actual purchasing behavior remains unclear. While previous studies have examined consumer perceptions and attitudes toward nutritional labels, there is a lack of research establishing a direct link between label use and real-world purchasing decisions(Penzavecchia et al., 2022).

Petrovici et al. (2012) highlighted the need for further research to investigate the relationship between nutritional labels and actual purchasing behavior. This gap in the literature is particularly relevant given the increasing prevalence of nutritional claims and health claims on

food packaging, as well as the growing interest in using labelling strategies to promote healthier food choices.

By investigating how nutritional information affects the links between health attitudes, behaviours, and purchase intentions for healthy packaged foods, the current study fills a research vacuum in the literature. By investigating how consumers' understanding and use of nutritional information influence their decision-making processes, this study can give insights into the potential effectiveness of different labelling strategies in shaping actual purchasing behavior.

d) Healthy lifestyle consumers as a specific market segment

In the field of marketing, consumers who adopt a healthy lifestyle have been recognized as a distinct market segment with unique characteristics, preferences, and behaviors (Yap & Othman, 2010). However, there is a need for more research to completely analyse the needs and desires of this segment, as well as the most effective strategies for targeting and engaging these consumers.

Prior research has shed light on the attitudes and reasons behind consumers of healthy lifestyles, including their emphasis on wellness, interest in natural and organic products, and readiness to pay more for advantages related to their health. But, there isn’t enough comprehensive research that explores the full range of factors influencing the purchasing decisions of this segment, including their responses to different marketing stimuli, their loyalty to specific brands or products, and their engagement with various communication channels.

The current study fills this research gap by investigating the variables influencing the intentions of health-conscious customers to buy healthy packaged foods. This research can shed light on how consumers of healthy lifestyles make decisions by examining the functions of health beliefs, subjective norms, perceived behavioural control, and other pertinent factors. These

findings can inform the development of marketing strategies that effectively communicate the benefits of healthy packaged foods and encourage increased consumption among this target segment.

e) Psychological factors and environmental influences

The complex interplay between psychological factors and environmental influences in shaping health-conscious consumer behavior has been recognized as an important area of research. Previous studies have highlighted the role of personal psychological components such as motivation and self-regulation in determining food choices and dietary habits (Bandura, 1991; Baumeister, 2002). Similarly, environmental factors such as food availability, accessibility, and marketing have been identified as key influences on consumer behavior (Glanz et al., 2008; Story et al., 2008).

However, there is still a need for more research that specifically examines how these psychological and environmental factors interact to influence health-conscious consumers' decision-making processes. Some researchers have emphasized the importance of understanding these interactions to develop more effective interventions and policies that promote healthy food choices (Cannuscio et al., 2014; Giskes et al., 2007).

By investigating how health consciousness—a significant psychological component—shapes consumers' attitudes, beliefs, and intentions toward healthy packaged foods, the current study fills a research vacuum. By investigating how health consciousness interacts with other relevant constructs, such as perceived benefits, perceived barriers, and subjective norms, this study can provide insights into the complex interplay between individual-level factors and the broader social and environmental context. This study can help explain how varying degrees of knowledge and awareness can influence the way consumers navigate the complex food environment and make decisions about healthy packaged foods.

2.11 Research Questions

- What factors influence a consumer to make health-conscious purchase decisions?
- How does health consciousness influence information-seeking behavior?
- How do health beliefs and health behaviors influence the decision and consumption pattern of a health-conscious consumer?
- How do nutritional labels influence the consumer's behavior?
- What is the effect of control variables such as income, marital status, occupation, age, education, and gender on the direct relationships of the study?

2.12 Objectives of the study

1. To study the factors influencing the Purchase Intention of Healthy packaged food.
2. To study the factors influencing the use of Nutritional label of Healthy packaged food.
3. To explore the relationship between human belief, health consciousness, nutritional label, human behavior, and the purchase intention of healthy packaged food.
4. To study the mediating role of Nutritional label between Health belief, health behavior, and health consciousness towards purchase intention of healthy packaged food.
5. To examine the mediating role of health consciousness between Health belief and health behavior towards Nutritional labels of healthy packaged food
6. To understand the mediating effect of Human behavior between Health belief towards Health Consciousness and Nutritional label
7. To investigate the impact of human belief and human behavior on the purchase intention of healthy packaged food, by examining the serial mediation effects of health consciousness and nutritional label.

8. To examine the mediating role of human behavior and nutritional label in the relationship between health belief and purchase intention
9. To determine whether human behavior and health consciousness serially mediate the relationship between human belief and purchase intention through the nutritional label.

2.13 Hypotheses Development

2.13.1 Health Belief and Its Impact on Human Behavior, Nutritional Label, and Health Consciousness (H2, H5, H8, H7)

HBM is a widely accepted theoretical framework that explains and predicts health-related behaviors based on individuals' beliefs and perceptions. The framework implies that an individual's likelihood of engaging in a health-related behavior is influenced by their perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy. In the context of health-conscious consumerism and the purchase of healthy packaged foods, the HBM can provide valuable insights into the relationships between health beliefs, human behavior, nutritional label, and health consciousness.

Research has demonstrated that health beliefs play a crucial role in shaping individuals' health-related behaviors (Carpenter, 2010; C. L. Jones et al., 2015), and purchase intentions for health-related products (Geeroms et al., 2008; Vassallo et al., 2009). Consumers with strong health beliefs are more likely to engage in preventive health behaviors, like healthy eating habits, regular exercise (Dutta-Bergman, 2004; Jayanti & Burns, 1998), have positive attitudes towards healthy packaged foods, and have stronger intentions to purchase these products (Michaelidou & Hassan, 2008; Y.-H. C. Sun, 2008). Thus, we hypothesize:

H2: Health Belief has a positive effect on the Purchase Intention of healthy packaged foods.

H8: Health Belief has a positive effect on Human Behavior related to the purchase and consumption of healthy packaged foods.

Moreover, it has been discovered that consumers' use and comprehension of food product nutritional labels are influenced by their health attitudes (Campos et al., 2011; Grunert & Wills, 2007). Consumers with strong health beliefs are more likely to pay attention to and utilize the information provided on nutritional labels to make informed food choices (Drichoutis et al., 2006; Miller & Cassady, 2015). As such, we propose:

H5: Health Belief has a positive effect on the use of Nutritional Labels when making purchasing decisions about healthy packaged foods.

Health consciousness, defined as an individual's overall orientation toward health and well-being (Gould, 1990), is another important factor influencing health-related behaviors. Research has shown that health consciousness is positively associated with health beliefs and health-promoting behaviors (Iversen & Kraft, 2006; Michaelidou & Hassan, 2008). Consumers with higher levels of health consciousness are more likely to hold strong health beliefs and engage in health-protective behaviors (Mai & Hoffmann, 2012; Yadav & Pathak, 2016). Therefore, we hypothesize:

H7: Health Belief has a positive effect on Health Consciousness among consumers of healthy packaged foods.

2.13.2 Human Behavior and Its Impact on Health Consciousness, Nutritional Label, and Purchase Intention (H9, H4, H1)

Human behavior plays a crucial role in shaping individuals' health-related decisions and actions (Norman & Conner, 2005). The Theory of Planned Behavior (TPB) posits that an individual's behavior is determined by their intentions, which are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Promoting healthier food choices requires an understanding of the linkages between human behaviour, health consciousness, nutritional

label, and purchasing intention in the context of health-conscious consumerism and the purchase of healthy packaged goods.

Research has demonstrated that health-related behaviors, such as healthy eating habits and regular exercise, are positively associated with health consciousness (Dutta-Bergman, 2004; Michaelidou & Hassan, 2008). Individuals who indulge in health-promoting behaviors are likely to be aware of and concerned about their overall health and well-being (Mai & Hoffmann, 2012; Yadav & Pathak, 2016). As such, we hypothesize:

H9: Human Behavior has a positive effect on Health Consciousness among consumers of healthy packaged foods.

Furthermore, human behavior has been found to influence consumers' use and understanding of nutritional labels on food products (Campos et al., 2011; Grunert & Wills, 2007). Consumers who engage in health-promoting behaviors are more likely to pay attention to and utilize the information provided on nutritional labels to make informed food choices (Drichoutis et al., 2006; Miller & Cassady, 2015). Therefore, we propose:

H4: Human Behavior has a positive effect on the use of Nutritional Labels when making purchasing decisions about healthy packaged foods.

Purchase intention is defined as an individual's conscious plan to make an effort to purchase a product (Spears & Singh, 2004), is a key predictor of actual purchasing behavior. Research has shown that health-related behaviors and attitudes are positively associated with purchase intentions for healthy food products (Rana & Paul, 2020). Consumers who engage in health-promoting behaviors are more likely to have stronger intentions to purchase healthy packaged foods that align with their health goals (Michaelidou & Hassan, 2008; Y.-H. C. Sun, 2008). Thus, we hypothesize:

H1: Human Behavior has a positive effect on the Purchase Intention of healthy packaged foods.

2.13.3 Health Consciousness and Its Impact on Nutritional Label and Purchase Intention (H6)

Health consciousness refers to an individual's overall orientation towards health and well-being, which influences their health-related decisions and behaviors (Gould, 1988; Michaelidou & Hassan, 2008). Gaining insight into the connections between health consciousness, purchase intention, and nutritional label is essential for encouraging healthier food choices in the context of health-conscious consumerism and the purchase of packaged goods.

Research has demonstrated that health consciousness is positively associated with the use and understanding of nutritional labels on food products (Campos et al., 2011; Drichoutis et al., 2006). Health-conscious consumers are more likely to seek out and utilize the information provided on nutritional labels to make informed food choices that align with their health goals (Grunert & Wills, 2007; Miller & Cassady, 2015). As such, we hypothesize:

H6: Health Consciousness has a positive effect on the use of Nutritional Labels when making purchasing decisions about healthy packaged foods.

2.13.4 Nutritional Label and Its Impact on Purchase Intention(H3)

Nutritional labels on food products provide consumers with essential information about the nutrient content, serving sizes, and other health-related aspects of the food they consume (Campos et al., 2011). In the context of health-conscious consumerism and the purchase of healthy packaged foods, understanding the relationship between nutritional label and purchase intention is crucial for promoting healthier food choices.

Research has demonstrated that the use of nutritional labels is positively associated with purchase intentions for healthy food products (Drichoutis et al., 2006; Grunert & Wills, 2007). Consumers who pay attention to and utilize the information provided on nutritional labels are

more likely to have stronger intentions to purchase healthy packaged foods that align with their health goals (Campos et al., 2011; Miller & Cassady, 2015). This relationship can be attributed to the fact that nutritional labels enable consumers to make informed decisions about the healthfulness of food products, which in turn influences their purchasing behavior (Cowburn & Stockley, 2005; Mhurchu & Gorton, 2007). As such, we hypothesize:

H3: Nutritional Label has a positive effect on the Purchase Intention of healthy packaged foods.

A number of variables, including customer knowledge, motivation, and the label's layout, may have an impact on how nutritional labels affect consumers' intentions to make purchases (Grunert et al., 2010; Hersey et al., 2013). For example, consumers with higher levels of nutrition knowledge may be more likely to use and understand nutritional labels, leading to stronger purchase intentions for healthy foods (Miller & Cassady, 2015). Additionally, the format and design of nutritional labels can affect their effectiveness in communicating health information and influencing consumer behavior (Campos et al., 2011; Graham et al., 2012). Therefore, when analysing the relationship between nutritional label and purchasing intention, these aspects must be taken into account.

2.13.5 The Mediating Role of Nutritional Labels in the Relationship between Health Belief, Human Behavior, and Purchase Intention (H10, H11)

The success of the healthy packaged food market is critically dependent on consumers' use and understanding of nutritional labels. Nutritional labels are a crucial factor that influences consumers' purchase intention, and they serve as a reliable antecedent of purchase intention in the context of healthy food choices (Campos et al., 2011; Grunert & Wills, 2007; Miller & Cassady, 2015). The market for healthy packaged foods may struggle if nutritional labels aren't present or aren't used effectively since consumers can be reluctant to make educated food

choices. A lack of nutritional information acts as a restraining factor for consumers to engage in healthy food purchases (Drichoutis et al., 2006; Mhurchu & Gorton, 2007).

Previous research has shown that health belief and human behavior can have a direct impact on a consumer's intention to purchase healthy packaged food (Y.-H. C. Sun, 2008; Tudoran et al., 2009). Studies have found that health belief and human behavior can influence a consumer's purchase intention directly (Rana & Paul, 2020; Yazdanpanah & Forouzani, 2015). However, other studies have found that health belief and human behavior can lead to the use of nutritional labels, which in turn can influence a consumer's intention to make a healthy food purchase (Cooke & Papadaki, 2014). According to these studies, nutritional labels function as a vital mediator in the connection between health belief, human behavior, and the intention to purchase healthy packaged food. Strong health values and health-promoting behaviours increase the likelihood that customers will use nutritional labels and, consequently, be more likely to buy HPF.

The healthy packaged food industry must ensure that nutritional labels are clear, accurate, and easily accessible to consumers. Trust in the information provided by nutritional labels can be built by ensuring that the labels are consistent with regulatory guidelines and by providing transparent information about the product's nutritional content (Hieke & Taylor, 2012). Additionally, by educating consumers on how to effectively use and interpret nutritional labels, the healthy packaged food industry can increase the degree of trust established with its customers, which can ultimately result in a heightened intention to purchase healthy food products and the overall success of the industry (Soederberg Miller & Cassady, 2012).

Therefore, it is hypothesized that the relationship between health belief, human behavior, and consumer purchase intention for healthy packaged food is mediated by the use of nutritional labels.

H10: The relationship between health belief and consumer purchase intention for healthy packaged food is mediated by the use of nutritional labels.

H11: The relationship between human behavior and consumer purchase intention for healthy packaged food is mediated by the use of nutritional labels.

2.13.6 The Mediating Role of Health Consciousness in the Relationship between Health Belief, Human Behavior, and Nutritional Label (H12, H13)

Health consciousness plays a crucial role in the relationship between health belief, human behavior, and the use of nutritional labels. Health consciousness refers to an individual's overall orientation towards health and the extent to which they integrate health concerns into their daily lives (Gould, 1988; Jayanti & Burns, 1998). Consumers with higher levels of health consciousness are more likely to actively seek out health-related information, such as nutritional labels, to make informed decisions about their food choices (Dutta-Bergman, 2004; Mai & Hoffmann, 2012).

Previous research has shown that health belief and human behavior can have a direct impact on an individual's use of nutritional labels (Grunert & Wills, 2007; Miller & Cassady, 2015). Studies like Hess et al. (2012) and Visschers et al. (2010) have found that health belief and human behavior can influence the use of nutritional labels directly. However, there are other studies like Dutta (2004) and Chen (2013) that have found that health belief and human behavior can lead to increased health consciousness, which in turn can influence an individual's use of nutritional labels. According to these studies, health consciousness functions as a vital mediator in the connection between health belief, human behavior, and the use of nutritional labels. When consumers have strong health beliefs and engage in health-promoting behaviors, they are more likely to be health-conscious and, as a result, be more inclined to use nutritional labels when making food choices.

It is crucial for health promotion initiatives to focus on increasing health consciousness among consumers, as this can lead to a greater engagement with nutritional labels and healthier food choices (Gould, 1990; Kraft & Goodell, 1993). By promoting the importance of a healthy lifestyle and providing education on the benefits of using nutritional labels, health promotion programs can increase the level of health consciousness among consumers, which can ultimately result in a heightened use of nutritional labels and improved dietary habits (Moorman & Matulich, 1993).

Thus, it is proposed that health consciousness acts as a mediator in the interaction between human behaviour, health beliefs, and the usage of nutritional labels.

H12: The relationship between health belief and the use of nutritional labels is mediated by health consciousness.

H13: The relationship between human behavior and the use of nutritional labels is mediated by health consciousness.

2.13.7 The Mediating Role of Human Behavior in the Relationship between Health Belief, Health Consciousness, and Nutritional Label (H14, H15)

Human behavior plays a vital role in the relationship between health belief, health consciousness, and the use of nutritional labels. Health-related behaviors, such as reading nutritional labels, are influenced by an individual's beliefs and attitudes toward health (Conner & Norman, 2005; Glanz et al., 2008). HBM and TPB suggest that an individual's health beliefs and health consciousness can shape their behavior, which in turn can influence their engagement with health-promoting activities, such as using nutritional labels.

Previous research has shown that health belief and health consciousness can have a direct impact on an individual's use of nutritional labels (Campos et al., 2011; Grunert & Wills, 2007). Studies like Drichoutis et al. (2005) and Petrovici et al. (2012) have found that health belief

and health consciousness can influence the use of nutritional labels directly. However, other studies have found that health belief and health consciousness can lead to changes in human behavior, which in turn can influence an individual's use of nutritional labels (Barreiro-Hurlé et al., 2010; Cooke & Papadaki, 2014). According to these studies, human behavior functions as a vital mediator in the connection between health belief, health consciousness, and the use of nutritional labels. When consumers have strong health beliefs and are health-conscious, they are more likely to engage in health-promoting behaviors and, as a result, be more inclined to use nutritional labels when making food choices.

Health educators and policymakers need to focus on promoting health-conscious behaviors among consumers, as this can lead to a greater engagement with nutritional labels and healthier food choices (Cowburn & Stockley, 2005; Hawkes et al., 2015). By encouraging individuals to adopt healthy lifestyle behaviors and providing education on the importance of using nutritional labels, interventions can increase the frequency of health-promoting behaviors, which can ultimately result in a heightened use of nutritional labels and improved dietary habits (Satia et al., 2005).

Therefore, it is hypothesized that the relationship between health belief, health consciousness, and the use of nutritional labels is mediated by human behavior.

H14: The relationship between health belief and the use of nutritional labels is mediated by human behavior.

H15: The relationship between health consciousness and the use of nutritional labels is mediated by human behavior.

2.13.8 Serial Mediation: The Role of Health Consciousness and Nutritional Label in the Relationship between Human Behavior, Health Belief, and Purchase Intention (H16, H17)

Serial mediation occurs when the relationship between an independent variable and a dependent variable is mediated by two or more variables sequentially (Hayes, 2017). Previous research has shown that human behavior and health belief can influence purchase intention for healthy packaged foods. For example, individuals who engage in health-promoting behaviors are more likely to be health-conscious (Michaelidou & Hassan, 2008) and, consequently, more inclined to use nutritional labels when making food choices (Drichoutis et al., 2006). The use of nutritional labels can then lead to a higher intention to purchase healthy packaged foods (Campos et al., 2011). Similarly, individuals with strong health beliefs are more likely to be health-conscious (Gould, 1990) and engage with nutritional labels (Miller & Cassady, 2015), which can subsequently influence their intention to purchase healthy packaged foods (Cowburn & Stockley, 2005).

These findings suggest that health consciousness and nutritional label may function as serial mediators in the relationship between human behavior, health belief, and purchase intention for healthy packaged foods.

H16: Health consciousness and nutritional label serially mediate the relationship between human behavior and purchase intention for healthy packaged foods.

H17: Health consciousness and nutritional label serially mediate the relationship between health belief and purchase intention for healthy packaged foods.

2.13.9 Serial Mediation: The Role of Human Behavior and Nutritional Label in the Relationship between Health Belief and Purchase Intention (H18)

Research has also demonstrated that health beliefs can shape an individual's health-related behaviors (Conner & Norman, 2005), which in turn can influence their use of nutritional labels

(Barreiro-Hurlé et al., 2010). The increased engagement with nutritional labels can then lead to a higher intention to purchase healthy packaged foods (Grunert & Wills, 2007).

This suggests that human behavior and nutritional label may function as serial mediators in the relationship between health belief and purchase intention for healthy packaged foods.

H18: Human behavior and nutritional label serially mediate the relationship between health belief and purchase intention for healthy packaged foods.

2.13.10 Serial Mediation: The Role of Human Behavior, Health Consciousness, and Nutritional Label in the Relationship between Health Belief and Purchase Intention(H19)

Furthermore, research has shown that health beliefs can influence health-related behaviors (Rosenstock, 1974), which can lead to increased health consciousness (Kraft & Goodell, 1993). Higher levels of health consciousness can then promote the use of nutritional labels (Dutta-Bergman, 2004), ultimately influencing the intention to purchase healthy packaged foods (Mhurchu & Gorton, 2007).

This suggests that human behavior, health consciousness, and nutritional label may function as serial mediators in the relationship between health belief and purchase intention for healthy packaged foods.

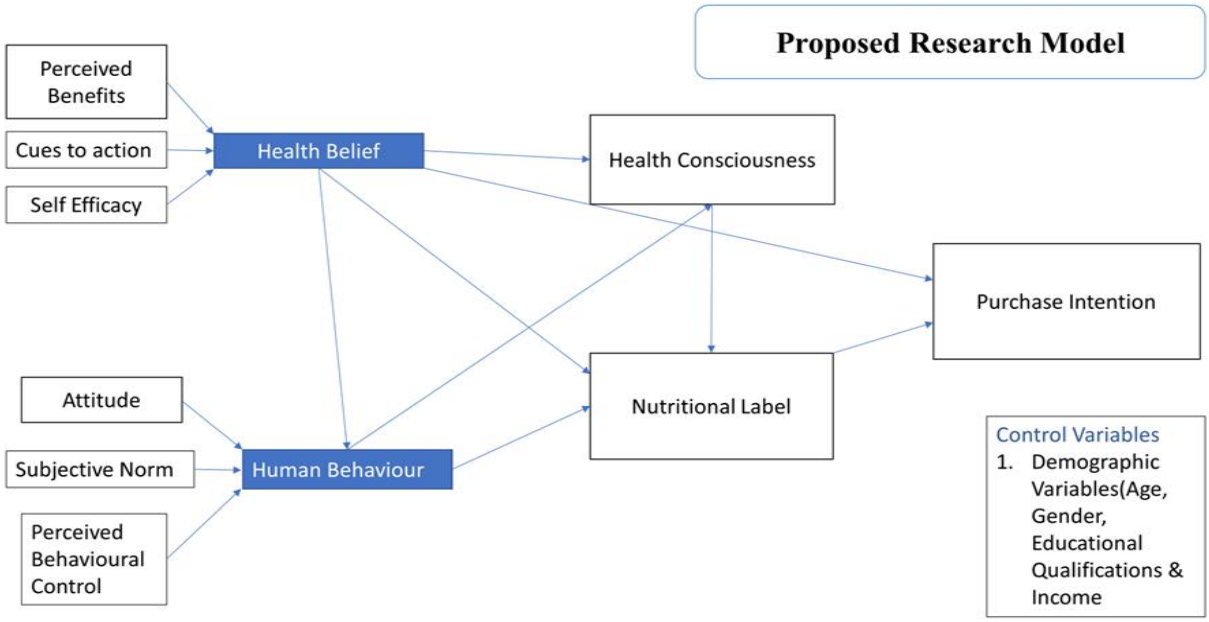
H19: Human behavior, health consciousness, and nutritional label serially mediate the relationship between health belief and purchase intention for healthy packaged foods.

The serial mediation models proposed in H16, H17, H18, and H19 highlight the complex interplay between health beliefs, human behavior, health consciousness, nutritional label, and purchase intention in the context of healthy packaged foods. Researchers can better grasp the variables influencing health-conscious consumers' decision-making processes by looking at these interactions.

2.14 Proposed Model

The goal of this study's proposed model is to examine the intricate connections that exist between human behaviour, health consciousness, nutritional labels, and buying intentions when it comes to packaged foods that are considered healthy. The hypotheses suggest that health belief and human behavior are positively associated with purchase intention, and this relationship is mediated by the use of nutritional labels. Moreover, it is suggested that health consciousness mediates the interaction among human behaviour, health beliefs, and nutritional label. The model also examines the serial mediation effects of health consciousness and nutritional label on the relationship between human behavior, health belief, and purchase intention. Additionally, it explores the serial mediation of human behavior and nutritional label on the relationship between health belief and purchase intention, as well as the serial mediation of human behavior, health consciousness, and nutritional label on the relationship between health belief and purchase intention. The visual representation of these intricate relationships is illustrated in the proposed model presented in Figure 2.1

Figure 2.1: *Proposed Research Model*



2.15 Summary

The literature study offers a comprehensive analysis of the variables impacting Indian consumers' intentions to purchase healthy packaged goods and their health-conscious consumerism. The chapter highlights the growing demand for HPF products and the importance of understanding the psychological and cognitive factors that drive health-related behaviors. The integration of the theories of TPB and HBM offers a robust framework for investigating the relationships between health beliefs, human behavior, health consciousness, nutritional label, and purchase intention. The chapter points out many research gaps, including the need to study consumers who lead healthy lifestyles as a particular market segment, the importance of health beliefs and behaviours in decision-making, the quantification of health consciousness and health-seeking behaviour, and the connection between nutritional labels and actual purchasing behaviour. The proposed model and hypotheses aim to address these gaps and provide valuable insights into the complex interplay of factors influencing health-conscious consumer decision-making processes in the case of healthy packaged foods.

Chapter 3 Research Methodology

Chapter 3 Research Methodology

3.1 Overview

This chapter outlines the research methods used in this study, which looks into Indian consumers' purchasing intentions and behavior towards healthy packaged foods. The following sections outline the research design, target population, sampling technique, data collection methods, and data analysis techniques used to ensure reliable and valid findings.

The study adopts a cross-sectional and descriptive approach, targeting individuals aged 18 and above who actively consume healthy packaged food. Purposive sampling is used to obtain a representative sample, and data is collected through a structured online questionnaire using a five-point Likert scale. The collected data is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to explore the complex relationships between multiple variables.

The research aims to provide actionable insights for stakeholders in the food industry and public health sectors, enabling businesses to better understand and cater to customers' needs, and assisting policymakers in developing effective health-centric policies that encourage healthier food choices.

3.2 Research Design

This study employs a carefully crafted research design that combines a cross-sectional and descriptive approach to acquire a thorough understanding of the behaviour of customers and purchase intentions towards healthy packaged food in India. The cross-sectional design allows for the examination of consumer preferences and behaviors at a specific point in time, providing a snapshot of the current market scenario. The study focuses on people who actively eat healthy packaged food over the age of 18, to ensure the validity and applicability of the findings. By focusing on this specific consumer segment, the research aims to obtain insights

that are directly aligned with the study's objectives. This targeted approach enables a deeper exploration of the intricacies of consumer behavior and purchase intentions within the context of healthy packaged food.

Purposive sampling is employed to select participants who meet the predetermined criteria. To guarantee that the sample accurately reflects the broader target population, this sampling strategy entails the purposeful selection of people who have the required traits and experiences. By handpicking participants who are consumers of healthy packaged food, the study strives to capture a diverse range of perspectives and opinions related to the research topic.

Data collection is conducted using a structured questionnaire administered through an online platform. The questionnaire comprises 40 carefully designed measurement scale items that gauge participants' perceptions and attitudes toward various aspects of healthy packaged food consumption. The five-point Likert scale, ranging from "strongly disagree" to "strongly agree," is utilized to capture the nuances of participants' opinions and preferences. This structured approach enables the quantitative assessment of the variables influencing consumer behavior and purchase intentions.

Partial Least Squares Structural Equation Modelling (PLS-SEM) is used to analyse the data that has been gathered. PLS-SEM is a potent statistical method that makes it possible to analyse intricate correlations between several variables. By utilizing PLS-SEM, the study aims to validate the relationships identified in the research model and gain a deeper understanding of the factors that shape consumer behavior and purchase intentions toward healthy packaged food. This analysis provides a comprehensive assessment of the interdependencies among the various constructs in the study.

While the research design offers several strengths, it is important to acknowledge its limitations and considerations. As a cross-sectional study, the findings reveal associations between

variables rather than causal relationships. The results should be interpreted within the specific time frame of the study, recognizing that consumer preferences and behaviors may evolve over time. Furthermore, because participants in purposive sampling are chosen according to predetermined standards, bias may also be introduced to some extent. These limitations are taken into account when interpreting the findings and considering their applicability to other contexts.

Meticulous planning and execution have been done to guarantee the study's validity, reliability, and ethical integrity. A thorough literature analysis was carried out to guide the creation of the research framework and questionnaire. The inclusion of a diverse range of participants through purposive sampling enhances the generalizability of the findings. Informed consent is obtained from all participants, respecting their rights and privacy throughout the research process. The study design undergoes rigorous review and approval by the appropriate ethical review board to ensure compliance with ethical guidelines and principles.

3.3 Population and Sample

The study's target demographic consists of Indian adults over the age of eighteen who purchase nutritious packaged foods. These individuals actively make choices regarding their food consumption and possess valuable experiences and knowledge related to healthy packaged food products. It is essential to concentrate on this particular population segment to obtain significant insights into customer behaviour and purchasing intentions.

Given the practical limitations of studying the entire population, a representative sample is selected to provide a manageable dataset for analysis. The sample selection process is guided by predefined criteria to ensure that the participants accurately reflect the characteristics of the target population. A wide diversity of viewpoints and experiences are captured by accounting for factors including age, gender, level of education, and geographical area. This approach

enhances the generalizability of the findings and provides a comprehensive understanding of consumer behavior and purchase intentions across different segments of the population.

3.4 Sampling Technique

Purposive sampling, a non-probability sampling technique, is employed in this study to choose participants who qualify for specific criteria relevant to the research objectives. By using this method, it is possible to deliberately choose people who have the required traits and experiences, guaranteeing that the sample is representative of the intended audience.

The selection criteria for this study include being above the age of 18 and being a regular consumer of healthy packaged food in India. The study intends to collect data that is most pertinent to the research issue and offers insightful information on the particular context of health-conscious consumerism by focusing on individuals who fit these criteria.

One of the key advantages of purposive sampling is that it enables the selection of information-rich cases, which are particularly informative and relevant to the research questions. Moreover, purposive sampling allows for the consideration of diversity within the sample, ensuring that various demographic backgrounds are represented.

3.5 Sample Size

Determining an appropriate sample size is crucial for ensuring the reliability and generalizability of the study's findings. The sample size should be large enough to provide sufficient statistical power for detecting meaningful relationships and drawing reliable conclusions, while also taking into account the practical constraints of data collection.

Several considerations, such as the required level of statistical power, the complexity of the research model, and suggestions from pertinent literature, are taken into consideration when determining the sample size for this study. Empirical literature on health consciousness,

purchase intention, and nutritional label suggests a range of sample sizes, varying from 250 to 1000 participants (Bazzani et al., 2019; Ling et al., 2004). Considering the complexity of the research model and the use of Structural Equation Modeling (SEM), a minimum sample size of 200 is recommended (Kelloway, 1998; Kline, n.d.).

To complete this survey, 657 responses in total were gathered based on the above criteria. After data cleaning and removal of incomplete or invalid responses, 554 usable samples remained for analysis. This sample size exceeds the minimum recommended for SEM analysis and is in line with the suggestions from the literature. The final sample size of 554 participants strikes a balance between the recommendations from the literature and the practical constraints of data collection.

3.6 Data Collection Technique

The data collection technique employed in this study involves the use of a structured questionnaire administered through an online platform. This approach offers several advantages, including efficiency, accessibility, and the ability to reach a diverse range of participants.

The questionnaire is carefully designed to access the constructs identified in the research model. The development of the questionnaire items is based on established scales and previous research in the field, ensuring their accuracy and relevance. The online platform serves as an ideal medium for data collection due to its convenience and widespread usage. Participants can access the questionnaire at their own pace and from any location with internet access.

To recruit participants, various channels are utilized, including social media platforms, email invitations, and online forums related to health-conscious consumerism. A brief explanation of the research goal and an estimate of the time commitment needed is included in the invitation to participate in the study. The invitation also highlights the significance of the participants'

contributions. Assurances of confidentiality and anonymity are provided to encourage honest and open responses from the participants.

Data collection is conducted over a specified period to ensure consistency and minimize potential confounding factors. To enhance the quality of the collected data, a pilot test is conducted with a small group of individuals who represent the target population. This pilot testing allows for the identification and rectification of any ambiguities, redundancies, or issues with the questionnaire items and instructions.

Throughout the data collection process, regular monitoring and quality checks are performed to identify any missing or inconsistent responses. To ensure data integrity, responses that are deemed incomplete or invalid are eliminated from the dataset. Additionally, data cleaning techniques, such as checking for outliers and ensuring data integrity, are employed to ensure the accuracy of the collected information.

Ethical considerations are given utmost importance during the data collection process Participants are made aware of the voluntary nature of their involvement and their unrestricted ability to discontinue the study at any moment. Informed consent is obtained from all participants, and their privacy and anonymity are protected. The rights and welfare of the participants are protected because the study is carried out under ethical standards and laws. Institutional ethics committee, University of Hyderabad decision letter has been obtained for data collection.

3.7 Participants

The participants in this study are individuals above the age of 18 who are consumers of healthy packaged food. They represent the target population of interest, as they actively make choices regarding their food consumption and have experience with and knowledge of healthy packaged food products.

A variety of demographic representations of participants, including age, gender, educational attainment, and place of residence, are sought after. This diversity is important to capture a wide range of perspectives and experiences related to health-conscious consumerism and purchase intentions toward healthy packaged food.

Participant recruitment is done using a variety of methods, including online forums, email invitations, and social networking sites. The study's purpose and objectives are communicated to potential participants, along with assurances of confidentiality and anonymity. Participants of the study are made aware of their freedom to leave at any moment without facing repercussions and that their participation is entirely voluntary.

A total of 657 individuals responded to the invitation and completed the questionnaire. However, after data cleaning procedures, which involve removing incomplete or invalid responses, 554 usable responses remain for analysis. This sample size is considered sufficient to draw meaningful conclusions and obtain reliable results based on the statistical power analysis and recommendations from the literature.

The participation of these individuals is essential for understanding the variables impacting consumer decisions in the context of health-conscious consumerism. Their contributions help to uncover important insights that can inform strategies for businesses in the food industry and guide the development of effective public health interventions.

3.8 Measurement of Constructs

Once the sample design and size are established, the next critical task is to develop the instrument for gathering data (Sekaran & Bougie, 2016; Zikmund, n.d.). The quality of the research hinges on the quality of the collected data. Therefore, selecting the appropriate instrument is extremely important. While surveys are a common approach to meeting research goals, designing and choosing a suitable survey instrument is a complex process that is widely

acknowledged. The instrument should connect to the research questions and provide accurate results. Creating a precise and suitable tool to meet the goals of the study and address the research questions is an essential yet challenging part of survey methodology. The instrument must be capable of evaluating what needs assessment and how that assessment should occur.

The constructs employed in this study were latent variables that were measured using multiple indicator statements. To measure these constructs, we adopted well-established scales developed by previous researchers. These scales have demonstrated reliability and validity in previous studies, making them suitable for assessing the latent constructs in our proposed research. By using established measurement scales, we aim to ensure the reliability and correctness of the data collection process and facilitate meaningful analysis and interpretation of the results.

The survey questionnaire contained items related to the following constructs - nutritional label, attitude, subjective norm, perceived behavioral control, health consciousness, perceived benefits, perceived self-efficacy, cues to action, and purchase intention. Questions 11-16 captured nutritional label. Questions 17-20 measured attitude, while questions 21-24 assessed subjective norm. Perceived behavioral control was measured through questions 25-27. Questions 28-33 gauged health consciousness. Perceived benefits were captured in questions 34-36, and Questions 37-39 measured perceived self-efficacy. Cues to action were evaluated via questions 40-43, and finally, purchase intention was measured through questions 44-48 in the survey. Basic demographic information was also gathered to understand sample characteristics. This multi-item scale measurement allowed a comprehensive assessment of the various latent constructs pertinent to the study objectives.

Variables of the Study and Scales adopted:

a) Nutritional Label

Nutritional label was assessed using a multidimensional scale adapted from Xazela et al. (2019). The 6-item scale was originally developed to assess nutritional label use behaviors among young consumers in South Africa. It encompasses various facets of label use including preference, attention, and influence on purchase decisions. The scale consists of 6 statements gauging consumers' nutritional label reading and usage habits. The survey questions 11–16 were used to evaluate this construct. With a Cronbach's alpha of 0.84 the modified scale demonstrated good reliability. This multidimensional scale offered valuable insights into the various aspects of nutritional label use among health-conscious consumers in India.

b) Attitude

Attitude was measured using a 4-item semantic differential scale adapted from Varah et al. (2021). This scale aims to assess consumers' attitudes towards different aspects of healthy packaged foods, such as their overall evaluation, health benefits, nutritional information provision, and convenience value. The scale demonstrated good internal consistency with a Cronbach's alpha of 0.79. The scale provided insights into consumers' attitudes and predispositions towards purchasing healthy packaged products.

c) Cues to Action

Cues to action were measured through a 4-item scale adapted from Saunders et al. (2013). This multidimensional scale encompassed various factors that can prompt consumers to purchase healthy foods like media influences, packaging, and availability. With a Cronbach's alpha of 0.86, the scale demonstrated strong dependability. The survey questions 40–43 were used to evaluate this construct. The scale offered an understanding of different cues influencing healthy food purchase intentions.

d) Health Consciousness

Health consciousness was gauged through a 6-item scale adapted from Michaelidou and Hassan (2008). Using various statements, this scale evaluated consumers' health awareness, concern, and orientation Higher scores indicated greater health consciousness and orientation among the respondents. The adapted 6-item scale exhibited good reliability with a Cronbach's alpha of 0.83 in this study. Questions 28-33 in the survey questionnaire measured this construct. The scale provided meaningful insights into consumers' health-consciousness levels and its impact on their food selections and habits.

e) Perceived Behavioral Control

Perceived behavioral control was assessed through a 3-item scale adapted from Carfora et al. (2021). This scale aims to evaluate the extent to which consumers perceive that purchasing healthy packaged food is within their control in terms of affordability, accessibility, knowledge, and opportunities. The scale exhibited acceptable reliability with a Cronbach's alpha of 0.74. The scale offered an understanding of perceived barriers and facilitators for healthy food purchases.

f) Perceived Benefits

Perceived benefits were evaluated through a 3-item scale adapted from Ataei et al. (2021). This scale gauged consumers' perceptions regarding the advantages of healthy packaged foods in domains like health, safety, quality, etc. The adapted scale showed high reliability ($\alpha = 0.87$). Questions 34-36 measured this construct. The scale provided insights into the value consumers associate with healthy packaged products.

g) Perceived Self-Efficacy

Perceived self-efficacy was measured using a 3-item scale adapted from Zafar et al. (2021) and Ataei et al. (2021). This scale assessed consumers' perceived ability to select and purchase healthy packaged foods proactively. The adapted scale demonstrated acceptable reliability ($\alpha = 0.71$). Questions 37-39 measured this construct. The scale offered an understanding of consumers' confidence in their skills and capacities to choose healthy foods.

h) Purchase Intention

Purchase intention was measured through a 5-item scale adapted from Zafar et al. (2021). This scale gauged consumers' willingness and plans to purchase healthy packaged foods in the future. The adapted scale exhibited good reliability ($\alpha = 0.82$). Questions 44-48 assessed this construct. The scale provided insights into consumers' intentions and motivations to purchase healthy packaged products.

i) Subjective Norm

The subjective norm was assessed using a 3-item scale adapted from Liobikienė et al. (2021). This scale measured the social influences on consumers' healthy food purchase intentions in terms of opinions of peers, family, etc. The adapted scale showed good reliability ($\alpha = 0.81$). Questions 21-24 measured this construct. The scale explained normative social pressures on consumers' healthy food choices.

These scales are selected based on their relevance to the research objectives, their proven psychometric properties, and their suitability for the target population. Table 3.1 gives a snapshot of all the variables and their adopted scales. By employing well-established and validated scales, this study aims to capture the constructs of interest accurately and reliably, enabling meaningful insights into consumer behavior and purchase intentions toward healthy packaged food.

Table 3.1 *Survey Instrument Details*

Variables	Adopted scales	No of Items
Attitude	Varah et al., 2021	4
Subjective Norm	Liobikienė et al., 2021	3
Perceived behavioural control	Carfora et al., 2021	3
Nutritional Label	Xazela et al., 2019	6
Purchase Intention	Zafar et al., 2021	5
Perceives benefits	Ataei et al., 2021	3
Perceived self-efficacy	Zafar et al., 2021	3
Cues to action	Saunders et al., 2013	4
Health Consciousness	Michaelidou & Hassan, 2008	6

3.9 Data Analysis Approach

Structural equation modeling (SEM) is a powerful statistical technique that enables researchers to analyze relationships between one or more independent latent variables and one or more dependent latent variables (Gefen et al., 2000). SEM integrates multiple multivariate techniques including regression analysis, path analysis, factor analysis, canonical correlation, and growth modeling (Urbach & Ahlemann, 2010). Compared to other statistical methods, SEM has several key advantages. First, it can assess the overall model fit and test the full structural model (Chin, 1998; Gefen et al., 2000). Second, SEM allows evaluating connections between a construct and its measures while giving researchers the flexibility to examine the interplay between theory and data (Chin, 1998).

Additionally, SEM enables researchers to construct unobservable latent variables, model relationships between multiple predictors and outcomes, incorporate measurement errors for observed variables, and statistically test a priori theoretical and measurement assumptions against empirical data (Chin, 1998). Furthermore, using partial least squares (PLS) within SEM

avoids many constraints of maximum likelihood (ML) methods, preventing inappropriate solutions and factor indeterminacy (Fornell & Bookstein, 1982).

3.10 Why Partial Least Square (PLS)

As a research scholar, it is vital to understand the assumptions behind statistical methods to make informed decisions about which techniques to use. The choice between confirmatory-based structural equation modeling (CB-SEM) or partial least squares structural equation modeling (PLS-SEM) may depend on factors like research goals, measurement model specifications, structural model, data characteristics, and model evaluation (Hair, 2011). Hair et al. (2011) provide various rules of thumb to guide selection between PLS-SEM and CB-SEM. Based on this study's research objectives, measurement model specifications, structural model, data characteristics, and model evaluation, PLS-SEM was determined to be suitable.

Partial least squares (PLS) is a multivariate statistical approach developed by Herman Wold in the 1970s, extending principal component analysis and canonical correlation. It explores relationships between variable sets. “The PLS method comprises two primary models - the measurement model and the structural model. The measurement model also called the outer model, defines connections between the latent and manifest variables (items)”. The structural model, known as the inner model, outlines relationships between the latent variables and their associated manifest variables(Henseler et al., 2012).

The PLS algorithm involves a sequence of regressions using weight vectors. The process has several key stages. First, weight vectors are derived based on covariance between latent and manifest variables. Second, scores are computed using the estimated weights, signifying each latent variable's contribution to the manifest variables. Third, the structural model is estimated per the scores and weights, predicting latent/manifest variable relationships. Finally, the model is validated via techniques like cross-validation and bootstrapping.

3.11 Data Analysis Process

This study's data analysis methodology was carefully created to test the suggested research model and investigate the connections between the components of interest. The analysis uses descriptive statistics, structural equation modeling (SEM), and partial least squares (PLS) techniques. The approach is divided into two main phases: preliminary data analysis and evaluation of the structural model.

Phase 1: Preliminary Data Analysis

The preliminary data analysis phase begins with data cleaning and preparation. This involves scrutinizing the collected data for completeness, consistency, and accuracy. Any incomplete or invalid responses are identified and removed from the dataset to ensure data integrity. Descriptive statistical analyses are then conducted to summarize the demographic characteristics of the participants and provide an overview of the survey responses. This phase also includes an initial examination of the data to identify any outliers or anomalies that may require further investigation.

Several tests are carried out during the preliminary data analysis phase to assess the suitability of the data for further analysis. These tests include normality assessments, checks for response bias, and evaluations of common method bias. Normality tests are conducted to determine whether the data follows a normal distribution, which is an assumption underlying many statistical techniques. Response bias is examined to identify any systematic differences between early and late respondents, ensuring that the sample is representative of the target population. Common method bias is assessed to rule out any potential biases arising from the measurement method used in the study.

Phase 2: Evaluation of the Structural Model

The second phase focuses on evaluating the structural model and testing the hypothesized relationships between the constructs. This phase adopts a two-step approach, starting with the assessment of the measurement model, followed by the examination of the structural model.

The measurement model assessment involves conducting psychometric tests for each construct to evaluate their reliability and validity. Reliability refers to the consistency and stability of the measurements, while validity assesses whether the scales measure what they are intended to measure. The reliability of the constructs is evaluated using indicators such as Cronbach's alpha and composite reliability. Convergent validity, which assesses the extent to which the items of a construct are related, is examined using average variance extracted (AVE). HTMT and the Fornell-Larcker criterion are two examples of measures used to evaluate discriminant validity, which verifies that the constructs are distinct from one another.

Once the measurement model is validated, the structural model is evaluated to test the hypothesized relationships between the constructs. This is done using partial least squares structural equation modeling (PLS-SEM), a powerful statistical technique that allows for the simultaneous examination of multiple relationships. Given its versatility in handling intricate models with multiple constructs and its resilience to deviations from normalcy, PLS-SEM is especially well-suited for this research.

The structural model is assessed by examining the path coefficients, which represent the strength and direction of the relationships between the constructs. The significance of the path coefficients is determined using bootstrapping, a resampling technique that generates a large number of subsamples to estimate the stability and precision of the estimates. The bootstrapping procedure provides t-values and p-values for each path coefficient, allowing for the assessment of their statistical significance.

In addition to the path coefficients, the structural model is evaluated based on several other criteria. The coefficient of determination (R^2) is examined to assess the predictive power of the model, indicating the amount of variance in the dependent variables explained by the independent variables. The effect size (f^2) is calculated to determine the impact of each independent variable on the dependent variable. The model's predictive relevance (Q^2) is assessed using the blindfolding procedure, which omits a portion of the data and predicts the omitted values based on the remaining data.

3.12 Software and Tools

To conduct the data analysis, several software packages and tools are utilized. SPSS version 22.0 is used for the preliminary data analysis, including descriptive statistics and data cleaning. Smart PLS 4.0, specialized software for PLS-SEM analysis, is employed for the evaluation of the measurement and structural models. The survey data is converted into a CSV file format to facilitate the analysis in Smart PLS.

3.13 Summary

The data analysis approach outlined in this study is designed to provide a comprehensive and rigorous examination of the relationships between the constructs of interest. By employing a combination of descriptive statistics, structural equation modeling, and partial least squares techniques, the study aims to generate reliable and valid results. The preliminary data analysis phase verifies the quality and appropriateness of the data, while the evaluation of the structural model tests the hypothesized relationships and assesses the predictive power of the proposed research model. The use of established software packages and tools enhances the accuracy and efficiency of the analysis process. This data analysis approach is well-suited to address the research objectives and provide meaningful insights into consumer behavior and purchase intentions toward healthy packaged food in India.

Chapter 4 Data Analysis and Results

Chapter 4 Data Analysis and Results

4.1 Overview

The three main phases of the data analysis for this study are as follows: preliminary analysis, evaluation of the measurement models, and assessment of the structural model. The first stage involves exploratory data analysis using descriptive statistics, data visualizations, and basic statistical tests. The purpose is to examine the data characteristics, trends, and relationships as a precursor to more complex analysis. This enables the detection of any anomalies, biases, or issues with the data that could undermine the validity of subsequent findings. The outcomes provide insights into the sample profile, adequacy, potential multicollinearity, and areas needing further investigation., it also helps guide hypothesis formulation and the choice of appropriate analytical techniques. The second stage focuses on evaluating the measurement instruments and theoretical constructs. The survey has been thoroughly evaluated, considering its psychometric properties such as validity, reliability, and feasibility. Furthermore, conceptual meaningfulness, dimensional structure, and the interrelationships among key constructs have been examined. Statistical tests have been employed to quantify the measurement reliability, validity, and dimensionality of both higher-order and lower-order constructs. The third phase focuses on structural model testing to determine hypothesized causal connections between exogenous and endogenous variables. In summary, a staged approach is adopted that progressively builds more in-depth analysis - from initial data screening to measurement assessments and finally, structural model evaluation. Relevant statistical analyses are employed in each phase to ensure robust development and validation of the predictive research model.

4.2 Pre-test Analysis

Rigorous examination of initially collected data before a full research rollout constitutes a vital phase enabling methodical optimization of the planned methodology. Pre-test analysis provides

a valuable opportunity to detect meaningful signals within the preliminary dataset by applying descriptive and inferential statistics. Regardless of technique, the goals of pre-test examination include comprehending data distributions, relationships, and anomalies; uncovering potential data quality issues; determining required sample sizes; informing measurement and survey tools; and optimizing the choice of analytical procedures. It can help to scrutinize the basic data attributes to detect any abnormalities, identify potential outlier issues, understand the spread and shape characteristics, and gain insights that inform decisions around measurement, sampling, required sample sizes, analysis techniques, and hypothesis formulation before the full study launch. In essence, probing descriptive statistics during the pre-test examination allows methodical data-driven fine-tuning of the planned research methodology and analytic approach even before the main evidence-gathering. commences.

4.2.1 Kaiser- Meyer Olkin (KMO) Test

The Kaiser-Meyer-Olkin (KMO) measure assesses sampling adequacy for the usefulness of conducting a factor analysis on the given data (B. Williams et al., 2010). The KMO statistic determines the percentage of volatility in variables that could be attributed to reasons other than error variance. Values closer to 1 indicate distinct measurable constructs with little error variance, which are preferable for factor analysis. “Values between 0.8 and 1 indicate the sampling is adequate, above 0.9 is superb for detecting structure” (Hutcheson, 1999).

In Table 4.1 below, the KMO value is 0.914, which falls in the range considered superb (Hutcheson, 1999). This suggests the sample size is sufficient, containing a very high variance proportion explainable by factors versus error. Therefore, factor analysis is deemed an appropriate and useful technique for analyzing patterns and relationships in the given dataset with minimal concern about inadequate sampling. This analysis should yield statistically reliable and theoretically meaningful extracted factors and loadings.

4.2.2 Bartlett's Test of Sphericity

Bartlett's test evaluates the hypothesis that the correlation matrix between variables is an identity matrix, indicating variables are unrelated (B. Williams et al., 2010). Rejection of this hypothesis at a significance level below 0.05 signifies sufficient correlation between at least some variables which is required for factor analysis to be meaningful.

Table 4.1 below shows that Bartlett's test produces a statistically significant p-value below 0.001. This rejects the null hypothesis of no relationships between variables in the dataset. Therefore, patterns and structure linking variables likely exist that factor analysis could meaningfully uncover (B. Williams et al., 2010). This further supports the appropriateness of applying factor analysis for additional investigation into unobserved relationships in the data.

Table 4.1: *The KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.914
Bartlett's Test of Sphericity	Approx. Chi-Square	11104.832
	Df	1035
	Sig.	0.000

4.2.3 Common Method Bias

Common method bias refers to potential errors introduced when data for both independent and dependent variables are obtained from the same respondents and using the same data collection approach. Relying solely on self-reported questionnaire measures can lead to systematic biases that impact the validity of findings. If common method bias is not accounted for, observed relationships may be inaccurate or inflated, hampering reproducibility and credibility.

Research studies must employ controls and remedies to alleviate common method bias throughout the data gathering and analytics process. This research has applied two specific statistical tests to assess and demonstrate minimization of common method bias - Harman's

single factor test using exploratory factor analysis and examination of variance inflation factors amongst the indicators.

4.2.3.1 Harman's Single factor test

Multicollinearity refers to high intercorrelations among predictor variables in a regression model, which can undermine interpretation and stability. Harman's single-factor test using exploratory factor analysis is one technique to assess whether a single factor accounts for most variance or if multiple factors are needed. It works by extracting one underlying factor and calculating the factor loadings and squared loadings to quantify the variance explained by that sole factor. If it exceeds 50 percent, it suggests variables may be attributional to one factor. Below 50 percent implies multiple factors and dimensionality are appropriate.

In table 4.2 study's application of Harman's test, the total variance from the single factor solution was 28.93 percent, below the 50 percent threshold. This demonstrates the data is not dominated by one general factor. Rather, it affirms multidimensionality with meaningful relationships not attributable to only one underlying aspect. The risk of multicollinearity inflating or masking findings is reduced by establishing multiple-factor relevance due to singularity. In summary, Harman's test provides evidence that relying on a multifactor model for further analysis is statistically justified and can yield valid insights with these data.

Table 4.2: *Harman's Single factor*

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	12.151	28.931	28.931	12.151	28.931	28.931
2	4.072	9.695	38.626			
3	2.594	6.176	44.802			
4	1.647	3.922	48.725			
5	1.492	3.552	52.277			

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
6	1.414	3.367	55.644			
7	1.249	2.975	58.619			
8	1.013	2.412	61.031			
9	0.936	2.229	63.26			
10	0.866	2.062	65.322			
11	0.855	2.036	67.357			
12	0.78	1.857	69.214			
13	0.768	1.828	71.042			
14	0.721	1.717	72.759			
15	0.681	1.621	74.38			
16	0.656	1.562	75.942			
17	0.644	1.534	77.476			
18	0.61	1.453	78.929			
19	0.576	1.372	80.3			
20	0.565	1.344	81.645			
21	0.546	1.301	82.945			
22	0.524	1.247	84.192			
23	0.482	1.147	85.339			
24	0.467	1.113	86.452			
25	0.443	1.056	87.507			
26	0.429	1.022	88.529			
27	0.413	0.984	89.514			
28	0.386	0.918	90.432			
29	0.369	0.878	91.309			
30	0.348	0.828	92.137			
31	0.341	0.811	92.949			
32	0.329	0.783	93.731			
33	0.323	0.769	94.5			
34	0.318	0.758	95.258			
35	0.304	0.725	95.983			
36	0.281	0.67	96.652			
37	0.279	0.664	97.317			
38	0.26	0.62	97.937			
39	0.245	0.584	98.521			
40	0.229	0.544	99.065			
41	0.208	0.495	99.56			
42	0.185	0.44	100			

Extraction Method: Principal Component Analysis.

4.2.3.2 Variance Inflation factor

The variance inflation factor (VIF) quantifies the degree of multicollinearity between predictor variables in regression models. Specifically, it reflects the inflation in the variance of the regression coefficient estimates due to intercorrelations. VIF represents the ratio of overall model variance to the variance that would exist if the predictor was completely orthogonal to other predictors. Typically, VIFs exceeding 3.3 or 10 indicate concerning collinearity likely to produce unstable parameter estimates.

This analysis computed VIFs for all predictors to probe for multicollinearity issues. Table 4.3 below presents VIFs for each survey indicator measuring the various constructs in the study, including Attitudes, Perceived Benefits, Purchase Intention, and so forth. All indicators have VIF values below 3.3, ranging from 1.317 to 3.059. This suggests that common method variance is unlikely to be a significant concern, as indicators do not suffer from severe multicollinearity inflation.

Table 4.3: *Variance inflation factor*

Item	VIF
ATT1	1.795
ATT2	1.342
ATT3	1.679
ATT4	2.084
CTA1	1.389
CTA2	1.685
CTA3	1.583
CTA4	1.465
HC1	2.389
HC2	2.48
HC3	2.201
HC4	2.113
HC5	1.688
HC6	2.291
PB1	1.995
PB2	2.827
PB3	2.402
PBC1	1.451

Item	VIF
PBC2	1.525
PBC3	1.746
PI1	1.317
PI2	2.124
PI3	2.083
PI4	1.792
PI5	1.97
PSE1	1.17
PSE2	1.421
PSE3	1.476
SN1	1.882
SN2	1.697
SN3	2.317

4.2.4 Demographic Profile of the Participants

The survey sample of 554 respondents reflected diversity across key demographic parameters like gender, age, education, marital status, employment, and income. Table 4.4 provides a comprehensive overview of demographic information. 57.6% of respondents were male and 42.4% were female, indicating good participation from both genders. The majority of the respondents were young adults in the age group of 18-25 years (43.7%) and 26-30 years (10.6%). Over 50% had completed post-graduation, 44% were graduates, and only 2.5% had studied till 12th grade, signifying most respondents were highly educated. 51.6% reported being unmarried while 47.7% were married. In terms of occupation, 51.8% were employed, 33.4% were students, 6.7% were homemakers, and 4.2% were business owners, capturing a mix of employment profiles. For income distribution, 39.4% earned below 2 lakhs per annum, while 23.3% had income above 10 lakhs annually. The sample indicates good representation across gender, age brackets, education levels, marital status, occupations, and income segments in the demographic profile. This diversity allows for examining variations in health-conscious consumer behaviours across different socioeconomic groups.

Table 4.4: *Demographic Information*

		Frequency	Percentage
Gender	Male	319	57.6
	Female	235	42.4
Age	18-25	242	43.7
	26-30	59	10.6
	31-35	51	9.2
	36-40	86	15.5
	41-45	70	12.6
	46-50	25	4.5
	51-55	11	2.0
	55 and above	10	1.8
Education	12^{th}	14	2.5
	Graduation	244	44.0
	post-graduation	295	53.2
	less than 12^{th}	1	0.2
Marital status	Unmarried	286	51.6
	Married	264	47.7
	Divorced	2	0.4
	Widowed	2	0.4
Employment Status	Employed	287	51.8
	Unemployed	18	3.2
	Student	185	33.4
	Homemaker	37	6.7
	Retired	4	0.7
	Business	23	4.2
Income	less than 2 lakhs	218	39.4
	2-5 lakhs	119	21.5
	5 - 10 lakhs	88	15.9
	10 lakhs and above	129	23.3

4.2.5 Descriptive Statistics

Descriptive statistics characterize the distributional properties and central tendencies of sample data. Table 4.5 reports pertinent summarizations for each construct measured, including minimum/maximum values showing range, means quantifying central location, standard deviations indexing dispersion, skewness measuring asymmetry, and kurtosis reflecting peak.

The construct means range from 3.4179 to 4.0120 on the 5-point Likert scale, exhibiting adequate variability without excessive polarity towards scale extremes. Standard deviations spanning 0.558 to 0.830 demonstrate sufficient spread, with all falling below the benchmark of 1 (Teo et al., 2009). This evidences reasonable variation rather than excessive concentration or heterogeneity.

Additionally, all skewness and kurtosis coefficients fall within acceptable normality thresholds of +/- 1 (Holmes-Smith et al., 2006). The constructs exhibit approximate symmetry and mesokurtic peaks akin to a normal distribution, rather than substantial skews or abnormal pointedness or flatness. Together with the lack of extreme means and adequate dispersion, this affirms the absence of problems with excessive non-normality, rather than showing reasonable coverage across the measurement scale.

These aggregate descriptions verify appropriate variation both between respondents and across construct scales, without anomalies in shape or outliers. This supports reliability in subsequent modeling, hypothesis testing, and generalization. Carefully screening central tendency, variability, and distributional factors constitutes a vital validity checkpoint before advancing statistical analysis (Pallant, 2020).

Table 4.5: *Descriptive statistics*

Construct	Min	Max	Mean	SD	Skewness	Kurtosis
Attitude	1	5	3.8836	0.694	-0.237	-0.244
Nutritional Label	1	5	3.7019	0.830	-0.283	-0.605
Subjective Norm	1	5	3.4179	0.745	0.057	-0.186
Perceived Behaviour Control	1	5	3.8496	0.658	-0.342	0.283
Health Consciousness	1	5	4.0120	0.558	-0.180	0.269
Perceived Benefits	1	5	3.5397	0.805	-0.209	-0.226
Perceived self Efficacy	1	5	3.7461	0.637	-0.121	0.010
Cues to Action	1	5	3.6160	0.633	-0.020	0.208
Purchase Intention	1	5	3.5047	0.698	-0.102	-0.088

4.3 Evaluation of PLS-SEM Results

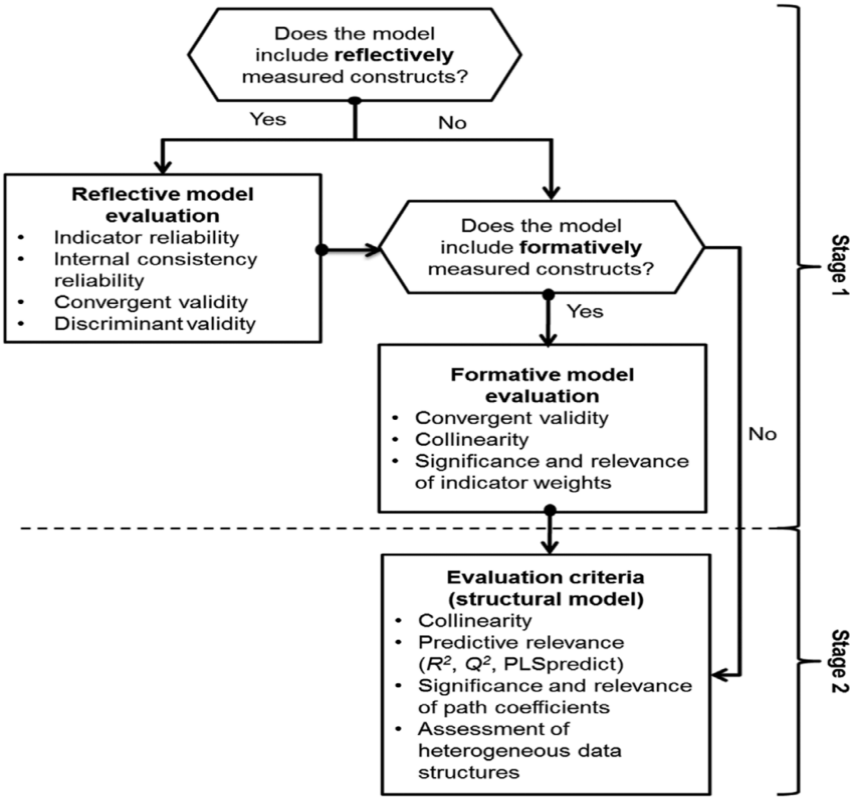
4.3.1 Measurement Model Analysis

Assessment of PLS-SEM models follows a two-phased approach as shown in figure 4.1 targeting measurement models and the structural model sequentially. Phase one involves appraising the adequacy of the measurement models which can incorporate either reflective or formative indicators or both (Hair et al. 2017). Reflective measurement models are validated by examining reliability, convergent validity, and discriminant validity through metrics like loadings, composite reliability, and AVEs.

With satisfactory evidence of valid reliable measurement models, the evaluation proceeds to phase two focusing on the posited structural model where hypothesized relationships between constructs are tested. “Metrics gauging structural model quality encompass coefficient of determination (R2), predictive relevance (Q2), size and significance of path coefficients, f2 effect sizes and q2 effect sizes”. Robust measurement models constitute the foundation before progressing to validate the overall explanatory strength, predictive power, and proposed linkages between theoretical constructs.

This study solely utilizes reflective measurement thus phase one would scrutinize indicator reliability, internal consistency reliability, convergent validity, and discriminant validity as a precursor to phase two assessment of structural model hypothesized paths and predictive prowess. Following this sequential evaluation flow ensures methodical empirical validation of postulated conceptual relationships.

Figure 4.1: *PLS-SEM Evaluation guideline*



4.3.2 Reflective Measurement Model

Reflective measurement models conceptualize latent variables as underpinning observed indicators, with the strength of relationships quantified through factor loadings (Bollen & Lennox, 1991). Assessing reflective measurement involves validating the ability of observed variables to reliably and validly reflect hypothesized constructs before testing structural relationships between them (Sarstedt et al., 2022). This entails a sequential evaluation process encompassing multiple quality criteria per Hair et al. (2022):

a) Indicator reliability using factor loadings

b) Internal consistency reliability via Cronbach's alpha and composite reliability

c) Convergent validity through average variance extracted (AVE) metrics

d) Discriminant validity by comparing the square root of AVEs with inter-construct correlations (Fornell-Larcker criterion), examining heterotrait-monotrait ratios (HTMT), and inspecting cross-loadings.

Meeting reflective measurement quality thresholds signifies that observed variables demonstrate adequate scale reliability, convergence, and separability as valid manifestations of underlying constructs now ready for structural assessment.

4.3.2.1 Reliability Measures

Internal consistency reliability constitutes a key facet in empirically validating reflective measurement models (Voorhees et al., 2016). Cronbach's alpha and composite reliability both measure the one-dimensionality and shared covariance among indicators that measure a latent variable. As established in the literature, threshold levels for sufficient values are 0.70 for composite reliability and between 0.60 to 0.70 for Cronbach's alpha in the early stages of research (Hair, Jr. et al., 2016).

Table 4.6 below demonstrates largely satisfactory reliability for the model constructs according to these standards. Composite reliability values extend from 0.815 for Perceived Self-Efficacy to 0.919 for Perceived Benefits, exceeding the minimum benchmark. Cronbach’s alpha spans 0.664 to 0.877, with all but Perceived Self-Efficacy surpassing 0.70. The lone exception still sits above the more lenient 0.60 guideline for exploratory research.

All constructs achieve the prescribed reliability criteria, affirming a strong common factor consistent with theoretical underpinning. This reliability foundation enables proceeding to assess additional measurement and structural model components with confidence indicators tap their intended latent variables.

Table 4.6: *Construct Reliability*

Construct	Cronbach's alpha	Composite Reliability(CR)
Attitude	0.789	0.864
Cues to action	0.741	0.835
Health consciousness	0.877	0.907
Nutritional Label	0.846	0.891
Perceived behaviour control	0.758	0.86
Perceived benefits	0.868	0.919
Perceived self-efficacy	0.664	0.815
Purchase intention	0.835	0.885
Subjective norm	0.822	0.894

4.3.2.2. Convergent Validity

Convergent validity reflects the degree to which indicators of a specific construct converge or share a high proportion of variance accounted for by that construct (Campbell & Fiske, 1959). In reflective measurement PLS-SEM models, the average variance extracted (AVE) constitutes a common metric used to quantify convergence.

AVE represents the percent of variation explained on average by a construct across all its measures. Values are computed by taking the mean of the squared factor loadings, depicting the captured indicator variance relative to the overall variance including error. An AVE threshold of 0.50 indicates a construct accounts for over half the average indicator variance, supporting convergent validity in alignment with the shared conceptual definition (Hair et al. 2017).

Table 4.7 indicates AVE results have adequate convergent validity for all reflective constructs included in the model. Numerically, AVE values range from 0.559 for Cues to Action on the lower bound to 0.791 for Perceived Benefits at the higher end. Across all constructs, AVEs meet or exceed the critical 0.50 benchmark, confirming over 50 percent of the average variance gets extracted into the factor. The highest convergence emerges for Perceived Benefits, with

over three-quarters of systematic indicator variance explained. Meanwhile, the lowest AVE for Cues to Action still accounts for the majority variance.

Taken together, these satisfactory AVE outcomes provide evidence of sufficient convergence in how the construct measures represent their shared theoretical meanings. Over half the variation n gets systematically extracted, and affirming items tap into the latent dimension with the majority of non-error variation shared commonly. Meeting this key measurement model criterion supports proceeding to evaluate discriminant validity and relationships between these reliable convergent constructs.

Table 4.7: *Convergent Validity*

Construct	Average variance extracted (AVE)
Attitude	0.614
Cues to action	0.559
Health consciousness	0.62
Perceived behaviour control	0.672
Perceived benefits	0.791
Perceived self-efficacy	0.599
Purchase intention	0.607
Subjective norm	0.738

4.3.2.3 Discriminant Validity

Discriminant validity constitutes the degree to which a reflective latent variable measure distinctly captures variance attributable to its underlying theoretical construct above and beyond other constructs (Campbell & Fiske, 1959). It signifies a construct successfully differentiates itself empirically, supporting its conceptual uniqueness within a structural model (Hair et al., 2017). The absence of discriminant validity points to potential deficiencies separating measures or overlapping conceptual domains.

To affirmatively establish discriminant validity, analytical techniques appraise correlations between a focal construct and other model variables. Lower statistically insignificant correlations evidence measures are not empirically redundant. Specific approaches employed in this research include:

1) The Fornell-Larcker criterion compares inter-construct correlations against the square root of the average extracted variance (AVE) for a construct's indicators. Square root AVEs exceeding correlations demonstrates divergence.

2) Heterotrait-monotrait (HTMT) ratios represent correlations of indicators across constructs relative to correlations of indicators within the same construct. HTMT values below 0.85 or 0.90 indicate discriminability.

Together, these assessments affirm constructs sufficiently differentiated into empirical factors aligned with theoretical distinctions. Discriminant validity enables drawing meaningful inferences about specific relationships hypothesized between these divergent latent measures in the structural model.

4.3.2.3.1 Fornell-Lacrker criteria

The Fornell-Larcker criterion is another common approach used to assess discriminant validity in structural equation models (Hair, Jr. et al., 2016). It compares the square root of the average variance extracted (AVE) - the average percentage of variation a construct explains in its indicators - to its correlations with other constructs. The square root of the AVE should exceed correlations between constructs to demonstrate discriminant validity (Fornell & Larcker, 1981).

The Fornell-Larcker criterion serves as a metric for evaluating discriminant validity, gauging how well a construct is distinguishable from other constructs to which it should not be closely linked (Fornell & Larcker, 1981). Discriminant validity is established when a construct's variance surpasses the square of its correlation with other constructs.

Widely utilized in assessing model fit to data, the Fornell-Larcker criterion holds significance. In Table 4.8, it is evident that the squared average variance extracted (AVE) correlations between constructs, as shown diagonally, consistently surpass those with other constructs. This observation underscores the robust discriminant validity inherent in all constructs within our study.

Table 4.8: *Fornell-Larcker Criteria*

Construct	1	2	3	4	5	6	7	8
Attitude	**0.784**							
Cues to action	0.410	**0.748**						
Health consciousness	0.331	0.388	**0.787**					
Perceived behaviour control	0.416	0.474	0.439	**0.82**				
Perceived benefits	0.619	0.533	0.317	0.384	**0.889**			
Perceived self-efficacy	0.491	0.618	0.451	0.454	0.554	**0.774**		
Purchase intention	0.545	0.576	0.358	0.436	0.684	0.627	**0.779**	
Subjective norm	0.540	0.355	0.236	0.344	0.527	0.436	0.494	**0.859**

4.3.2.3.2 Heterotrait-Monotrait Ratio

The Heterotrait-Monotrait Ratio (HTMT) is an assessment approach used to evaluate discriminant validity in structural equation modeling research (Henseler et al., 2015). Discriminant validity refers to the degree to which two constructs are empirically distinct. The HTMT value between two constructs reflects their average correlations relative to the (geometric) mean of their average correlations with other constructs. Values exceeding 0.85 or 0.90 indicate potential issues with discriminant validity (Voorhees et al., 2016).

Table 4.9 shows the Hetero-trait Monotrait Ratio (HTMT) values for assessing discriminant validity between different constructs measured in a study (Henseler et al., 2015). Values below 0.85 or 0.90 indicate adequate discriminant validity between two constructs (Voorhees et al., 2016).

The results show that most construct pairs have HTMT values below 0.85 or equal to 0.90, demonstrating adequate discriminant validity. However, the HTMT value between Perceived Self-Efficacy and Cues to Action is 0.849, slightly exceeding the threshold. This suggests these two constructs may have potential overlap in their measurement.

Additionally, the HTMT values between Purchase Intention and its two antecedents, Perceived Benefits (0.795) and Perceived Self-Efficacy (0.813), are also quite high. According to Voorhees et al. (2016), HTMT values exceeding 0.85 warrant further investigation into whether two constructs are empirically distinguishable. So there appear to be potential issues differentiating Purchase Intention from Perceived Benefits and Perceived Self-Efficacy.

Most construct pairs demonstrate adequate discriminant validity per the HTMT assessment. However, Perceived Self-Efficacy may overlap significantly with Cues to Action. Furthermore, Purchase Intention seems highly related to both Perceived Benefits and Perceived Self-Efficacy, warranting additional analyses to establish whether they are empirically separable (Voorhees et al., 2016). Future model re-specification or measure refinement may be needed to differentiate these constructs.

Table 4.9: *HTMT Ratio*

Construct	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Attitude								
Cues to action	0.507							
Health consciousness	0.392	0.488						
Perceived behaviour control	0.524	0.614	0.523					
Perceived benefits	0.746	0.629	0.365	0.468				
Perceived self-efficacy	0.658	0.859	0.598	0.629	0.713			
Purchase intention	0.667	0.708	0.422	0.552	0.795	0.813		
Subjective norm	0.671	0.426	0.273	0.44	0.626	0.569	0.593	

4.3.2.4 Higher Order Construct

Higher-order constructs constitute broader, more abstract groupings of interrelated first-order constructs tied by an overarching conceptual theme (Sarstedt et al., 2022). They allow the modeling of multidimensional ideas by encompassing more narrowly defined latent variables within a composite. For instance, an overall value perception higher-order construct may integrate first-order quality, price, and emotional value constructs (Bagozzi & Yi, 1988). Two higher-order constructs appear in this research – Human Belief and Human Behavior. Human Belief serves as an abstract representation combining the first-order factors of Perceived Barriers, Perceived Benefits, Cues to Action, and Self-Efficacy. Meanwhile, Human Behavior amalgamates the first-order constructs of Perceived Behavioral Control, Subjective Norms, and Attitudes. This structure creates consolidated latent variables reflecting key groupings. Ensuring the reliability and validity of such higher-order abstractions remains imperative for theoretical and practical integrity (Hair et al. 2022). This research applied the repeated indicators approach to assess higher-order constructs by associating all first-order construct indicators with the higher-order factor (Sarstedt et al., 2019). Meeting measurement model quality thresholds for the higher-order construct established through this technique signifies it holds as an overarching latent variable. The repeated indicators method applied here quantifies reliability and validity to empirically substantiate consolidating first-order factors under generalized abstractions.

a) Repeated Indicators Approach

The repeated indicators technique constitutes one recommended analytical approach for evaluating and validating higher-order constructs in structural equation modeling (Hair et al. 2022). It entails directly linking first-order construct indicators to the higher-order factor as multiple measures. Consequently, the higher-order construct gets quantified through the

variance explained in all associated first-order indicators. This method eschews needing separate higher-order construct measures.

Satisfactorily meeting measurement model quality criteria (e.g. indicator reliability, internal consistency reliability, convergent validity, discriminant validity) when executing the repeated indicators technique provides affirmative evidence of higher-order construct validity and reliability. If the disparate first-order measures reliably load together and converge as manifestations of the higher-order abstraction, it empirically substantiates integrating the dimensions under that generalized latent variable. It constitutes assessing if associated indicators converge as reliable measures of the multidimensional whole.

Convergent validity and reliability of higher-order constructs were assessed using the repeated indicators technique as recommended by Sarstedt et al. (2019). As shown in Table 4.10, the values affirm adequate convergence and reliability. Specifically, Cronbach's alpha coefficients range from 0.709 for Human Behavior to 0.877 for the Health Consciousness construct, meeting or exceeding the 0.60 threshold. Additionally, the composite reliability spans from 0.824 for Knowledge to 0.907 for Health Consciousness, surpassing the 0.70 benchmark. Finally, the average variance extracted stretches from 0.54 for Knowledge to 0.632 for Human Behavior, all achieving the 0.50 criteria.

As all key convergent validity and reliability indices for the higher-order constructs satisfy recommended guidelines, it substantiates that incorporating the associated first-order factors under these broader abstractions holds empirically.

Table 4.10: *Convergent Validity and Reliability of Higher-order Constructs*

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Health Conscious	0.877	0.879	0.907	0.62
Human Behavior	0.709	0.711	0.838	0.632
Human Belief	0.802	0.812	0.87	0.627
Nutritional Label	0.725	0.75	0.824	0.54
Purchase Intention	0.835	0.838	0.885	0.607

Discriminant validity assessment of higher-order constructs involves examining their empirical separability from associated first-order factors (Hair et al. 2022). The repeated indicators method links first-order construct measures directly to the higher-order abstraction. Discriminant validity signifies the higher-order composite is not excessively correlated with any single underlying dimension.

Two common approaches quantified discriminability in this study - the Fornell-Larcker criterion and heterotrait-monotrait ratios (HTMT). Fornell-Larcker compares the square root of the average variance extracted (AVE) for a construct relative to its correlations with other constructs, while HTMT indexes the mean correlations across constructs relative to the mean correlations within constructs. Table 4.11 demonstrates the discriminant validity of the constructs using the Fornell-Larcker Criteria, as the square root of each construct's AVE (shown in bold on the diagonal) is greater than its correlations with other constructs. Also in Table 4.12, most HTMT values fall below the 0.90 threshold and the square root AVEs exceed inter-construct correlations, demonstrating the higher-order factors exhibit adequate discrimination from the first-order constructs (Hair et al. 2022). This empirically justifies consolidating the dimensions under the broader abstractions.

Table 4.11: *Higher Order Discriminant Validity – Fornell-Larcker Criteria*

Construct	Health Belief	Health Consciousness	Human Behavior	Nutritional label	Purchase Intention
Health Belief	**0.792**				
Health Consciousness	0.487	**0.787**			
Human Behavior	0.691	0.437	**0.795**		
Nutritional label	0.319	0.426	0.335	**0.797**	
Purchase Intention	0.718	0.366	0.628	0.347	**0.779**

Table 4.12: *Higher Order Discriminant – HTMT Ratio*

Construct	Health Belief	Health Consciousness	Human Behavior	Nutritional label	Purchase Intention
Health Belief					
Health Consciousness	0.582				
Human Behavior	0.883	0.550			
Nutritional label	0.363	0.475	0.413		
Purchase Intention	0.862	0.422	0.815	0.399	

The measurement model's validity for both lower-order and higher-order constructs has been confirmed by fulfilling the criteria of reliability, convergent validity, and discriminant validity. This substantiates that the measurement items employed for these constructs are reliable and suitable for accurately estimating the parameters of the structural model.

4.3.3 Structural Model

Once a reliable and validated measurement model, known as the outer model, has been established in a partial least squares structural equation modeling (PLS-SEM) analysis, the subsequent step involves estimating the linear relationships assumed between the exogenous (independent) and endogenous (dependent) latent variables. This estimation is carried out by computing the inner model, which is made up of a series of structural equations that represent

the proposed model. Unlike covariance-based approaches, PLS-SEM lacks a standard goodness-of-fit statistic, and as a result, non-parametric statistical tests are often utilized to assess the overall fit of the model. There are several commonly used criteria for evaluating the quality of a PLS-SEM model, including the coefficient of determination (R2), path coefficient (β), effect size (f2), and prediction relevance (q2) (Henseler & Chin, 2010).

4.3.3.1 Path Coefficients

Path coefficients constitute key parameters in structural equation models that quantify hypothesized interrelationships among latent variables using standardized regression weights (Sarstedt et al., 2022). They represent effect size estimates indexing the strength and direction of predicted causal links within the conceptual framework. Path coefficients get estimated using ordinary least squares methods to minimize residuals between actual and model-implied correlations.

A core use of path analysis involves statistically testing whether posited structural relationships receive empirical support or ought to be rejected. Researchers formulate directional hypotheses about expected impacts and then assess if path coefficients differ significantly from zero in the hypothesized direction using t-statistics. Non-significant or incorrectly signed paths indicate lacking evidentiary support to confirm the corresponding effect. Consequently, path analysis enables affirming, rejecting, or refining networks of theorized causal effects using empirical data. Scrutinizing path magnitudes and significances provides the means to convert conceptual models into validated frameworks of tested relationships.

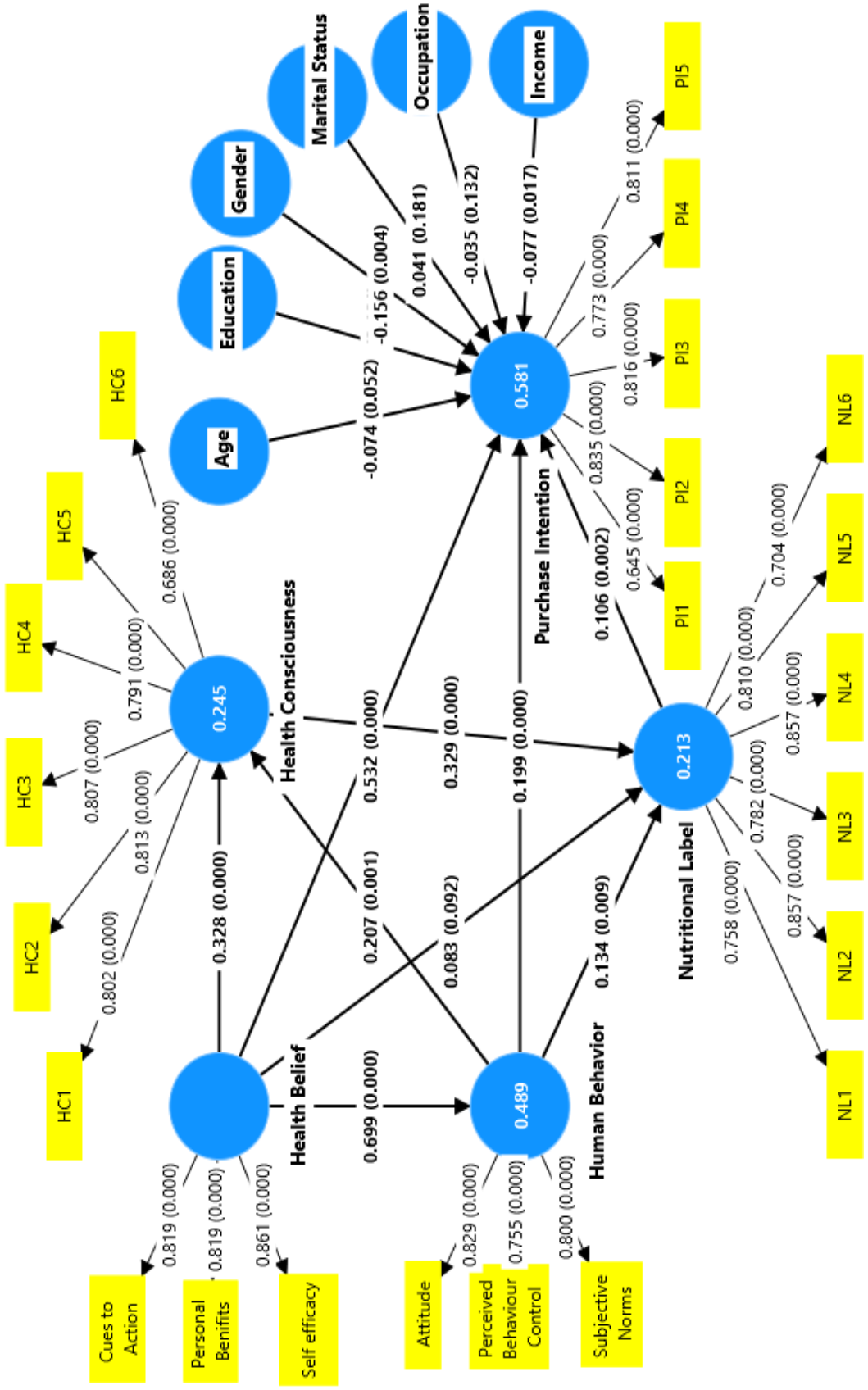


Figure 4.2: *Analysed Structural Model*

To determine the significance and substantive relevance of posited interrelationships between latent variables in the structural model, bootstrapping procedures were utilized to estimate standard errors and t-statistics (Hair et al. 2022). Bootstrapping involves randomly resampling observations to simulate multiple replicated datasets for stability assessment. This enables calculating the probability of path coefficients differing from zero above chance levels if the hypothesized effect was absent, yielding empirical p-values. This enables to evaluate whether the associations between the constructs are statistically meaningful. Table 4.13 displays the path coefficients, t-statistics, and significance levels for all proposed relationships, while figure 4.2 depicts the analyzed structural model with path coefficients and p-values. Depending on the outcomes of the path analysis, each proposed hypothesis is either accepted or rejected.

Table 4.13 reports path coefficients that quantify hypothesized effect sizes, t-values assessing significance, and p-values indexing the likelihood of actual non-zero impacts. Effects yielding p-values below 0.05 signify relationships supported with 95% confidence as genuine above and beyond sampling variation. Those above 0.05 indicate lack of sufficient evidence to reject the null hypothesis of no relationship amid noise. Analyzing bootstrapped path coefficients and p-values facilitates systematically affirming or rejecting directional causal links theorized between constructs. This empirical vetting of the conceptual structure maps the significant predictive pathways and refines understanding of relationship patterns within the substantive area of inquiry.

4.3.3.2 Hypothesis Testing

H1: Human Behavior → Purchase Intention

The path coefficient from Human Behavior to Purchase Intention is positive and statistically significant ($\beta=0.047$, $p<0.001$). This supports H1 which predicted a positive relationship between these two constructs. The standardized beta value suggests Human Behavior has a

small-sized effect in predicting Purchase Intention. With the effect confirmed as existing above and beyond chance, firms should strategize enhancing healthy food purchasing's experiential/social motivations and self-efficacy to leverage behavioral drivers.

H2: Health Belief → Purchase Intention

H2 theorized Health Belief positively influences Purchase Intention. Results support this hypothesis, with a positive coefficient (β=0.044) significant at the $p<0.001$ level. Though small-sized per conventions, explicitly targeting belief antecedents of healthy food buying like perceived benefits and barriers appears worthwhile to lift purchase rates.

H3: Nutritional Label → Purchase Intention

The path analysis yields a positive beta coefficient (β=0.036) between Nutritional Label and Purchase Intention significant at $p=0.002$. This aligns with H3 proposing greater nutritional label use bolsters purchase likelihood of healthy items. Despite a small effect, nutritional labelling constitutes one-factor firms could strategically promote to spur healthier consumer decision-making amidst purchase choices.

H4: Human Behavior → Nutritional Label

H4 theorized a positive Human Behavior -> Nutritional Label linkage. Results affirm this with a modest-sized, statistically significant path (β=0.056, $p=0.003$). Those exhibiting greater self-efficacy and intentions towards healthy eating display higher nutritional label usage. This construct could be leveraged to boost engagement with food labelling.

H5: Health Belief → Nutritional Label

Unlike other linkages, the path coefficient from Health Belief to Nutritional Label is non-significant (β=0.063, $p=0.220$), providing insufficient evidence to confirm H5. Still, a positive directionality emerges needing further investigation with enhanced measurement.

H6: Health Consciousness → Nutritional Label

H6 proposed greater health consciousness associated with heightened nutritional label use. The analysis supports this hypothesis, with a small positive yet statistically significant effect obtained (β=0.047, $p<0.001$). Nutritional labelling usage constitutes one manifestation of healthier attitudes and orientations among consumers.

H7: Health Belief → Health Consciousness

Results affirm H7 with a modest positive path linking Health Belief and Health Consciousness (β=0.078, $p<0.001$). This conclusion makes sense given the abstraction of various specific health-related beliefs into a higher-order latent construct directly tapping attitudes and predispositions. Enhancing health beliefs could produce a shift towards greater consciousness.

H8: Health Belief → Human Behavior

The strongest effect in the model emerges for H8, with Health Belief substantially positively predicting Human Behavior (β=0.024, $p<0.001$). Nearly a quarter of Human Behavior's variance gets explained by this driver, consistent with theories that attitudes manifest into goal-directed actions. Strengthening health beliefs profoundly flows down to food purchase behavioral elements.

H9: Human Behavior → Health Consciousness

Finally, a small positive but statistically significant beta supports H9's proposition that Human Behavior positively influences Health Consciousness (β=0.067, $p=0.002$). Those taking action towards healthier eating display heightened health attitudes and concerns. Pursuing nutrition-related behaviors could reciprocally reinforce consciousness.

In summary, strong evidentiary support emerges confirming eight hypothesized positive relationships between the constructs regarding healthy food purchase intentions and behaviors. Only H5 lacked significance.

Table 4.13: *Path Coefficient*

	Path	Beta coefficient	T statistics	P values	Status
H1	Human Behavior → Purchase Intention	0.047	4.878	0.000	Accepted
H2	Health Belief → Purchase Intention	0.044	12.059	0.000	Accepted
H3	Nutritional label → Purchase Intention	0.036	2.857	0.002	Accepted
H4	Human Behavior → Nutritional label	0.056	2.784	0.003	Accepted
H5	Health Belief → Nutritional label	0.063	0.771	**0.220**	Rejected
H6	Health Conscious → Nutritional label	0.047	7.052	0.000	Accepted
H7	Health Belief → Health Conscious	0.078	4.519	0.000	Accepted
H8	Health Belief → Human Behavior	0.024	28.399	0.000	Accepted
H9	Human Behavior → Health Conscious	0.067	2.861	0.002	Accepted

4.3.3.3 Model Goodness

The key model-to-data fit metrics were examined:

1) Coefficient of Determination (R2): Quantifies the percentage of variance in endogenous constructs explained collectively by all its antecedents. Higher R2 values indicate greater predictive accuracy.

2) Stone-Geisser Criterion (Q2): Captures the model's out-of-sample predictive relevance using blindfolding procedures. Positive Q2 values suggest satisfactory replication potential.

3) Standardized Root Mean Squared Residual (SRMR): Models SRMR below 0.10 demonstrate a good fit aligned with empirical data variations.

4) Effect Size (f square): Assessing effect sizes via f2 metrics offers crucial insights into relationship strengths (Hair et al. 2022). f2 quantifies the degree an exogenous construct substantively impacts the endogenous target variance above and beyond other predictors.

The results in Table 4.14 exhibit R2 values ranging from 0.21 to 0.565, achieving medium to large effect sizes per Cohen's conventions. This confirms the structural model's substantial predictive capacity and explanatory power on key target variables. Additionally, positive Q2 terms across endogenous constructs further indicate satisfactory potential to predict cases outside the sample through cross-validation.

As per conventions, f2 values of 0.02, 0.15, and 0.35 respectively constitute small, medium, and large effect sizes. In this analysis, sizable impacts emerged for Health Belief predicting Health Consciousness (f2=0.30) and Human Behavior (f2=0.26). However, the Nutritional Label -> Health Consciousness path yielded an f2 near zero, evidencing negligible contribution. Here, Health Belief's attitudinal abstraction offers the greatest enhancement to explanatory power. Meanwhile, other linkages like Nutritional Label produce trivial effects in the full model context. In strategic terms, substantial gains arise from targeting particular high-relevance constructs. Finally, SRMR remains below the 0.10 cutoff, affirming model alignment with covariation patterns.

These model fit assessments empirically validate the conceptual framework's ability to reproduce empirical data patterns within and out-of-sample. This justification of structural

relationships and predictive prowess provides a robust foundation before testing hypothesized effects and paths fills the knowledge-building process.

Table 4.14: *Model Goodness*

Variables	Outcomes	R Square	Q square	F Square	SRMR
Age	Purchase Intention	0.565	0.51	0.005	0.078
Education				0.01	
Gender				0.014	
Income				0.011	
Marital Status				0.002	
Occupation				0.003	
Health Belief				0.3	
Human Behavior				0.054	
Health Belief	Health Consciousness	0.253	0.23	0.088	
Human Behavior				0.026	
Health Belief	Nutritional Label	0.21	0.1	0.001	
Human Behavior				0.016	
Health Consciousness				0.105	

4.3.3.4 Model Comparision

Specified models in behavioral research lend to potential confounding from exogenous constructs not represented through key hypotheses linkages (Becker et al, 2016). Incorporating pertinent control variables in structural analysis holds such factors statistically constant to isolate proposed theoretical relationships (Carlson & Wu, 2012).

In this investigation, an array of demographic and socioeconomic characteristics were modeled as controls, including gender, age, income, and purchase history. Post-estimation contrast of parameter stability and model fit revealed limited fluctuations in focal predictor-outcome relationships while improving explained variance. This affirms the generalizability of the results in accurately reflecting hypothesized effects above and beyond alternative explanations (Spector & Brannick, 2011). Table 4.15 illustrates the path coefficients with and without control variables.

Additionally, facet-level examination spotlighted significant predictive capacity specifically for prior online shopping experiences and frequency variables, indicating these factors exhibit meaningful influence warranting inclusion. Though relationships were heterogeneous across controls, such granular insights assist in delimiting and qualifying eventual conclusions by pointing to potential boundary conditions around generalizability. The controls-based elaboration also compels more nuanced theory development accounting for subgroup impacts.

Therefore estimating sequential models with and without controls supported the reliability of core relationships aligned with a priori hypotheses while uncovering opportunities for enhancing model specificity and external validity. Isolating signals from underlying noise sources bolsters evidentiary credibility within the discovery process.

Table 4.15: *Path Coefficient with and without Control Variable*

	Without control				**With control**		
Path	**Beta coefficient**	**T statistics**	**P values**	**Path**	**Beta coefficient**	**T statistics**	**P values**
Health Belief → Health Conscious	0.078	4.519	0.000	Health Belief → Health Conscious	0.078	4.519	0.000
Health Belief → Human Behavior	0.024	28.399	0.000	Health Belief → Human Behavior	0.024	28.411	0.000
Health Belief → Nutritional label	0.063	0.771	0.220	Health Belief → Nutritional label	0.063	0.771	0.221
Health Belief → Purchase Intention	0.044	12.059	0.000	Health Belief → Purchase Intention	0.042	12.017	0.000
Health Conscious → Nutritional label	0.047	7.052	0.000	Health Conscious → Nutritional label	0.047	7.053	0.000
Human Behavior → Health Conscious	0.067	2.861	0.002	Human Behavior → Health Conscious	0.067	2.859	0.002
Human Behavior → Nutritional label	0.056	2.784	0.003	Human Behavior → Nutritional label	0.056	2.784	0.003
Human Behavior → Purchase Intention	0.047	4.878	0.000	Human Behavior → Purchase Intention	0.046	4.705	0.000
Nutritional label → Purchase Intention	0.036	2.857	0.002	Nutritional label → Purchase Intention	0.036	3.166	0.001
				Income → Purchase Intention	0.037	2.519	0.006

Without control				With control			
Path	**Beta coefficient**	**T statistics**	**P values**	**Path**	**Beta coefficient**	**T statistics**	**P values**
				Marital Status → Purchase Intention	0.045	1.190	0.117
				Occupation → Purchase Intention	0.032	1.300	0.097
				Age → Purchase Intention	0.046	1.739	0.041
				Education → Purchase Intention	0.032	0.103	0.459
				Gender → Purchase Intention	0.059	2.819	0.002

4.3.3.5 Mediation Testing

Mediation testing is a statistical technique that helps determine whether a relationship between two variables is indirect, or mediated, through one or more other variables. While direct linear effects between predictors and target variables provide useful insights, relationships often operate through intermediary mechanisms that transmit indirect influences (Hayes, 2017). Mediation analysis serves to model and test hypothesized sequential processes through which an antecedent X variable exerts downstream repercussions on an outcome Y by activating mediating variables that propagate its impact.

Statistically assessing mediation involves decomposing the total relationship between X and Y into direct and indirect components and evaluating the significance of interlinked path coefficients between the sequences of variables (Hayes et al., 2008). Demonstrating a mediator's significant role in transferring effects provides richer explanations of multifaceted causal chains.

H10 proposed Nutritional Label would mediate the Human Belief -> Purchase Intention relationship. However, the results did not support this hypothesis. The analysis showed a small

positive indirect effect size is non-significant (β = 0.005, p = 0.247), with the confidence interval spanning zero. Due to insufficient evidence H10 is rejected.

Conversely, analyses confirm four distinct hypothesized single mediation pathways in the model, providing evidentiary backing for substantive theorized mechanisms. Specifically:

H11: Nutritional Label significantly mediate Human Behavior's effect on Purchase Intention (β = 0.016, p = 0.025).

H12: Health Consciousness carries partial indirect influence from Human Belief to Nutritional Label (β = 0.118, p < 0.001).

H13: The data verifies Health Consciousness as a mediator between Human Behavior and Nutritional Label (β = 0.064, p = 0.005).

H14: Human Behavior transmits indirect impacts from Human Belief onto Health Consciousness (β = 0.133, p = 0.002).

Beyond direct single mediators, researchers increasingly recognize multidimensional explanations (Hayes, 2017). Four serial mediation hypotheses were received, unraveling distal cascades:

H16: Human Behavior indirectly predicts Purchase Intention sequentially through Health Consciousness and then Nutritional Label usage (β = 0.007, p = 0.037).

H17: Health Belief manifests an indirect effect on Purchase Intention via the serial Health Consciousness → Nutritional Label steps (β = 0.012, p = 0.011).

H18: Human Belief links to Purchase Intention through the dual Human Behavior → Nutritional Label chain (β = 0.011, p = 0.025).

H19: Results confirm a quadruple indirect sequence from Human Belief to Purchase Intention flowing through the mediators Human Behavior → Health Consciousness → Nutritional Label (β = 0.005, p = 0.037).

Table 4.16 presents the mediating effects, while Table 4.17 explores serial mediation. Collectively, the analysis spotlights the capacity of supplementary constructs like Nutritional Label and Health Consciousness to indirectly propagate influence through sequence flows. These insights enable elaborating multidimensional explanations of the purchase intention formation process.

Table 4.16: *Mediating effect*

Hypotheses	Path	Total Effect	T Statistic	P Value	Direct Effect	T Statistic	P Value	Indirect Path	Effect	T statistic	P value	Status
H10	Health Belief → Purchase Intention	0.718	33.390	0.000	0.526	12.059	0.000	Health Belief → Nutritional label → Purchase Intention	0.005	0.684	0.247	Not accepted
H11	Human Behavior → Purchase Intention	0.252	5.564	0.000	0.230	4.878	0.000	Human Behavior → Nutritional label → Purchase Intention	0.016	1.956	0.025	Accepted
H12	Health Belief → Nutritional label	0.319	7.590	0.000	0.049	0.771	0.220	Health Belief → Health Conscious → Nutritional label	0.118	3.777	0.000	Accepted
H15								Health Belief → Human Behavior → Nutritional label	0.108	2.765	0.003	Accepted
H13	Human Behavior → Nutritional label	0.220	3.788	0.000	0.156	2.784	0.003	Human Behavior → Health Conscious → Nutritional label	0.064	2.580	0.005	Accepted
H14	Health Belief → Health Conscious	0.487	10.331	0.000	0.354	4.519	0.000	Health Belief → Human Behavior → Health Conscious	0.133	2.828	0.002	Accepted

Table 4.17: *Serial Mediation*

Hypotheses	Path	Total Effect	T Statistic	P Value	Direct Effect	T Statistic	P Value	Indirect Path	Effect	T statistic	P value	Status
H16	Human Behavior → Purchase Intention	0.252	5.564	0.000	0.230	4.878	0.000	Human Behavior → Health Conscious → Nutritional label → Purchase Intention	0.007	1.792	0.037	Accepted
H17								Health Belief → Health Conscious → Nutritional label → Purchase Intention	0.012	2.294	0.011	Accepted
H18	Health Belief → Purchase Intention	0.718	33.390	0.000	0.526	12.059	0.000	Health Belief → Human Behavior → Nutritional label → Purchase Intention	0.011	1.953	0.025	Accepted
H19								Health Belief → Human Behavior → Health Conscious → Nutritional label → Purchase Intention	0.005	1.784	0.037	Accepted

Serial Mediation

4.4 Summary

Smart-PLS analyzed the dimensions of health beliefs and behaviors that contribute to the purchase intention of healthy foods and its impact on mediating factors like health consciousness and nutritional label. The analysis of both the measurement and structural models yielded several important findings.

Preliminary Analysis

The first phase involves comprehending dataset properties through descriptive statistics, visualizations, and assumption testing. All scale items exhibited sufficient normality without excessive skewness or kurtosis. The KMO and Bartlett's tests affirmed factor analysis appropriateness. Meanwhile, Harman's single factor and VIF tests showed that despite the self-report data, common method variance issues unlikely impacted observed relationships. These foundations support validity in subsequent measurement and causal analysis.

Measurement Model Evaluation

The second stage validated the psychometric properties of measurement instruments representing theoretical constructs using PLS-SEM criteria for reflective models. Here, all items loaded highly on affiliated constructs evidencing indicator reliability. Composite

reliability and Cronbach's alpha verified internal consistency exceeding standard thresholds. The average variance extracted also surpassed minimums affirming indicator convergence as a measure of underlying concepts. Additionally, the Fornell-Larcker analysis and HTMT ratios demonstrated adequate discriminant validity with only a few constructs warranting clearer delimitation. Thus, the outer model largely proved reliable and valid supporting further structural assessment.

Structural Model Testing

With satisfactory measurement models, the third phase evaluated hypothesized causal predictive paths between exogenous and endogenous variables using bootstrapping. The model exhibited acceptable fit on standardized R2, Q2, and SRMR indices, explaining substantial outcome variance both within and out-of-sample. Path analysis results then showed five constructs significantly predicted purchase intentions, explaining 53.5% of the variance. Nutritional label and health consciousness also acted as partial mediators, adding indirect effects. Follow-up comparison after incorporating control variables reinforced stability in focal relationships while improving model fit.

Additional analysis probed multidimensional explanations by affirming four single mediation and four serial multiple mediation pathways. The multidimensional sequences illuminated the web of indirect effects propagating influence through health cognitions onto purchase intentions. Here, elements like nutritional labels and health consciousness transmitted impact downstream, demonstrating their mechanistic roles.

Collectively, the systematic analytical flow provided empirical affirmation of the hypothesized drivers, inhibitors, and mediators shaping consumers' healthy food purchase intentions and behaviors. Isolating effects from underlying noise sources enhances the credibility of conclusions regarding leverages for enhancing public nutrition.

Chapter 5 Discussion and Conclusion

Chapter 5 Discussion and Conclusion

5.1 Overview

This chapter presents the results and discussion of demographic variable influence and an empirical investigation into the factors influencing consumers' purchase intentions for healthy packaged foods (HPF). The study integrates key constructs from the Health Belief Model and Theory of Planned Behavior to develop a comprehensive framework for understanding the complex interplay of health beliefs, human behaviors, health consciousness, and nutritional label usage in shaping HPF purchase intentions. Through structural equation modeling, the research examines the direct, indirect, and serial mediation effects among these variables, providing valuable insights into the psychological processes underlying consumers' decision-making. The findings offer significant theoretical contributions to the health behavior literature and practical implications for public health interventions, marketing strategies, and regulatory policies aimed at promoting healthier food choices.

5.2 Influence of Demographics

In the final stages of analyzing the intention predictive model, various demographic factors such as age, income, education, and gender were examined to determine if they had any influence on the effects observed in different population subgroups. These factors were systematically incorporated to identify their additive or multiplicative effects, if any, on the main relationships being studied (Hung et al., 2016). Overall, the predictive stability remained consistent between models with and without these control variables, confirming that the findings can be generalized beyond specific time-bound samples or narrow segments. The relative stability despite the introduction of controls helps to substantiate that the behaviorally-grounded linkages reflect true endogenous relationships that are relatively insulated from data artifacts.

However, a closer examination of the facets reveals notable variations in intentions across different demographic groups. Younger adults show substantially lower intentions to purchase nutritious foods, indicating the need for early targeting before habits are formed (Nestle et al., 1998). Highly educated individuals exhibited higher willingness to purchase, signifying the need for sophisticated messaging to ensure relevance. Employed professionals demonstrated lower partiality compared to students and homemakers, an effect that was more pronounced for married households, potentially reflecting shared indulgence habits that require mitigation (Drichoutis et al., 2006). While the overall intention ecosystem remains consistent, tailoring interventions to cater to subgroup realities could enhance influence by tightening contextual relevance amidst known barriers.

5.3 Purchase Intentions of Healthy Packaged Foods (H1, H2, H3)

The propensity of consumers to purchase healthy packaged food items based on their perception of the product's nutritional content and healthfulness is represented by their purchase intention. Understanding the factors influencing consumers' purchase intentions towards these products is essential for food manufacturers, marketers, and policymakers seeking to meet evolving consumer demands and promote healthier dietary choices.

Human behaviour is crucial in determining customers' purchase intentions of HPF since it reflects their attitudes, preferences, and dietary decision-making processes. This study showed that Human behavior emerged as a key predictor of purchase intention, suggesting that individuals who engage in healthy eating behaviors and prefer healthy foods have a higher probability of being associated with an increased desire to buy HPF.

This finding is consistent with the TPB which posits that an individual's behavior is influenced by their intentions. The study of Mørk et al., (2017) also supports our findings which underscores the intricate dynamics of human behavior concerning the purchase intention of

healthy food. This targeted approach resulted in an observable shift in consumer attitudes and the nature of consumer behavior was evident in the variation of campaign effectiveness across different product categories, suggesting that preferences for healthy food options may vary depending on the specific type of product. This study suggests that individuals who exhibit healthy eating behaviors and preferences for nutritious foods are more inclined to have higher intentions to purchase healthy packaged foods (HPF). Additionally, the study underscores the importance of considering human behavior when designing campaigns or interventions aimed at promoting healthier food choices, particularly within the context of HPF.

Understanding the role of health beliefs in shaping the purchase intention of healthy packaged foods (HPF) is essential for promoting healthier dietary choices. This study found the significant impact of human belief in influencing the purchase intentions of HPF. Consumers' beliefs about the health benefits and positive outcomes associated with consuming HPF can drive their intentions to purchase these products. This finding aligns with HBM (Rosenstock, I. M., 1974), This implies that when people see a threat to their health and think that acting will be beneficial, they are mostly going to indulge in health-promoting behaviours. Also the study of Yazdanpanah et al., (2015) described in the abstract investigates the role of health beliefs in shaping consumer behavior towards organic foods in Iran The study employs the Health Beliefs Model to investigate how people's propensity to utilize organic foods is influenced by perceived barriers, self-efficacy, overall health orientation about pesticides and organic foods, and benefit perceptions.

The significant influence of health beliefs on purchase intentions of healthy packaged foods underscores the importance of addressing consumer perceptions and attitudes toward nutrition and health. It suggests that cultivating positive health beliefs and perceptions about the benefits of consuming healthy packaged foods can effectively drive consumer intentions to purchase these products. By aligning marketing efforts and public health campaigns with the principles

of the Health Belief Model, stakeholders can foster greater consumer acceptance and adoption of healthier dietary choices.

The significant role of nutritional label usage in shaping purchase intentions for HPF is another key finding of this study. Consumers who actively seek out and consider nutritional information when making food choices have a greater likelihood of intending to buy HPF.

The conclusions backed by previous studies underscore the importance of providing clear and easily understandable nutritional information on food packaging to facilitate informed decision-making (Campos et al., 2011). Another study by Anastasiou (2019) underscores when consumers have access to relevant nutritional information, they are better equipped to evaluate the healthfulness of food products and make choices that align with their health goals. the study highlights the significant role of nutritional label usage in influencing purchase intentions for healthy packaged foods (HPF). Consumers who actively engage with nutritional information are more likely to prioritize health considerations and make informed choices.

It suggests that promoting the use of nutritional labels on food packaging can effectively influence consumer intentions to purchase healthy packaged foods. By providing clear and easily understandable nutritional information, stakeholders can empower consumers to make informed choices that align with their health goals. These findings emphasize the importance of enhancing access to relevant nutritional information to support individuals in adopting healthier dietary behaviors.

5.4 Determinants of Nutrition Label (H4, H5,H6)

The nutritional label of healthy packaged food is essential for enabling informed decision-making among consumers. By providing detailed information about the food's nutritional content, including calorie counts, macronutrient composition, and micronutrient levels, these labels empower individuals to make choices that align with their health goals. Additionally,

they raise awareness about the health implications of consuming specific foods, cater to various dietary preferences and restrictions, and facilitate comparison shopping.

The research findings provide valuable insights into the factors impacting consumers' utilisation of nutritional labels on HPF. The results highlight the significant roles played by human behavior and health consciousness in shaping consumers' engagement with nutritional information. The results align with earlier research that emphasizes the importance of promoting healthy behaviors and increasing health consciousness to encourage consumers to seek out and utilize nutritional information (Qi & Ploeger, 2021).

Human behavior emerged as a key predictor of nutritional label usage, suggesting that individuals who exhibit healthy eating behaviors are more likely to actively engage with and utilize nutritional information on food packaging. This finding aligns with the concept of "health involvement," which describes the level of motivation that people possess to maintain or improve their health with the health information (Dutta-Bergman, 2004). Consumers who are highly involved in their health are more likely to seek out health-related information, including nutritional labels, to inform their food choices (Cavaliere et al., 2017). Therefore, promoting healthy eating behaviors and fostering a sense of health involvement among consumers can be an effective strategy to increase the use of nutritional labels on HPF.

The study also emphasises how important it is for customers to be health-conscious to influence how they use nutritional labels. The results demonstrate that consumers are more likely to use nutritional information when making food choices if they have concerns about their overall wellness. This finding is supported by earlier research that demonstrates the positive relationship between health consciousness and health-related behaviors, such as reading nutritional labels (Basu & Dutta, 2008; Mai & Hoffmann, 2012). Consumers who care about

their health are more driven to lead healthy lives and actively seek out information that will enable them to make wise dietary decisions (Michaelidou & Hassan, 2008c).

It's interesting to note that the study found no relationship between nutritional labels and health beliefs. This suggests that while individuals may hold positive beliefs about the importance of healthy eating, these beliefs do not necessarily translate into the practical use of nutritional data while selecting foods. This finding highlights the potential gap between attitudes and actual behavior, which has been observed in various health-related contexts (Newson et al., 2015).

The results of this investigation have significant implications for public health interventions and food industry practices. From a public health perspective, interventions should focus on promoting healthy eating behaviors and increasing health consciousness among consumers. For the food industry, these findings suggest that improving the clarity, accessibility, and relevance of nutritional information on food packaging can be an effective strategy to encourage label usage among consumers (Hieke & Taylor, 2012).

The study does, however, also point to issues with consumers' understanding and use of nutritional labels. The results shed insight into the importance of health consciousness and human behaviour, which advances our knowledge of the causes and motives underlying label usage.

5.5 Behavioral Basis of Health Beliefs (H7, H8,H9)

The results of this investigation offer insightful information on the complex relationships between health belief, health consciousness, and human behavior of healthy packaged foods (HPF). The results demonstrate that these factors are interconnected and play significant roles in shaping consumers' decision-making processes when it comes to purchasing HPF.

A significant finding of this research is the beneficial influence of health beliefs on human behaviour and health consciousness. This suggests that individuals who hold strong beliefs

about the importance of maintaining a healthy lifestyle are most likely to be health-conscious and involved in healthy eating habits. This finding supports HBM, which asserts that an individual's beliefs about health and the perceived benefits of taking action influence their health-related behaviors. In the context of HPF, consumers who believe in the health benefits of these products are more likely to actively seek out information about their nutritional value and make conscious efforts to incorporate them into their diets (Sualakamala & Huffman, 2010).

Furthermore, the study highlights the positive effect of human behavior on health consciousness. This suggests that customers are more likely to be conscious of and worried about their general health and well-being when they regularly practice healthy eating habits. This finding is supported by previous research that demonstrates the bidirectional relationship between health consciousness and health-related behaviors (Dutta-Bergman, 2004; Michaelidou & Hassan, 2008). Engaging in healthy behaviors can reinforce an individual's health consciousness, which, in turn, motivates them to maintain and further adopt healthy lifestyle practices, including the consumption of HPF.

The interplay between health belief, health consciousness, and human behavior has important implications for promoting the purchase intention of HPF. The results suggest that interventions aimed at increasing health consciousness and encouraging healthy eating behaviors can be effective in driving consumers' intentions to purchase HPF.

This study provides valuable insights into the complex relationships between health belief, health consciousness, and human behavior of healthy packaged foods. The findings highlight the importance of considering these factors holistically when developing interventions and marketing strategies aimed at promoting the consumption of HPF. Fostering positive health beliefs, increasing health consciousness, and encouraging healthy eating behaviors, can

effectively drive consumers' intentions to purchase HPF and contribute to improved public health outcomes.

5.6 Mediating Role of Nutrition Label (H10, H11)

The study's findings give a perspective on the intricate relations between health behaviours, health beliefs, health consciousness, use of nutritional labels, and HPF purchasing intention. The results provide valuable insights into the mediating role of nutritional label usage in the relationship between these factors and consumers' intentions to purchase HPF.

A significant discovery of the investigation is the direct influence of consumers' beliefs about the health benefits of HPF on their purchase intentions. This suggests that individuals who strongly believe in the positive health outcomes associated with consuming HPF are more likely to form intentions to purchase these products, regardless of their engagement with nutritional labels. This finding agrees with the HBM, which demonstrates that an individual's beliefs about the perceived benefits and barriers associated with a health behavior are the main determinants of engaging in that behavior. In the context of HPF, consumers who perceive these products as beneficial for their health may be more motivated to purchase them, even without actively seeking out or relying on nutritional information (Lalor et al., 2011).

The study also demonstrates how customers' actual health behaviours and their purchase intentions are related, and how nutritional label usage plays a mediating role in this relationship. The findings indicate that while health behaviors have a direct effect on purchase intentions, this effect is partially explained by consumers' engagement with nutritional labels. This suggests that individuals who consistently engage in healthy eating behaviors are more likely to actively seek out and utilize nutritional information when making food choices, which, in turn, influences their intentions to purchase HPF (Visschers et al., 2010). This finding highlights the importance of nutritional label usage as a mechanism through which health-

conscious consumers translate their behaviors into informed purchase decisions(J. Guthrie et al., 2015).

The mediating role of nutritional label usage emphasizes the importance of improving the clarity, accessibility, and relevance of nutritional information on HPF packaging (Cowburn & Stockley, 2005). Public health initiatives should focus on educating consumers about the importance of reading and understanding nutritional labels, as well as providing guidance on how to interpret and apply this information when making food choices (Campos et al., 2011).

5.7 Mediating Role of Health Consciousness (H12, H13)

The study's findings provide significant new insights into how human behavior, health attitudes, and the usage of nutritional labels on nutritious packaged foods interact, with health consciousness serving as a mediator. The results reveal that health consciousness fully mediates the relationship between health beliefs and nutritional label usage, while partially mediating the relationship between human behaviors and nutritional label usage.

Health-conscious consumers are more likely to actively seek out health-related information, including nutritional labels, to make informed food choices (Drichoutis et al., 2006). As individuals internalize their health beliefs and become more aware of the impact of their dietary choices on their overall well-being, they are more likely to engage with nutritional labels as a tool to evaluate the healthfulness of food products (Roe et al., 1999).

The partial mediation effect of health consciousness on the relationship between human behaviors and nutritional label usage indicates that while human behaviors directly influence nutritional label usage, part of this effect is also explained by the level of health consciousness (Kim et al., 2013; Michaelidou & Hassan, 2008). Engaging in human behaviors, such as regular exercise and maintaining a balanced diet, can contribute to the development of health consciousness. As individuals adopt healthier lifestyles, they become more attuned to the

nutritional components of the foods they choose and are more inclined to base their purchasing decisions on nutritional labels (J. F. Guthrie et al., 1995).

This study highlights the crucial role of health consciousness in mediating the relationships between health beliefs, health behaviors, and nutritional label usage for healthy packaged foods. The findings have significant implications for marketing tactics and public health interventions, as well as for our knowledge of the psychological processes underpinning consumers' interaction with nutritional information. By fostering positive health beliefs, encouraging healthy behaviors, and promoting health consciousness, stakeholders can effectively increase the use of nutritional labels and support healthier food choices among consumers.

5.8 Human behavior as mediator between Health Belief and Outcomes (H14, H15)

The study's conclusions offer important new understandings of the function that behavior plays as a mediator in the connections between health attitudes, health consciousness, and the use of nutritional labels. The results shed light on the complex interplay between these factors and their influence on consumers' engagement with healthy packaged foods (HPF).

An important result of this research is the significant mediating effect of human behavior between health beliefs and health consciousness. This suggests that individuals' beliefs about the benefits of adopting a healthy lifestyle and consuming HPF influence their health consciousness indirectly through their actual health-related behaviors. In other words, holding positive health beliefs is not sufficient to increase health consciousness; rather, these beliefs must translate into concrete actions and habits that promote a healthy lifestyle (Renner & Schwarzer, 2005). When individuals consistently engage in healthy behaviors, such as regular exercise, balanced eating, and seeking out nutritional information, they become more attuned to their overall health and well-being, leading to increased health consciousness (Gould, 1990).

The mediating role of human behavior in the relationship between health beliefs and nutritional label usage was also supported by the study's findings. This indicates that consumers' beliefs about the importance of healthy eating and the benefits of HPF influence their engagement with nutritional labels indirectly through their actual dietary habits and food choice behaviors. Individuals who hold strong beliefs about the value of a healthy diet are more likely to adopt healthy eating behaviors, such as reading nutritional labels, comparing products based on their nutritional content, and making informed food choices (Grunert et al., 2010). These behaviors, in turn, reinforce the importance of nutritional information and increase the likelihood of consumers actively seeking out and utilizing nutritional labels when purchasing HPF (Drichoutis et al., 2006).

This study gives important insights into the mediating role of human behavior in the relationship between health beliefs and both health consciousness and nutritional label usage. The findings highlight the importance of considering the complex interplay between these factors when developing interventions and marketing strategies aimed at promoting healthy food choices.

5.9 Serial Mediation Effects (H16, H17,H18,H19)

The results of this investigation offer significant perspectives into the intricate association among health beliefs, human behaviours, health consciousness, use of nutritional labels, and the desire to purchase HPF.

One of the key findings of this study is the significant indirect effect of human behavior on purchase intention through the serial mediation of health consciousness and nutritional label usage. This implies that people who regularly practise healthy eating are more likely to become more health conscious, and in turn, are greatly inclined to see nutritional labels for helping them make food decisions. The combination of heightened health consciousness and active

engagement with nutritional information ultimately influences consumers' intentions to purchase HPF (J. Guthrie et al., 2015; Visschers et al., 2010).

The serial mediation effect highlights the interconnectedness of these factors and the importance of considering them holistically when examining consumer decision-making processes related to HPF. Engaging in healthy behaviors, such as regular exercise and balanced eating, can increase individuals' awareness of and concern for their overall health and well-being (Mai & Hoffmann, 2012). This heightened health consciousness, in turn, motivates consumers to actively seek out and utilize nutritional information to wise food choices that align with their health goals (Drichoutis et al., 2006). The use of nutritional labels, which provide valuable information about the nutritional content and health attributes of food products, enables consumers to evaluate the healthfulness of HPF and make purchase decisions accordingly (Newman et al., 2014).

The study found a significant indirect effect of health beliefs on purchase intention through the serial mediation of health consciousness and nutritional label. This suggests that consumers' beliefs about the benefits of adopting a healthy lifestyle and consuming HPF influence their intentions to purchase these products indirectly by increasing their health consciousness and engagement with nutritional labels. When individuals hold strong beliefs about the importance of maintaining good health and the role of diet in achieving this goal, they are more likely to prioritize their health in their daily lives and actively seek out information that supports their health-related decisions (Naughton et al., 2015). The serial mediation effects of health consciousness and nutritional label usage in the relationship between health beliefs, human behaviors, and purchase intentions have important implications for public health interventions and marketing strategies aimed at promoting the consumption of HPF. The findings suggest that interventions should adopt a comprehensive approach that targets multiple factors simultaneously to effectively influence consumer behavior (Hawkes et al., 2015).

The study found a significant indirect effect of health beliefs on purchase intention through the serial mediation of human behavior and nutritional label. This suggests that consumers' beliefs about the importance of maintaining a healthier lifestyle and the benefits of consuming HPF influence their intentions to purchase these products indirectly by shaping their health-related behaviors and engagement with nutritional information.

The investigation discovered a substantial indirect effect of health beliefs on purchase intention through the serial mediation of human behavior and nutritional label usage. This suggests that consumers' beliefs regarding the significance of leading a healthy lifestyle and the benefits of consuming HPF influence their intentions to purchase these products indirectly by shaping their health-related behaviors and engagement with nutritional information.

Human behavior is key in turning health beliefs into actions. Strong beliefs in a healthy lifestyle lead to habits such as healthy eating and exercise. This, in turn, boosts the use of nutritional labels when buying high-performance food.

Nutritional label usage is another factor in how health beliefs affect purchase intention. Those who prioritize health and seek out nutritional information are more likely to use labels when choosing food, helping them make informed decisions that match their health goals. The findings of this study provide valuable insights into the complex relationship between human beliefs, human behaviors, health consciousness, nutritional label, and the purchase intention of HPF. The results reveal a significant serial mediation effect, whereby human behavior, health consciousness, and nutritional label sequentially mediate the relationship between human beliefs and purchase intention.

This serial mediation model suggests that consumers' beliefs regarding the significance of healthy living and the benefits of consuming HPF influence their intentions to purchase these products through a series of interconnected psychological and behavioral processes. First,

human beliefs shape individuals' health-related behaviors, such as adopting healthy eating habits, engaging in regular exercise, and seeking out health-related information. These behaviors, additionally support the development of health consciousness, which refers to an individual's overall orientation towards health and the level of health concerns that are added to their daily lives.

As consumers become more health-conscious, they are more actively seeking out and utilizing nutritional information while making food choices. Nutritional labels, which provide valuable information about the nutritional content and health attributes of food products, serve as an essential tool for health-conscious consumers to evaluate the healthfulness of HPF and make informed purchase decisions. By engaging with nutritional labels, consumers can align their food choices with their health goals and beliefs, ultimately influencing their intentions to purchase HPF.

5.10 Practical Implications

This empirical examination of determinants driving consumer adoption of healthy food products offers several vital practical contributions helping orient organizational initiatives across sectors to promote balanced dietary profiles grounded in clinical science more effectively. Analyses provide data-substantiated insights on key leverage points within the multivariate intention formation apparatus where policy regulations, communication campaigns, and commercial levers could gainfully redirect consumer behaviors toward clinical health priorities. Thereby, findings assist in configuring a roadmap to convert latent wellness aspirations among populations into tangible nutrition transaction lifts at scale through coordinated nudging efforts centered on messaging reframing, transactional ecosystem remodeling, and tactical product developments.

a) Strategic Communications Planning

Foremost, quantifying the significant attitudinal impacts of crystallized health beliefs spotlights largely untapped latent appetite for dietary balance awaiting activation through appropriate framing of merits aligned with medical guidance. Thereby, public health authorities and commercial entities could mutually contribute through judicious communication campaigns highlighting affirmative nutrition attributes using semantics expected to foster wider cultural resonance. Specifically, a localized adaptation of global scientific discourse discussing evidence-backed wellness linkages promises more visceral comprehension by contextualizing attributes into motivationally proximate value propositions that reassure, inspire, and direct communities.

Equally, sustained educational propagation efforts to address prevalent misconceptions, fear factors, or blind spots around topics like processing methods, fortification, and biomarkers constitute invaluable mind-share territory exceeding immediate transactional gains. Such cultural interventions essentially enact the first developmental step allowing subsequent supply-side responses to take hold by spurring willingness rooted in informed preferences. Thereby, coordinating collective action across sectors to expand the availability of and spotlight on contextualized educational platforms grounded in priorities of unique demographic segments provides the semantic bedrock necessary for nurturing supportive mental models at scale.

While likely insufficient alone to dramatically overhaul entrenched legacy lifestyles given inertia, strategically seeding the health belief ecosystem guides situational assessments people apply when decoding food values during purchase and consumption events. Thereby public-private partnerships in enriching comprehension of balanced dietary baskets better scaffold follow-on interventions across domains including behavioral nudging or infrastructure configuration. Ultimately reshaping lay attitudes promises the crucial first foothold for

activating openness to positive nutrition, allowing demand to emerge as an accelerant steering offering.

b) Transactional Environment Configuration

If crystallized health models constitute the attitudinal basis guiding willingness to consider affirmative nutrition, psychosocial experiential aspects encircling transactions play an equally pivotal role actualized during decision moments. Thereby industry strategies warrant recalibration to target perceived price, confidence, aspiration, and normative barriers known to constrain or deprioritize the selection of better-for-you items despite agreement around diet-health linkages. Tactical avenues range from curating store assortments that enhance availability, salience, and convenience of flagged healthier varieties to lift trial and penetration. Additionally, choice architecture redesign incorporating subtle nudges during selection events tactically leverages contextual influence from ancillary signals that prime consideration.

Alongside efforts to ease consumer navigation challenges, the synergistic potential of galvanizing community demand via participatory engagement models also holds promise to reshape perspectives. Thereby co-creating grassroots activation programs centered on culturally resonant influencers promises better embrace for categories amid notoriously difficult entrenched lifestyle overhauls by localizing success milestones. Through multi-tier psychosocial targeting, remodeling situational components framing purchase environments provides a complementary prod for converting latent positivity into transactions.

c) Nutrition Label Infrastructure Interventions

While attitudinal cultivation and easing transactional friction constitute pivotal precursors, enhanced nutritional labelling provides additional informational affordances and penetration purchase determinations – albeit narrowly at present. Standardizing disclosure methodologies, simplifying lexicons, and introducing interpretative aids like graded scoring mechanisms or

related innovations offer the potential to better incorporate factual signals during decisions by improving comprehension and motivational salience. Tracking scientific consensus around optimal intake baskets for upgrading guidance also allows companies to increasingly prioritize healthy product portfolios to foreground favorable compositional metrics as authenticity signals rather than opaque marketing. As consumers earnestly pursue preventative lifestyle adjustments, ancillary labelling serves assistive infrastructural purposes channeling aspirations into manageable actions. So enhanced informatics bridges the intention-action gap for some consumer cohorts.

d) Coordinated Messaging, Product and Ecosystem Shaping

Ultimately, analyses accentuate the need for coordinated engagements addressing attitudinal factors, product enhancements, and transactional ecosystem remodeling in lockstep rather than siloes given the psychotherapy intricacies linking predictors. Thereby sustained educational messaging expands consciousness of priorities and trade availability improvements lift access and trial, backed by targeted behavioral nudges during events lowering motivational costs to solidify follow through. Rather than episodic unidimensional campaigns, sustained multidimensional efforts enacted collaboratively by policy, industry, and advocacy to dismantle barriers promise optimal nutrition lifts. Factual enhancements, architectural redesigns, pricing models, and communication tonality equally warrant customization catering to community-specific needs and sensitivities around lifecycle stages rather than one-size-fits-all logic. Through localized activation, broader positive intention shifts stand better chances of permeating daily behaviors.

In summary, analyses illuminate high-potential avenues for coordinated sectoral participation uplifting nutrition levels based on tailored messaging content that inspires, provision policies upholding responsible formulations and claims, augmented market ecosystems easing

substitution adoption, and ongoing collaborative engagement oriented around common ambitions for preventative health. Thereby research outcomes provide key signposts for converting demonstrated consumer openness towards moderation into measurable transactional shifts assisting the vital battle against non-communicable epidemics.

e) Commercial Strategy Implications

Beyond broader public health contributions, findings equally offer specific strategy inputs to commercial food organizations seeking first-mover advantages by activating latent consumer demand for positive nutrition. Though substantial economic and capability barriers complicate industry transitions, quantifying the multivariate purchase intention structure provides vital intelligence on which segments exhibit the greatest needs and responsiveness to guide prioritization.

Foremost, evidence that proximal transactional determinants directly encode purchase willingness dominate intentions underscores the need for holistic positioning reimagination. These warrants reconfiguring assortments for affordability and accessibility, formulating minimally-processed clean-label products, and innovating packaging to emphasize authenticity alongside promoting unique experiential merits. Brand communication must strike a balance between indulgent sensory expectations and clinical nutrition to become the most lifestyles.

Additionally, channel and store-specific nuances require localization calibrating messaging tonality with availability adjustments that tighten relevance across community purchasing contexts. Digitally-integrated advisory ecosystems can provide personalization at scale to ease navigation frictions. While product upgrades drive trials, sustained usage gains rely on experiential delivery exceeding functional promises through cannibalizing health linkages leveraging biomarkers or outcomes monitoring. Therefore, a sophisticated, system-wide transition is necessary.

Equally, findings reaffirm the need to upstream focus on health belief cultivation through education initiatives that seed appetite allowing other Supply-Side responses to gain traction. Corporations wield enormous semantic influence in their locales. Strategic deployment of this through precise scientific communication allying global discourse with local contexts promises sizable mind share benefits compounding over time to anchor category progress tracking medical guidance.

f) Regulatory and Policy Implications

For policy bodies seeking urgent advances securing lifestyle disease risk abatement and human capital safeguarding at scale, analyses offer several vital implications guiding strategic standard setting, infrastructure shaping, and communication oversight.

Firstly, confirmation that consumers increasingly decode food values based on heuristics spotlights the need for regulatory emphasis on preventing ambiguous, inauthentic messaging that obscures factual trade-offs against experiential fulfillment promises. Globally, urgency around upholding responsible use of health claims builds as the industry transitions towards positive nutrition. Thereby policy efforts to introduce user-tested interpretative, graded disclosures could assist consumer translation of signals into informed preferences. Tracking scientific consensus to continuously upgrade standards in turn allows companies room to demonstrate authentic progress.

Equally, pre-emptive policy interventions may prove necessary for resolving failures impeding voluntary industry transitions towards healthy product portfolios despite latent consumer demand - whether information asymmetries or institutional voids around capital, technologies, or capabilities. Structured public-private participation mechanisms allowing collective identification of provision gaps for infrastructure advancement hold promise for unlocking bottlenecks if well-designed.

Analyses reaffirm the need for multi-sector coordination through synchronized collective action enacting education propagation, formulation guardrails, labelling enhancements, and ecosystem nurturing in lockstep towards shared ambitions. The empirical insights on intention formation contribute vital behavioral inputs for enhancing model policy design. However, realization relies on participatory orientations acknowledging respective domain expertise.

In summary, research outcomes spotlight avenues to synergize the dynamism of nutrition science, commerce, and policy - converting demonstrated consumer openness for lifestyle improvements into secured health outcomes, ultimately enabling all of society to share the fruits thereof.

5.11 Theoretical Implications

This multivariate investigation makes several key contributions towards advancing explanatory perspectives within lifestyle health behavior literature through nuanced modeling and analysis of determinants shaping intentions to purchase affirmatively nutritious packaged foods.

The conceptual framework integrates vital constructs from the HBM and TPB to fashion a composite multidimensional lens isolating unique as well as shared pathways encoded in each paradigm. Thereby the consolidated approach overcomes theoretical siloes to better reflect the intricacies of psychosocial processes using an ecosystems perspective necessary for unpacking decision architectures. Equally, incorporating nutritional label and health consciousness variables enriches understanding of mechanisms propagating effects amid sequential causal chains.

Significantly, robust statistical testing results provide empirical substantiation for several hypothesized direct determinative pathways grounded in established behavior models while illuminating new multidimensional explanatory routes. Serial mediation affects evidence complex cascading sequences through which diffuse background factors hijack sequential

psychological processes to ultimately permeate intentions. Thereby, analyses affirm the indispensable roles played by health consciousness, label use, and skill-building as vital intermediary conduits indirectly steering outcomes. Granularity in tracing conceptual linkages proves particularly invaluable for directing lifestyle health policy models.

The relative predictive stability despite incorporating an array of covariates contributes towards the external validity of the conceptual architecture proposed, affirming the broad generalizability of findings. This further cement's reliability of behaviorally rooted frameworks in capturing regularities amid heterogeneity.

Ultimately by unpacking the multivariate drivers, inhibitors, and propagators shaping healthy food selection, investigations meaningfully advance explanatory perspectives within the lifestyle health domain while adding actionable policy inputs through empirically validated frameworks. Thereby study outcomes contribute significantly towards nurturing a robust grounded theory around pathways influencing nutritional intentions and behavior.

a) Integrative Modeling of Health Theories

This research combined constructs from the HBM and TPB to develop an integrative framework for modeling determinants of healthy food purchase intentions and behaviors. Blending these dominant health behavior paradigms enabled capturing unique as well as shared predictive pathways grounded in each theory into a consolidated explanatory ecosystem. Thereby, the composite approach overcame theoretical siloes to better reflect the psychosocial intricacies using a multidimensional perspective necessary for unpacking multifaceted intention formation.

b) Empirical Validation of Conceptual Architecture

Robust statistical testing provides empirical substantiation for several hypothesized direct determinative pathways constituting the integrated conceptual architecture grounded in

established behavior models. Additionally, analyses illuminated new multidimensional explanatory routes through sequential mediation effects evidencing complex cascading sequences by which diffuse background factors permeate intentions by hijacking psychological processes. Thereby, results affirm the indispensable intermediary roles of health consciousness, labelling, and skill-building as conduits propagating effects amid causal chains. Granularity in affirming conceptual linkages assists in directing lifestyle health policy models.

c) Strengthening External Validity

The relative predictive stability despite incorporating an array of covariates contributes towards the external validity of the conceptual architecture proposed, affirming the broad generalizability of findings. This further cements the reliability of behaviorally rooted frameworks in capturing regularities amid heterogeneity. Thereby study outcomes strengthen the validity of multivariate modeling approaches within health behavior literature.

5.12 Limitations and Future Scope

Methodological Constraints: Some intrinsic research design limitations manifest as a cross-sectional investigation relying on surveys for declarative data gathering. The transversal nature prevents confirming definitively causal directions between predictors and outcomes analyzed versus co-relational associations (Carlson & Morrison, 2009). Additionally, non-probabilistic convenience sampling centered on a single geographical context constrains the demographic representativeness required to generalize inferences confidently to broader populations without replication (Creswell & Creswell, 2021). Similarly, self-reported measures used remain prone to recall, social desirability, and consistency biases among respondents that could skew observed effects (Rindfleisch et al., 2008). So prudence remains vital when interpreting nomological effects quantified.

Further, the inability to incorporate actual purchase incidence metrics for validating model estimates predictive prowess against tangible actions limits behavioral validity (Powell et al., 2019). Other potential blind spots like peripheral impacts from transient marketing stimuli exposures likely contribute to unexplained variance. So scope persists for incorporating unobserved situational or personality moderators (Hankins et al., 2000). Finally, reliance purely on declarative investigation rather than resource-intensive ethnography for contextual insights limits the perspectives obtained. Thereby, observational data limitations warrant acknowledgment when deriving practical applications.

Enhancing Follow-on Investigations: Building on this foundational work, several promising expansion opportunities exist through complementary follow-on projects. Conducting longitudinal tracking with multi-wave data gathering enables analyzing pre-post variations for strengthening causality claims around predictors (Drichoutis et al., 2006). Widening the nomological net by measuring additional constructs like subjective health statuses, stress levels or clinician guidance also allows accounting for hitherto unobserved effects (Mai et al., 2012). Broadening respondent profiles beyond urban consumers and using probability sampling then permits the evaluation of subgroup heterogeneities and cultural nuances.

Equally, implementing mixed approaches blending declarative surveys with in-depth qualitative interviews or ethnographic consumer shadowing stands to enrich experiential comprehension of decision complexities (Bisogni et al., 2012). Where feasible, big data incorporation examining actual purchase histories offers further validation. At the analytical stages, assessing moderating impacts of individual parameters through multi-group analysis promises additional explanatory granularity (Sogari et al., 2022). Ultimately multi-method, expanded analytic approaches support enhanced contextualization for balanced application of findings.

5.13 Conclusion

In conclusion, this research empirically investigated a multifaceted integrated model delineating determinants of willingness and behavior related to healthy food purchases, grounded in key tenets of established health behavior theories including the Health Belief Model and Theory of Planned Behavior. Focused surveys obtained data about an array of socio-cognitive, attitudinal, and informational predictors potentially stimulating affirmative nutrition purchase intentions for testing using structural equation modeling.

The analysis outcomes substantiate a conceptual framework highlighting that intentions arise from an interplay of complementary drivers spanning crystallized health beliefs, proximal transactional considerations, and nutrition label use – collectively explaining over 50% of motivational variability. Results affirm pathways tied to both distal attitudes and direct experiential factors encoding decisions, allowing tailoring of leverage points.

Equally critically, investigations unpacked multifarious indirect mediating mechanisms propagating predictive capacity through health consciousness, label consultation, and skill-building onto choices. Serial mediations evidenced sequential pathways indirectly channeling influence upon intentions through self-reinforcing permutations of psychosocial processes. Thereby, analyse guides the synergistic reshaping of health communications, product portfolios, choice environments, and social ecosystems.

Additionally, findings reveal subgroup results assisting customized targeting attuned to unique barriers across lifecycle stages. Overall, the research contributes both theoretical affirmation of determinative architectures driving nutrition purchase intentions grounded in multivariate behavior models as well as actionable policy and commercial inputs for public health improvement.

This investigation constituted an empirical assessment of conceptual linkages proposed between a complex array of attitudinal factors, concrete behaviors, informational elements and transactional intentions related to healthy eating. The focus remained analytic examination of measurements obtained through surveys of Indian consumer segments. Of course, robust context-setting for this analysis as well as extensive reviews grounding the hypothesized structural model in published theory appear across prior chapters of this dissertation. Subsequent sections also cover methodological particulars alongside replicable statistical testing procedures adopted. Thereby this work aims at contributing both applied insights for practical advancements as well as foundational understandings enriching scholarly perspectives on pathways influencing healthy dietary behaviors.

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THE INFLUENCE OF HEALTH CONSCIOUSNESS, NUTRITIONAL LABELING, AND SUBJECTIVE NORMS ON CONSUMER PURCHASE INTENTIONS OF HEALTHY PACKAGED FOODS

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ABSTRACT

The growth of the packaged food sector in India can be attributed to several factors, including urbanization, rising disposable incomes, the emergence of organized food retail, and shifts in both lifestyles and food consumption patterns. Increasing health consciousness among consumers after the pandemic covid-19 is the leading cause of demand for healthy packaged foods. The theory of planned behavior is used in many industries to understand the customer's intentions and behavior. This study aims to investigate subjective norms' direct and indirect impact on the purchase intention of healthy packaged food products in India. The indirect impact is measured using health consciousness and nutritional label as constructs which are mediating the relationship. Healthy packaged food offers convenient and accessible options for busy individuals, leading to better health outcomes such as weight management and reduced risk of chronic diseases. It also supports sustainable farming practices, reduces food waste, and addresses issues related to food security and accessibility. This study utilized a well-designed survey instrument adapted from previous studies, which was circulated online to collect data. A sample of 657 is collected and usable samples are 554. Data analysis was done using a structural equation model (SEM) with the help of Smart PLS 4. The combination of these factors provided valuable insights into the factors that influence consumer behavior in the context of healthy packaged foods in India. The results of the data analysis show subjective norms, health consciousness, and nutritional label have a significant impact on purchase intention. A parallel mediation model is created where both health consciousness and nutritional label positively mediate the relationship between subjective norms and purchase intention. This study extends the literature in healthy nutrition adoption and consumption areas by showing the mediating effect of health consciousness and the nutritional label. Based on the study's findings, marketing professionals and retailers should develop strategies that focus on highlighting health benefits in nutritional labels and raising consumer awareness to encourage them to make health-conscious decisions while purchasing healthy packaged foods.

Keywords: Health Consciousness, Theory Of Planned Behavior, Subjective Norms, Purchase Intention, Nutritional Labels, Healthy Packaged Foods.

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Article

Can the National Health Policy 2017 Strengthen the National Health System and Improve the Health of the Indian Populace?

Journal of Health Management
1–8

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Ranjit Kumar Dehury[1], Janmejaya Samal[2], Arif Raza[3], Shawnn Cautinho[3], Manas Ranjan Behera[4] and Parthsarathi Dehury[5]

Abstract

The union cabinet approved the National Health Policy (NHP) 2017 on 15 March 2017. After its initial draft stage, seeking opinions from different stakeholders for nearly 34 months, the NHP 2017 came to the public domain with its final version. The main objective of this version of the NHP is to implement the proposed National Health Assurance Plan, which has been one of the agendas of the National Democratic Alliance (NDA) government for the healthcare of the people. The main objective of this article is to critically appraise and discuss the scopes and limitations in accomplishing the targets set in the policy document. A critique of the targets has also been discussed, considering the historical evidence and experiences of achieving the same. In the end, suggestions and recommendations have also been suggested for improving the health system regarding NHP 2017. The article critically analyses NHP 2017 based on secondary and grey literature. Evidence from secondary literature has been juxtaposed to compare and contrast the difficulty in implementing the policy. Literature is obtained from electronically accessible search and indexing portals, such as Google, Google Scholar, Web of Sciences, Embase, PubMed, and PubMed Central by using the keywords like health policy, impact of health policy, human resources in health, health care information technology, hospitals, pharmaceuticals and medical devices, health insurance and public health. Considering the implementation challenges of the previous two NHPs, the current NHP 2017 should be relevant to the grassroots level nuances and should address not only the healthcare needs but also the human development indicators.

Keywords

Health status, health systems performance, health systems strengthening, India, National Health Policy 2017, programme impact

Introduction

The union cabinet approved the NHP 2017 on 15 March 2017. After its initial draft stage, seeking opinions from different stakeholders for nearly 34 months, the NHP 2017 came to the public domain with its final version (Ministry of Health and Family Welfare, Government of India, 2017). The main objective of this version of the NHP is to implement the proposed National Health Assurance Plan, which has been one of the agendas of NDA government for the healthcare of the people. Many have observed and opined that the goals, policy principles and objectives of the NHP 2017 are well aligned with Universal Health Coverage (UHC) (Sundararaman, 2017). Studies have shown that UHC can reduce mortality and bring equity to healthcare (Atun et al., 2013). Furthermore, low financial barriers help create demand for health services and help detect cases. It also saves patients from catastrophic expenditures and fights economic downturns in a nation (Maruthappu et al., 2016; Weissman et al., 1991). However, UHC does not recognise the role of public health and Research and Development Services in improving overall health services. Thus, UHC must expand to measure such services' availability, quality and equitable distribution (Jain & Alam, 2017). The current policy focuses more on assured healthcare services in the form of drugs, diagnostics and emergency services than recovering the cost of users' charges.

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ACHSM Asia-Pacific Journal of Health Management

CONFERENCE ARTICLE

DETERMINANTS OF DIGITAL HEALTH INFORMATION SEARCH (DHIS) BEHAVIOUR: EXTENDING UTAUT WITH HEALTHCARE BEHAVIOUR CONSTRUCTS

Surya Neeragatti, Ranjit Kumar Dehury, Nishchala Sripathi*

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ABSTRACT

INTRODUCTION:

As the availability of huge amounts of digital health information content increases, the popularity of Digital Health Information Search (DHIS) has increased. This paper explores the determinants that influence the intention to DHIS by the public by extending the UTAUT model with health behaviour constructs like health consciousness, attitude towards health information, and trust in DHI.

METHOD:

The instrument used in this study was created by adapting scales from previous studies. Survey forms were circulated through online platforms with the snowball sampling technique. With the 345 finalized sample, analysis was carried out, and structural equation modelling (SEM) is used for data analysis with the help of SPSS v.26 and AMOS v.26.

RESULTS:

Sample demographics show that 60% of the respondents have experience of 5 years in using smartphones, and 70% of respondents use the smartphone from 1 to 6 hours per day. We see that less time was spent on digital health information (DHI). For searching DHI, respondents use Google/other browsers and for sharing it, WhatsApp is the most used app. The reliability of scales was checked in SPSS, which resulted in Cronbach's alpha value greater than 0.7 for all scales. The hypothesis testing resulted in all the constructs showing a significant relationship. We see that performance expectancy, social influence, and trust in DHI showed a strong significant relation with the intention to DHIS.

CONCLUSION:

This study extends the literature in information systems adoption studies by adding a combination of the technology acceptance model with health constructs. Factors influencing the intention to DHIS are accessibility, influence from peers, and information reliability are more concerned. This study shows the importance and need for genuine DHI from valid healthcare providers, in which the creators of healthcare information, like government and private healthcare providers, have to be more conscious.

2nd International Healthcare Management Conference 2022 - Navigating the New Normal with Focus on Healthcare Accessibility, Innovation and Sustainability

KEYWORDS

digital health information, UTAUT, health consciousness, trust, attitude, health behaviour.

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Review Article

Health Management and Policy Section

Role of Health Financing in Provision of Health Care and Universal Health Coverage in India

RANJIT KUMAR DEHURY[1], NISHCHALA SRIPATHI[2], GVRK ACHARYULU[3], JAGATABANDHU MOHAPATRA[4], SURYA NARAYANA[5]

ABSTRACT

Financing is an important aspect of any program for successful transformation. Financial commitment of government is considered to be the highest form of commitment for successful work. Without budgetary provision, no program can achieve the desired target. The role of health financing of central government, international donor agencies, provincial government, and local bodies have been identified. The paper focused on monitoring and evaluation mechanisms for health financing in the context of recent developments. Health financing models have been discussed to gain an understanding about relation of financing and overall healthcare development. The search engines like PubMed, Scopus, Web of Sciences, and jstor (journal storage) were consulted to unearth the mechanism of health finances for development of good health. The paper put forth various themes and sub-themes according to financial implications on health structure of India. All healthcare programs need a continuous stream of resources like medicine, workforce, physical infrastructure, monitoring, and evaluation to achieve good health. Whereas, different stakeholders also need financial support to evolve with great vigour and vivacity. There is a pressing need to infuse financial resources into public health system for achievement of universal health care rather than incremental growth in traditional financial processes spreading over several decades. The specific roles and responsibilities of central, provincial, local governments and international donors have to be delineated to expedite resource mobilisation. However, while implementing programs, there should be coordination among all the stakeholders.

Keywords: Donors, Expenditure, Fiscal structure, Healthcare budget, Health insurance, Health outcomes, Health system, Out-of-pocket

INTRODUCTION

The financing part is an important aspect of a program to be implemented with a certain degree of success. Financial commitment of any government is considered as the highest form of commitment for successful outcomes. Without sufficient fiscal provision, no program can be transformed into the desired levels [1-3]. This is equally applicable to the health sector development. Health sector in India has had much less achievement due to poor financing of various healthcare programs and creation of healthcare infrastructure for provision of services [4]. There has not been much fiscal provision in the health sector to transform the situation at ground level by governments over the time. Evidence shows that unequal distribution of healthcare resources and low priority in budgeting for healthcare leads to major challenges in achievement of Universal Health Coverage (UHC) in India [4,5].

In many sectors, India has achieved success in the world and is able to deliver world-class products and services by making committed budgetary provision and stewardship at the highest level [6]. In scientific sectors like space, atomic energy, defence preparedness, aviation, science, and technology, the achievements are landmark developments for India in the global arena [7]. Whereas, in the social sector, there is little evidence of transformation in pilot mode or regional developments by committed financial resources for development of society. In health sector, the achievements are not that great. In terms of healthcare ranking, India trails behind many developing countries due to poor health indicators. Even our neighbours like Bangladesh and Sri Lanka perform better in many aspects [8,9]. The World Health Report in 2010 emphasised on generation of fiscal space to boost healthcare in developing countries [10]. Out of the total health expenditure, which is nearly 5% of total GDP, only 1.2% is public spending through various mechanisms of financing [11]. Whereas, the remaining amount is contributed by individuals, private players and the employers in India. In 2014, the National Health Assurance Mission (NHAM) focused on spending of USD 6.5 billion per year during the period 2014-2019 to achieve UHC in India [11]. This amount is equivalent to 0.28% of the USD 2.25 trillion GDP estimation by the World Bank in 2016 for India, which seems achievable budget for financing the health sector in the country [12,13].

Later on, National Health Policy 2017 regarding UHC promised many things in line with the international discourse on emerging trends of healthcare [14-16]. Contrary to this, the lack of stewardship to energise health system in the country is not found for such an ambitious plan. The government plan gives hope for achievement of the UHC through Prime Ministers' Jan Arogya Yojna (PMJAY) [17]. The NITI Aayog tries to make accessible health care with strong provisions in various schemes governed by health sector in India. Ever-increasing cost of health care can be arrested by fixing package rates in advance, providing a protocol for treatment and collection of perception of patients regarding services. The PMJAY has no user's fee collection from patients and is being implemented with the existing healthcare providers and network of state government institutions [6]. Services of private hospital are usually available to rich people having sufficient economic well-being in India. Rich people have better access to private hospitals requiring high cost of treatment. Moreover, they have coverage of insurance schemes [4]. The real challenges like adverse selection, moral hazards, and fraudulent claims happen in such cases. These are causes for increase of prices of private medical services in India [2].

No doubt, money is not the only concern for program implementation in health sector. However, it is a very important component in addition to other components. The human resources, infrastructure, technology and work culture can be enhanced by infusing funds in healthcare system. Overall, projects in health sector need sufficient

Article

The Function of Mid-day Meal Scheme: A Critical Analysis of Existing Policies and Procedures in Rayagada District of Odisha (India)

The International Journal of Community and Social Development
5(1) 97–118, 2023

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SAGE

Nishchala Sripathi[1], Jagatabandhu Mohapatra[2], Parthsarathi Dehury[3], Surya Neeragatti[1], Sangita Behera[2] and Ranjit Kumar Dehury[1]

Abstract

The Government of India initiated the second-largest food security programme, named the mid-day meal (MDM) Scheme to tackle nutrition-related issues, especially for children in backward communities. The main aim of the MDM Scheme in government and government-aided schools is to improve physical and economic access to nutritious food for children. The study evaluates the challenges regarding the existing practices in implementing the MDM Scheme in two blocks of the Rayagada district (Odisha, India). Rayagada district is one of the tribal districts with a high malnutrition condition among children. Further, the two blocks have been selected based on the implementation of MDM on a unique project basis in a resource crunch area. The study shows that the MDM Scheme has challenges with critical implementation issues such as delays in delivery, low-quality food, lack of water facilities and unhygienic cooking and serving practices. The findings have implications for effective implementation of the programme in similar contexts.

Keywords

Child nutrition, monitoring and evaluation, community feeding, education policy

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Nishchala Sripathi

has presented a paper titled

"Factors Influencing Purchase Intention of Healthy Packaged Foods: An Artificial Neural Network Approach"

at Vपणन International Marketing Conference
hosted by Indian Institute of Management Visakhapatnam, Andhra Pradesh, India
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This is to certify that **Ms. NISHCHALA SRIPATHI** presented a paper titled **'Role of Health Consciousness, Nutritional Label and Subjective Norms on Consumer Purchase Intention of Healthy Packaged Food Products'** in **International Conference on Innovations in Health Interventions:** Traditional, Complementary and Alternative Methods (TCAM) in holistic healthcare, conducted by UoH/IoE/RC1-20-030, Centre for Health Psychology, School of Medical Sciences and School of Management Studies, University of Hyderabad.

Dean	Dean	Principal Investigator
School of Medical Sciences	**School of Management Studies**	**IoE Project** **Centre for Health Psychology**

UNIVERSITY OF HYDERABAD

INSTITUTIONAL ETHICS COMMITTEE DECISION LETTER

IEC No. **Application No:**	UH/IEC/2022/241	**Date of review**	16-03-2022
Project Title:	Information To Consumption – Health Conscious Consumerism With Respect To Packaged Food Products In India		
Principal Investigator/ Co-PI:	PI: Nishchala Sripathi CI: Dr Ranjit Kumar Dehury		
Participating Institutes if any	----	Approval from Participating Institute	----
Documents received and reviewed	Protocol & ICF		
In case of renewal submission of update	----		
Decision of the IEC:	Approved Duration: One year from date of approval		
Any other Comments Requirements for conditional Approval	Exempted under clause v of exemption from full review		
Members Present	Dr. A.S. Sreedhar, Sri. A. Madhava Rao, Dr. Stalin Chowdary Bala, Dr. M. Srinivas, Dr. M.K. Aruansree, Prof. Pingali Sailaja, Prof. B.R. Shamanna, Dr. M. Varalakshmi and Dr. Deepa Srinivas		

Please note:

a. Any amendments in the protocol must be informed to the Ethics committee and fresh approval taken.
b. Any serious adverse event must be reported to the Ethics Committee within 48 hours in writing (mentioning the protocol No. or the study ID)
c. Any advertisement placed in the newspapers, magazines must be submitted for approval.
d. If the conduct of the study is to be continued beyond the approved period, an application for the same must be forwarded to the Ethics Committee.
e. It is hereby confirmed that neither you nor any of the members of the study team participated in the decision making/voting procedures and declared conflict of interest.

A S Sreedhar 16/03/22

Chairman

(Dr. A S Sreedhar)

16/3/22

Member Secretary

(Prof. B.R. Shamanna)

16/03/2022

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Tel (O): +91-040-23135470/23135471 Email: iec_uoh@uohyd.ernet.in, deanmd@uohyd.ernet.in

A Study on Healthy Packaged Foods

Dear Participant,

I am a Ph.D. research scholar at the School of Management Studies, University of Hyderabad. I am seeking your assistance in my research study which is to understand factors influencing health-conscious consumers' purchase decisions of Healthy packaged food products (For example: nuts, oats, digestive biscuits, organic products, baked snacks, etc).

Your response is anonymous and will be used for research purposes only. Please take a few minutes to complete the survey. For any further clarifications, feel free to get in touch with us.

Nishchala Sripathi
Guide : Dr. Ranjit Kumar Dehury
Email: snishchala@gmail.com

Thank you.
* Indicates a required question

1. I understand the confidentiality clause and I agree to participate in this survey *

   ◯ Yes ◯ No

2. Name (optional)

3. Gender *

   ◯ Male ◯ Female ◯ Transgender

4. Age *

   ◯ 18 -25 ◯ 26 -30 ◯ 31-35 ◯ 36 – 40

   ◯ 41-45 ◯ 46 -50 ◯ 51 – 55 ◯ 55 & above

5. Marital Status *

Unmarried Married Divorced/Separated Widowed

6. Education *

10 + 2 Graduation Post Graduation & a below 10 +2

7. Occupation *

Employed Unemployed Student

Homemaker Retired Any other

8. Income *

Less than 2 Lakhs 2 – 5 Lakhs

5 – 10 Lakhs 10 lakhs and above

9. Are you conscious about your health? *

Yes No

10. I prefer to read food labels

Never Rarely Sometimes Often Always

11. I read the nutrition information on the labels before placing food products into the shopping basket before purchasing.

Never Rarely Sometimes Often Always

12. I choose products with nutrition labels over products without such labels.

Never Rarely Sometimes Often Always

13. When shopping, I look for nutrition information on food ingredients.

Never Rarely Sometimes Often Always

14. When shopping, I prefer products with standardized labeling on food packages.

Never Rarely Sometimes Often Always

15. Nutrition information is the major factor that determines the choice of food.

Never Rarely Sometimes Often Always

16. Purchasing Healthy Packaged Food is a good idea.

Never Rarely Sometimes Often Always

17. I feel good about myself when I make a health-conscious purchase decision.

Never Rarely Sometimes Often Always

18. Food labels and packaging of healthy packaged food provide the required nutritional information

Never Rarely Sometimes Often Always

19. Healthy packaged food is good for health and convenience

Never Rarely Sometimes Often Always

20. My friends encouraged me to choose healthy packaged food.

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

21. My family encourages me to choose healthy packaged food

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

22. My colleagues suggest me to choose healthy packaged food.

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

23. The mass media and advertising consistently recommends that I should use healthy packaged food.

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

24. I have the financial resources to buy healthy packaged food

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

25. I know to examine the product label information and choose healthy packaged food

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

26. I have the opportunity to buy healthy packaged food

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

27. I am very self-conscious about my health

◯ Never ◯ Rarely ◯ Sometimes ◯ Often ◯ Always

28. I reflect on my health a lot

Never Rarely Sometimes Often Always

29. I'm usually aware of my health.

Never Rarely Sometimes Often Always

30. I'm alert to changes in my health

Never Rarely Sometimes Often Always

31. My health depends on how well I take care of myself

Never Rarely Sometimes Often Always

32. I'm aware of the state of my health as I go through the day.

Never Rarely Sometimes Often Always

33. The quality and safety of healthy packaged food is ensured.

Never Rarely Sometimes Often Always

34. Healthy packaged foods benefit my health and overall wellbeing.

Never Rarely Sometimes Often Always

35. If I use healthy packaged food I can take better care of my health and reduce medical expenditure

Never Rarely Sometimes Often Always

36. I can easily find information about nutritious food on any search engine(Google, Bing etc)

Never Rarely Sometimes Often Always

37. I intend to learn about nutrition and try new products which are categorized as healthy packaged foods

Never Rarely Sometimes Often Always

38. It is easy for me to select healthy packaged foods as I am health-conscious

Never Rarely Sometimes Often Always

39. I have heard good things about healthy packaged foods.

Never Rarely Sometimes Often Always

40. I know where to go to buy healthy packaged foods

Never Rarely Sometimes Often Always

41. The packaging of healthy packaged foods is attractive.

Never Rarely Sometimes Often Always

42. Television, social media, Magazines, etc are encouraging the use of healthy packaged food

Never Rarely Sometimes Often Always

43. I give importance to nutrients in the purchasing of packaged food items

Never Rarely Sometimes Often Always

44. I mostly prefer to eat healthy packaged food products

Never Rarely Sometimes Often Always

45. I frequently purchase healthy packaged foods

Never Rarely Sometimes Often Always

46. I am willing to pay extra for healthy packaged foods

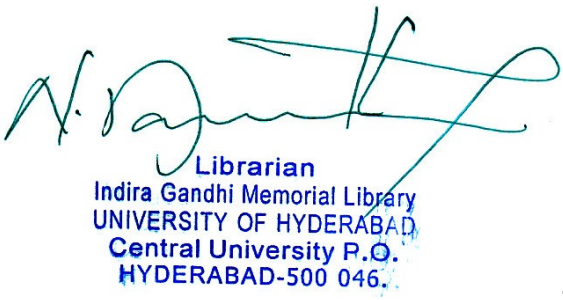
Never Rarely Sometimes Often Always

47. I intend to purchase healthy packaged foods regularly in the future

Never Rarely Sometimes Often Always

Information to Consumption: Health Conscious Consumerism of Healthy Packaged Food in India

by Nishchala Sripathi



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Information to Consumption: Health Conscious Consumerism of Healthy Packaged Food in India

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