UNIVERSITY OF GHANA

SUSTAINABLE PACKAGING AND CONSUMERS PURCHASE DECISION: THE MODERATING ROLE OF PRICE SENSITIVITY

BY

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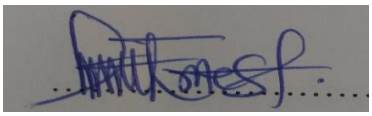
THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MPHIL IN MARKETING DEGREE.

SEPTEMBER, 2021

DECLARATION

I do hereby declare that this thesis is the result of my own research work and has never been presented by anyone for an academic award in this or any other university. All references used in the work have been duly acknowledged.



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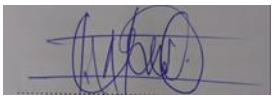

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DEDICATION

I dedicate this work to the almighty God for his countless blessings, grace, favour and good health to be able to complete this thesis. Also a sincere gratitude to my father (Mr. Micheal Tulasi), Mother (Elizabeth Srem-Sai "*blessed memory*") and (Mrs. Bernice Kafui Dzikunu-Degle) for their relentless sacrifices towards my education.

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ABSTRACT

The level of pollution in our environment keeps increasing every now and then as a result of increased in packaging and the choice of sustainable packaging is the ideal solution. This thesis seeks to investigate the relationship between sustainable packaging and consumers purchase decision with price sensitivity as a moderating variable. The study adopted the explanatory research approach to understand and determine the cause-and effect relationship that exist among sustainability, sustainable packaging and consumer purchase decision. The researcher used quantitative approach and questionnaires were deployed to gather data from two hundred and eighty (280) respondents within the Accra Metropolitan Assembly (AMA). Descriptive analysis of data was performed using Statistical Package for Social Sciences (SPSS) version 25 whilst Partial Least Square Structural Equation Modelling (PLS-SEM) was used to test the proposed relationship that exists among the study variables. Findings of the study revealed that sustainable packaging characteristics such biodegradable packaging, recyclable packaging and sustainable packaging design and labelling positively and significantly influence and predict consumers purchase decision. Findings also revealed that price sensitivity does not moderate the relationship between sustainable packaging characteristics and consumer purchase decision. It was concluded that biodegradable packaging, recyclable packaging and the packaging design and labelling influence consumers purchase decision and indicating a strong relation between them. This study however, recommend that, companies should consider the environmental conscious behaviour of consumers when choosing and developing packages for their products. Companies should as well strategies their production processes to make their products and packages sustainable or environmentally friendly

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LIST OF ABBREVIATIONS

AMA	Accra Metropolitan Assembly
GSS	Ghana Statistical Service
MMDAs	Metropolitan, Municipal and District Assemblies
GDP	Gross Domestic Product
FRI	Food Research Institute
CSIR	Council for Scientific and Industrial Research
UNDP	United Nations Development Programme
GSA	Ghana Standard Authority
QMS	Quality Management System
FDA	Food and Drugs Authority
GIPC	Ghana Investment Promotion Council
WCED	World Commission on Environment and Development
UN	United Nations
CSE	Centre for Sustainable Enterprise
NGOs	Non-Government Organizations
SPC	Sustainable Packaging Coalition
SPA	Sustainable Packaging Alliance
USA	United State of America
TPB	Theory of Planned Behaviour
SPSS	Statistical Package for Social Sciences
PLS-SEM	Partial Least Square – Structural Equation Modelling
AVE	Average Variance Extracted
SD	Standard Deviation
CA	Cronbach's Alpha
VIF	Variance inflation factor
CR	Composite Reliability
HTMT	Heterotrait-Monotra

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The chapter one of this research presents an integration of the concept of packing, sustainability, sustainable packaging, and consumers purchase decision in the food processing industry. This research started with an introductory chapter that comprises of chapter over view, background statement, and research problem, objectives of the study, research questions, research significance, chapter disposition and chapter summary.

1.1 Background of Study

Packaging is an important element of sales, and the level of pollution in our environment keeps increasing every now and then and packaging is regarded as one of the contributing factors; as a result, the demand for environmentally friendly or sustainable packaging is increasing. This has led to an enormous pressure on the packaging industry globally to minimize the dangers of its products on the environment (Orzan, Cruceru, Bălăceanu & Chivu, 2018; Seo, Ahn, Jeong, Moon, 2016). Orzan et al. (2018) further argue that, as a result of customers' unprecedented access to information, packaging has evolved considerably in recent years. Customers are increasingly aware of the impact of packaging on the environment and the trash generated by it, and they are looking for packaging that meet their needs. Packaging according to Wyrwa and Barska (2017) is regarded to be a physical structure that is suitable for a product which is designed for its protection from damage and spoilage, enables the product to be divided into various portions for easy transportation.

However, the concept of packaging has been defined from logistical perspective by White, Lin, Dahl and Ritchie (2016). They asserted that packaging serves variety of roles, including protecting the goods, making transit easier, and allowing for ideal storage. The

package type is a crucial element of communication between companies or businesses and their final consumers, and it has the ability of attracting their attention. However, as a result of a growing array of corporate initiatives for sustainable packaging design and environmental conservation from government, non-government organizations, policy-makers, the general public, and industries, not only has packaging been designed for product protection, but it has also been designed to be more environmentally friendly (Orzan et al., 2018; Mintel, 2018; Steenis, Lans, Herpen, & Trijp, 2018). The design and development of packaging constitute three dimensions of materials. These involve the primary packaging, secondary packaging and shipping packaging.

However, the modern consumers are environmentally friendly when it comes to the purchase of products and services (Taoketao, Feng, Song & Nie, 2018). Consumers' perceptions, behaviours, and approaches to consumption change on a regular basis (Biswas & Roy, 2015). Consumers have become more aware of environmental changes and their effect on it as a result of their consumption habits. As a result, the ecological consumer prioritizes environmental protection and quality of life (Orzan et al., 2018). This move by consumers have made companies to strategies their production processes to make their products eco-friendly. Among these strategies are the re-designing of their packaging to suit the environment because consumers look at out for products packages that are environmentally friendly before buying. This has necessitated the move towards sustainable packaging as a marketing strategy by companies.

Recently, the concept of sustainability has become a term that gained much attention when it comes to the area of packaging. Most manufacturing and processing companies nowadays are integrating sustainability principles and practices into the business activities of the company and these principles can predominantly be seen by consumers in the final

product through packaging (Nordin & Selke, 2010). Marketing is not an exception when it comes to the issues of sustainability (Kemper & Ballantine, 2019).

Many marketing scholars (Abutaleb & El-Bassiouny, 2020; Kemper & Ballantine 2019; Burksiene, Dvorak & Burbulyte-Tsiskarishvili, 2018; Bernyte, 2018; Taoketao et al. 2018; Font & McCabe, 2017; Chabowski, Mena & Gonzalez-Padron, 2011; Nkamnebe, 2011) have reacted to the issues of sustainability as a global concern. The increased world population coupled with the tremendous advancement in technology and changes that occurred and relationships that exist between economies, sustainability has become a key topic for the modern era societies (Bernyte, 2018). Consequently, the world has made sustainability a global concern and it is not regarded as a short-term goal but a long-term vision with the purpose of developing strategies based on moral and ethical principles (Kumar, Rahman, Kazmi & Goyal, 2012).

"In 1987, the Worlds Commission on Environment and Development defined Sustainability as the process of meeting the needs and wants of the current generation without compromising the potential of future generations in meeting their own needs and wants". Sustainability is built on three pillars; thus environmental, social and economic (Abutaleb, & El-Bassiouny, 2020; Bernyte, 2018; Burksiene et al., 2018; Rudawska, 2018; Kumar et al., 2012; Nordin & Selke, 2010). Kumar et al. (2012) postulated that, sustainability stands very well on the principles of the Triple Bottom Line approach which is the planet, people and profit. Majority of organizations are now exploring the concept of sustainability for the purpose of growth and development.

Sustainable packaging focuses mainly on the improvement of the whole product or packaging life cycle from beginning to end of the supply chain by constantly assessing every opportunity for improvement, enhancement and transformation that conforms to the

principles of sustainable development (Nordin & Selke, 2010). However, sustainable packaging is presumed to be equal to packaging materials that are sustainably obtained. Irrespective of the success made in promoting sustainable packaging, its development depends on technological development and social considerations but the social side of sustainable packaging has been neglected (Nordin & Selke, 2010). This notwithstanding has necessitated an investigation into the moderating role of price sensitivity on sustainable packaging and consumer purchase decision.

1.2 Problem Statement

Recently, there have been an increased attention towards the evolution and growth pertaining to sustainable packaging which have resulted into many initiatives and programs been set in motion to improve the sustainability of modern-day packaging. (Martinho, Pires, Portela, & Fonseca, 2015). Sustainability has been studied from different angles by various scholars in the field of marketing (Abdul-Hamid, Hinson, Mahmoud, & Yaw 2017; Font & McCabe, 2017; Rawhouser, Cummings, & Marcus, 2018). Some studied the sustainability concept from the environmental perspective whilst others look at it from economic and social perspective. Even though majority of business organizations are now developing means to inculcate sustainability into their business activities with the purpose of elevating sustainability from a conceptual goal into a priority, much is not known with respect to consumers and their perception on sustainable packaging when making purchase decisions (Boz, Korhonen & Koelsch Sand, 2020).

Majority of available discussions and highlights on sustainable packaging are focused on economic, social, and environmental factors (Abutaleb, & El-Bassiouny, 2020; Rudawska, 2018), while consumer demand has been identified as one of the most important factors for sustainable packaging (Abutaleb, & El-Bassiouny, 2020; Rudawska, 2018).

So whiles consumer elements like consumer behaviour with respect to purchase are very relevant, research is relatively scarce. Boesen, Bey and Niero (2019) stipulated that, despite the fact that packaging can positively help the environment by extending the lifespan of goods and reducing wastage of food, customers tend to think of food and beverage packaging as something problematic. Many research have been undertaken on customers' opinions of packaging, but only a few have delved at the perceptions of food and beverage packaging's environmental sustainability.

Due to increment in the demand for sustainable packaging by consumers, increase in policies or legislations relating to the environment, and the quest to reduce global environmental impact of the package materials, manufacturing or industrial firms are developing more eco-friendly packaging for their products (Magnier, Schoormans & Mugge, 2016). Recent studies have concentrated on ways to improve the sustainable packaging through the application of eco-design tools and there has been a smaller number of researches to determine the relationship between sustainable packaging and consumers purchase behaviour (Boz et al., 2020; Orzan et al., 2018; Bernyte, 2018; Jerzyk, 2016; Chabowski et al., 2011).

According to Magnier et al. (2016), when food products are packaged in sustainable packaging, consumers perceive them to be of higher quality compared to those packaged in conventional packaging. Research has proven that; consumers play a major role in throughout the life cycle of a product through consumption. Therefore, to achieve success in sustainable packaging will predominantly rely on the attitude and behaviours of consumers.

In the Ghanaian context, sustainability practices with respect to packaging and consumer purchase behaviour have been studied extensively by various authors (Debrah, Vidal, & Dinis, 2021; Amoako, Dzogbenuku, & Abubakari, 2020; Afum et al., 2020; Amoako, Dzogbenuku, Doe, & Adjaison, 2020; Opoku, Famiyeh, & Kwarteng, 2018; Owusu-Bio, Muntaka, & Bonsu, 2016). In the work of Owusu-Bio et al. (2016) relating to sustainable packaging in the pharmaceutical industry, they argued that, materials used in pharmaceutical packaging, as well as the containers that act as preservers, are often harmful to the environment. Sadly, because most organizations do not track the end-user medium of disposal of these products in the supply chain, nothing is done to address how these packages affect the environment's sustainability and eco-friendliness. They further suggested that, companies should adopted more environmental friendly packages that are biodegradable or recyclable.

Additionally, Amoako et al. (2020) also analyzed green purchase behaviour of Ghanaian youth consumers. They asserted that consumer's knowledge of the environment shows their treasuring of the eco-system as an important element in favour of life and growth in a sustainable manner. Environmental awareness of consumers influences eco-friendly buying intent and attitudes toward green brands, promoting eco-friendly behavior in brand selection. However, society hopes that these young people will become environmentally conscious customers who intentionally take advantage of new corporate and government initiatives. This cohort of consumers is growing materialistic as a result of increasing social engagement, self-expression, and social inclusion, a phenomena ascribed to the Internet and social media and neglecting their role as protectors of the environment (Amoako et al., 2020). They suggested for further studies to focus on analyzing how packages of green products and fast-moving consumer goods can be made to be more eco-

friendly. Other studies should look into how often people buy environmentally friendly products versus less environmentally friendly products.

Despite major efforts to alter the packaging supply chain, there have been few research on sustainable packaging and its relationship with consumers at both the purchase and near-end-of-life stages. There is therefore a need to research into sustainable packaging and consumer purchase decision and also to understand how price sensitivity moderates these relationships. This is so because consumers today are environmentally conscious when it comes to product packaging, purchase and consumption.

1.3 Research Purpose

This study seeks to determine whether sustainable packaging influences consumers purchase decisions among Ghanaian consumers and how price sensitivity moderates these relationships.

1.4 Research Objectives

- To investigate the impact of recyclable packaging materials on consumers purchase decision.
- To investigate the impact of bio-degradable packaging on consumers purchase decision.
- To determine the impact of sustainable packaging design and labeling on consumers purchase decision.
- To determine if price sensitivity moderates the relationship between sustainable packaging and customer purchase decisions.

1.5 Research Question

- Does recyclable packaging impact on consumers purchase decision?
- Does bio-degradable packaging impact on consumers purchase decision?
- Does sustainable packaging design and labelling impact on consumers purchase decision?
- Does price sensitivity moderate the relationship between sustainable packaging and consumer purchase decision?

1.6 Significance of the Research

The significance of this research work has been categorized into implications of the practice, research, and policy.

Concerning the implication to practice, this research would provide more information to businesses or industries on the importance of putting the environment into consideration always as they develop packages for their products. This would be very helpful to firms that use plastics especially in their packaging.

Concerning the implication to research, this study would be a good piece of information for researchers and academia because the report will provide literature for further research and can be used in academic discussions on issues pertaining to sustainability and sustainable packaging and the role consumers play in protecting the environment through product purchase decisions.

Concerning the implications to policy makers, this study would provide information for drafting policies that would be used to regulate businesses choice of package materials. It would also help in decision making in management levels as well as government with regard to environmental sustainability.

1.7 Organization of Chapters

The study is divided into six chapters, the first of which is the Introduction Chapter, which covers the study's background, problem statement, research purpose, research objectives, and research questions, as well as the study's significance and organization or disposition.

This study is made up of six chapters; Chapter One is the Introduction Chapter that deals with the background of the study, Problem Statement, Research purpose, Research objectives and Research questions, significance of the study and the organization or disposition of the study.

Chapter two have details of the context of the study; specifically, the food processing companies (Global and Ghanaian perspective) and their related enterprises in Ghana. The context would also represent a description of the food processing or manufacturing sector as well as the institutions that regulate this sector.

Chapter three reviews related literature on the study such as the concept of packaging, sustainability, sustainable packaging, consumer decision making, conceptual frame works and underlying theory with a view of situating this study within the broader context of related literature.

The technique used in the study is discussed in Chapter four, which includes philosophical assumptions, paradigms, and research design. This chapter will also go over research sampling techniques in detail, including purposive sampling, sample size, data collection instruments, data processing procedures, and ethical considerations.

The data analysis, findings, and discussions of the data collected are covered in Chapter five, and the summary of the research findings, conclusions, and related recommendations are covered in Chapter six.

1.8 Chapter Summary

The first chapter emphasized the importance of looking into packaging, sustainability, and sustainable packaging and consumer's purchase of sustainable packaged products within the Ghanaian context. It also takes into account the background of the study, statement of problem, study objectives, research questions and the significance of study. The next chapter of the research gives a detailed outline of the context within which the study has been conducted.

CHAPTER TWO

THE STUDY CONTEXT

2.0 Introduction

The study's context includes an overview of food processing companies from both a global and Ghanaian perspective, as well as the setting in which the research is being conducted. This chapter also discusses the food processing sector, its growth and contribution to the Ghanaian economy, as well as the important roles it plays in the country's economic development. The basic issues confronting the food processing sector, as well as government support targeted at boosting the sector in Ghana, are reviewed once again.

2.1 Context

This research was carried out in the Greater-Accra Region which comprises of twenty-nine metropolitan, municipal and Districts assemblies namely; "Accra Metropolitan Area (AMA), Ga East Municipal, Ga West Municipal, Ga South Municipal, Ga North Municipal, Adenta Municipal, Ledzokuku Municipal, Krowor Municipal, Ablekuma Central, Ablekuma North, Ablekuma West, Ada Municipal, Ashaiman Municipal, Ayawaso West, Ayawaso Central, Ayawaso East, Ayawaso North, Dangme East, Dangme West, Shai Osudoku Municipal, Kpone Katamanso, La Dade Kotopon, Ningo Pampram District, Tema Metropolitan, Tema West and Tema East Municipals".

Greater Accra is situated on over 200 km coastline which is a boost for tourism. Accra, the capital of Ghana, is located in the region, which is regarded as one of the riches regions in the country. The population density of the region is very high due to the growing population and migration. Accra, Ghana's capital city, serves as the country's commercial and political hub, with a concentration of government and private manufacturing and service enterprises. The "city is also a home for cultural, educational, political and administrative functions of Ghana which indisputably makes it the most urbanised city in

Ghana". The "National Museum, National Theatre, Centre for National Culture, Independence Square, Kwame Nkrumah Mausoleum, Accra International Conference Centre, Christianborg Castle, Osu Oxford Street, Makola Market", and more intriguing places make Accra an appealing tourist destination (Mallen-Ntiador, 2017). Accra also boasts Ghana's biggest concentration of hospitality facilities, such as restaurants, nightclubs, and several hotel classes. It is regarded as West Africa's gateway, with the Kotoka International Airport connecting it internationally as well as it been connected to other cities around the country by domestic planes and first-class roadways (Mensah & Blankson, 2013).

The final outcome of the population census conducted by Ghana statistical service in 2010 revealed that, as at 26th September 2010, the total population of Ghana was 24,658,823. The results showed an increase in the country's population by 30.4% as compared to that of 2000 population of 18,912,079. The greater Accra being the study region has a population of 4,010,054 which constitute 16.35% of the total population. The population of the region has 1,938,225 males which represents 48.3% whilst females have a population of 2,071,829 representing 51.7% (GSS, 2010).

The Accra Metropolitan Assembly (AMA) was established in the year 1898 but have undergone several evolutions with regard to name, size and number of sub-metros. The Assembly forms part of the two hundred and seventy-five (275) metropolitan, municipal and district assemblies (MMDAs) in Ghana and is also part of the twenty-nine (29) MMDAs in the Greater Accra region. The study area which is the Accra Metropolis has a population of 1,848,614 comprising of 887,673 males and 960,941 females (GSS, 2010).

2.2 Food Processing Industry (Global Context)

Economic growth, urbanization, increase in labour force, involvement of women and related changes in lifestyles have contributed to the rise of the food processing industry as compared to other sectors globally (Muehlfeld, Weitzel, & Van Witteloostuijn, 2011). Processing of food is a deliberate change that happens to food before its availability to the market for acquisition (Augustin et al., 2016). Unwholesome raw materials are typically transformed to usable, shelf-stable, and palatable foods or beverages for human use.

According to Singh, Tegegne and Ekanem (2012), apart from China, India is the world second biggest producers of food and possess the potential to become the largest in the world. In India, the most consumed commodity is food and food products with expenditure on food constituting almost twenty-one percent (21%) of India's GDP and with a market size of $181 billion.

Since time in memorial, food processing has contributed significantly to the food production chain that connects agriculture production with the provision of food to people in the form and at the right time (Augustin et al., 2016). Food processing goes through several industrial activities or procedures like smoking, canning, heating, freezing, drying and fermentation as well as outstanding cooking. Converting of food from one state to another changes the composition of the food. However, some of these changes can have negative and positive impacts on the quality of the food, depending on the procedure employed. Food processing also includes the addition of preservatives, which are used to improve food quality, extend shelf-life, and improve food safety (Augustine et al., 2016).

2.3 Food Processing Industry (Ghanaian Context)

Food processing is a significant activity that is related to the Ghanaian agricultural sector. The agriculture sector is pivotal to the economic development of the country and comprises of the yardsticks that encourage the development of growth in the economy.

The Ghanaian agriculture sector is crucial in building a vibrant economy. These significant transformations and growth of the economy is anticipated to be led by agriculture through the improvement in the productivity of this sector (Owoo & Lambon-Quayefio, 2017). Food processing is a possible end-market for farm products, as well as a source of employment for young people and a source of foreign income through exports. Food processing has been supported by policymakers and development organizations through various projects and policy initiatives (Andam & Asante, 2018).

Food processing industry is pivotal to the growth of Ghana's economy through job creation and improved performance of firm within the sector (Andam & Asante, 2018; Andam & Silver, 2016). The urban population of the country is shifting gradually from the consumption of food that requires long time to prepare towards foods that are already processed. The retail shops in Ghana are filled with processed foods including milled rice of various brands, frozen meats and processed fruits and vegetables.

Nevertheless, majority of these processed foods are not locally made due to the low production and productivity within the food processing sector as well as high cost and poor quality of the local materials (Owoo & Lambon-Quayefio, 2017). Meat and meat products, fish and fish products, fruits and vegetables, oils and fats, dairy products, milled grain products, animal feeds, bakery and confectionary, and drinks are all part of Ghana's food processing sector. Cocoa, cashew, sunflower, oil palm, groundnut, fruits, and vegetables are among the agricultural sector's key products, according to Owoo and

Lambon-Quayefio (2017). Before other commodities like nuts and oils, seafood, and other grains including millet, sorghum, and guinea corn, maize is the most processed.

Food processing in Ghana is now dominated by medium-scaled businesses. Over the years, Ghana's government has implemented measures to add value to the country's basic agricultural products, and the government has made significant efforts to process some of these products for domestic consumption and export. According to Andam and Asante (2018), the expansion of the Ghanaian food processing sector is one of the key elements of the Ghana transformation agenda and the past decade has witnessed a tremendous growth in the sector.

2.4 Contribution of Food Processing Industry to Ghana Economy

The food processing sector is mostly dominated by small and medium-scale businesses with their operation regarded to be part of the country's informal sector. Food processing sector is categorized into domestic and factory processing (Owoo & Lambon-Quayefio, 2017). The increased success of the food processing sector is an important indicator for growth in the Ghanaian economy. One of Ghana's policies towards the growth of the county is its transformational agenda and the growth of the food manufacturing sector is one of its goals because it contributes to GDP and as well reduce unemployment (Andam & Asante, 2018).

However, in the past 20years, the service sector of the economy has experience significant growth compared to the manufacturing and the agriculture sector (Honorati & de Silva, 2016). From the perspective of policy makers, the growth in the manufacturing sector is very slow and the food processing sector that categorized under manufacturing is not showing any indication of growth either (Andam & Asante, 2018). Based on data from Ghana Statistical service report (2014 and 2017), the contribution of manufacturing sector

to Ghana's gross domestic product (GDP) stands at 4.6% and it also employs 9.1% of the labour force. The contribution of food and beverage processing sector to the country's economy stands at US$812 million (Andam & Asante, 2018).

2.5 Challenges Faced by Food Processing Industry

According to Andam and Silver (2016), Government and policy makers are trying to understand why the increase in importation of processed foods made with raw materials that are equally produced in the country. The reason is that, the food processing sector of Ghana is facing many challenges in meeting the demand of the country and notably among these challenges are;

- Low productivity coupled with high cost of production
- Scarcity of preferred raw material types, and the low quality of the materials.
- Infrastructure, transports and transaction cost.
- Failure of contract farming and vertical integration as an alternative to import.

2.6 Regulators of the Food Processing Industry

2.6.1 Food Research Institute (FRI)

Established in 1963 as one of the thirteen institutions affiliated to the Centre of the Council for Scientific and Industrial Research (CSIR). The Food Research Institute (FRI) was incorporated using the Legislative Instrument No. 438 of 19th March. The Food Research Institute begun operation in 1965 with support from United Nations Development Programme (UNDP) but during this time, the Food and Drugs Authority were acting as the executing urgency until FRI grew into a full institution on its own. The Food Research Institute provides services such as chemical analysis for local beverage, food, feed and the

brewing industries respectively. FRI undertakes chemical test on fish and its related products, poultry and dairy products, soft drinks, water as well as vegetables. Aside the chemical testing, FRI also provides other services such as; quality control of raw materials and fish products as well as testing for sterility and efficacy of disinfectants in food hygiene.

2.6.2 Ghana Standard Authority (GSA)

The Ghana Standard Authority (GSA) is a state institution mandated for the development, building, and promotion of standards in Ghana. The institution was established in 1967 with its core supervisory responsibility of managing the country's quality infrastructure championing three dimension of metrology, standardization and conformity assessment activities such as testing, inspection and certification of goods and services. GSA guarantees that all goods and services produced in Ghana for local consumption or for export purposes are of good standard, safe to consume, reliable and of good quality. These services provided by GSA are very crucial to the well-being of the country as well as enhancing economic growth.

The Ghana standard Authority are mandated to undertake the following functions as a statutory body;

- National Standards development and dissemination
- They provide testing Services and inspect activities of businesses
- They see to the Product certification scheme
- The agency sees to the calibration, verification and inspection of weights, and weighing and measuring instruments.
- Inspections of where high risk goods are imported from.
- They undertake the promotion of quality management systems (QMS) in industries

- Pattern approval of new weighing and measuring instruments
- They serve as the advisory body for ministry of trade and industry on issues related to standards.

2.6.3 Food and Drugs Authority (FDA)

Once the business has started operating, it is subjected to regular checks by the country's regulatory authorities (Anderson, Chijoriga & Philemon, 2014). Checks or inspections are carried to ensure that businesses go according to the regulations and legal requirements governing the operation of their business (Anderson et al., 2014). One of this regulatory authority is the Ghana Food and Drugs Authority. The Food and Drugs Authority formerly Food and Drugs Board was established in 1992 based on the Food and Drugs Law 1992 (PNDC 305B). Amendment was made to the Law which later became Food and Drugs Act of 1996 and was again reviewed in 2012. The reviewed Act was merged into a new Act. This Act (Public Health Act 851) was relied upon to establish the current Food and Drugs Authority. The Food and Drugs Authority regulates food, drugs, food supplements, herbal and homeopathic medicines, veterinary medicines, cosmetics, medical devices, household chemical substances, tobacco and tobacco products, blood and blood products, and clinical trial procedures.

The Food and Drugs Authority's functions are as follows;

- They make sure that food, drugs, cosmetics, medical devices as well as household chemicals are of standards.
- Conduct and monitor standards of foods, drugs and others with the help of District Assemblies.
- Serves as the advisory body for Ministers on measures that need to be put in place for the protection of the health of consumers.

- Perform any other duties that are necessary to achieve the Authority's goals.

2.6.4 Ghana Investment Promotion Council (GIPC)

Ghana Investment Promotion Centre (GIPC) is a state institution whose mandate is based on the GIPC Act, 2013 (Act 865). Their core duties of the institution is to encourage and promote investments in Ghana and also see to the provision of attractive stimulus frameworks, transparent, predictable and facilitating business environment for investments in the country. The institution is mandated as its core function to formulate policies and plans that would aid the promotion and growth of investment and also to develop sound marketing strategies to attract foreign and local investors. Another function of the GIPC is to put in motion measures for the enhancement of investment climate in the country that would help both the local and foreign businesses. In addition, GIPC is in charge of initiating, organizing, and participating in promotional activities such as exhibitions, conferences, and seminars to encourage investment with the purpose of presenting Ghana as an ideal investment destination in the world. The institution registers, monitor and keep records of all enterprises in Ghana.

2.7 Chapter Summary

The context in which the study was carried out was discussed in this chapter. The chapter deliberates on the Greater Accra Region and to be specific, the Accra Metropolitan Assembly. It continued to look at the food processing industry in both the global and Ghanaian context, sustainability and food packaging industry, contributions of food processing industry to Ghanaian economy and the challenges faced by the food sector. The chapter concluded by examining the regulators of the food processing industry. The next chapter provides a detailed literature review on the subject under study.

CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

The chapter two oversees a literature on concept of packaging, sustainable development, sustainability, consumer buying behaviour, consumer purchase decision process, types of buying behaviour, some empirical studies on sustainable packaging, development of hypothesis, theories applied to the study and conceptual framework. These ideas are the foundations of the sustainable packaging concept. As a result, the definitions, views, and understandings of these topics are provided in this chapter.

3.1 The Concept of Packaging

The evolution of packaging started with the primary need for containment (Lydekaityte & Tambo, 2020). It started in the forms of leave packaging, animal skins, and grain straws as well as carved-out tree limbs. Over the years, packaging has evolved to a better and more enlightened nature and advanced to meet and satisfy the exact needs of product handling (Lydekaityte & Tambo, 2020; Nguyen, Parker, Brennan & Lockrey, 2020). As a result, packaging has evolved into an important and inseparable part of product-based company's business model. According to Poturak (2014), the main purpose of packaging was intended for product protection and handling. Now a days, packaging is now being used by businesses as a tool for sales growth and attracting potential consumers as well as reduce promotional cost.

According to Imiru (2017), packaging for some time now has been identified as the silent salesperson for a product and has gain much attention with respect to regulations and policies. However, the non-verbal components of the package have not been given much

focus by this regulation but the verbal attribute of the package are given great attention because they project the accurate reflections of the products characteristics (Imiru, 2017).

Food consumption in the last decade have been characterised by changing trends as a result of changes in social, economic environmental and the lifestyle of people. Changes such as; the increased employment of women, inadequate time as well as income growth has contributed to the quest for fast foods or foods out of home. These has resulted in increased food packaging and the increase in packaging materials in homes (Bitzer, Obi, & Ndou, 2016). Food packaging does not only prevent wastage of food or well-organized distribution of products but also make contribution to sustainability (Pauer, Wohner, Heinrich, & Tacker, 2019). Pauer et al. (2019) argued that, aside the benefits provided by packaging, it is more and more required to be sustainable, since the production, use, and disposal of a packaging are related with a number of environmental issues.

However, consumers today purchase variety of products to meet the needs of a multifaceted lifestyle and food items are one of them. Many of the items purchased to meet the needs and lifestyle of a consumer are packaged for the purpose of protection and safe handling. These has led to an increase in the demand for effective packaging (Rundh, 2016). Packaging and the design of the package has become an integral element in marketing different kinds of consumer goods and has also been regarded to have an important role in communicating to consumers about the benefits of a product. Product packaging also has a relation with other elements of the marketing mix (Rundh, 2016).

3.2 Definitions of Packaging

Defining packaging according to literature differ due to the fact that, it has been examined from different perspective. “Wyrwa and Barska (2017) defined packaging according to the polish law governed by the Act of 13th June 2013 on packaging and packaging waste.

According to the Act, packaging is a product put on the market which is made of any materials that is intended for storing, protection, transport, delivery or presentation of products from raw materials to processed goods".

Then again, Wyrwa and Barska (2017) defined packaging to be a physical structure that is suitably designed for products protection from environmental damage and spoilage, enables the product to be divided into various portions for easy transportation.

Oaya, Newman and Ezie (2017), defined packaging to be the container that is designed to move product from the point of manufacturing to the final consumer, as contrasted with packing that is needed for bulk shipment. They further continue to assert that, packaging is the technique of enclosing or safeguarding consumer-purchased products for distribution, storage, and sale. The ability of a product to successfully travel through the distribution channel depends on the protecting offered by the products package. This reduces wastage in products before getting to consumers and it also helps in brand identification and differentiation among competing products.

Palmer and Palmer (2000) asserted that packaging is a key component of the consumer's experience with product and also an important physical element of any product, apart from it being a quality element. In tandem with the food industry, packaging is the most relevant extrinsic values in the decision of consumers with respect to product purchase (Underwood, Klein, & Burke, 2001). Then again, White, Lin, Dahl and Ritchie (2016) also defined packaging from a logistical perspective, where they asserted that packaging serves a variety of purposes, including protection of products, making transportation easier and allowing for ideal storage.

Packaging, according to Armstrong and Kotler (2005), encompasses all aspects of the design and manufacture of a product's container, as well as the product wrapping. Saghir

(2002) also characterized packaging as a linked method of managing items for safe, efficient, secure, and effective handling, transportation, distribution, storage, retailing, usage and recovery, reuse, or disposal, as well as boosting consumer value, sales, and profit.

3.3 Types of Packaging

Previous research and literature have shown varied dimensions and types of packaging used for various product containment and protection. Product packaging are categorized into primary, secondary and tertiary.

3.3.1 Primary Packaging

The first covering or surface of the package that has direct contact with the core product is known as the primary package. It is also sometimes referred to as consumer packaging (Hägglund & Carlsson, 2011). The design of the primary packaging consists of the product itself and other layers that are secondary to the product package (Annan, 2018; Deufol, 2002). The properties of the primary package have demonstrated to be a major priority with respect to packaging. Blister packages, sachet packs, paperboard packages, clamshell packages and shrink-wrapping are some examples of primary packaging. The application and use of the various primary packaging will predominantly rely on the type of product, transit as well as the mode of storage. Primarily, the most important role of packaging is product protection and preservation against damage, spoilage and contamination (Simms & Trott, 2010). However, it is very important for the product to be protected or sealed from its surrounding by the primary package and make it easy for handling by consumers (Annan, 2018).

3.3.2 Secondary Packaging

The secondary package which is also referred to as transport packaging of a product is regarded as the package type responsible for holding together a lot of pre-packed products (Annan, 2018; Hägglund & Carlsson, 2011; Deufol, 2002). The application and use of the secondary package differ from how the primary package is used or applied even though the two may in some situations be regarded as been same. The secondary packaging has direct contact with the core product and seen to render two important functions.

These functions include;

• Display and branding: Secondary packaging is very relevant when it comes to developing strategies to promote the product in the market. This part is regarded crucial when it comes to display packaging.

• Logistics function: In the quest to make product transportation, handling and storage easier for both retailers and consumers, the secondary packaging helps to group many products together into one entity. Secondary packaging has the potential to hold in unison large volumes of packaged primary products. It also has the ability to convey the products safely to the destination of the final consumer and as well maintain the original condition of the product during the storage of the primary packaging.

The secondary package of the product is assumed to provide protection not only for the product, but also to protect the primary package, regarded as crucial in providing visibility to consumers in the store outlet display. Some notably secondary packages are cardboard crates, plastics, cartons and cardboards converted into boxes. In general, the secondary package of the product is largely seen outside the primary packaging that consists of many packaged products put together and sealed in the primary packaging. Both primary and secondary packaging protects products from environmental situations; thus, the primary

packaging protects the main or core products from the environment whilst the secondary provides protection for the primary packaging from damage which will eventually results in affecting the core product. The secondary packaging is external to the product and the visible aspect of the product.

3.3.3 Tertiary Packaging

Hägglund and Carlsson (2011) explained tertiary packaging as the material that is used in handling products in bulk, warehouse storage and this type of packaging materials such as pallets and stretch films. The tertiary package of a product which is sometimes referred to as the transport packaging is used to move in Unisom many products that are in secondary packages (Annan, 2018). The tertiary packaging helps to protect the products primary and secondary packaging from environmental damage during product handling and transportation from point of manufacture to point of destination (Deufol, 2002).

The crucial function performed by tertiary packaging is in relation to the distribution or movement of the product from manufacturer to consumer destinations (Simms & Trott, 2010). Then again, Deufol (2002) continue to argue that, tertiary packaging mainly takes the form of stretch-wrap plastic film, pallets or shrink-wrapped plastic hoods. Tertiary packaging involves elements that includes layer pads, pallet caps or cardboard corner guards.

3.5 The Functions of Packaging

Packaging serves to preserve items from outside effects and harm, as well as containing them and providing ingredient and nutritional information to consumers (Wyrwa & Barska, 2017; Arvanitoyannis, Khah, Christakou & Bletsos, 2005). Containment, protection, communication, and convenience are all goals of food packaging.

3.5.1 Containment Function

According to Venkatesh and Alsamuraaiy (2019), the containment function of packaging simply refers to the ability of the package to contain or hold the product for it to be easily moved or stored. Containment function is a crucial element for other functions of packaging but it is sometimes overlooked. Containment helps to avoid product loss or contamination and also a key factor in distribution of products from their manufacturing destination to their final destination or point of consumption. During the days of early packaging, products such as liquids, grains and powders were contained using baskets, leaves from tress or skins of animals etc (Kuswandi, Wicaksono, Abdullah, Heng, & Ahmad, 2011). Containment function protects products from physical damage and environmental damage as a result of exposure to water, light, microorganism and gases (Kuswandi et al., 2011).

3.5.2 Protection Function

There exist two major categories of damages that processed foods or products passes through during storage and transportation (Venkatesh and Alsamuraaiy 2019, Kuswandi et al. 2011). Typical among these two damages are physical damage such as shock, vibration and compressive forces. Damage caused by the environmental is also another that products can sustain during storage and transportation. This damage occurs as a result of the product being exposed unfavourable conditions such as water, light, gases, odours and microorganisms. The packaging system of the product help to protect and as much reduce the level of damage to the package contents. For instance, a shelf-stable food in a can may maintain its strength as long as the package provides protection.

3.5.3 Communication Function

The function of communication with respect to packaging does not only consist of providing information but components of the packaging such as package shape, colour, brands, symbols also help in communication (Venkatesh and Alsamuraaiy, 2019). Aside the provision of information, the communication function of packaging is presumed to attract or lure the consumer to purchase the product. Consumers may instantly recognize products on packaging thanks to images or distinctive branding, and even basic transparency of the package material can entice customers by allowing them to see the product inside (Selke, 2012).

3.5.4 Convenience Function

Convenience as a function of packaging deals with the End-user. End-users request for products that fit into their lifestyles and the packaging industry must equally respond to this function of packaging in order to satisfy their consumers. As a result, the utility function encompasses all packaging qualities that offer value and convenience to the product's users. Food products that offer simplicity and convenience have undoubtedly gained appeal among this set of end-users (Venkatesh and Alsamuraaiy 2019, Kuswandi et al. 2011).

3.6 Sustainable Development

Sustainability has been considered as a major movement as a result of its growing relevance (Memili, Fang, Koc, Yildirim-Oktem, & Sonmez, 2018; McDonagh & Prothero, 2014). The genesis of sustainability can be tracked to the "modern environmental movement" back in the 1960's (Elkington & Trisoglio, 1996). In recent times, there have been a growing interest in issues relating to sustainability and the trend can be credited to the "World Commission on Environmental and Development or the Brundtland's report".

The "Brundtland Report" is credited to be the starting point on discussion relating to sustainable development. The "Worlds Commission on Environment and Development (WCED) defined Sustainable development as the process of meeting the needs and wants of the current generation without compromising the potential of future generations in meeting their own needs and wants (WCED 1987)". The concept of sustainable development has been a highly deliberated subject that does not have a definite definition (Dryzek, 2005). However, according to Banarjee (2003), different perspectives regarding the "Brundtland's' commission report on sustainable development have been opposed by some scholars" (Banarjee, 2003).

According to Dresner (2008), the Brundtland report is vague and understanding the concept of sustainable development is subjected to varied analysis. As a result, Bebbington (2009) argued that the concept encompasses a large number of conversations and acts. Different players' acceptance of sustainable development has arguably rendered the concept virtually worthless (Banarjee, 2003). As a matter of fact, "the Brundtland report recognizes the various observation by alluding to a compromise that painful choices have to be made (WCED, 1987). The WCED, however, failed to elaborate on what painful choices must be made".

3.6.1 Sustainable Development Goals

The United Nations General Assembly set a target of fifteen (15) years for its members in 2015. The goal of this target is to attain seventeen (17) global goals known as the Sustainable Development Goals (SDGs) (Tuokuu, Kpinpuo & Hinson, 2019; United Nations, 2015). "The seventeen (17) goals were a plan of action for the planet, people, and prosperity, according to the UN resolution" (United Nation, 2015). Tuokuu et al. (2019), Hak, Janouskova and Moldan, (2016) and United Nations (2015) aver that the seventeen Sustainable Development Goals are: "Eradication of poverty, Zero hunger, Establish good

health and well-being, Provide Quality education, Enforce gender equality, Clean water and sanitation, Affordable and clean energy, Decent work and economic growth, Industry, Innovation, and Infrastructure, Reduced inequality, Sustainable cities and communities, Responsible production and consumption, Climate action, Life below water, Life on land, Peace, justice and strong institutions, Partnerships for goals".

According to Tuokuu et al. (2019) and Rasul (2016), there exist an interconnectivity or relationship between these Sustainable Development Goals. They went further to state that these sustainable development goals provide a roadmap that would help in achieving sustainable future by safeguarding the environment and promoting human well-being. More specifically, these goals are intended to prevent climate change, alleviate poverty, and promote a peaceful and healthy society (Tuokuu et al., 2019; Hak et al., 2016). Some of the Sustainable Development Goals are very relevant to this research. These goals are; Good health and well-being, sustainable cities and communities, climate action, clean water and sanitation, responsible production and consumption.

3.7 The Concept of Sustainability

According to Lee and Jan (2019), the concept of sustainable development gives rise to the term sustainability. When it comes to the discussions on the concept of sustainability, it is been spearheaded by sustainable development (Lee & Jan, 2019). Sustainability have been defined in various ways by different scholars and institutions. Institutions, market environments, academics, and industrial settings all have distinct perspectives and interpretations of sustainability (Memili et al., 2018). The following are some notable definitions of sustainability:

In defining sustainability, the "Centre for Sustainable Enterprise" (CSE) defined it as a means of conducting business for the purpose of making profit whilst making efforts to

avoid harming the planet and people (CSE, 2010). Dresner (2008), on the other hand, characterized it as a notion that recognizes the social, environmental, and ethical boundaries to economic growth. Then again, the concept has been recognized by many firms as organisational responsibility whose purpose is to achieve a reduction in risk associated with business, and expansion of market prospects (Bansal & Song, 2017) whiles Aras and Crowther (2008) and Sharma and Henriques (2005) aver that, sustainability is a multifaceted concept that encompasses multiple stakeholders and incorporates production efficiency and distribution equality.

The definitions of sustainable development and sustainability encourages businesses to indulge in activities that place needs of future generations at forefront and firms that want to be recognized as promoters of sustainability, must be cautious of environmental integrity, economic propensity, and ethical behaviours (Bansal & Song, 2017; Scherer, Palazzo, & Seidl, 2013). The activities relating to sustainability concept have great relevance to organizations, government, and government institutions as well as policy makes (Epstein, Buhovac, & Yuthas 2010; Epstein, 2018). According to Epstein (2018) and Lim (2016), the concept of sustainability has been examined from an environmental, economic, ethical, and social perspective. Some emerging markets are indecisive with regards to sustainability whilst other markets are committing themselves to the concept of sustainability and investing into sustainability strategies (Nkamnebe, 2011). Emerging markets, such as Ghana, are beginning to accept and apply sustainability issues, according to Nkamnebe (2011).

Sustainable development goals and Millennium Development Goals are championed by governments at the macro level, while sustainability practices in developing markets are firm-level efforts (Nkamnebe, 2011).

3.7.1 Sustainability and Marketing

Sustainability is currently seen as an opportunity rather than a requirement in many commercial activities (Ludema, Laszlo & Lynch, 2012). Marketing can encourage the acceptance and implementation of behaviour changes such as healthy eating, recycling, and drinking responsibly, as well as charitable giving (Gordon, Carrigan & Hastings, 2011). Jones, Clark-Hill, Comfort and Hiller (2008) stated that sustainability concept is deep-rooted in the field of marketing. Various works on sustainable marketing debated the impact of marketing techniques and decision-making on environmental, social, ethical, and economic outcomes (Lim, 2016). Researchers are familiar with the concept of sustainability marketing, which originated from concepts such as "ecological marketing, ethical marketing, social marketing, and societal marketing" (Kumar et al., 2016).

In the marketing field, the concept of sustainability has been studies from different perspectives. Some scholars studied the concept from the environmental or ecological perspective whilst others study it from social and economic perspective. Economic, environmental, social and ethics are the four (4) dimensions of sustainability (Belz & Peattie, 2009).

3.7.2 Sustainability and Food Packaging Industry

With the invention of canning in the nineteenth century, the history of modern-day food packaging began. Ever since, food packaging industry experience tremendous growth resulting in better food quality as well as safety (Rezaei, Papakonstantinou, Tavasszy, Pesch, & Kana, 2019). The growth or advancement in food packaging was predominantly steered by the changes in consumer preferences which has sequentially resulted in the increased attention towards sustainable packaging (Rezaei et al., 2019). The complete Life

Cycle Assessment is the most primarily utilized approach for measuring sustainability in the food packaging industry (Heller & Keoleian, 2003)

In addition, Heller and Keoleian (2003) evaluated the sustainability of the food system with respect to US and provided possible means by which this complex system can be enhanced. They continue to aver that the product life cycle approach they utilized gives a framework for understanding the relationship between meeting societal needs, the natural and economic processes that are employed to do so, and, most importantly, the environmental repercussions of these processes. From the beginning to the end of the supply chain, they divide the life cycle of a product in the food sector into five stages.

3.8 Dimensions of Sustainability

Martin and Schouten (2014) stipulated that the most researched or dominant dimensional construct of sustainability are economic, social and environmental concerns but ethical considerations are been studied and favoured as one of the dimensions of sustainability marketing (Mahmoud & Hinson, 2012). However, Knosmanen and Knosmanen (2009) revealed that, ethical or moral concerns have become very relevant for the successful implementation of the sustainability concept. The dimensions of sustainability concept are elaborated on below.

3.8.1 Economic Dimension

As stated by Martin and Schouten (2014), economic dimension of sustainability is a continual process where an economic system has the potential to take care of all the needs of humanity. Subsequently, Alhaddi (2015) asserts that the economic dimension describes the influence that the activities of a firm would have in an economic system. Taking for instance a firm's decision and its activities in relation to profit.

3.8.2 Social Dimension

Martin and Schouten (2014) postulated that, social dimensional sustainability concerns refer to a community's ability to continue to deliver for the benefit of its members or indigenous people. The ability to obtain items such as medicines, food, or clothing, as well as other services, is referred to as the social dimension (Martin & Schouten, 2014). These are social issues or concerns that businesses are encouraged to pay more attention to and address. Prospects must also contribute to and participate in community activities, according to community members.

3.8.3 Environmental Dimension

The rise in demand for resource management and pollution reduction in the environment prompted environmental concerns about sustainability (Martin & Schouten, 2014). The environmental component describes the environmental impact of corporate actions. These concerns are aimed at safeguarding the environment for the current and future generations

3.8.4 Ethical Dimension

According to Mahmoud and Hinson (2012), they argued that ethics is a dimension of corporate social responsibility. The ethical concerns of sustainability concentrate on moral standards and values relating to marketing practices. Knosmanen and Knosmanen (2009) postulated that sustainability is a vital success factor in establishing long-term performance that is motivated by ethical and/or moral standards. Morality refers to moral standards, judgements, and rules of conduct (Culiberg & Mihelič, 2016). Ethics, on the other hand, has been included into marketing (Laczniak & Murphy, 2006).

3.9 Some Empirical Studies on Sustainability

Chabowski et al. (2011), studied sustainability by looking at the structure of sustainability research in marketing. In their study, they propose to test whether future research

differentiate social attributes of sustainability from that of environmental attributes and also to develop framework that would blend sustainability and trends in marketing. Their findings revealed that consumer insight is seen as integral to the performance of socially-based sustainability strategies and later proposed a future study to understand the relevance of social and environmentally focused activities in forming customers' attitudes and behaviour towards a firm.

Additionally, Bernyte et al. (2018) studied sustainability and their work was based on analyzing consumer values and principles in relation to sustainability and its connection with integrated marketing communications. Their study revealed that the values and principles of consumers globally were defined as the idea of taking care of the self, community and the environment with view of practicing sustainability. Their research left a gap to fill by other researchers by asking them to determine whether individuals or groups of individuals have the potential to influence businesses to make a radical shift towards sustainability.

Then again, Abutaleb et al. (2020) conducted a research to assess sustainability from a macro-marketing perspective in Egypt. The aim of their study was to examine consumers' attitudes toward sustainability marketing and their purchase intentions of sustainable products. Their study revealed that consumers in Egypt have little knowledge about sustainable laws and regulations and therefore the government and managers of businesses must be pivotal in encouraging consumers to adopt environmentally friendly products. They recommended research to be conducted in different cultural setting and another age group.

Another sustainability study by Lewis (2005) was based on packaging and the environment, product stewardship and sustainability, and this studies also looked at it from

the view of stakeholder and organizations management and asked for further research into what business organizations consider before choosing a particular package material and it should be measure from the government perspective.

However, consumers see sustainable products as those products that conforms to the standards of sustainable consumptions (Belz & Bilharz, 2005). This means, the consumption of the product must have the potential of reducing the environmental and social problems related to the manufacturing and utilization of the product. A research conducted on Swiss consumers revealed that production method (ecological and conventional), provenance and products packaging are seen as the most relevant characteristics regarding perceived environmental effect on foods (Tobler, Visschers, & Siegrist, 2011)

Another study conducted on consumers of Norway asked how they understood the concept of sustainability as well as the characteristics they regard most relevant for sustainably packaged products (Hanss & Böhm, 2012). The research revealed that, environmental dimensions (natural resource preservation), social dimensions (improving the living standards of the poor and promoting equal opportunities), and developmental dimensions (technological innovation, lifestyle changes, and political priorities) were found to be the most frequently addressed and are thus at the core of consumers' understanding of sustainability. With respect to the relevance of the various characteristics regarding sustainable products, those pointing to protection, preservation and distribution of resources were most relevant.

3.10 Consumer Buying Behaviour

Consumer behaviour is a branch of knowledge that whose focal point is on the activities of consumers (Akinyode, Khan, & Ahmad, 2015). Akinyode et al. (2015) further stated

that, consumer behaviour describes activities relating to how individuals make decision to acquire, use and dispose of products and services. Acquiring is a process that leads to the purchase or receipt of a product, use or consuming relates to the how, where, when and what circumstances consumers use the product whilst the disposal deals with the means by which consumers discard the product and its packaging.

However, Getachew (2018) also asserted that, consumer buying behaviour focuses on the decisions that individual consumer makes with respect to money and time as well as effort made towards consumption of related items. The major objective of marketing is its ability to achieve success in meeting and satisfying the needs and wants of their target customers. Marketing concept in recent time makes customer the pivotal point of organizational efforts. The centre of attention with respect to the marketing concept is to get to substantial buyers, get the pace set for analysing every situation of the target market (Getachew, 2018; Sonkusare, 2013).

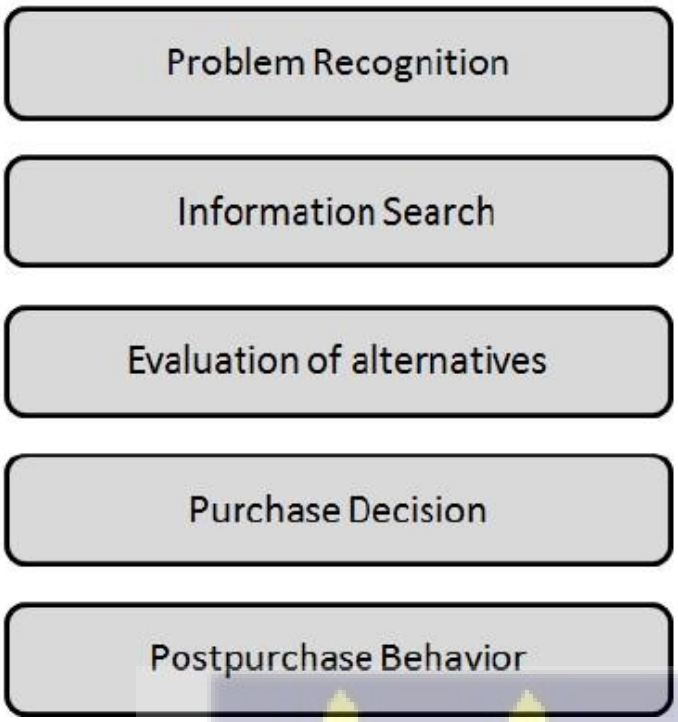
According to Getachew (2018), the main goal of consumer purchasing behaviour analysis is its' bid to describe reasons that make consumers behave in a specific matter under unquestionable conditions. Other scholars advanced that, it is very relevant for marketers to acknowledge why and how individuals decide on their purchase decisions. Availability of this information to marketers would help them to make superior strategic marketing decisions as well as been able to foretell how consumers may respond to different informational and environment signals and to structure their marketing strategies appropriately immediately, they have a clear understanding of the purchasing behaviours of consumers. Without any doubt, understanding of consumer behaviour gives marketers competitive advantage in the market place (Schiffman & Leslie, 2000).

The buying behaviour of consumers can be tracked to the embedded values and attitudes, how they view the world, their place within the world from common sense or from impulse. The modern consumer goes through two different types of purchase decisions such as new-purchase and re-purchase. Decisions relating to new purchases are complex because of the lack of conviction or confidence in making such decision. Consumers feeling with regard to repurchase is good and their confidence level becomes high because they have had past experience in making that product decision (Patwardhan, Flora, & Gupta, 2010). It has been assumed that consumers are reasonable when taking decisions and possess the ability and zeal to undergo the process of making decision to arrive at a suitable option among the many choices that are available.

3.11 Consumer Decision Making Process

Every individual is different from one another based on certain characteristics. These characteristic shapes their reasons for buying different products even though they have the same needs. More so, irrespective of the differences in factors that affect their purchase decisions directly or indirectly, consumers still share some fundamental processes when it comes to decision making. (Nguyen, 2017). Everyone goes through series of mental processes with respect to buying, using and disposing of a product. However, depending on the degree of participation with the decision or product, the consumer goes through some stages to acquire the product or services (Nguyen, 2017, Kotler, Armstrong, Harris & Piercy, 2013). The stages are categorised into five (5) distinct stages namely; recognition of a problem, search for information, evaluation of alternatives, the purchase decision and post-purchase decision.

Figure 3.1 Five Stage Model of Decision Making



Source: Kotler, 2012

3.11.1 Problem or Need Recognition

The consumer's ability to recognize or identify a need or problem is the first step of the buying process. The consumers need to identify their needs before any other step can be taken further. Recognizing a need is the awareness or realisation of adequate gap between the consumers desired and actual state situation to trigger the decision process (Akinyode et al., 2015). Akinyode et al. (2015) aver that, individual consumers must first identify and accept the fact that there is a difference between what they assume as being the ideal status and the actual present status. Need recognition according to Boone and Kurtz, (2013), can be in other way be referred to as an opportunity. The desire to buy certain products and services can be triggered as a result of internal stimuli when the individual's psychological needs for example emotions, hunger, thirst rise up and becomes a drive. Moreover, external stimuli such as advertisement on television and radio as well as discussions with friends can trigger the need to purchase a product or service (Nguyen, 2017; Kotler et al.,

2013). Need recognition is perceived as a result of situations relating to personal, professional and lifestyle. Consumers then determine or decide to resolve the situation provided they have the purchasing power to do so. At this stage of the buying process, marketers must diligently conduct consumer research to know the needs of the consumers, understand the consumers' readiness and potential to purchase a particular product (Kotler & Amstrong, 2006).

3.11.2 Information Search

Consumers being to search and gather relevant information's at this stage due the consumers need been triggered at the previous stage (Nguyen, 2017). However, if a consumer is going for a familiar product in routine re-buying, this stage of the buying process can be skipped entirely (Kotler et al., 2013). Nevertheless, if the consumer shows high degree of uncertainty, the consumer has to search for information's relevant that can help them arrive at a decision that satisfy their needs. The information search can be internal or external Akinyode et al., (2015). Nguyen (2017) postulates that, internal sources of information describe recovering of knowledge from one's memory or perhaps genetic tendencies whilst external search relates to gathering information from friends, family, colleagues as well as recommendation from close acquaintances.

Additionally, if the consumer has already made previous purchase decisions that relates to the present need, the experiential resource will be the first to appear in the search process due to the consumer's previous experience with the product (Palmer, Beggs & Keown-McMullan, 2000). However, due to the increasing rate of technological advancement, internet have made it possible for consumers to surf for virtual and abundant information's conveniently within seconds. The internet sometimes becomes sophisticated thereby providing misleading data or information's.

Another source of gathering information is through advertisement and various forms of promotion. Consumers, on the other hand, are looking to take control of the world; as a result, instead of only doing basic checks before purchasing a product, they are turning over product packages to look for specific, sustainable information and considering product performance and manufacturer reputation as important factors in their purchasing decision (Nguyen, 2017). Every information source is pivotal to determining the final purchase decision of consumers therefore marketers must pay critical attention to identifying the various sources consumers use in searching for product information.

3.11.3 Evaluation of Alternatives

The third stage of the buying process is characterised by evaluating product or service information's available to the consumer after information search. This stage precedes the purchase decision stage (Akinyode et al., 2015). Consumers at this stage sorts information gathered and evaluates them to arrive at the best information that would help in reaching final decision to purchase or not. According to Hussain (2017), the evaluation process can be different based on the individual consumer and the type of buying situation. Most often, consumers utilize intensive evaluation process by computing various facets and logical thinking and sometimes consumers do little or no evaluation process but purchase immediately and believe in their instinct.

According to Nguyen (2017), because there are unintended judgments made apart from subjective evaluation based on psychological elements, the evaluation process comprises more steps than the customer expects. In the process of evaluation, the whole array of products available are trickle down slowly to a more manageable level for it to be evaluated again (Palmer et al., 2000). The re-evaluation is dependent on expected cost and benefit, as well as different attributes in the same product but from different brands (Nguyen, 2017).

In some circumstances, consumers are specific and apply strategic computations and logical reasoning in making choices. However, there are times when small or no evaluation is needed when consumers buy as a result of impulse and rely on their instinct. External marketing events, activities or promotional campaigns undertaken by business organizations are some elements that induce impulse buying. Therefore, to attain the objective of inspiring the purchase process, it is required of marketers to have a clear understanding of the factor influencing consumer's intentions and relationship among those factor (Cubillo, Sanchez & Cervino, 2006), and also finding out the real evaluation brand process of a buyer from a consumer perspective (Kotler & Armstrong, 2013).

3.11.4 Purchase Decision

At this stage of the buying process, the consumer now tries to answer questions like; whether to buy or not to buy. Here the consumer decides whether to buy, when to buy, what to buy, where to buy or how to pay. Akinyode et al. (2015) stated that, there is the possibility of consumers to decide on a specific product or service which they have planned for but sometimes may decide on different product that they did not have the intention to buy. During the time of purchase, certain factors can interfere in the final decisions that consumers would take. These factors can range from internal to external such as consumers budget or what they can afford, the environment as well as influences from friends, family and colleagues (Backhaus, Wilken, & Hillig, 2007). Backhaus et al. (2007) continue to argue that, the purchase decision stage is characterised by occurrences of transactions, thus to say that, once consumers identify their need, they search for relevant information available and consider the alternatives, they take decision to buy or not to buy the product. Immediately the purchase decision has been taken, the consumer move to initiate the action of buying the product except those other uncertainties such as the environment or individual influences sets in.

However, concerns of sustainable marketing such as cutting down the use of toxic packaging materials or increasing the total number of activities supporting humanity or protecting wildlife, leads the buying decision making process to become more complex than when producers seek more environmental sustainability (Nguyen, 2017).

3.11.5 Post-Purchase Decision

The last step of the decision-making process is characterized by post-purchase decision and as such a very crucial stage because it directly affects consumers' willingness to buy the product again in the future. This stage according to Akinvode et al., (2015), is the stage that serves as feedback function into future external search through which consumers experience either satisfaction or dissatisfaction from the purchase and use of the product or services. In addition, Hussain (2017), argued that the decision-making process does not end after the consumer's purchase of the product but consumer's feelings and evaluation of the performance of the product are very important to marketers. A positive performance feedback gives marketers the edge to try and convince consumers to buy their products again and as well become ambassadors for the product through worth of mouth advertising and referrals.

Nguyen (2017) also aver that, consumer's o buyers feeling of satisfaction or dissatisfaction relates to the difference between consumers expectation of the product and the perceived experience. The more the difference that exist between products claims of the producer and the perceived level of outcome, the greater the dissatisfaction. He further continues to stipulate that consumer's satisfaction is "golden key" that helps to build a good and lasting relationship with customers and develop high level of loyal consumers.

3.12 Types of Consumer Buying Behaviour

3.12.1 Dissonance Reducing Buying Behaviour

The dissonance reducing buying behaviour transpires when the customer finds it hard to distinguish between other brands. Due to this, consumers may respond fundamentally to a relatively better or lower price. After a purchase decision by consumer, they have the tendency to experience post-purchase dissonance which is also referred to as "after sales discomfort". This type of consumer behaviour is predominantly exhibited by unenlightened consumers (Getachew, 2018; Kotler & Keller, 2006).

3.12.2 Habitual Buying Behaviour

This type of purchasing behaviour of a consumer is the kind of consumer purchase decision that is characterised by low consumer involvement. This implies that, consumers don't look for enough information within available brands and they as well don't find any notable variance among the available brands. The consumers purchase the product without an in-depth level of involvement. Consumers develop this habit if they continue to purchase a particular product and brand over and over again (Getachew, 2018; Kotler & Keller, 2006).

3.12.3 Variety Seeking Buying Behaviour

Consumer involvement level is low with respect to variety seeking buying behaviour but the consumer can recognize notable variations between the brands. Consumers switching behaviour with respect to various brands is very often in variety seeking buying situations. This purchase decision is usual among consumers who want to be ahead of trends relating to fashion (Getachew, 2018; Kotler & Keller, 2006).

3.12.4 Complex Buying Behaviour

With respect to complex buying behaviour, the involvement of consumers in making purchase decision is very high. In the event of high involvement, consumers differentiate principal differences within competing brands. These consumers are extremely involved in case of expensive and highly self-expressive products (Getachew, 2018; Kotler & Keller, 2006).

3.13 Factors Affecting Consumer Buying Behaviour

Factors that impede on consumers readiness to buy, use and discard products can be categorized into psychological influence, personal factors, cultural values of consumers and social factors or behavioural outcomes of consumers.

3.13.1 Psychological Factors

Consumer's decision with respect to acquiring new product requires an engagement in the processes explained in the psychological core. The psychological factors include; motivation, perception, learning, attitudes and beliefs, self-concept and lifestyles. The consumers must be motivated as well as having the opportunity to be exposed to, perceive, and attend to information. The consumers need to think about this information, create opinions about it, and form memories about it (Getachew, 2018).

3.13.2 Cultural Factors

The consumer's cultural environment also impacts on their motivation, ability to process information and the type of decisions they take. Cultural factors can influence consumers in making purchase decisions is their environment. The purchasing environment of the consumer is made up of their culture, subcultures and social class. Every culture consists of subcultures or group of individuals sharing similar values. Sub-cultures are made up of

religions and racial groups, nationalities and geographical regions (Kotler & Armstrong 2008).

3.13.4 Personal Factors

Consumers purchase decision can be influenced by their own personal characteristics such as; gender, age, families, ethnic group, life-cycle, occupation, income level, self-concept and friends affect consumer's values and their lifestyle. These factors one after the other influences the decisions consumers take and how those decisions are being taken (Getachew, 2018; Hoyer & Macinnis, 2010). Marketing organizations forms part of the consumers' immediate environment because these organizations make available product that provides the needed satisfaction consumers desire (Getachew, 2018; Kotler & Armstrong, 2008).

3.14 Sustainable Packaging

There have been several attempts by various organizations and NGOs to define sustainable packaging. Notably among them are Sustainable Packaging Coalition (SPC) located in the USA and Sustainable Packaging Alliance situated in Australia (Boz et al., 2020, Meherishi, Narayana & Ranjani, 2019, Orzan et al., 2018, Nordin & Selke, 2010). The concept of sustainable packaging has not been adequately conceptualized. Researchers exploring this topic have also used terms like eco-friendly packaging, green packaging design, sustainable design, eco-design, design for the environment, and environmentally conscious design interchangeably (Sumrin et al., 2021; Boks & Stevels, 2007).

The definition of sustainable packaging by Sustainable Packaging Alliance (SPA) was established on four principles and these principles include; effective, efficient, cyclic and safe. Effective as a principle refers that, innovation of packaging should concentrate more on the advancing its functionality, protecting product and promoting responsible

consumption. The system's ability to reduce the usage of natural resources, reduction in waste and emissions throughout its life cycle refers to the principle of efficiency. The system must be cyclic enough to be able to reduce material depletion whilst improving the recovery of materials and also structured to reduce safety and health risk to humans and the eco-system (Nordin & Selke, 2010). Then again, Sustainable Packaging Coalition (SPC) also defined sustainable packaging as a strategy where every packaging is obtained responsibly and designed to be more effective and safer with renewable materials that have the ability to be recycled as well as meeting the conditions for market performance (Boz et al., 2020)

Consequently, sustainable packaging has also been referred to as the attempt to lower the environmental impact of products and services through their packaging (Magnier et al., 2016). Magnier et al. (2016) continued to argue that, in this 21st Century, a lot of consumer products and services manufactured for sale are packaged and their environmental impact does not rely solely on the products alone but also its package.

However, sustainability has a wider understanding and can be referred to as animal care, human health and people's living as well as working conditions. In relation to human health, scholars frequently use the term "organic" for products that are classified to be healthy especially those studied in context related food (Van Doorn & Verhoef, 2011). It is stated that, organically packaged products have a positive influence on the environment and has been achieved by way of reducing the use of pesticides and artificial fertilizers in the production process. It also has positively impact on the human health because they are less processed and natural compared to conventional products (Cornelissen, Pandelaere, Warlop, & Dewitte, 2008).

In recent times, global warming became an important issue for the society at large due to the environmental concern. Since the society has become aware that environmental pollution is caused by global industrial manufacturing, organizations have agreed to take responsibility for the act (Chen, Lai & Wen, 2006). With respect to perspective on consumption, use of energy, household waste and discarded products have the substantial negative effect on the eco-system and as a result make packaging come to the forefront in a negative way. Even though consumers know about these ill situations and are persuaded to be concerned about the well-being of the environment, there haven't been any remarkable change in the consumers consumption pattern (Rokka & Uusitalo, 2008).

The level of concern by consumers with regard to the problem of waste reflected in the work conducted by Research and Markets (2017). Referring to Research and Markets, market for global sustainable packaging is steadily increasing at an aggressive pace and will in no time attain a market size of US$ 4403 billion by the year 2025. As a result, business can not only help reduce waste by investing in sustainable packaging, but they can also help their products succeed faster by tapping into a rapidly increasing market.

Moving forward, research regarding efficacy of sustainable packaging is somehow conflicting. According to Roper and Parker (2006), environmental packaging characteristics have relatively less impact on the consumers purchase decision whilst some researchers also conveyed that environmental packaging have the tendency to be very relevant in the decision-making process of the consumer. Then again, Silayoi and Speece (2007) stipulated that, for one third of the population, sustainable packaging is seen as the most relevant attribute or characteristics for the choices they make. Comparably, Rokka and Uusitalo (2008) had together a research with the purpose of identifying the comparative relevance of different packaging attributes of function drinks. The outcome of their study revealed that environmental packaging is a firmly favoured attributes among

consumers. However, the few scholars who conducted research on environmental sustainability and packaging asserted that the topic have not been clearly investigated.

3.15 Sustainable Packaging and Consumer Purchase Decision

Over the last two decades, the ecological functions of packaging have been extremely enforced due to the impact packaging is having on the environment (Petljak, Naletina, & Bilogrević, 2019). The realization of ecological packaging functions can be seen in various ways such as; packages made with recyclable materials, materials that are eco-friendly, reduction in number of wrapping packaging's per product unit, sale of more units in a single packaging, adoption of bio-degradable materials, packaging designs, ecological labelling and edible packaging for food products (Petljak et al., 2019).

3.15.1 Bio-degradable Packaging

In recent time, the ecological characteristics of packaging are seen to be of more relevance compared to economic characteristic of packaging. This reality benefits the packaging materials based on cellulose because it has the potential of being replaced with afforestation of the utilized resource and are very suitable for recycling. These advantages resulted to the increased utilization of paper and cardboard packaging materials (Jamnicki, Lozo, Rutar & Barušić, 2011). The phrase eco-sustainable packaging describes the yardstick evaluating the influence of used and throw away packaging on the environment. Eco-sustainable packaging is predominantly occupied by the concept of bio-degradability (Petljak et al.; 2019, Shen et al., 2009).

Bio-degradability is an absolute facet for a sustainable material to retain the loop of "Cradle to Grave" closed for plastic use (Petljak et al., 2019; Shen et al., 2009). When it comes to understanding environmentally friendly packaging, paper packaging, wood packaging and cardboard packaging are the most commonly accepted because they have

the ability to degrade in natural conditions without the product causing harm to the environment. However, glass and metal packaging materials are as well acceptable because most aspect of the glass is made of natural mineral raw materials and the metals are also made from compounds (iron and aluminum oxide) found in the soil (Vujković, Galić, & Vereš, 2007).

Additionally, bio-degradable concept has experienced a tremendous improvement in the floriculture industry with respect to the adoption and use of bio-degradable, compostable or bio-resin containers which are sometimes referred to as green containers (Lubick, 2007; Hall et al., 2010;). The green containers have turn up to take advantage of the green marketing and environmental awareness campaign. These containers are manufactured using bio-based materials and have the attributes of plastic without the petroleum base (Hall et al., 2010). These containers are labelled as bio-degradable because they are having the potential of decomposing naturally due to the actions of micro-organisms (White, 2009).

Packages that have the ability to be broken down gradually by micro-organisms when in contact with the soil are considered biodegradable (Hall et al., 2010; White, 2009). Majority of the biodegradable packages or containers are manufactured using peat, paper or coir fiber but peat materials are the most relevant (Tomadoni, Merino, Casalongué, & Alvarez, 2020). More so, spruce fibre; wood fibre, recycled paper, degradable paper is also regarded as biodegradable package materials (Hall et al., 2010). Notably among the benefits obtained from using biodegradable materials for packaging is the reduction or elimination of plastic waste.

According to Hall et al. (2010), consumers are not the same and their decision regarding product purchase are not the same either. These differences exist due to differences and

changes in attitude, preferences and behaviour that characterise their acceptance and purchase of products (Kotler and Keller, 2006). Consumers think and behave differently in response to ideas and products. The existence of environmentally conscious or green consumers has long been recognized and these consumers are more likely than the general population to consider environmental concerns while making purchases. It has been believed that the existence of such customers would carry benefits to businesses that have a track record of environmentally sustainable practices such as sustainable packaging or eco-friendly packaging of products (Hall et al., 2010).

According to most studies, majority of consumers are willing to pay a premium price for products that are environmentally friendly and have pro-environmental attitudes (Hall et al., 2010). However, not every consumer's attitude towards the environment is the same

The negative effect of packaging on the eco-system can be fend off with the adoption and use of packaging materials that are bio-degradable (Vujković et al., 2007). This implies that, the packaging materials are produced from materials that can degrade or decompose under certain conditions. The de-composition can only occur in natural conditions when the packaging material becomes a waste. These natural conditions include; moisture, oxygen, electromagnetic radiation, biological influence and constable packaging that decompose after sometime as result of chemical and physical changes in the structure without the effect of extrinsic factors (Vujković et al., 2007).

The first hypothesis have be developed based on the outcome of literature reviewed.

H1: Bio-degradable packaging material have a positive impact on consumers purchase decision.

3.15.2 Recyclable Packaging

In addition to bio-degradability of packaging materials, others such as recycling, reprocessing, energy production and pollution exist (Petljak et al.; 2019). Another means that can be adopted to protect the environment is the utilization of less materials and minimizing the sizes, weight and thickness of package materials as much as possible. The reduction in packaging refers to the act of minimizing the quantity of materials and fewer energy used for the manufacture and distribution of less heavy packaging. Three decades ago, packaging was just regarded as packing which helped to achieve the objective of enabling the transportation of food and drink from one destination to another. This perception has changed completely. Packaging in recent time has come under serious pressure to always develop packages that satisfy new standards of environmental protection (Petljak et al.; 2019). People are becoming more aware of the difficulties facing the world, hence various green packaging options are becoming more popular. It has resulted in a greater understanding of the environmental impact of packaging production. The result of this ecological awareness campaign with respect to packaging, is packaging that can be recycled and is made out of recycled materials (Petljak et al.; 2019)

Recycling is another major way for caring and preserving the environment and it is relatively an old phrase (Klaiman, Ortega, & Garnache, 2016). The utilization of recycled-content materials minimizes the number of resources and energy consumed in the manufacturing process. Furthermore, a market for waste material is established, making recycling more sustainable. All forms of packaging materials can be recycled technologically, but recycling must also be economically appealing to be sustainable (Petljak et al.; 2019). Metals, textiles, wood, paper and plastic packaging can all be recycled (Saidan, Drais, & Al-Manaseer, 2017).

As the consumption of packaged products has increased tremendously, pressure is been mounted on companies to take responsibility for the whole life cycle of their products and a high interest in sustainable packaging have increased with the quest to support environmental consumerism (Martinho et al., 2015). Environmental consumerism sometimes referred to as green buying is a type of environmentally conscious behaviour exhibited by consumers in the form of purchasing and consuming products that are co-friendly (D'Souza, Taghian, & Lamb, 2005). In addition, companies have reacted to this problem by promoting increasing recycling of their packaging materials. "For instance, Coca-Cola has released a green leaf recycling logo for their products" with the idea of promoting recycling behaviour (Lane and Wagner, 2013).

Packages that have been used and disposed is a relevant secondary material with the potential of being used again as materials in energy and chemical recycling (Petljak et al., 2019). Recycling waste into another raw material is a move towards attainment of sustainable development goal. Everything can be reused, recycled or composted; but all depends on the ability of it been sorted out, as well as resilience waste management structure (Seadon, 2010).

Even though studies on product specific recycling and consumer preferences for recyclability using revealed likeness is scarce, few researches have investigated self-reported consumer preferences for recyclability of product packages (Klaiman et al., 2016). Sustainable packaging is gaining much attention because it is a move in the right direction towards the achievement of sustainable development goal. Recently, consumers make ecological choices when they are to choose between similar products. Consumers prefer products that are packaged with environmentally friendly materials. They prefer product packages that can be easily recycled or converted into another raw material (Petljak et al.; 2019). Consumers send clear messages to manufacturers that they will only

go for products that are packaged in environmentally friendly package materials. Consumers are beginning to prove that; price and quality of products are no longer enough to influence their choices and this has resulted in manufacturers integrating sustainability into their packaging. Ecological acceptability has become "added value" of the product (Petljak et al.; 2019).

From the standpoint of the consumer, recycling has the potential to be healthy, achieve life-sustaining goals, and preserve future generations (Bagozzi & Dabholkar, 1994). In addition to the concept of packaging, recycling and waste play an important part in a sustainable environment. Thus, as consumers perceive recycling as a tool not only for protecting the environment, but also human health and wellbeing, this study stands to investigate these assertions.

Then again, Rokka and Uusitalo (2008), researched on consumer's likeness for certain packaging features such as re-seal, brand and recycling. Their study revealed that, consumer acquire 34% of their total product usage from packaging whilst other consumers forming about 31% opted for environmentally friendly packaging as the relevant element driving their purchase decision. Evidence based on literature suggest that ecological concern is associated to numerous individual and behavioural attributes such as recycling which is regarded to be indicative of pro-environmental concerns (Klaiman et al., 2016.; D'Souza et al., 2005). They further argued that, sales of environmentally friendly products emerge to be a bit stronger in communities with high level of recycling programs. D'Souza et al. (2005) aver that, environmentally conscious consumers are those that purchase products manufactured using recycled or biodegradable materials.

The second hypothesis can be developed based on the outcome of literature reviewed.

H2: Recyclable packaging material has a positive impact on consumer purchase decision.

3.15.3 Package Design and Labelling

Packaging design consists of a blend of structural, graphical and verbal element. The materials used for packaging are the major contributors to direct environmental effect which signal sustainability (Steenis et al., 2017; Lindh, Williams, Olsson, & Wikström, 2016). The graphics and colours on product packages can be used as a medium to communicate or signal sustainability. For instance, green colouring of packaging being completely related to sustainability (Magnier & Schoormans, 2015). Additionally, the verbal attributes of a package can be applied in communicating sustainability unequivocally through labelling that have been intensively reasserted in literature (Magnier & Schoormans, 2015).

Steenis et al. (2017) aver that, the increasing value placed on environment issues by consumers have elevated the value of sustainability to the cutting edge of corporate agenda. Recently, the bedrock of sustainability research has moved from the corporate paradigm to the supply chain paradigm. The designing of a package is a very crucial element in the supply chain of a product. They further argued that, there exist five parts of packaging design that are extremely relevant, one of which being the packaging design for sustainability. Although the foremost function of packaging is the protection and distribution of the right product to the final consumer in a friendly, safe and efficient manner, the packaging is mostly a major problem to the environment. However, a lot of examination of this kind have proven that the environmental impacts of packaging are comparatively less compared with the environmental impacts of the packed food products that they contain. The problem associated with respect to selecting the best package design is finding the perfect balance between the product and the packaging (Gustavo Jr, Pereira, Bond, Viegas, & Borchardt, 2018; Steenis et al., 2017).

The design of a product package is one of the most remarkable aspects of product strategy. (Poturak, 2014; Rettie & Brewer, 2000). Almost 70 percent (%) of every purchase decision with respect to products and services are usually taken at the point of purchase. With this, it can be said that the package of the product is the only marketing communications the consumer might get during product evaluation at the point of purchase. When it comes to decision regarding the purchase of products or services, the role of packaging is very crucial or pivotal. According to Silayoi and Speece (2007), situation where the consumer is uncertain, the product package becomes very relevant in the buying choice because it communicates to the consumer during the decision-making time.

According to Mutsikiwa & Marumbwa (2013), the level of influence that the design of a package has on consumers purchase decision is not new as other scholars have investigated this phenomenon severally. The package design has been used as an important tool for product differentiation, helps consumers in making product choices from a wide range of products that are similar and also stimulates consumers purchase decision (Deliya & Parmar, 2012; Wells, Farley & Armstrong, 2007). Packaging helps consumers to easily identify products and also provides useful information regarding the product because marketers use it as an important tool to perform marketing duties. Then again, Mutsikiwa Marumbwa (2013) continued to argue that the packaging design of a product is a touch point regularly experienced by consumers and it changes the perception of consumers with respect to products. The physical look of a product is assumed to have much impact on influencing the purchasing decisions of consumers more than advertising. When it comes to the marketing discipline, the package design of products is viewed as a "silent salesman or salesman in the shelf".

Most often, Sustainable attributes are communicated to consumers through the products labels that discusses various facets or dimensions of sustainability such as fair trade,

organic or carbon footprints (Bangsa & Schlegelmilch, 2020; Janßen, & Langen, 2017). Decades now, the number of those labels on packaging has improved remarkably. The Eco-label Index (2018) alone currently tracks 463 sustainable labels in 199 countries and 25 industry sectors (Rihn, Wei, & Khachatryan, 2019). Furthermore, several products are closely related with environmental or social sustainability attributes irrespective of not possessing any form of labels pertaining to sustainability. With respect to such products, the sustainability attributes are normally communicated using product packages, information's available at the point of purchase, narrative claims, public relation, advertising, media coverage and corporate websites (Bangsa & Schlegelmilch, 2020).

Understanding consumer response to packaging, according to Silayoi and Speece (2004), is critical for processed food companies competing globally in the rapidly expanding modern retailing industry, where packaging plays a key role in merchandising and communication, and serves as a strategic driver of the dynamic competitive environment for processed food products. An appealing and successful packaging design, with suitable design, pictures, and decorations, is more successful in attracting clients, according to Asadollahi and Givee (2011). In this situation, packaging designs may encourage customers to buy a product again and again.

According to Mutsikiwa & Marumbwa (2013), a brand package is designed to meet the functional and emotional needs of consumers. As a result, it's critical for packaging designers to have up-to-date knowledge on customers' changing needs, as well as their attitudes and impressions of specific designs and how they influence purchasing decisions. However, majority of products sold in retail store settings, claims and labelling of product packaging and relevant information's available at the point of purchase are often the most crucial mediums for communicating sustainability attributes to consumers (Kiesel & Villas-Boas, 2013). These information's shape their decisions when purchasing products.

Consequently, best sustainable labels focus on either the social or environmental dimension, or a combination of both (Rihn et al., 2019).

Based on literature and findings, the third hypotheses can be conducted:

H3: Sustainable packaging design and labelling have a positive impact on consumers purchase decision.

3.15 The Moderating Effect of Price Sensitivity

Moderations are typically used in research to either strengthen or weaken relationships (Mohammed, Mahmoud & Hinson, 2021; Hayes and Rockwood, 2017). Products manufactured to be eco-friendly or to promote environmental sustainability comes with a cost due to the need to apply advanced technologies and modern practices in the course of production and operations (Yue, Sheng, She & Xu, 2020). However, much is not known with respect to how price sensitivity actually affects the purchasing behaviour of consumers regarding sustainably packaged products or products that are eco-friendly. Price sensitivity as defined by researchers within the consumer behaviour domain states that, prices sensitivity is the extent to which individuals differ in their reaction to price changes and price differences of the product or service (Khaleeli, Oswal & Sleem, 2021; Stall-Meadows & Davey, 2013).

Majority of research relating to price sensitivity sees it as a direct or indirect precursor of the consumers purchasing intention of an environmentally friendly products (Khaleeli et al., 2021; Ghali-Zinoubi, & Toukabri, 2019; Sun & Wang, 2019; Hahnel, Ortmann, Korcaj & Spada, 2014; Stall-Meadows & Davey, 2013) but fewer research explore its moderating role between consumers environmental concern, sustainable packaging and green purchasing decision. Even though consumers presume to be concerned about the environment, the possibility of adopting pro-environmental behaviour in making purchase

decision is low due to the fact that, the price of eco-friendly or green products are higher than products that are traditionally packaged (Malik, Singhal & Tiwari, 2017).

Chekima, Wafa, Igau, Chekima and Sondoh (2016a) stipulated that consumer requesting for green products are willing to pay premium prices for the products due to their trust in the value of those products. Then again, Gleim, Smith, Andrews and Cronin (2013) argued that the prices of green products influence the purchasing decision of consumers. Generally, consumers' willingness to pay the premium price for green products are extremely low (Neff, 2012) and this assertion has been supported by Maheshwari and Malhotra (2011) but their view was attributed to the poor or lack of consumers' awareness of environmental issues and such consumers are highly sensitive to green products price.

Hsu, Chang and Yansritakul (2017) revealed that price sensitivity is a crucial element affecting purchasing decisions and consumers that are characterised with low price sensitivity are more likely to pay for electric vehicles. Gleim et al. (2013) states that consumers with a positive attitude toward environmentally friendly products may not turn this positive attitude into real green behaviour, because the cost of the green behaviour is too high. Based on previous research, consumers with a high degree of price sensitivity might be less likely to impose their environmental consciousness and beliefs on green purchasing behaviour.

It can be concluded that, there is little research regarding consumers perception about environmentally friendly products and its quality compared to the conventional products. This research attempt to throw more light on the relationship between sustainable packaging and consumers purchase decision and how these variables are related in shaping a consumer's behaviour towards the adoption of environmentally friendly products. The research will also look at how price sensitivity can moderate this relationship.

Based on literature and findings, it can be hypothesized that;

H4a: Price sensitivity have a negative moderating role on Bio-degradable packaging and consumers purchase decision.

H4b: Price sensitivity have a negative moderating role on Recyclable packaging and consumer purchase decision.

H4c Price sensitivity have a negative moderating role on sustainable packaging design and labelling.

3.16 Control Variables

Several factors affect consumers when making purchase decision and these can vary from one individual to the other due to their demographic make-up. Research has proven that demographic variables impact positively and negatively on an individual's desire to purchase green products and as well develop the green buying behaviour. Demographic variables such as gender, age, educational level, income, occupation and size of family have notable relationship with respect to green buying behaviour (Chekima et al., 2016a).

3.16.1 Education

Several studies have revealed that, high level of education increases the overall awareness of issues relating to sustainability resulting in positive green consumer behaviour (Chekima et al., 2016a). They further argued that, customers who frequently purchase green products are those of higher education. More so, Zsóka, Szerényi, Széchy and Kocsis (2013) revealed in their studies that, majority of their respondents who happens to be university student compared to high school students, possess high level of satisfaction regarding ecological knowledge and are perfectly aware of the need for change in behaviour of consumers with the goal of protecting the environment. Then again, it was stipulated that individuals with high levels of education have a higher level of environmental knowledge, greater environmental attitudes and concern as well as strong

desire to buy green products. This is so because people with high level of education are most often well-informed resulting in their quest to preserving the environment. Protecting the environment by these highly educated and environmentally informed consumers will predominantly reflect in their purchasing decision. These categories of consumers will prefer products that have a well-designed and sustainable package than those packaged in conventional packs.

3.16.2 Income

One of the deciding and crucial elements that impacts on the buying decision and behaviour of consumers is their level of income (Pratap, 2017). Based on the variation in income of consumers, the differences in their choice of products as well the trend in their purchase can easily be determined. Consumers belonging to the middle class base their buying decision on utility. Nevertheless, a consumer belonging to the upper class would base their buying decision on style, design and unique attributes. The income level of consumers would determine the calibre of products or services they would frequently purchase. Chekima et al. (2016b) argued based on the model of purchasing decision process that, the income levels of consumers predominantly have an effect on their purchase intention and those consumers possessing high level of income have the probability of behaving pro-environmentally. However, Chekima et al. (2016b) and (Mahmoud et al., 2011) consider income as a notable factor influencing consumer's decision to buy green products or sustainably packaged products. Arguably, sustainable or green buying behaviour relies on the consumer's economic situation. Most consumers would be mush interested as well as having the desire to purchase green products when they have enough money.

3.16.3 Age

The differences in ages of consumers and their behaviours are result of the physical and psychological aging processes and the various life experiences they have amassed over the period (Fang, Wen, George & Prybutok, 2016; Sharma, Chen & Luk, 2012). The everyday needs of people change as they grow and those changes reflects in the buying decision making patterns (Pratap, 2017). Changes that are related to age, are said to determine the differences in decision making regarding old and younger consumers (Fang et al., 2016). Vistharakula and Kaushik (2021) believe that the age of consumers have an influence on their consumption behaviour. The behaviour of consumers and their understanding and perception regarding environmental issues might be different due to age factor when deciding to buy green products. They further revealed that, older consumers exhibit less concern towards the environment based on existing habits and variations in culture. However, In and Ahmad (2018) aver that, older consumers have the propensity to purchase a lot of green or environmentally packaged products compared to the younger consumers.

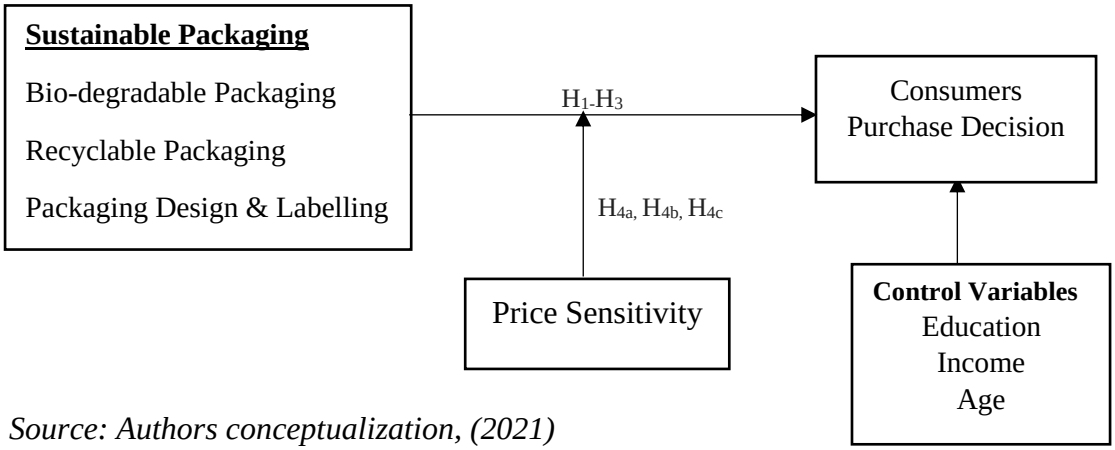
3.17 Conceptual Framework

According to Miles and Huberman (1994), theoretical presentation is first and foremost a blueprint of the area that a researcher wishes to examine or investigate. Graphics or narrations can be used to describe this blueprint. The identification of the best theories from other studies is mostly referred to conceptualisation or conceptual framework (Miles & Huberman, 1994; Jabareen, 2009). Jabareen, (2009) explained conceptual framework to be a network or "a plane" of interconnected concepts that jointly provides a thorough understanding of a phenomenon or phenomena. However according to Miles and Huberman (1994), a conceptual framework outlays the crucial factors, constructs, or variables, and imagine relationships between them. Jabareen continued to postulate that,

concepts constituting the conceptual framework reinforce each other, articulate their respective phenomena and develop a framework-specific philosophy. Conceptual frameworks have ontological, epistemological, and methodological assumptions, and every concept in the conceptual framework plays an ontological or epistemological role. Sustainable packaging and consumer purchasing decision is relatively an emerging concept in developing countries which was the bases for the formation of logic behind this study. That is to assess the impact of sustainable packaging elements on consumers purchase decision.

The conceptual model below is crafted from the extant literature reviewed and the hypothesis developed. Bio-degradable packaging, recyclable packaging and packaging design and labelling are the elements of sustainable packaging that this study intents to measure. The tenet of the whole study is that, the elements of sustainable packaging will influence consumer purchase decision with respect to product purchase. Thus, the study wants to found out if consumer really take into consideration the environmentally friendly nature of product packages before buying. Price sensitivity is deployed as a moderator to test the dept of the relationship between the sustainable packaging elements and consumer purchase decision. Thus, to say whether price sensitivity will strengthen or weaken the relationship. Control variables such as age, education and income were also introduced to see whether consumers purchase decision with respect to sustainable packaging can be influenced by their age, education or income.

Figure 3.2 Conceptual Model of the Study



Source: Authors conceptualization, (2021)

3.18 Theory Guiding the Studies

According to literature, theories are constructed to explain, predict, and interpret phenomena, as well as to question and extend current knowledge within the limitations of important boundary assumptions (Abend, 2008). Stewart and Klein (2016) also described theory as an explanation of a phenomenon based on a careful examination and consideration of the relevant evidence. Theories can be used at many phases of the research process, providing a justification for the study as well as a framework for data analysis and interpretation. It is very important to consider theoretical basis right from the planning stage of a research. Therefore, this research examines how theory of planned behaviour (TPB) can inform and improve the quality and relevance of sustainable packaging and consumer purchase decision.

3.18.1 Theory of Planned Behaviour (TPB)

The theory of planned behaviour (Icek Ajzen, 1985,) is an addition to theory of reasoned action (Fishbein & Ajzen, 1981). This theory is regarded as a powerful theory used to understand and predict the behaviour of people. TPB is a theory in social psychology and one of the best supported theories among social psychological theories. TPB is a

comprehensive but condensed psychological theory that identifies a creative form for understanding a wide variety of human behavior (Hegner, Fenko & Teravest, 2017). Based on the theory, an individual's intention to perform a certain behavior is influenced by his or her attitude, subjective norm, and perceived behavioral control (Hegner et al., 2017). According to TPB, attitude is related to individuals' personal factor and it is seen as the individuals' positive or negative assessment of carrying out the behaviour (Ajzen 1985; Hegner et al., 2017; Pujadas-Hostench et al., 2019). Hegner et al., (2017) refers to attitude as the individuals' favourable and unfavourable assessment of carrying out a particular behaviour.

On the other hand, Ajzen (1991) postulated that subjective norm comes from an individual's feelings of being under societal pressure to execute or not to execute a particular behavior whilst Subjective norm, according to Hegner et al. (2017), is the willingness to act as others think you should act and is thus internally controlled. Perceived behavioural control refers to a person's sense of how easy or difficult it is to do the desired activity (Ajzen, 2011). Also, PBC is the individual's feelings of their inner and outer limitations to perform a given behavior and their ability to engage in this particular behavior (Pujadas-Hostench et al, 2019). However, according to TPB, behavioral intention, which is an individual's anticipated likelihood of carrying out a behavior, is the most immediate or direct determinant of behavior (Kan & Fabrigar, 2017). According to Kan & Fabrigar (2017), behaviour is an undisguised action or collection of actions carried out by an individual. Behavior can be interpreted widely or narrowly and is a function of the researcher's theoretical or applied objectives (Kan & Fabrigar, 2017).

3.18.2 Application of Theory to Study

This study's underpinning theory is the theory of planned behaviour, which states that environmental awareness will lead to the intention to buy environmentally friendly

products, and that purchase desire will lead to purchasing behaviour (Khaleeli et al., 2021). Many researchers focus on purchase intention, particularly when it comes to environmental knowledge as an antecedent (Akroush, Zuriekat, Al Jabali & Asfour, 2019). For example, it has been proposed that environmental knowledge has a positive impact on consumer attitudes, and that consumer attitudes are directly linked to purchasing behaviour (Akroush et al., 2019).

According to the TPB, consumers' attitudes about sustainable products are largely influenced by perceived behaviour. For instance, a person's own behavioural elements, such as environmental awareness and knowledge, are driving forces in the possibility of contributing to a solution for an environmental issue like packaging waste (Aitken, Watkins, Williams & Kean, 2020). Literature and studies regarding green consumption has stated that, there is a substantial link between the attitude of consumer and their green purchasing behaviour (Wang, Fan, Zhao, Yang, & Fu, 2016).

According to TPB, one's attitude toward a behaviour is the degree to which he or she considers the behaviour to be positive or bad (Amoako et al., 2020; Ajzen, 1991). TPB further asserted that, the more positive an individual's attitude with respect to a particular behaviour, there is a high possibility of the individual copying that behaviour (Yadav & Pathak, 2016). Individuals tend to exhibit positive attitudes when they positively assess behavioural outcomes and this positive assessment makes them more likely to engage in certain behaviours. Therefore, the ability of the consumers to develop a favourable attitude towards sustainable packaging and/or product packages that are biodegradable or recyclable would help in shaping their purchase decision making with respect to sustainably packaged products. Martinho et al. (2015), for example, looked at how recycling activities were distributed within the family and found that members of the household with good attitudes toward ecology and environmental protection had a bigger

proportion of the recycling burden. It is however crucial for consumers to first develop a positive towards environmental protection before that behaviour would be translated into the possibility of adopting products that are sustainably packaged.

Secondly, subjective norms apply to people's expectations of the social cost of engaging in or not engaging in a certain form of behaviour (Ajzen, 1991). Subjective norms are concerned with the opinions of people who are important to a person and have an influence on their decision-making. According to the TPB, a person may or may not engage in a particular activity or behaviour whether he or she feels that individuals who are valuable to him or her accept or reject such behaviour (Amoako et al., 2020). Therefore, a consumer may develop the attitude towards products that are packaged in environmentally friendly materials and go on to purchase such products as a result of social influence. An individual's attitude can as well be shaped when his or her friends are engaged in purchasing products that are sustainably packaged or are in biodegradable or recyclable packages. For instance, concerning subjective norms, societal pressure or normative influence refers to an individual's concern about how others would judge them if they do not recycle, such as family and neighbours. Social influence is a significant factor in recycling behaviour (Martinho et al., 2015).

Perceived behavioral control, on the other hand, shows how simple or difficult it is for an individual to act in a certain way and claimed to consider previous experience as well as anticipated stumbling blocks and hindrances (Ajzen, 1991). As such, consumers can form a favourable attitude towards environmentally friendly products but the cost of such products could be a hindrance since eco-products are a bit higher than the traditionally packaged ones. To support this, Malik et al. (2017) argued that, despite the fact that customers are ostensibly concerned about the environment, the likelihood of implementing

pro-environmental behaviours in purchasing decisions is poor because eco-friendly or green products are more expensive than conventional packaged products.

Consequently, Boz et al. (2020) stipulated that, an individual's behaviour and inspiration to participate in such behaviours are influenced by a variety of factors. Acting in an environmentally friendly manner, for example, is the product of a person's intentions and perspectives on environmental issues. TPB illustrates an individual's attitude as well as his or her intentions regarding sustainable products, societal norms pertaining to sustainability, and the recognized degree of complexity of engaging in a particular sustainable behaviour, all of which lead to actual measurable behaviours such as purchasing sustainable products or recyclable/bio-degradable products. According to Amoako et al. (2020), the TPB has been applied in various disciplines for predicting intention and behavior. Finding from many studies showed that TPB is useful in explaining environmental behaviours and has been deployed to study phenomenon such as green products, green hotels and restaurants and many others. To sum up, this notion is employed in TPB to improve the prediction of specific observable behaviors, particularly those that are sustainable.

3.19 Chapter Summary

The chapter three provides detail overview of existing literature on the subject relating to sustainable packaging and consumer purchase decision. Substantial review of literature pertaining to packaging, sustainability, sustainable development, consumer purchasing behaviour and sustainable packaging was carried out. An overview of how price sensitivity will moderate the relationship was explained, and the hypothesis to be tested in the subsequent chapters as well as the theory applied to the research were also looked at.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.0 Introduction

Creswell (2009) aver that, research methodology outlines the methods, processes as well as the philosophical assumptions applied in putting together and analysing the data used for the study. Also, Amaratunga, Baldry, Sarshar, & Newton (2002) argued that the methodology of any research outlines the procedures and frameworks that provides direction for the conduct of the research. These chapter begins with the research paradigm of the study and its justification. It continued to describe the research design, study area and population, sampling techniques, data sources, methods used in gathering data, how the gathered data was analysed and ethical considerations.

4.1 The Research Paradigm

The ability to understand research paradigms and philosophies, would depend on the re-examining of our comprehension of what research methodologies are. According to Kuhn (2012), a research paradigm is a collection of values, norms, attitudes, and methodologies that members in a certain scientific community share. A research paradigm's values, procedures, norms, and beliefs are supposed to provide direction and guidance on what kinds of problems to address and how to solve them (Kuhn, 2012). More so, Healy and Perry (2000) aver that a paradigm can as well be referred to as conceptualized framework that guide researchers conducts study. Interpretivism, realism, positivism, critical realism and relativism are the types of paradigms used for conducting research (Saunders, Lewis & Thornhill, 2016; Chan, 2015; Boateng, 2014; Creswell, 2014).

4.1.1 Interpretivism Paradigm

According to Boateng (2018), another worldview holds that reality is made up of people's subjective experiences. The implications with research paradigm are that, there isn't one way approach to learning and that there are no right or wrong theories. He further argues that phenomena should be evaluated depending on how fascinating they are to the researcher and their peers in the scientific community. As a result, they rely on qualitative and inductive methodologies to reach study findings or results.

4.1.2 Positivism Paradigm

According to Park, Konge and Artino (2020), the positivist paradigm also referred to as objectivity paradigm is mostly quantitative in nature, whereas the other paradigms or approaches such as relativist, interpretivism and realism look at problems from a qualitative standpoint. Saunders, Lewis, & Thornhill (2019) define positivism as the "philosophical attitude of natural scientists that entails working with visible social reality to achieve law-like generalization." It aims to use the natural science research model to investigate social phenomena and provide explanations for the social world.

A positivist researcher, according to this philosophical school of thought, is a wholly objective, impartial observer of a tangible social reality. Five key suppositions define the positivist paradigm. These supposition includes; "(1) the world is external and objective where the observer is independent; (2) researchers should base assumptions on fact and seek causality from variables to generalize fundamental laws; and (3) positivist research should be specific and hypothetically tested using quantitative methods on large samples in order to increase objectivity" (Muhaise, Ejiri, Muwanga, Zake, & Kareyo, 2020). For the purpose of this study, positivist paradigm was chosen because it tends to be appropriate for addressing the research problem.

4.2 Philosophical Assumptions

These research paradigms are best understood when their explanations are based on certain philosophical assumptions (Muhaise et al., 2020). According to Denzin and Lincoln (2011), philosophical assumptions have been coherent all over the years in literature. Philosophical assumptions, according to Creswell (2013), are "abstract concepts and beliefs that drive the research process," and “sticking to a single paradigm helps to set the direction of theory development for a discipline, ultimately demarcating information available for use in practice”. These philosophical assumptions include; ontology which talks about what the nature of really is, epistemology on the other hand creates an understanding of the nature of the knowledge generated and axiology deals with the rate at which the values of the researcher interfere in the outcome of the study (Muhaise et al., 2020). These philosophical assumptions act as a structure that explains and differentiate one paradigm from the other (Boateng 2018; Creswell, 2014; Mertens, 2010).

4.2.1 Ontology

Ontology means the study of the nature of reality or existence (Abdul-Hamid, 2019; Dieronitou 2014; Creswell, 2013). Ontology is the beginning point of conducting research and other assumptions such as epistemology and methodological positions follows in that order (Grix, 2002). Assumptions based on ontology are concerned or related to our beliefs of what constitute social reality.

4.2.2 Epistemology

Assumptions based on epistemology is a major branch of philosophy concerned with what constitute knowledge, means of acquiring it, what qualifiers as knowledge and the means of validating and communicating this knowledge to others (Grix, 2002). In conducting any type of research, one important or pivotal issues to consider is the epistemological

assumptions because it answers the questions of what we understand by the term "truth" and how we can tell if certain claims are true or incorrect. (Saunders et al., 2016). Epistemology seeks to provide a philosophical foundation determining types of information that are feasible, as well as how to assess their adequacy and validity (Kelly, 2021).

4.2.3 Axiology

Like ontology and epistemology, axiological assumptions are connected with respect to the values and roles of the researcher's and how they affect research. Axiology describes the outline for researching paradigms (Wahyuni, 2012).

4.2.4 Methodology

The methodological assumption focuses on logic used in conducting research (Creswell, 2013). Researchers can use deductive reasoning to generate and test hypotheses, or inductive reasoning to construct theories based on data (Alvesson & Kärreman, 2011). Certain scholars applied only one methodology in their research but others also suggested the use or application of both types of methodology (Hair Jr, Matthews, Matthews, & Sarstedt, 2017).

The positivist methodological paradigm was used to test hypotheses for the purposes of this study. This research paradigm was chosen since it requires creating research questions and hypotheses, as well as empirically testing them under stringent controls. The deductive reasoning is central to the positivist worldview (Boateng, 2014).

Table 4.1 Research Paradigms and Research Philosophies in Context

Paradigms	Ontology	Epistemology	Methodology
Positivism Paradigm	"There exist a single, objective and tangible reality".	"Value free knowledge created is objective, free of time impacts, and it is context free".	"Researchers formulate research questions and hypothesis and then test them empirically under strictly controlled conditions. Deductive reasoning".
Interpretivism Paradigm	"Multiple realities exist subject to human experience and interpretations. Reality is socially constructed".	"Value-laden knowledge is subjective, time bound and context-dependent".	"Knowledge is created through researchers identifying various interpretations and constructions of reality that exist and attempting to establish patterns. Inductive logic and new design".
Realism Paradigm	"The reality is "real", but only imperfectly and probabilistically apprehensible, so triangulation from many sources is required to try to know it".	"Value cognizant/ value-aware. Findings are probably true. The researcher needs to triangulate any perception collected".	"The social phenomenon is understood through hypothesis which are tested to establish patterns of association and hence the possible explanation. Hypothetical-deduction".
Relativism Paradigm	"Multiple realities exist. Reality as truth is not absolute, it is relative; dependent on something, and it does exist".	"The interpretation of the world requires some form of human processing".	"The construction of knowledge is influenced by the worldview and research paradigm of a researcher. Researchers should focus more on creating and developing new useful theories useful solutions to specific problems".
Critical Realism Paradigm	"Two words- transitive and intransitive. Transitive is what we observed and learn with our minds- the perceptions of reality, intransitive embodies the truth, which is independent of what the mind thinks".	"Transitive words are value laden and changing continually. The intransitive world has underlying structures and mechanisms that are relatively enduring- that is what we want to study".	"Researchers seek to deconstruct and understand that structures and mechanisms underlying the subjective realities that exist. Triangulation from many sources is required to try to know it — retroactive reasoning".

Source: Saunders et al., 2019; Boateng, 2014

4.3 Research Design

A research design is defined as the roadmap that guides the conduct of a research with high level of control over factors that have the tendency to disrupt the validity of research findings (Gray, Burns & Grove, 2013). Moving forward, Reddy and Achayulu, (2009) posit that a research design outlines the procedures used in collecting information's required to propose solutions to research problems that are already existing. There are categories of research design that the researcher can adopt for conducting his or her studies. Descriptive, exploratory and explanatory are the three major types of research design that can be used to conduct a study (Rahi, 2017; Zikmund & Babin, 2010). Research design directs the researcher with respect to the kind of information and method applicable to achieving research objective.

4.3.1 Descriptive Research

A descriptive research design describes existing features of a target population or market structure (Hair, Wolfinbarger, Ortinau, & Bush, 2008). Saunders et al. (2019) argued that, descriptive attributes can be demonstrated using words or figures, and they may entail the creation of a collection of categories or types. Moving further, they continue to state that descriptive research used to give crucial or relevant information relating to individuals, events, phenomenon as well as the environment. The purpose of descriptive research is to describe a phenomenon, events, and occasions. Creswell and Clark (2017) state that the researcher observes and then summarises what they saw. When a problem is well defined, this form of study goal is usually used.

4.3.2 Exploratory Research

More so, exploratory research design creates insights and intensify the understanding of a research problem (Hair et al., 2008). Exploratory research approach deals with areas where

much is not known or few researches has been conducted (Boateng, 2014). The exploratory research approach also helped to understand and seek new perceptions on issues that are less discussed.

4.3.3 Explanatory Research

Explanatory research, according to Creswell and Clark (2017), is frequently used to describe social phenomena, attitudes, behaviours, social interactions, social processes, or social structures that have been seen. Hair et al. (2008) stipulated that, the main purpose of explanatory research design is to gather data that would help decision makers in determining the cause-and-effect relationship that exist among two or more variables. This study adopted the explanatory research approach. Explanatory was adopted because the study seeks to determine the cause-and-effect relationship between sustainable packaging and consumers purchase decision. More so, hypothesis was used by the researchers to account for the relationships that existed (Cooper & Schindler, 2014).

4.4 Research Approach

In conducting research, the researcher must determine the type of research approach he or she is going to adopt. The research approach is a broad part of a study design, and deciding which approach to use is dependent on the research objectives and information required (Hair et al., 2008). Creswell (2009) and Hair et al. (2008) stated that, there are three research approaches that can be used by a researcher. These approaches include; qualitative, quantitative and mixed method. However, the decision to adopt a particular approach will be influenced by how the researcher views or think about the world, personal experience, the nature of the research problem and the study's target respondents (Creswell, 2009).

4.4.1 Qualitative Research Approach

The qualitative research method looks at how things are in their natural contexts and seeks to figure out what individuals bring to them (Denzin & Lincoln, 2005). According to Creswell (2009), qualitative research is a method for studying and comprehending the meaning attributed to a problem by groups or individuals. Some of the methods used in conducting qualitative research includes; case study, interviews, grounded theory, focus groups and archival analysis.

4.4.2 Quantitative Research Approach

Creswell (2009) stipulated that; quantitative research is a method of putting scientific theories to the test. According to Saunders et al., (2019), the quantitative research approach was established to explore natural occurrences in natural sciences. Quantitative researchers, in general, stress the use of numbers. Numbers commonly reflect values and levels of theoretical structures and notions, and their interpretation is considered as solid scientific evidence of how a thing occurs or functions.

4.4.3 Mixed Method Approach

Creswell and Creswell (2017) and Creswell and Clark (2017) aver that, mix method research strategy combines qualitative and quantitative research approaches so that the total strength of a study is greater than if qualitative and quantitative research were conducted individually.

Because standard processes and replications are expected, the quantitative research technique is used for this study (Neuman, 2007). Kiragu (2015) and Creswell (2014) asserted that, the positivist claims for producing knowledge through study design are also substantially supported by quantitative methods like survey, experiments, collection of

data, as well as analysis of data. The study hopes to test hypothesis so it requires quantitative data.

4.5 Research Method (Survey)

Gathering and analysing data to be used for the purpose of empirical evidence can be achieved by applying five different strategies. These strategies include; "surveys, experiment, archival analysis, history and case studies". According to Yin (2003), each of the strategies can be applied to descriptive, exploratory, and explanatory research. However, this study has adopted survey approach because it was regarded as the most appropriate (Saunders et al., 2019).

A survey, as defined by Collis and Hussey (2013), is the process in which respondents are chosen out of a large population and studied in order to form judgments regarding the population. Malhotra and Birks (2007), referred to survey as the approach used for gathering data relating to attributes, measures, or views of a populace. Again, selecting a research approach is crucial because it acts as the foundation for determining the exact relationship between observable and unobserved factors (Gog, 2015).

Data is collected from a sample intended to represent the population within a specified time range in a cross-sectional survey at a specific point in time. A longitudinal survey, on the other hand, is the collection of data from a sample over a period of time. For this study, a cross-sectional survey methodology was adopted. The research problem and its related research question informed the decision to use the cross-sectional survey method. According to Madanga and Patrick (2021), the cross-sectional survey research strategy was chosen because it tries to understand a specific population at a certain period and ensures that the amount of uncertainty that characterizes decision situations is clearly stated.

4.6 Data Type

In conducting research, there are two major data source, thus primary and secondary data that the researcher can use but there are various means that can be applied during data gathering or collection (Ghauri & Gronhaug, 2005). According to Maholtra (2008), primary data is referred to as the type of data generated specifically for the purpose of the research being conducted. Primary data are first hand data that were gathered from the field by researchers for the purpose of this study. Secondary data is the types of data that is already existing which has been generated and used by previous studies but might have some relevance to the current research being undertaken (Malhotra, 2008). Secondary data can be found through scholarly journal websites such as Google Scholar, Emerald, and Science Direct, as well as physical books and databases. There is less pressure and low cost in having access to secondary data as compared to primary data. The researcher made use of both primary and secondary data for this study but data was analysed using primary data.

The primary data was gathered with the help of a well-designed questionnaire that was self-administered. The data was gathered with the assistance of three (3) Graduate assistants and two Teaching assistants of the University of Ghana Business School. In all 280 questionnaires were given out and the data was collected from April 2021 to June 2021. More so, 264 questionnaires were retrieved and these formed the basis for data analysis.

4.7 Target Population

Malhotra (2008) defined target population pertaining to a study as the collection of fundamentals containing the information the researcher is attempting to achieve in relation to stated objectives of research being conducted. The target population according to

McDaniel and Gates (2005), is the entire list of publics from which the investigator must collect data. Accra Metropolitan Assembly within the Greater Accra Region is the target area for this study. Consumers within the AMA was used as the target population from which respondents were selected. The greater Accra being the study region has a population of 4,010,054 representing 16.35% of the total population. The population of the study region has 1,938,225 males which represents 48.3% whilst females have a population of 2,071,829 representing 51.7% (GSS, 2010). The target area for the study which is the Accra Metropolis has a population of 1,848,614 comprising of 887,673 males and 960,941 females.

4.8 Sampling Techniques

According to research, sampling is used in scientific enquiry as it is mostly not possible, impracticable and/or very costly to gather date from the whole population being used for the study (Babbie, 2020). However, probability and non-probability sampling techniques are the two major categories of sampling basically used for conducting research (Babbie, 2020; Webb, 2000). Elements within the probability sampling have equal opportunity of being chosen for the research. More so, probability sampling techniques have four major techniques namely; systematic sampling, stratified random sampling, simple random sampling and cluster sampling (Saunders et al, 2011). Elements with regard to non-probability sampling chances of being selected are unknown or are based on researcher's verdict. Non-probability sampling makes use of techniques like; quota sampling, snowball, convenience and purposive or judgemental sampling. Respondents used for the study were chosen with the help of purposive sampling. Purposeful sampling is utilized when a varied sample is required or the opinion of professionals in a particular field of interest (Martinez-Mesa, González-Chica, Duquia, Bonamigo & Bastos, 2016). As a result, this study used a purposive technique to choose consumers who are knowledgeable

about the phenomenon being studied and who fit certain requirements for the study's effectiveness (Oribhabor & Anyanwu, 2019; Alvi, 2016).

4.9 Sample Size

According to Malhotra and Dash (2011), sample size refers to the total number of people that would be used for the study. Since the sample size irrespective of it being small or big may have an unfavourable impact on the statistical test and the study's generalizability. According to Cooper and Schindler (2014), researchers use samples in studies for a variety of reasons and purpose. Cost, degree of exactness in outcome, speed of work, time frame, and availability and accessibility of elements of the population being considered for the study are some of the reasons. Based on the assumption that Structural Equation Modelling (SEM) necessitates a sample size of at least 100 respondents (Hair et al., 2010), this study has employed a total sample size of 280 consumers out of the many consumers of processed foods within AMA. This also falls within the appropriate range of 200 to 300, as suggested by (Garver & Mentzer, 1999). Then again, Kristensen and Eskildsen (2010) also postulated that, a sample size of roughly 250 is often suitable for PLS-SEM and this was supported by Hair, Ringle and Sarstedt (2011). The sample size for data collection will often be influenced by the amount of money and time allocated to the survey, according to Bradley and Henseler (2007). As a result, 280 people were chosen as respondents for this study.

4.10 Justification of Study Sampling Techniques

For the purpose of this study, the respondents were selected using non-probability sampling techniques. Specifically, purposive sampling was utilized in selecting respondents for the research study (Creswell, 2014). This method of sampling according to Malhotra and Birks (2007) is not dependent on likelihood, but rather on the researcher's own judgment. Purposive sampling technique, which is also known as judgment sampling,

is the thoughtful selection of respondents due to the qualities they possess (Levitt et al., 2018). Purposive sampling was also described by (Saunders, Lewis & Thornhill, 2009) as the use of a researcher's intuition to choose elements that provide the best responses for research questions. The purposive sampling technique was used to select respondents who are consumers of processed foods since they are information rich and will offer useful manifestation of the phenomenon been investigated.

4.11 Data Collection

Malhotra and Birks (2007) aver that, there exist four instruments that can be employed in gathering primary data. Notable among them are; individual meetings, phone meetings, member opinions and self-administered questionnaires. The study made use of self-administered questionnaires because it is regarded as the best option relative to alternative instruments. This study used "structured questionnaire" comprising of "closed-ended questions" designed specifically to gather field data. Questionnaires are not costly and simple to administer, especially when collecting data over vast geographic area compared to other instruments (Malhotra, 2008). Furthermore, questions are standardised, allowing for comparison of different responses from respondents while still providing some anonymity for respondents (Hair et al., 2006). The questionnaires were self-completed by the respondents and instances where respondents cannot read and understand the questionnaire, the researcher reads and interpret to the respondents. Two hundred and eighty (280) questionnaires were given to respondents and out of these, two hundred and seventy-three (273) were received back. However, only two hundred and sixty-four (264) responses were found useable after screening and cleaning of data representing ninety-three percent (93%) of valid response rate.

4.12 Questionnaire Design

After a comprehensive analysis of the literature, main concepts from sustainable packaging, biodegradable and recyclable materials, package labelling and price sensitivity were used to develop the questionnaire as well as works from (Yue et al., 2020; Petljak et al., 2019; Sun & Wang, 2019; Orzan et al., 2018; Juwaheer, Pudaruth & Noyaux, 2012; Nordin & Selke, 2010; Pickett-Baker & Ozaki, 2008). In designing the questionnaire for the study, the layout below was followed in order to achieve stated objectives.

The section (A) aspect of the questionnaire addressed the demographic characteristics such as gender, age, educational background, income level and nationality of respondents. To quiz respondents, the Section (B) used a Likert Scale of 1 to 5, with 1 indicating Strongly Disagree (SD), 2 indicating Disagree (D), 3 indicating Neutral (N), 4 indicating Agree (A), and 5 indicating Strongly Agree (SA). First section presented a 5-Likert scale instrument on sustainable packaging and these questions were adopted and adapted from (Orzan et al., 2018; Nordin & Selke, 2010). The second section also presented a 5-Likert scale questions on biodegradable packaging and they were adopted and adapted from (Petljak et al., 2019; Juwaheer, Pudaruth & Noyaux, 2012). The third section was based on recyclable package and the questions were adapted from (Petljak et al., 2019; Pickett-Baker & Ozaki, 2008). The fourth section quizzed respondents on 5-Likert scale instrument on package design and labelling and these questions were adopted and adapted from (Petljak et al., 2019). The fifth section based on price sensitivity was adapted from (Yue et al., 2020; Petljak et al., 2019; Sun & Wang, 2019) and the final section detailing questions on consumer purchase decision was adopted from (Sun & Wang, 2019). In all, the questionnaire was designed with fifty-three (53) questions ranging from demographics to likert-scale. Despite the limitations of this technique, the research sought to find out

about the influence sustainable packaging and price sensitivity could have on the consumers purchase decision.

Table 4.2: Total Number of Scale Development Items

Constructs	Number of Scale Items	Sources
Demographic Information	6	
Sustainable Packaging	10	Orzan et al. (2018), Nordin & Selke, (2010)
Bio-degradable Package	7	Juwaheer et al. (2012), Petljak et al. (2019)
Recyclable Package	9	Petljak et al. (2019), Pickett-Baker & Ozaki, (2008)
Package Design and Label	10	Petljak et al. (2019)
Price Sensitivity	7	Yue et al. (2020), Petljak et al. (2019), Sun & Wang, (2019)
Purchase Decision	4	Sun & Wang, (2019)
Total Item	**53**	

Authors work, (2021)

4.13 Pilot Test of Questionnaire

The question designed for the study need to be pre-test to determine its appropriateness before using it to collect the final and original data. Final constructed questionnaire according to Hair et al. (2006), need pre-testing to give assurance that questions and instructions are clear, and the study's validity is satisfactory. In conformity to Hair et al. (2006), some students of University of Ghana and some Faculty members in the Marketing Department were requested to look at the questionnaire to make sure of its validity. After pilot testing, some changes were made to the questionnaire before finally using it to gather the study's primary data.

4.14 Data Analysis

Data analysis is generally regarded as a crucial aspect of a study because it clarifies problems and aids in addressing research objectives and questions. The process of utilizing reasoning to understand the data generated is known as data analysis. To a greater extent, the analysis may comprise establishing regular patterns and summarizing the significant details discovered in an investigation (Zikmund & Babin, 2010). Following the study of literature, this section also aids in the analysis of data that either validate or refute the conceptual framework and theory. The researcher used a variety of statistical methods to perform comparative study of the theoretical and practical consequences of gathered data and literature reviewed, which formed foundation for the conceptual framework developed for testing. The research utilized the Statistical Package for Social Sciences (SPSS version 25) in performing descriptive analysis while using Partial Least Square – Structural Equation Modelling (PLS-SEM) – SmartPLS 3.3.3 to test the proposed relationship that exists among the study variables.

4.14.1 Descriptive Statistics

According to Kaliyadan and Kulkarni (2019) and Mazzocchi (2008), there exist two categories of descriptive statistics. The "first group is the central tendency of the variable, which can be stated as mean, median, or mode, and the second group is dispersion, which may be predicted using range, variance (for standard deviation), and coefficient of variation. Pallant (2020), recommended for descriptive analysis to be performed on the data before any further validation and analysis, as this is necessary prior to conducting most statistical analyses in most studies". SPSS version 25 was utilized to analyze the demographic data of the respondents in order to verify the descriptive statistics of the respondents. The demographic profile of the respondents, as well as the mean and standard deviation (SD) of the component variables were analyzed. The construct or variables under

study were coded such as; sustainable packaging (SPK), biodegradable packaging (BP), recyclable packaging (RP), packaging and design labelling (PDL), price sensitivity (PS) and purchase decision (PD).

4.14.2 Structural Equation Modelling (SEM)

According to Mueller and Hancock (2019), structural equation modelling (SEM) is a theory driven data analytical techniques utilized in evaluating a presupposed hypothesis directed at addressing the cause effect relationship that exist among various observed variables. Since SEM recognizes, accounts for, and eliminates the total error associated with the model, it has been adopted as a more advanced data analysis modelling technique than regression and multiple regressions (Astrachan, Patel & Wanzeried, 2014). Many researchers have used SEM as it has evolved, and it has become one of the most well-known statistical techniques, prompting the publication of numerous textbooks such as Byrne (2010) and Kline (2015). Furthermore, AMOS, EQS and LISREL are the computer software packages developed to allow easy computation using computers, making SEM a more accessible and user-friendly analytical technique. (Hair et al., 2006; Hair et al., 2017).

In addition, SEM may analyze, estimate, specify, and represent models using a non-rational path diagram to show hypothesized interrelationships between variables under study (Senanu, 2019). According to Senanu (2019), in spite of the fact that there exist several categories of SEM, most used are covariance-based SEM (CB-SEM) and partial-least squares (PLS-SEM). He continues to aver that CB-SEM is mostly used by researchers compared to PLS-SEM. Many academics consider SEM to be the same as performing CB-SEM analyses with software's like Amos, EQS, LISREL, and Stata. (Hair et al., 2011). The researcher utilized PLS-SEM for this study.

Data was acquired for this study, and descriptive analysis was performed using IBM Statistical Package for Social Sciences (SPSS) 25 which included frequency tables, central tendency metrics, and regression. Because of its ability to quantify, aggregate, suggest, and show models and hypothesized interrelationships between variables under inquiry, SEM was used to examine the data (Singla, Hussain & Moiz, 2018).

4.14.3 Partial Least Square (PLS)

PLS-SEM is a promising technology that offers SEM researchers a wide range of possibilities, particularly in the marketing and management information system disciplines. PLS-SEM is a predictive modeling strategy targeted at amplifying the explained differences of the dependent latent construct. In other words, if the research goal is predictive and the goal is to establish a theory, PLS-SEM is the best alternative (Senanu, 2019; Hair et al., 2011). PLS-SEM is comparable to utilizing multiple regression analysis in terms of practice and theory (Senanu, 2019). By linking independent variables as well as paths connecting the independent variable to the dependent variables, PLS-SEM may be used to estimate a path model that handles causal paths. In addition, PLS can manage multiple collinearities among the independent components.

Unlike CB- SEM, which is best suited to confirmatory studies, PLS-SEM is thought to be the ideal technique for exploratory studies (Hair et al., 2017). PLS-SEM is more robust than CB-SEM in that it can deal with much smaller as well as much larger sample sizes, it has less identification challenges, and it can easily incorporate formative and reflecting constructs in more sophisticated and numerous structural models (Ringle et al., 2015). In assessing the structural components of the measurement and model, SmartPLS version 3.3.3 was deployed for the PLS-SEM (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014). Thus, the research model or framework and its related hypotheses were assessed using

PLS-SEM software called SmartPLS version 3.3.3 (Ringle et al., 2015). PLS-SEM is a second-generation technique that has the "ability to test multiple regression models or equation simultaneously" (Ramayah et al., 2018).

4.15 Moderation Analysis

The moderation model was estimated using PLS-SEM Software (SmartPLS 3.3.3) because of its robust ability to determine moderating effects (Ringle et al., 2015). A moderator is "a qualitative or quantitative variable that influences the direction and/or intensity of the relationship between an independent and dependent or criterion variable" (Hayes, 2013). Moderators also indicate when and under what conditions a particular impact is most likely to occur (Hayes, 2013). From the predictor factors to the result variable, the role of moderations is highlighted in the study's conceptual model. It is critical to analyze moderation effects within models that include such scenarios, according to Preacher, Rucker, and Hayes (2007). This enables researchers to examine the predictability of constructs as well as the factors that determine the intensity and direction of construct interactions. This study utilized price sensitivity as the moderating variable in the conceptual framework.

4.16 Reliability and Validity Test

It is crucial to be able to assess the validity and reliability of questionnaire scales in order to obtain the most accurate result (Mohajan, 2017). The terms' reliability and validity refer to procedures for determining the accuracy of measurements and ensuring that, there are zero degrees of bias and distortion (Mohajan, 2017; Roberts, Priest, & Traynor, 2006). Questionnaires are considered reliable and valid, according to (Taherdoost, 2016), when the findings obtained are consistent when repeated. That is, if the study was done a second time, the results would be the same.

4.16.1 Reliability Test

The measurement's accuracy, precision, and consistency are evaluated for reliability (Saunders et al., 2019). Reliability is defined as the measurement of internal consistency to determine how well the test pieces measure the same concept (Zikmund, Carr & Griffin, 2013). The reliability is best measured using Cronbach's alpha and the validly accepted threshold is 0.70 and above (Hair et al., 2010). Despite the fact that Cronbach alpha is a widely used way of measuring reliability, Peterson and Kim (2013) noted that it is a lower bound and hence underestimates genuine reliability. The study used the Cronbach alpha and the composite reliability approach to measure the reliability, which is commonly employed in SEM (Zikmund et al., 2013). Composite reliability measure's total reliability of a group of disparate but related things (Hair et al., 2014).

4.16.2 Validity Test

Validity refers to the correctness of a measurement or the length at which a score accurately portrays an idea (Zikmund et al. 2012). Furthermore, validity denotes the appropriateness of the measurements used in analysing or evaluating variables being measured (Burns & Burns, 2008). Construct validity was employed in the analysis for this study to see how well the results produced with the measuring instrument matched theoretical expectations (Hair et al., 2014). Convergent validity and discriminant validity are two forms of construct validity.

Convergent validity is described by Hair, Sarstedt, Ringle, and Gud (2017) as the degree to which measures evaluating the same construct positively relate. It is assumed that when measuring reflective constructs, the measurements would be connected or share a large proportion of the construct. However, discriminant validity illustrates how special a construct is and how it varies from other constructs. A construct must depict a

phenomenon that is not described by other constructs in the model in order to have "*discriminant validity*".

To assess how distinct one construct is from another, discriminant validity was utilized, while convergent validity was used to guarantee that the constructs discovered are appropriately represented by their indicators (Rezaei, 2015; Rezaei & Ghodsi, 2014). The discriminant validity was examined using HTMT, Fornell-Larcker criterion and cross-loadings. Further, average variance extracted (AVE > 0.50) was employed to assess the convergent validity of the measures (Hair et al., 2019; Henseler et al., 2016).

4.17 Ethical Considerations

In conducting any kind of research, it is very crucial to consider and follow ethical standards which this study have rightfully done. Ethical issues in research elaborates on what is deemed right or wrong with regard to the behaviour of the researchers (Sauder's et al., 2016). According to Malhotra and Dash (2011), one of the major areas of ethical concerns is seen in the levels of the receptivity to and handling of responders by the researcher. Then again, Malhotra and Birks (2007) aver that, ethics are defined to mean norms of conduct that differentiate behaviours that are acceptable and those not acceptable. They continued to state that researchers should carefully assess their competence and knowledge level with regard to ethical issues and guidelines. Some ethical principles according to Malhotra & Dash (2011) are; issues concerning confidentiality, transparency and intent disclosure. On a cover page of the questionnaire, the researcher communicated the entire goal and objective of this study to respondents. Respondents' and their answers' confidentiality was guaranteed.

The researcher also followed some ethical principles.

- Respondents consent: The right to informed consent was considered, and the goal of the study was described to likely respondents in order for them to comprehend and willingly accept to participate in the research without any coercion.
- Anonymity and confidentiality: All data collected from respondents in this study was treated with the utmost confidentiality, and all responses or information provided was guaranteed to be used solely for academic purposes. None of the respondents or research participants were requested to write their names, and all responses were kept as anonymous as possible.

4.18 Chapter Summary

The chapter four outlined methodologies applied to the study. Various opinions employed by the researcher to understand the philosophical assumptions and paradigms were discussed as well as the research design. The chapter further deliberate on the type of data used, target population, sample size and techniques, data collection instruments and ethical considerations. The chapter again discussed the reliability and validity of the scale used for the study and concluded by explaining means by which data was processed and analysed.

CHAPTER FIVE

DATA ANALYSIS AND DISCUSSION OF RESULTS

5.0 Introduction

Findings of the statistical analysis are presented in this chapter. This chapter is structured as follows: The descriptive statistics of the respondents and constructs are provided in Sections 5.2 and 5.3. The measurement model and structural model are explained in Sections 5.4 and 5.5, respectively, utilising the Partial Least Square Structural Equation Modelling method (PLS-SEM). Section 5.6 provides information on how hypothesis was tested as well as the analysis of the moderation effects of price sensitivity on sustainable packaging characteristics and consumer purchase decision.

5.1 Organisation of Data and Processing

After completion of data collection, editing, coding and screening of data was carried out in order to eliminate possible errors, thus making data clean and free of too much errors to reflect the responses of the selected sample for the study. The coding of the data was carried out using Microsoft Excel, which was then transferred into SPSS making it easy for data to be analysed. To avoid the issue of missing data, which could result in the scale being deleted, it was assured that each question was filled to the greatest extent feasible. This was also done to see if the data set had any missing values, and outliners that could distort data distribution and analysis (Pallant, 2020).

5.2 Demographic Characteristics of Respondents

The profile of the respondents is reported in this section. The profile consists of respondents' gender, age, education, income level, marital status and nationality. The results are presented in Table 5.1.

Table 5.1: Respondents' Profile

Profile		Frequency	%
Gender	Male	158	59.8
	Female	106	40.2
	Total	264	100.0
Age	18-30 years	94	35.6
	31-40 years	130	49.2
	41-50 years	29	11.0
	51-60 years	10	3.8
	Above 60 years	1	0.4
	Total	264	100.0
Educational background	SHS	10	3.8
	Technical/Vocational	5	1.9
	Diploma	54	20.5
	Undergraduate Degree	117	44.3
	Graduate (Masters/PhD)	78	29.5
	Others	0	0.0
	Total	264	100.0
Income level	None	23	8.7
	Below 1000	68	25.8
	1001-3000	123	46.6
	3001-5000	37	14.0
	Above 5000	13	4.9
	Total	264	100.0
Marital status	Single	148	56.1
	Married	109	41.3
	Divorced	7	2.7
	Total	264	100.0
Nationality	Ghanaian	264	100.0
	Total	264	100.0

Source: Field Data, July 2021

From Table 5.1, males made up the significant majority of the respondents, according to the statistics. Thus, hundred and fifty-eight (158) representing 59.8% compared to 106 females representing 40.2%. Significant majority of the respondents that partake in the study were aged 31-40 representing 49.2% followed by those between the ages of 18-30 forming 35.6%. Also, 11.0% of the respondents were aged 41-50 whilst the least aged group of 51-60 represent 3.8%.

Regarding the educational background of the respondents, it was observed that majority were undergraduates (Bachelor) representing 44.3% followed by graduates (Masters/PhD) constituting 29.5% of the total respondents. Additionally, 20.5 % of respondents were diploma holders, 10% were also Senior High School (SHS) graduates and the least were holders of Technical/Vocational certificates forming 1.9% of respondents.

Data pertaining to the income level of the respondents was also gathered during data collection. From the analysis in Table 5.1, it revealed that majority of the respondents had an income level between 1001-3000 which represents 46.6% followed by respondents that earn below 1000 representing 25.8%. Then again, 14% of the respondents had an income level between 3001-5000 and those who had no income level at all forms 8.7% of the respondents. The least percentage of 4.9% among the respondents had an income level of 5000 and above. Continuing from Table 5.1, a total number of 148 respondents representing 56.1% were single whiles 109 (41.3%) and 7 (2.7%) of the respondents were married and divorced, respectively. Lastly, all the 264 respondents used for the data analysis were citizens of Ghana.

5.3 Descriptive Analysis of Constructs

This section reports the descriptive statistics on each of the measures. These measures are sustainable packaging (SPK), biodegradable packaging (BP), recyclable packaging (RP), packaging and design labelling (PDL), price sensitivity (PS) and purchase decision (PD). Scores for all variables were recorded on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The statistics covers the minimum, maximum responses, mean and standard deviation. The results are presented from Tables 5.2.

Table 5.2: Descriptive statistics

Items	Minimum	Maximum	Mean	Std. Deviation
SPK1	1	5	2.33	1.393
SPK2	1	5	2.19	1.046
SPK3	1	5	4.02	0.872
SPK4	1	5	4.00	0.820
SPK5	1	5	3.61	0.977
SPK6	1	5	2.97	0.990
SPK7	1	5	3.40	0.900
SPK8	1	5	3.66	0.921
SPK9	1	5	1.99	1.050
SPK10	1	5	3.98	0.836
Overall SPK			*3.22*	*0.981*
BP1	1	5	3.86	0.851
BP2	1	5	3.84	0.778
BP3	1	5	3.77	0.777
BP4	1	5	3.75	0.823
BP5	1	5	3.88	0.775
BP6	1	5	3.85	0.760
BP7	1	5	3.63	0.803
Overall BP			*3.80*	*0.651*

Items	Minimum	Maximum	Mean	Std. Deviation
RP1	1	5	4.00	0.760
RP2	1	5	4.08	0.685
RP3	1	5	3.98	0.737
RP4	1	5	4.01	0.681
RP5	1	5	3.95	0.739
RP6	1	5	4.01	0.700
RP7	1	5	3.97	0.739
RP8	1	5	3.89	0.673
RP9	2	5	4.03	0.613
Overall RP			*3.99*	*0.566*
PDL1	1	5	3.88	0.766
PDL2	1	5	4.02	0.684
PDL3	1	5	3.90	0.749
PDL4	1	5	3.88	0.752
PDL5	2	5	4.01	0.667
PDL6	1	5	3.91	0.697
PDL7	2	5	3.89	0.700
PDL8	2	5	3.99	0.610
PDL9	1	5	3.89	0.703
PDL10	1	5	3.83	0.712
Overall PDL			*3.92*	*0.544*
PS1	2	5	3.94	0.745
PS2	2	5	4.10	0.615
PS3	2	5	3.91	0.726
PS4	2	5	3.95	0.717
PS5	2	5	4.06	0.644
PS6	2	5	3.97	0.686
PS7	1	5	3.72	0.853
Overall PS			*3.95*	*0.574*

Items	Minimum	Maximum	Mean	Std. Deviation
PD1	1	5	3.83	0.754
PD2	2	5	3.98	0.647
PD3	1	5	3.88	0.705
PD4	1	5	3.75	0.764
Overall PD			*3.86*	*0.591*

Note: *SPK= Sustainable Packaging Knowledge; BP = Bio-degradable Packaging; RP = Recyclable Packaging; PDL = Packaging Design and Labelling; PS = Price Sensitivity; PD = Consumer Purchase Decision.*

Source: Field Data, July 2021

From the Table 5.2, the observations for the knowledge of sustainable packaging revealed that the mean values range from 1.99 to 4.02 with the overall mean of 3.22 (SD = 0.981) signifying general positive perception of the statements. This suggests that the respondents have fair knowledge of sustainable packaging.

The results also show that that the respondents have positive perceptions of the items measuring bio-degradable packaging, recyclable packaging, sustainable packaging design and labelling, price sensitivity and consumer purchase decision. These are evident by the overall mean values of 3.80 (SD = 0.651) for bio-degradable packaging, 3.99 (SD = 0.566) for recyclable packaging, 3.92 (SD = 0.544) for packaging design and labelling, 3.95 (SD = 0.574) for price sensitivity and 3.86 (SD = 0.591) for consumer purchase decision.

5.4 Reliability and Validity Analyses (Measurement Model Assessment)

This section of the analyses reports on the reliability and validity of the latent variables. The analysis begins with an assessment of the measurement models (Hair, Risher, Sarstedt, & Ringle, 2019; Shmueli et al., 2019). Thus, the SmartPLS 3.3.3 (Ringle, Wende, & Becker, 2015) was run to generate the pictorial and calculation results of reliability, convergent and discriminant validity.

5.4.1 Construct Reliability and Convergent Validity

In this subsection, the reliability and convergent validity of the measures were assessed. The analyses cover the item loadings, VIF, construct reliability and average variance extracted (AVEs). The item loadings, construct reliability and convergent validity tests are reported in Table 5.3 and Figure 5.1.

Table 5.3: Reliability and convergent validity results

Items	Loading	*t*-Values	*p*-Values	VIF	CA	rho_A	CR	AVE
BP1	0.813	25.197	0.000	3.264				
BP2	0.786	20.854	0.000	2.721				
BP3	0.868	41.149	0.000	3.774				
BP4	0.853	36.548	0.000	3.554	0.918	0.922	0.935	0.672
BP5	0.795	21.627	0.000	3.271				
BP6	0.866	37.196	0.000	3.676				
BP7	0.749	20.176	0.000	2.048				
PD1	0.846	38.101	0.000	2.013				
PD2	0.833	32.876	0.000	1.938				
PD3	0.870	48.052	0.000	2.210	0.843	0.851	0.895	0.681
PD4	0.746	16.333	0.000	1.560				
PDL1	0.755	19.551	0.000	4.140				
PDL2	0.711	16.884	0.000	2.912				
PDL3	0.820	31.802	0.000	4.526				
PDL4	0.777	21.065	0.000	3.510				
PDL5	0.742	23.427	0.000	2.816				
PDL6	0.832	41.123	0.000	3.786	0.925	0.928	0.937	0.598
PDL7	0.792	24.703	0.000	4.077				
PDL8	0.765	21.624	0.000	3.055				
PDL9	0.847	43.479	0.000	4.935				
PDL10	0.680	17.240	0.000	1.761				

Items	Loading	*t*-Values	*p*-Values	VIF	CA	rho_A	CR	AVE
PS1	0.780	19.217	0.000	3.246				
PS2	0.804	28.681	0.000	4.132				
PS3	0.863	43.922	0.000	4.229				
PS4	0.853	43.762	0.000	3.870	0.912	0.918	0.930	0.658
PS5	0.801	28.463	0.000	4.314				
PS6	0.880	55.913	0.000	4.343				
PS7	0.680	15.082	0.000	1.624				
RP1	0.821	35.315	0.000	3.791				
RP2	0.730	16.384	0.000	2.454				
RP3	0.814	22.389	0.000	3.879				
RP4	0.792	24.935	0.000	3.989				
RP5	0.840	27.477	0.000	4.487	0.932	0.933	0.943	0.647
RP6	0.810	28.733	0.000	4.141				
RP7	0.822	22.455	0.000	3.599				
RP8	0.848	36.085	0.000	4.198				
RP9	0.756	18.547	0.000	3.316				

Note: *VIF = Variance inflation factor; CA = Cronbach's Alpha; CR = Composite Reliability; AVE = Average Variance Extracted*

Source: Estimates from SmartPLS based on Field Data, July 2021

As depicted in Table 5.3 and Figure 5.1, the results show all the indicators have significant loadings and do not have any collinearity issues (VIF < 5) (Hair et al., 2019). Additionally, the reliability and AVE values are greater than 0.7 (ranging from 0.843 to 0.943) and 0.50 threshold (ranging from 0.598 to 0.681), respectively. These suggest that the measures for have adequate reliability and convergent validity (Hair et al., 2019; Shmueli et al., 2019).

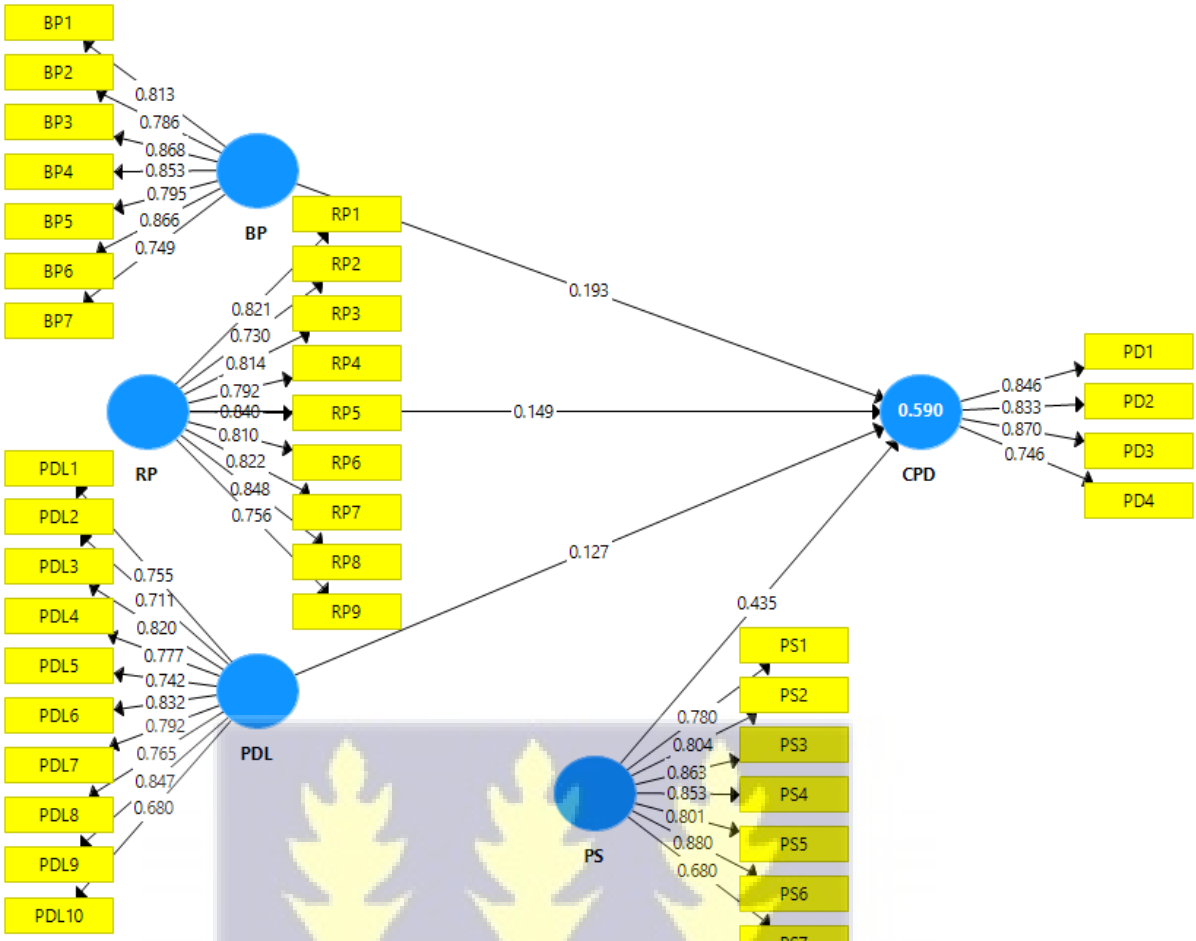


Figure 5.1: ***Measurement model***

Source: Estimates from SmartPLS based on Field Data, July 2021

5.4.2 Discriminant Validity

Once the construct reliability and convergent validity are established, the final model is checked for discriminant validity based on Fornell and Larcker, the cross loadings and the Heterotrait-Monotrait (HTMT) approaches. The results are provided in Tables 5.4, 5.5 and 5.6, respectively.

Table 5.4: Discriminant validity by Fornell-Larcker criterion

Latent	BP	CPD	PDL	PS	RP
BP	0.820				
CPD	0.575	0.825			
PDL	0.557	0.613	0.774		
PS	0.522	0.708	0.623	0.811	
RP	0.571	0.625	0.723	0.631	0.805

Source: Estimates from SmartPLS based on Field Data, July 2021

Table 5.4 shows the results of Fornell-Larcker criterion for determining discriminant validity. As revealed, the square root of AVE for all latent variables was higher than the inter-construct correlations (Fornell & Larcker, 1981). This implies the attainment of the discriminant validity for the constructs.

Table 5.5: Discriminant validity by cross-loading criterion

Items	BP	CPD	PDL	PS	RP
BP1	***0.813***	0.498	0.473	0.423	0.530
BP2	***0.786***	0.436	0.359	0.312	0.389
BP3	***0.868***	0.539	0.503	0.501	0.451
BP4	***0.853***	0.460	0.505	0.437	0.569
BP5	***0.795***	0.405	0.407	0.386	0.441
BP6	***0.866***	0.488	0.518	0.516	0.509
BP7	***0.749***	0.456	0.409	0.394	0.381
PD1	0.533	***0.846***	0.504	0.588	0.600
PD2	0.476	***0.833***	0.529	0.569	0.560
PD3	0.506	***0.870***	0.574	0.637	0.511
PD4	0.369	***0.746***	0.401	0.540	0.374
PDL1	0.374	0.408	***0.755***	0.445	0.566
PDL2	0.395	0.423	***0.711***	0.422	0.517
PDL3	0.421	0.404	***0.820***	0.461	0.487
PDL4	0.438	0.435	***0.777***	0.440	0.628
PDL5	0.398	0.496	***0.742***	0.458	0.565

Items	BP	CPD	PDL	PS	RP
PDL6	0.432	0.531	***0.832***	0.522	0.564
PDL7	0.484	0.489	***0.792***	0.559	0.662
PDL8	0.460	0.488	***0.765***	0.467	0.601
PDL9	0.496	0.540	***0.847***	0.550	0.552
PDL10	0.386	0.481	***0.680***	0.463	0.439
PS1	0.488	0.584	0.563	***0.780***	0.585
PS2	0.381	0.547	0.489	***0.804***	0.536
PS3	0.421	0.612	0.555	***0.863***	0.460
PS4	0.486	0.589	0.542	***0.853***	0.648
PS5	0.392	0.560	0.428	***0.801***	0.497
PS6	0.452	0.644	0.598	***0.880***	0.520
PS7	0.323	0.464	0.319	***0.680***	0.309
RP1	0.479	0.549	0.665	0.551	***0.821***
RP2	0.404	0.455	0.542	0.490	***0.730***
RP3	0.456	0.499	0.619	0.526	***0.814***
RP4	0.470	0.531	0.534	0.481	***0.792***
RP5	0.443	0.474	0.572	0.490	***0.840***
RP6	0.470	0.492	0.558	0.535	***0.810***
RP7	0.499	0.508	0.608	0.452	***0.822***
RP8	0.486	0.516	0.598	0.529	***0.848***
RP9	0.421	0.492	0.529	0.514	***0.756***

Source: Estimates from SmartPLS based on Field Data, July 2021

As presented in Table 5.5, the indicators are more closely related to their respective construct than with other constructs. The rule of thumb is that an indicator's outer loading on the associated construct (e.g. BP1 to BP7 onto BP) should be greater than its cross-loadings on the other constructs (Bin-Nashwan, Abdul Jabbar, & Abdul Aziz, 2019). Thus, discriminant validity is attained using the cross-loading criterion, too.

Table 5.6: Discriminant validity by Heterotrait-Monotrait Ratio (HTMT) criterion

Latent	BP	CPD	PDL	PS	RP
BP					
CPD	0.646				
PDL	0.599	0.684			
PS	0.565	0.807	0.669		
RP	0.616	0.699	0.778	0.681	

Source: Estimates from SmartPLS based on Field Data, July 2021

Table 5.6 reports the HTMT values for determining the discriminant validity of the constructs. To establish discriminant validity, guidelines advocate that the HTMT value should be less than 0.85 ($HTMT_{0.85}$) (Henseler, Ringle & Sarstedt, 2015). As discovered in Table 5.6, all the values were below the recommended maximum threshold of 0.85. This signifies the establishment of the discriminant validity of all concepts (Bin-Nashwan et al., 2019; Henseler et al., 2015).

5.5 Inter-Construct Correlations

This section provides bivariate correlations among the study variables. A correlation test was conducted to compute the bivariate correlations between the variables. Table 5.7 summarizes the findings.

Table 5.710: Descriptive statistics and correlation matrix

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.40	0.491	1.000									
2. Age	1.84	0.793	-0.003	1.000								
3. Education	3.94	0.957	-0.036	.278**	1.000							
4. Income level	2.81	0.954	-0.037	.468**	.443**	1.000						
5. Marital status	1.47	0.550	0.014	.470**	.291**	.508**	1.000					
6. BP	3.80	0.651	0.072	.137*	.159**	.153*	0.100	1.000				
7. RP	3.99	0.566	0.069	.128*	0.079	0.097	0.118	.643**	1.000			
8. PDL	3.92	0.544	.194**	.158*	0.004	0.110	0.074	.614**	.680**	1.000		
9. PS	3.95	0.574	0.097	0.103	0.026	0.061	0.029	.635**	.644**	.662**	1.000	
10. PD	3.86	0.591	0.114	.219**	.136*	.140*	0.102	.658**	.654**	.650**	.764**	1.000

*Note: *= significant at 0.05, **= significant at 0.01*

Source: Field Data, July 2021

As shown in Table 5.7, BP was found to be significantly positively related to age (r_s = 0.137, p<0.05), education (r_s = 0.159, p<0.01) and income level (r_s = 0.153, p<0.05). RP was also found to be positively and significantly related to age (r_s = 0.128, p<0.05) and BP (r_s = 0.643, p<0.01). PDL significantly positively correlated with gender (r_s = 0.194, p<0.01), age (r_s = 0.158, p<0.05), BP (r_s = 0.614, p<0.01) and RP (r_s = 0.680, p<0.01).

Furthermore, PS significantly positively correlated with BP (r_s = 0.635, p<0.01), RP (r_s = 0.644, p<0.01) and PDL (r_s = 0.662, p<0.01). Lastly, PD was found to be significantly positively linked with age (r_s = 0.219, p<0.01), education (r_s = 0.136, p<0.05), income level (r_s = 0.140, p<0.05), BP (r_s = 0.658, p<0.01), RP (r_s = 0.654, p<0.01), PDL (r_s = 0.650, p<0.01) and PS (r_s = 0.764, p<0.01).

5.6 Structural Model Assessment (Hypotheses Testing)

Having established the adequacy of the measurement model (i.e., reliability and validity of the constructs), each structural path was assessed if they were significant and in the hypothesised direction (Hair, Risher, Sarstedt & Ringle, 2019; Ringle, Sarstedt, Mitchell, & Gudergan, 2020). The hypotheses were tested using 5,000 subsamples testing for a two-tailed significance of 95% (Hair Jr. et al., 2017). The results include the VIF (i.e., collinearity check), path coefficients, standard errors, *t*-statistics, *p*-values, R^2 (i.e., predictive power), Q^2 (i.e., predictive relevance) values and SRMR (i.e., the model fit). The results are presented in subsections 4.6.1 and 4.6.2.

5.6.1 Hypotheses Testing for Sustainable Packaging Predicting Consumer Purchase Decision

This subsection reports the effects of sustainable packaging on consumer purchase decision. This is in line with the first three objectives of the study. Thus, the effects of recyclable packaging materials, bio-degradable packaging and sustainable packaging design and labelling on consumers purchase decision are assessed here. As indicated

earlier, the variance inflation factor (VIF), path coefficients, standard errors, *t*-statistics, *p*-values, R^2 (i.e., predictive power), Q^2 (i.e., predictive relevance) values and SRMR (i.e., the model fit) are presented in Table 5.8 and Figure 5.2 displays the standardised path coefficients.

Table 5.8: Results for sustainable packaging predicting consumer purchase decision

Hypotheses	Path	VIF	*β*	SE	*t*-value	*p*-values	R^2	Q^2	SRMR
H_1	BP => CPD	1.646	0.270	0.109	2.468	0.014			
H_2	RP => CPD	2.485	0.293	0.117	2.515	0.012	0.494	0.324	0.050
H_3	PDL => CPD	2.406	0.251	0.111	2.272	0.023			

Source: Estimates from SmartPLS based on Field Data, July 2021

As shown in Table 5.8, all the VIF values are beneath the more conservative threshold of 3.3, demonstrating that collinearity is not at critical levels. According to Hair et al. (2019), VIF values above 5 are indicative of probable collinearity issues among the predictor constructs, but ideally, the VIF values should be close to 3 and lower. Further, the results show that the model has a good fit as the SRMR was 0.050 which is less than the 0.08 threshold (Hu & Bentler, 1998).

Additionally, the statistics in Table 5.8 denote that the structural model has acceptable level of predictive relevance (Q^2>0.0) and predictive power (R^2>0.20) (Hair et al., 2019; Usakli & Kucukergin, 2018). Specifically, the R^2 value of 0.494 shows that the model explains 49.4% of variation in consumer purchase decision. This suggests that the sustainable packaging characterised by recyclable packaging materials, bio-degradable packaging and sustainable packaging design and labelling significantly result in 49.4% of variance in consumer purchase decision. Also, Q^2 of the model was 0.324 which is > 0.0, establishing the fact that the PLS structural model has predictive relevance.

Inspection of all the standardised path coefficients and their p-values showed support for all the three hypotheses. In particular, bio-degradable packaging (β = 0.270; *SE* = 0.109; *t* = 2.468; $p < 0.05$), recyclable packaging materials (β = 0.293; *SE* = 0.117; *t* = 2.515; $p < 0.05$), and sustainable packaging design and labelling (β = 0.251; *SE* = 0.111; *t* = 2.272; $p < 0.05$), were found to have positively and significantly influence or predict consumer purchase decision. Consequently, hypotheses H_1, H_2 and H_3 are statistically supported. This implies that a one standardised unit increase in positive perception of bio-degradable packaging, recyclable packaging materials, and sustainable packaging design and labelling will lead to an increase in predictable value of consumer purchase decisions by 0.270, 0.293 and 0.251 respectively, ceteris paribus.

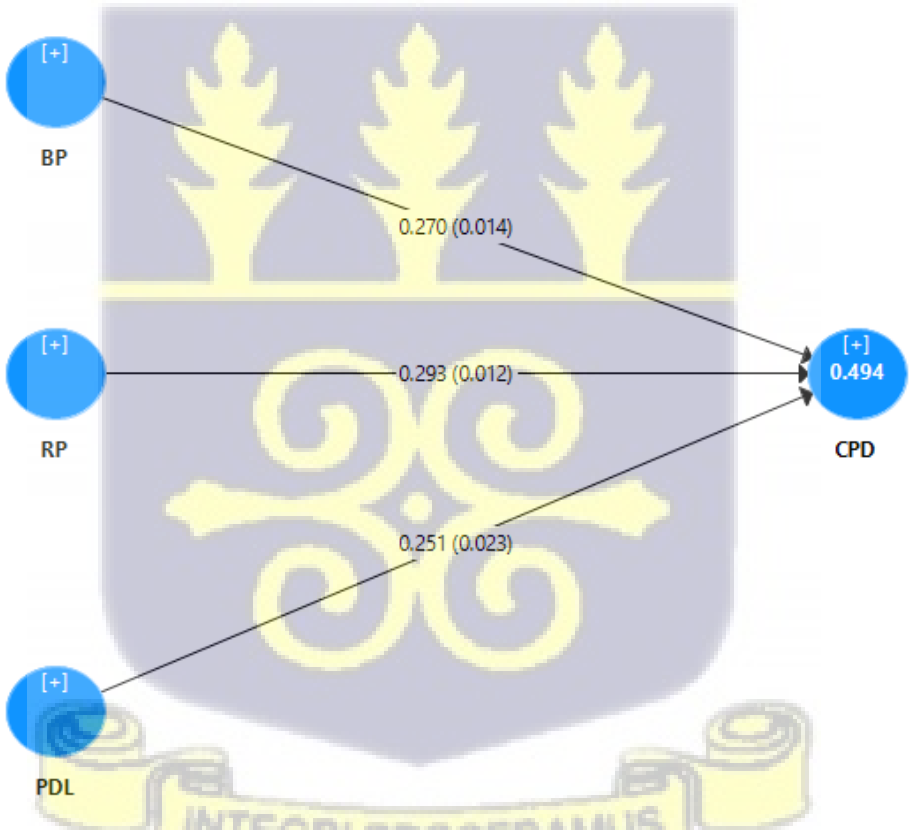


Figure 5.2: Structural model for sustainable packaging predicting consumer purchase decision

Source: Estimates from SmartPLS based on Field Data, July 2021

5.6.2 Moderating Effect of Price Sensitivity

In line with the fourth objective of the study, a moderation analysis was conducted to assess if price sensitivity moderates the influence of sustainable packaging on consumer purchase decision. Again, the moderation model was estimated using PLS-SEM Software (SmartPLS 3.3.3) because of its robust ability to determine moderating effects (Ringle et al., 2015). The results are presented in Table 5.9 and Figure 5.3. Price sensitivity has a moderating influence on the link between sustainable packaging and customer purchasing decisions, according to the findings.

Table 5.9: Results for Price Sensitivity moderation influence between sustainable packaging and consumer purchase decision

Hypothesis	Path	VIF	β	SE	*t*-value	*p*-values	R^2	Q^2	SRMR
	SP => CPD	2.035	0.402	0.117	3.427	0.001			
H_4	PS =>CPD	2.122	0.434	0.140	3.113	0.002	0.588	0.551	0.061
	SP*PS =>CPD	1.123	0.007	0.042	0.160	0.873			

Source: Estimates from SmartPLS based on Field Data, July 2021

As revealed in Table 5.9, there were no collinearity issues as all the VIF values were beneath the more conservative threshold of 3.3 (Hair et al., 2019). Also, the results show that the moderation model has a good fit as the SRMR was 0.061 which is less than the 0.08 threshold (Hu & Bentler, 1998). Moreover, the moderation model has acceptable level of predictive relevance (Q^2>0.0) and predictive power (R^2>0.20) (Hair et al., 2019; Usakli & Kucukergin, 2018). Specifically, the R^2 value of 0.588 shows that the model explains 58.8% of variation in consumer purchase decision. This suggests that the interaction of sustainable packaging and price sensitivity significantly result in 58.8% of variance in consumer purchase decision. Also, Q^2 of the model was 0.551 which is > 0.0, demonstrating the predictive relevance of the model.

Further, in Table 5.9 and Figure 5.3, the results indicate that both sustainable packaging (β = 0.402; *SE* = 0.117; t = 3.427; $p < 0.01$), and price sensitivity (β = 0.434; *SE* = 0.140; t = 3.113; $p < 0.01$) have significant positive bearings on consumer purchase decision. However, the findings of the study indicated that price sensitivity failed to significantly moderate the relationship between sustainable packaging and consumer purchase decision (β = 0.007; *SE* = 0.042; t = 0.160; p = 0.873), thus rejecting hypotheses H4a, 4b, 4c. This suggests that the influence of sustainable packaging on consumer purchase decision is not significantly contingent on the price of the product. In other words, price sensitivity does not significantly strengthen or weaken the influence of sustainable packaging on consumer purchase decision.

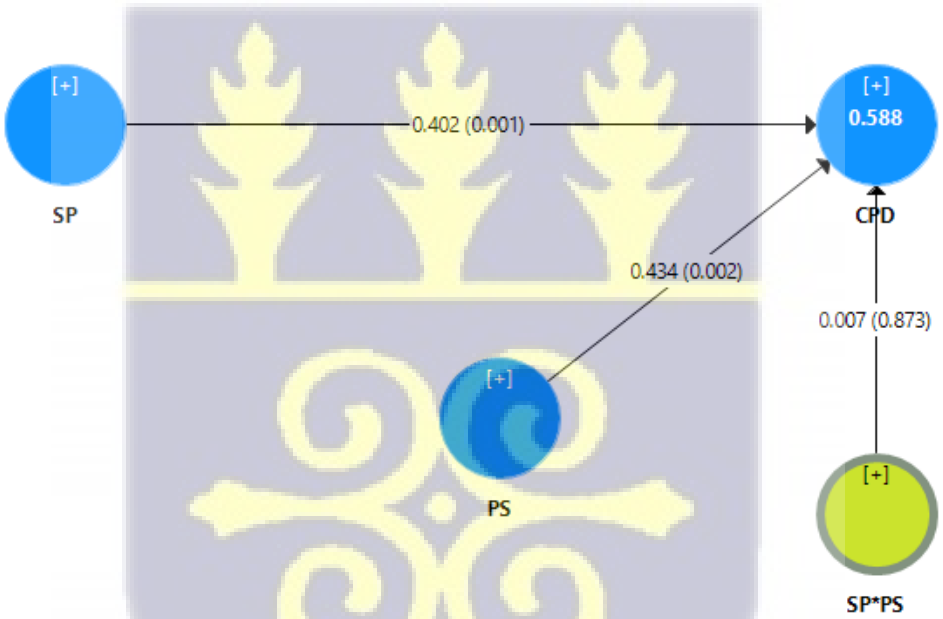


Figure 5.3: ***Structural moderation model***

Source: Estimates from SmartPLS based on Field Data, July 2021

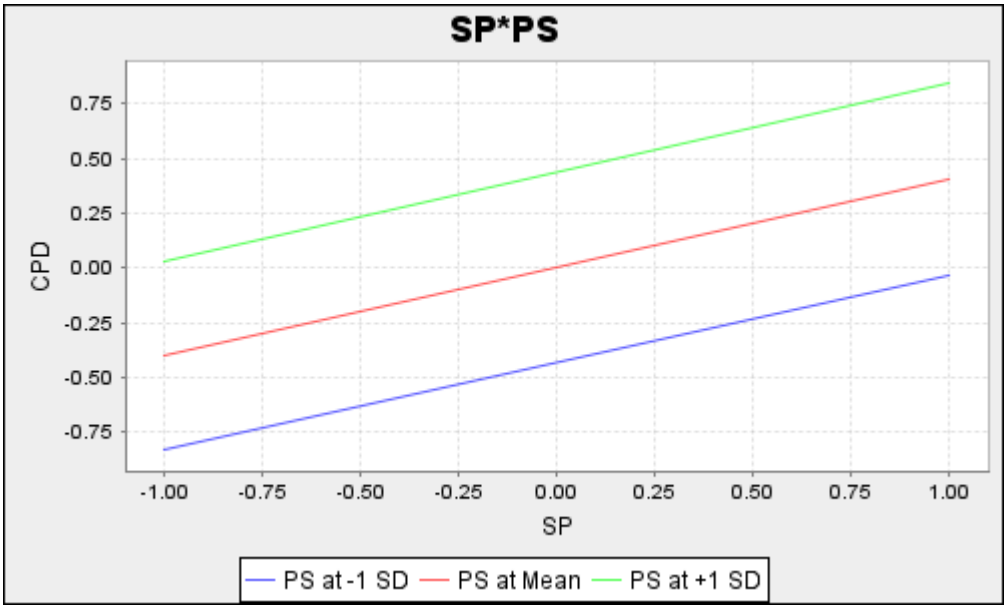


Figure 5.4: Moderation result

Source: Estimates from SmartPLS based on Field Data, July 2021

5.7 Control Variables

The study used age, income and educational background of respondents as controlled variables. These variables were used to determine the level of influence they can have on consumer's decision making with regard to purchasing sustainably packaged products. Results revealed that, Income ***(P= -0.013),*** Age ***(P=0.126)*** and Education ***(P=0.072)*** demonstrated empirically that, none of the control variables a have a substantial impact on consumer's decision regarding their choice of biodegradable and recyclable packaging.

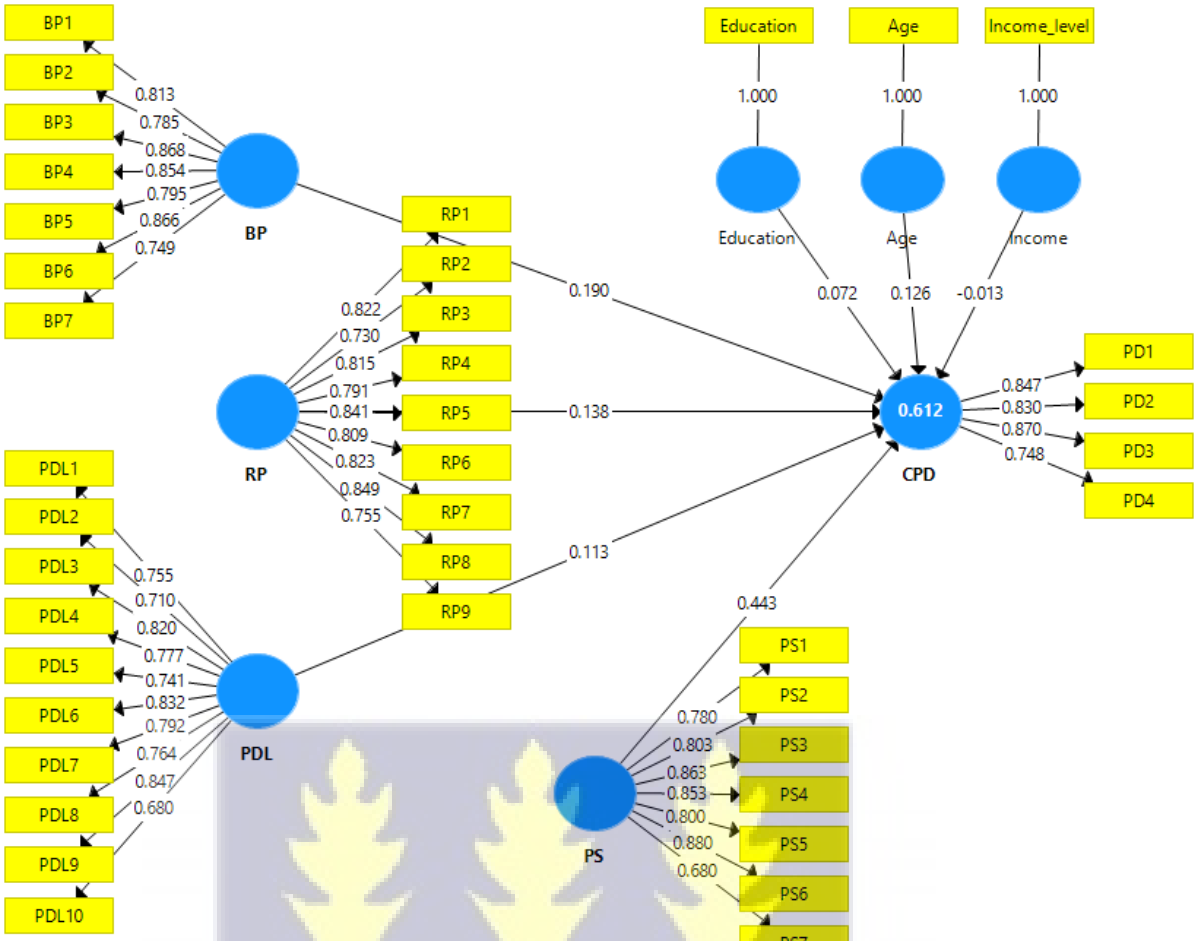


Figure 5.5: *Measurement model with Controls*

Source: Estimates from SmartPLS based on Field Data, July 2021

Table 5.10 Summary of Results

Hypotheses	Path Analysis	β	T-Statistics	P-Values	Decision
H1	BP=>CPD	0.270	2.468	0.05	Supported
H2	RP=>CPD	0.293	2.515	0.05	Supported
H3	PDL=>CPD	0.251	2.272	0.05	Supported
H4a,b,c	SP*PS=>CPD	0.007	0.160	0.873	Not Supported

Source: Field data July 2021

As some of the ***p* values** fall below the 0.05 threshold advised by Hair et al. (2017), the preceding table 5.10 displays a varying path for different relationships. Hypothesised relationship BP=>CPD (***P=0.05***), RP=> (***P=0.05***) and PDL=>CPD (***P=0.05***) have all been supported at 0.05% significant value. However, SP*PS=> (***P=0.873***) was not supported as it did not meet the 0.05% significant threshold.

5.8 Discussion of Results

This research was carried out to determine the relationship between sustainable packaging characteristics such as biodegradable packaging materials, recyclable packaging materials, sustainable packaging design and labelling have on consumers purchasing decisions. Price sensitivity was used to moderate the strength of the relationship between the sustainable characteristics and the consumers purchasing decision. The research was conducted with research objectives and hypotheses.

H_1: Bio-degradable packaging material has a positive impact on consumers purchase decision.

In testing these relationships, the first hypothesis states that "Bio-degradable packaging material has a positive impact on consumers purchase decision" was tested and the result (β = 0.270; SE = 0.109; t = 2.468; p < 0.05) showed that, bio-degradable packaging

materials have positively and significantly influence or predict consumer purchase decision. The positive confirmation of this hypothesis, proved that consumers have become conscious of their environment and are willing to adopt products that have environmentally friendly packages especially packages that can biodegrade easily. This result has confirmed previous studies carried out that confirmed positive relationship between biodegradable product packages and consumers purchase decision and/or consumption pattern (Petljak et al., 2019; Juwaheer et al., 2012; Hall et al., 2010). Biodegradable packaging's positive and significant impact on consumer purchase decision was influenced by factors such as; consumers awareness of packages that biodegradable, their preference for biodegradable packaging materials and the desire to care and protect the environment. Additionally, due to the values of the *p-value* (β = 0.270; *SE* = 0.109; *t* = 2.468; $p < 0.05$) relating to bio-degradable packaging after data analysis, the first hypothesis (H_1) has been statistically supported, hence the acceptance of hypothesis (H_1).

H_2: Recyclable packaging material has a positive impact on consumers purchase decision.

In testing the second hypothesis (H_2) that states that, "Recyclable packaging material has a positive impact on consumers purchase decision", data was analysed and the findings (β = 0.293; *SE* = 0.117; *t* = 2.515; $p < 0.05$) revealed that, recyclable packaging materials have positively and significantly influence or predict consumer purchase decision. The result of this relationship showed that the modern consumers put into consideration the recyclable nature of the products package before finally deciding whether to purchase or not to purchase. This proved that, the consumers consider the impact of the package materials on their environment before making purchase decision. Thus, becoming environmentally conscious. The positively and significant influence confirmed on

consumer purchase decision confirmed results of previous studies confirming a positive relationship between recyclable packaging and consumer purchase decision (Petljak et al.; 2019; Klaiman et al., 2016; Pickett-Baker & Ozaki, 2008). The positive impact of recyclable packaging on consumers purchase decision was a result of factors such as their awareness and preference for recyclable packaging as well as their desire to protect the environment and the influence of friends and society. More so, as a result of the values of the *p-value* (β = 0.293; *SE* = 0.117; t = 2.515; $p < 0.05$) relating to recyclable packaging after data analysis, the second hypothesis (H_2) has been statistically supported, hence the acceptance of the second hypothesis (H_2).

H_3: Sustainable packaging design and labelling have a positive impact on consumers purchase decision.

The third hypothesis (H_3) "Sustainable packaging design and labelling have a positive impact on consumers purchase decision". After data analysis, results (β = 0.251; *SE* = 0.111; t = 2.272; $p < 0.05$) showed that sustainable packaging design and labelling have positively and significantly influence or predict consumer purchase decision. This showed that, the modern consumer carefully looked out for whether the design of product packages is environmentally friendly as well as whether these manufacturers promote sustainability issues through their labelling. The positively and significant influence on consumer purchase decision as a result of sustainable packaging design and labelling confirmed results of previous studies conducted that confirmed the existence of a positive relationship between sustainable packaging design and labelling (Bangsa & Schlegelmilch, 2020; Petljak et al. 2019; Magnier & Schoormans, 2015; Mutsikiwa & Marumbwa, 2013). For instance, green colouring of packaging being completely related to sustainability (Magnier & Schoormans, 2015). However, due to the result of the p-value (β = 0.251; *SE* = 0.111; t = 2.272; $p < 0.05$) after data analysis pertaining to sustainable

packaging design and labelling, the third hypothesis (H_3) has been statistically supported, hence the acceptance of the third hypothesis (H_3).

H_4: The moderating role of price sensitivity

The moderating role of price sensitivity was also tested to determine its impact on the relationships between sustainable packaging elements such as; (4a) biodegradable packaging materials, (4b) recyclable packaging materials, (4c) sustainable packaging design and labelling, and consumer purchase decision. From the data analysis, the results revealed that both sustainable packaging elements and price sensitivity exhibit positive and significant bearing on consumer purchase decision. But based on the findings of the study and the hypothesis, price sensitivity failed to significantly moderate the relationship between sustainable packaging elements and consumer purchase decision. This have proven that consumers have really accepted the concept of sustainable packaging, are willing to buy products that have biodegradable or recyclable packages irrespective of how much those products cost. Thus, they do not really put the price of the environmentally packaged product into consideration but rather considers the environmentally friendly nature of the product as their major priority. This however, supports the claims of Chekima, et al. (2016). They argued that consumers that request for green products are willing to pay premium prices for the products because they have a lot of trust in the value of those products. Then again, Gleim et al. (2013), argued the other way to say that, prices of green products influence the purchasing decision of consumers because those consumers having positive attitude toward environmentally friendly packaged products may not turn this positive attitude into real green behaviour due to the high cost involved and this have been supported by Hsu et al. (2017) where he revealed that price sensitivity is an important component affecting purchasing decisions of

consumers. This shows that the impact of sustainable packaging on consumer purchase decisions is not influenced by the product's price. To put it another way, price sensitivity has little effect on the influence of sustainable packaging on consumer purchasing decisions. Hence the rejection of hypotheses (H4a, b, c).

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATION

6.0 Introduction

This chapter is the concluding chapter that presents the final summary of the whole study carried out, conclusions arrived at pertaining to the objectives outlined in chapter one and the ultimate conclusion based on the findings of the study and recommendations. This chapter outlined challenges and limitations encountered during the conduct of the study and directions for future research.

6.1 Summary of the Study

Sustainability has evolved into a megatrend that affects all aspects of human interaction. At the beginnings of the sustainability debate, scientists and environmentalists were pushing and leading the demand for individuals and organizations to be sustainable or practice sustainability. Many fields, including management and marketing, are now accepting the concept of sustainability and integrating it into their business activities, processes and productions (Abdul-Hamid, 2019; Abdul-Hamid et al., 2017). The purpose of this research was to investigate the relationship between sustainable packaging characteristics (biodegradable packaging, recyclable packaging, sustainable packaging design and labelling) and consumer purchase decision. Price sensitivity was used as a moderating variable to test its strength or weakness on the relationship between sustainable packaging characteristics and consumer purchase decision.

The study was carried out using consumers of processed foods in Accra Metropolitan Assembly (Ghana). The study was based on four (4) objectives; (1) to investigate the impact of bio-degradable packaging materials on consumers purchase decision, (2) to investigate the impact of recyclable packaging on consumers purchase decision, (3) to

determine the impact of sustainable packaging design and labeling on consumers purchase decision, (4) to determine if price sensitivity moderates the relationship between sustainable packaging and customer purchase decisions.

A thorough review of extant literature was conducted leading to developing conceptual framework. Hypothesis were developed from the conceptual framework such as; (H1): bio-degradable packaging material has a positive impact on consumers purchase decision, (H2): recyclable packaging material has a positive impact on consumers purchase decision, (H3): sustainable packaging design and labelling have a positive impact on consumers purchase decision, (H4a): price sensitivity have a negative moderating role on Bio-degradable packaging and consumers purchase decision, (H4b): price sensitivity have a negative moderating role on Recyclable packaging and consumer purchase decision, (H4c): price sensitivity have a negative moderating role on sustainable packaging design and labelling. The context of the study also highlights on food processing firms from both the global and Ghanaian perspective and also the context in which the research is being carried out. Food processing sector, its development and contribution to the Ghanaian economy, and significant roles it plays in the country's economic progress were all discussed as well as the basic issues confronting the food processing sector.

Questionnaires were used as the measurement instrument to assess the hypothesis. The questionnaires were developed from adoption and adaptation of scales from previous studies on sustainable packaging (Orzan et al., 2018; Nordin & Selke, 2010) biodegradable packaging (Petljak et al., 2019; Juwaheer, Pudaruth & Noyaux, 2012) recyclable package (Petljak et al., 2019; Pickett-Baker & Ozaki, 2008) sustainable package design and labelling (Petljak et al., 2019) price sensitivity (Yue et al., 2020; Petljak et al., 2019; Sun & Wang, 2019) and consumer purchase decision (Sun & Wang, 2019). Two hundred and eighty (280) questionnaires were given respondents and out of these, two hundred and

seventy-three were received back. However, only two hundred and sixty-four responses were found useable after screening and cleaning of data. The useable data was analysed and descriptive statistics were carried out using (SPSS) version 23. Majority of respondent were males representing hundred and fifty-eight (158) forming (59.8%) compared to 106 (40.2%) females. Majority of the respondents were aged between 31-40 years (49.2%) followed by 18-30 years (35.6%).

6.2 Major Findings of the Study

6.2.1 Consumers awareness level of sustainable packaging

From the beginning of this study, researchers tried to find out if consumers have a fair knowledge about sustainable packaging. The consumers (respondents) were asked whether they are familiar with the term sustainable packaging and its meaning, whether they have purchased products in sustainable packaging before, and what influenced their decision as well as the frequency of those purchases. From their responses, it was revealed that a significant number of them have a good knowledge of sustainable packaging and have actually made purchases in sustainable packages. Their choice of sustainable packages was influenced by their desire to protecting the environment since most of the environmental pollution are being caused by packages of products that they as consumers have used and disposed of into the environment. In the case of the routine nature of their sustainable purchases, most of them buy these products averagely on monthly bases even though few purchases are also made on weekly and daily bases. Only few of the respondents seems not to know about the sustainable packaging concept and have also not consider as a priority when deciding to purchase a product.

6.2.2 To investigate the impact of bio-degradable packaging materials on consumers purchase decision

The first objective of the study was to investigate the impact of bio-degradable packaging materials on consumers purchase decision. Respondents were asked questions relating to biodegradable packaging in order to determine whether it have any influence on them when they are deciding to buy products. Questions were asked to know their awareness of biodegradable packaging and whether it is their preferred sustainable packaging material as well as how it influences their purchase decision. After analysis of the responses, it was revealed that bio-degradable packaging materials have positively and significantly influence their decision making when buying. Thus, to say that, majority of the consumers agree to buying products that are packaged in biodegradable packages and their choice of biodegradable packaging materials is because they care about the environment. Biodegradable packages can easily decompose when the necessary conditions are available compared to the conventional packaging materials. Most of the consumers asserted that, they will support any move towards the promotion of biodegradable packaging because it would help reduce environmental pollution and as well as preserve the eco-system. In conclusion, it be said that biodegradable packaging materials have a positive impact on consumers purchase decision and thus should be taken seriously.

6.2.3 To investigate the impact of recyclable packaging on consumers purchase decision.

Another objective of the study is to investigate the impact of recyclable packaging on consumers purchase decision. Respondents were probed with questions pertaining recyclable packaging materials in order to ascertain its impact on consumers in the process of deciding to make a purchase. Questions were asked to know whether they have any knowledge of recyclable packaging materials and whether it is their preferred sustainable packaging material how it impacts their decision making relating to product purchase. The responses from the consumers were analysed and conclusion were deduced from the

information's revealed from the analysis. The analysis revealed that recyclable packaging materials have a positive and significant impact on consumers when deciding to buy. Thus, to say that, majority of the consumers agree to buying products that are packaged in recyclable packages and their choice of recyclable packaging materials is because they care about the environment and influences from their friends who also prefer and purchase products in recyclable packages. Consumers revealed that they find recyclable packages more convenient to take home and they will support moves by government, companies, civil society organizations and individuals towards the promotion and adoption of recyclable packaging materials because it would help reduce environmental pollution and as well as preserve the eco-system. Concluding, recyclable packaging materials have a positive impact on consumers purchase decision.

6.2.4 To determine the impact of sustainable packaging design and labeling on consumers purchase decision

Additionally, the third objective of the study is to determine the impact of sustainable packaging design and labeling on consumers purchase decision. The consumers were asked questions to determine the level of impact the design of a product and how it has been labelled have on their decision to buy a particular product. From analysis of their responses to the questions, it showed that the design of the products package is crucial to their purchase decision and thus helps them in easy identification of product packages that are eco-friendly or sustainable. The design of the product package that are eco-friendly looks appealing and provides them with environmentally friendly information's. For example, the green colouring of packaging being completely related to sustainability (Magnier & Schoormans, 2015). The analysis further revealed that, consumers prioritise eco-labelling and see products that have these labels as reliable. It was further revealed

that eco-labelling on products provides more information regarding sustainability and they read such information's well before deciding to buy these products.

6.2.5 To determine if price sensitivity moderates the relationship between sustainable packaging and customer purchase decisions.

Finally, another objective of this study is to determine the moderating role of price sensitivity between sustainable packaging and consumer purchase decision. According to Yue et al. (2020), due to the requirement to use advanced technologies and modern techniques in the course of production and operations, products made to be eco-friendly or to promote environmental sustainability come at a cost. From the literature reviewed, it turned out that price sensitivity actually affects the purchasing behaviour of consumers regarding sustainably packaged products or products that are eco-friendly which necessitate the development of the fourth objective. After analysis of the responses to the questions being asked, it revealed that consumers do not actually consider the high cost of sustainably packaged products which oppose the assumptions of the study that, price sensitivity has a negative moderating role on sustainable packaging and price sensitivity. The consumers are rather concerned about the environment and would willing pay high or premium prices for sustainably packaged or environmentally friendly products. Therefore, price is never the deciding factor when they decide to buy green products.

6.3 Recommendation of the Study

Consumers today have become conscious of their environment and this behaviour have affected their purchase decision relating to products and services. Consumers' perceptions, behaviours, and approaches to consumption change on a regular basis because they have become more aware of environmental changes and their effect on it as a result of their consumption habits. As a result, this environmentally conscious consumers prioritizes environmental protection and quality of life.

In agreement with the above description of modern consumers, all the sustainable packaging characteristics such as biodegradable packaging, recyclable packaging and sustainable packaging design and labelling have a positive and significant influence on consumers buying behaviour or decisions.

Based on the above findings, the study recommends the following to business organizations, government and policy makers.

- It is therefore recommended that, companies should consider the environmental consciousness behaviour of consumers when choosing and developing packages for their products.
- Companies should as well strategies their production processes to make their products and packages sustainable or environmentally friendly. Businesses or companies should develop means of inculcating sustainability into their packaging activities with the purpose of protecting the environment and meeting the product and package demands of these environmentally conscious consumers or green consumers.
- It is also recommended that, business should develop product packages that are biodegradable, thus easy to decompose thereby reducing environmental pollution caused by these packages. Their packages must also have the ability to be recycled and the products packages should be designed to meet environmentally friendly criterion and labelled appropriately to provide consumers with much information regarding sustainability.
- The development of sustainability and sustainable packaging culture among consumers must be promoted and enhanced. Education, awareness

creation, and the implementation of various policies that improve the use of sustainable packaging materials can be used to develop and build consumers green behaviour.

- Finally, policy makers should work in collaboration with governmental agencies, and diverse stakeholders to create an environment in which business organisations can have access to biodegradable or recyclable packaging materials at a low cost in order to produce products with sustainable or environmentally friendly packages. This will help reduce environmental pollution caused by these package materials.

6.4 Limitations of the Study

This study cannot be considered to have covered every aspect of the subject at hand. Due to that, certain limitations will surely exist. Limitations are mentioned not to invalidate the work, but to enrich it by emphasizing important problems that future researchers may be interested in (Mariani & Baggio, 2020). Despite the fact that the study has contributed to existing literature on sustainable packaging and consumer purchase decision in a modest way, it is however paramount to point out various constraints that may be related to the current research.

First of all, this study utilized a sample size of two hundred and eighty (280) consumers of processed foods in Ghana, specifically Accra Metropolitan Assembly making the outcomes and findings of the study been skewed in favour of these consumers. Increasing the sample size non-probability selection approaches, notably purposive sampling, were used to select respondents for the study, implying that the study may be prone to judgmental mistake. Adding a probabilistic sampling strategy to future investigations would be beneficial in eliminating bias in the study.

Subsequently, the variables utilized in the conceptual framework for this study are also a limitation. While the variables utilized in the conceptual framework may have been thorough and satisfy the needs of the current study, there may have been other variables that, if included in the framework, would increase the generalizability of the findings to the greatest extent possible.

6.5 Directions for Future Research

Further research can be done to explore the relationship between company performance and consumers' preferences for sustainably packaged products because sustainable packaging characteristics such as; biodegradable packaging materials, recyclable packaging materials and sustainable packaging design and labelling has not been tested on company performance in this study, leaving a gap for future research.

This study utilized quantitative methodology. Therefore, further studies may employ a qualitative methodology to expand understanding of the relationship between sustainable packaging and consumer purchase decision from a qualitative point of view. Similarly, researchers could broaden the study's scope by include different geographical areas, particularly within the same region or country.

Future research in Ghana should concentrate on specific sustainability-branded products to improve consumers' comprehension and capacity to evaluate eco-branded and non-eco-branded products.

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APPENDIX

UNIVERSITY OF GHANA BUSINESS SCHOOL

RESEARCH QUESTIONNAIRE

Dear Respondent,

This questionnaire is intended to facilitate research conducted on Sustainable Packaging and Consumers Purchase Decision. The purpose of the study is purely academic as part of the fulfilment of a Master of Philosophy degree in Marketing. The responses provided will be vital for understanding sustainable packaging and consumers purchase decisions relating to products. Any information provided will be treated with outmost confident.

SECTION A: DEMOGRAPHIC INFORMATION

INSTRUCTION: Please write or tick [√] where applicable

1. Gender 1). Male [ ] 2.) Female [ ]
2. Age 18-30 [ ] 2). 31-40 [ ] 3). 41-50 [ ] 4). 51-60 [ ] 5). Above 60 [ ]
3. Educational Background 1). SHS 2). Technical/Vocational [ ] 3). Diploma

   4). Undergraduate Degree 5). Graduate (Masters/PhD) 6). Others
4. Income level per month 1). None [ ] 2). Below 1000 [ ] 3). 1001-3000 [ ] 4). 3001-5000 [ ] 5). Above 5000 [ ]
5. Marital status 1). Single [ ] 2). Married [ ] 3). Divorced [ ]
6. Please indicate your nationality: ……

SECTION B: SUSTAINABLE PACKAGING ELEMENTS

Sustainable packaging is the attempt to lower the environmental impact of products and services through their packaging

Biodegradable packaging is the types of packaging made from eco-friendly materials (paper, cardboard) and have the ability to decompose over a period of time.

Recyclable packaging is type of packaging made from materials that can be used again, usually after processing such as glass, metal, card, paper and increasingly certain plastics.

For the following sections, please indicate the extent to which you agree or disagree with the following statements regarding sustainable packaging elements. Tick the appropriate number on the Likert Scale of 1 to 5; where 1= Strongly Disagree (SD), 2= Disagree (D), 3= Neutral (N), 4= Agree (A), 5= Strongly Agree (SA).

S/N	SUSTAINABLE PACKAGING	SD	D	N	A	SA
7	I am not familiar with the term					
8	I have heard the term but I am not clear as to its meaning					
9	I have heard the term and I know what it means					
10	I have purchased products in sustainable packaging before					
11	My purchase decision was influenced by sustainable packaging					
12	I purchase product in sustainable packaging daily					
13	I purchase products in sustainable packaging weekly					
14	I purchase products in sustainable packaging monthly					
15	I have never purchased product in sustainable packaging					
16	Protecting the environment is my reason for choosing sustainable packaging					
	BIO-DEGRADABLE PACKAGING	**SD**	**D**	**N**	**A**	**SA**
17	I am aware of biodegradable packaging					
18	Biodegradable package is my preferred sustainable packaging material					
19	I buy products in biodegradable packages					
20	Biodegradable packaging influences my purchase decision					
21	I prefer biodegradable packaging because I care about the environment					
22	I support the move towards biodegradable packaging					
23	I choose biodegradable packaging because my friends do same					
	RECYCLABLE PACKAGING	**SD**	**D**	**N**	**A**	**SA**
24	I am aware of recyclable package materials					
25	Recyclable package is my preferred sustainable packaging material					

26	I buy products in recyclable packages					
27	Recyclable packaging influences my purchase decision					
28	I prefer recyclable packaging because I care about the environment					
29	I find recyclable packages convenient					
30	I support the move towards recyclable packaging					
31	I consider recyclable packages over price and quality					
32	I choose recyclable packaging because my friends do same					
	PACKAGE DESIGN AND LABEL	**SD**	**D**	**N**	**A**	**SA**
33	The products package design is crucial to my purchase decision					
34	The package design helps identify eco-packaging easily					
35	The package design provides useful eco-friendly information's					
36	I found eco-friendly package design appealing					
37	The package design affects my purchase decision					
38	Eco-labelling is my priority when purchasing products					
39	I think eco labels on food products are reliable					
40	I read eco-labelled information's on packages before buying					
41	I evaluate products according to eco-labelled information during purchase					
42	I choose eco-labelling because I care about the environment					
	PRICE SENSITIVITY	**SD**	**D**	**N**	**A**	**SA**
43	For me, the price is the deciding factor when I purchase green products					
44	Price is important to me when I decide to buy products					
45	I usually try to buy products at the lowest price					
46	I have to pay attention to the price when I purchase green products					
47	I am ready to pay more for food products packed in green packaging					
48	If the prices of the products in eco-friendly packaging rise, I will continue to buy them					
49	If the prices of the products in eco-friendly packaging rise, I will stop buying them					
	PURCHASE DECISION	**SD**	**D**	**N**	**A**	**SA**
50	I plan to purchase green products when deciding to buy					
51	I am willing to purchase green products					
52	From now on, I plan to purchase green products					
53	I intend to pay more for green products					