

# **SUSTAINABLE PACKAGING: A CONSUMER PERSPECTIVE**

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## ABSTRACT

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<p><b>Abstract</b></p> <p>Consumers' preferences and attitudes towards sustainability play a significant role in shaping their purchasing decisions. As sustainability becomes increasingly important to consumers, businesses need to adapt their strategies and offerings to meet these demands. Implementing sustainable packaging involves more than just using environmentally friendly materials. It requires a comprehensive understanding of consumer behaviour and their perceptions of sustainable packaging. This includes factors such as consumer preferences, values, beliefs, and motivations, which influence their choices and decision-making processes.</p> <p>The aim of this thesis is to understand consumer behaviour with respect to sustainable packaging and is aligned with the need for businesses to grasp the factors that influence consumers the most. By gaining insights into consumer behaviour, decision makers can develop effective strategies and create a positive impact with their sustainable packaging offerings. Consumer behaviour theories provide a framework for understanding the underlying psychological processes that influence consumer choices. By identifying the most important behavioural norms displayed by consumers during the purchase decision-making process, businesses can tailor their strategies and communication efforts to effectively engage with consumers and promote sustainable packaging.</p> <p>In summary, this thesis aims to bridge the gap between consumer behaviour and sustainable packaging by providing insights into consumer perceptions, preferences, and decision-making processes, and creating a conceptual model that highlights the elements of green packaging and how consumers respond to those elements. This knowledge can empower businesses to develop sustainable packaging strategies that align with consumer expectations and contribute to a more sustainable future.</p>	
Key words	

Sustainable packaging, Sustainable packaging consumer, Theory of planned behaviour,  
Theory of planned behaviour packaging, Consumer Behaviour Theories

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# 1 INTRODUCTION

## 1.1 Background

In the 21st century, there has been a noticeable shift in consumer awareness and behaviour towards sustainability and environmental responsibility. Modern consumers are becoming more conscious of their impact on the environment and are increasingly seeking ways to minimize their ecological footprint. This shift is driven by various factors, including increased access to information, growing concerns about climate change and environmental degradation, and a desire to contribute to a more sustainable future.

As consumers become more informed about the environmental consequences of their actions, they are making conscious choices to adopt a more sustainable lifestyle. This includes considering the environmental impact of the products they purchase, the packaging they use, and the overall sustainability practices of the businesses they support. Consumers are seeking eco-friendly alternatives, such as products with minimal packaging, recyclable or biodegradable materials, and products that are produced using renewable resources. The shift towards eco-consumerism and the increased awareness of businesses about their environmental impact reflect a growing recognition of the need for sustainable practices in the modern world. It is a positive trend that encourages both consumers and businesses to work together towards a more sustainable and environmentally conscious future.

In response to this changing consumer behaviour, businesses have started to adapt their practices and strategies. They are becoming more aware of their own environmental impact and are taking steps to reduce their carbon emissions, conserve resources, and implement sustainable practices throughout their operations. This includes initiatives such as using renewable energy sources, implementing recycling programs, reducing packaging waste, and incorporating sustainable materials into their products and packaging.

According to a study conducted by Zadek (2004), companies in the last decade have adapted to realigning their strategy to address responsible business practices that can provide them with a competitive advantage and contribute to the organization's success in the long run. Many previous studies support this claim and show that sustainable products have a competitive advantage over conventional products due to the consumers becoming more aware of sustainability themselves (Grankvist et al., 2004; Magnier et al., 2016; Rokka, 2008; Magnier et al., 2015).

This has led to the creation of 'cause marketing', a promotional technique where businesses partner with not-for-profit organizations to achieve a common objective. The number of organizations adopting this marketing strategy is increasing day by day for it shows a sense of social responsibility on the part of

the organization and satisfies the shareholders demands for increased profits. This strategy combines the best elements of traditional marketing as well as the principals of corporate social responsibility.

Packaging has always been considered an important part of the diverse marketing mix. Not only does packaging protect the product from external factors, it allows the product to be transported easily and has proven to influence consumers choices when it comes to purchase behaviour (Kuvykaite et al., 2009). Given that the consumption population is increasing at a steady rate, actual consumption levels are currently unsustainable. A major disadvantage of packaging is that it adds to the global environmental footprint due to being discarded immediately after the product is used, especially since packaging is meant to outlast its contents and becomes redundant after usage. This is where the vision of sustainable packaging comes in.

Sustainable packaging, also known as eco-friendly packaging or green packaging is an emerging area of research for scholars, researchers and practitioners around the world. This type of packaging uses ecological materials for packaging purposes, while never compromising the quality of the product itself, and ensuring the safety of human health and environment.

Packaging is seen often as the contributing factor in the increase in the waste stream, leading to most sustainability efforts to be focused on reducing the quantity of packaging waste as well as minimizing energy consumption through material and resource reduction, alternative fuel and transportation (Kalkowski, 2007). This report also found through a survey on the state of sustainable packaging that awareness and adoption will continue to grow in the coming years despite the challenges in the sustainable development process.

Although many companies have been putting in significant efforts, resources and initiatives into refocusing sustainability from a conceptual goal or an idea to an immediate priority integrated in their company values, relatively little is known about consumers perception of sustainable packaging (Nordin and Selke, 2010). Many countries all over the world have implemented region wide disposal methods and positively encourage their residents to be more aware of their individual disposal behaviour. In cases like this it has also been proven that consumers are able and willing to change their purchase and disposal behaviour with the right motivation and incentives.

Even though it is clear that sustainable packaging will always have an environmental impact, the reality is that sustainable packaging can also be 'more' or 'less' sustainable (Boz et al., 2020). This has led to consumers occasionally being confused since the difference between 'more' and 'less' is often not communicated. Consumers are also under the misconception that sustainable packaging has no real environmental impact which leads to mistrust in sustainability efforts for packaging.

There are two typical methods of producing eco-friendly products: one is to make the product using eco-friendly ingredients and the other is to use eco-friendly packaging on the product. Most suppliers use only one of the methods

because using eco-friendly ingredients often changes the composition of the product itself. For the purpose of this paper, when any term relating to eco-friendly packaging or sustainable packaging is used, it refers to the second method of producing eco-friendly packaging. Meaning that the product is wrapped in sustainable packaging. The eco-friendliness of a product makes the product more valuable and with the limited eco-friendly products in the market, few studies have dealt with consumer's attitudes towards sustainably packaged products.

It is important to keep in mind that the terms 'sustainable packaging', 'green packaging', 'recyclable packaging' and 'eco-friendly packaging' will be used interchangeably throughout this paper given the interchangeability of these terms among consumers, they will be used synonymously to refer to packaging that is environmentally conscious and aims to minimize its environmental impact. The focus will be on understanding consumer behaviour towards these types of packaging and their perceptions, attitudes, and purchase decisions related to sustainable packaging practices.

Previous research on sustainable packaging has primarily focused on technical aspects, such as the materials used in packaging, as well as marketing aspects, including promotional strategies. However, the social aspect of packaging and its influence on consumer behaviour is a crucial area that requires further exploration. This paper aims to shed light on the social aspect of packaging and emphasize why it is essential for professionals to understand and study consumer behaviour in this context.

## **1.2 Aim of the Thesis**

Businesses need to consider the importance of consumer behaviour and consumer perceptions on the success of their products. Sustainability is a widely known concept and while consumers are able to demand for sustainable packaging, it is not that easy to implement. Shifting from conventional packaging to green packaging requires investments and new strategies on part of the businesses.

The aim of this thesis is to understand consumer behaviour with respect to sustainable packaging so that the decision makers can see what influences them the most and how to create a positive impact from their new and sustainable packaging in the market. The end goal is to create a conceptual model highlighting the elements of green packaging and how consumers respond to those elements while making a purchase decision.

To simplify, consumer behaviour has been defined as the study of processes involved when individuals or groups select, purchase, use or dispose of products, service, ideas or experiences to satisfy needs and desires (Solomon, 2006). In addition, this paper will cover the most commonly used consumer behaviour

theories and identify the most important behavioural norms displayed by the consumers while making purchase decisions.

To accomplish the purpose of this paper, the following research questions need to be answered:

1. How do the elements of green packaging influence consumers' buying behaviour?
2. What are the barriers for sustainable packaging?
3. What behaviour norms influence consumers' decision making when purchasing sustainable packaging?
4. Conceptual model using the hypotheses formed through the consumer behaviour theories.

### **1.3 Structure of the Thesis**

This master's thesis is structured by way of 6 Chapters.

Chapter 1 covered the introduction to the topic of sustainable packaging and defined the aim of this paper along with the research questions that will be answered; Chapter 2 summarizes the most relevant research that was taken into consideration for the purpose of this paper, since first and foremost this study is a literature review; Chapter 3 covers the various concepts and consumer behaviour theories that were used to understand consumer's perceptions of sustainable packaging, along with a brief discussion on the different elements of packaging; Chapter 4 describes the data and methodology used in this study and the analysis of the various publications that were reviewed throughout this paper; Chapter 5 presents the findings of this paper and answers the research questions posed in the aim of this thesis; Lastly Chapter 6 concludes this study and its implications, mentioning the limitations observed and any opportunities for future research noticed.

## 2 REVIEW OF LITERATURE

Since first and foremost this thesis is a literature review, there were a handful of published papers that were considered as the most relevant to the assessment of consumer behaviour specific to sustainable packaging or sustainable behaviours related to packaging. The main sources that were taken into consideration for this study are summarized in the following table for ease of understanding, along with how they contributed to this paper.

**Table 1:** List of most relevant publications

Title	Source	Year of Publication	Relevance
Sustainable Packaging: A study of consumers' loyalty and behavior.	Gonzalez, Van Huynh and Yousef	2009	The purpose of this study was to find out if sustainable packaging can be used as a marketing tool, along with who consumes sustainable packaging.
Communicating packaging eco-friendliness	Magnier and Crie	2015	Understanding the green elements of packaging and dividing them into structural cues, graphical cues and informational cues.
The theory of planned behaviour. Organizational Behaviour and Human Decision Processes.	Ajzen	1991	The Theory of Planned Behaviour with a discussion on the relationship between attitudes, subjective norms, perceived behavioural control and consumer behaviour.
Consumer perceptions of product packaging	Ampuero and Vila	2006	Understanding the various elements of packaging and dividing them into graphic and structural categories. Discussions about how consumers perceive sustainable packaging along with some common misconceptions.
Self-perception: an alternative interpretation of cognitive dissonance phenomena	Bem	1967	Possible relationship between buying and disposal behaviour.

Personal factors related to consumer product disposal tendencies	Harrell and McConocha	1992	Taxonomy of Disposal Behaviour and examining the possible relationships between attitudes and disposal behaviours. Brief introduction to green disposal behaviour.
What about disposition?	Jacoby, Berning and Dietvorst	1977	Taxonomy of Disposal Behaviour
Impact of package elements on consumer's purchase decision	Kuvykaite, R., Dovaliene, A., & Navickiene	2009	Understanding the various elements of packaging and categorizing them into verbal and visual aspects.
Cultural antecedents of green behavioural intent: An environmental theory of planned behaviour	Mancha and Yoder	2015	Integrating the environmental factor in the Theory of Planned Behaviour leading to the ETPB and discussions on purchase intentions of consumers.
Preference for green packaging in consumer product choices - Do consumers' care?	Rokka and Uusitalo	2008	An insight into why consumers make the choice of green packaging and if socio-economic demographics have any contribution to their choice.
The ethical consumer. Moral choice and packaging choice	Thogersen	1999	Understanding consumers' attitudes when presented with a packaging choice. Discussion how moral norms of consumer's affect their choice.
Packaging and pro-environmental consumption behaviour: Investigating purchase and disposal decisions for beverages	Van Birgelen, Semeijn and Keicher	2009	Insight into how sustainable packaging influences consumer behaviour, specifically buying and disposal behaviour. Examining the link between buying and disposal behaviour.
Sustainable Paper-Based Packaging: A consumer's perspective	Oloyede and Lignou	2021	Understanding how consumers perceive sustainable packaging and what factors affect their perceptions. What are some of the aspects of packaging that are not appealing to the consumers.

Social aspect of sustainable packaging	Nordin and Selke	2010	Insight into how consumers perceive sustainable packaging and how professionals can improve consumer interaction in the decision-making process for product packaging.
Consumer Considerations for the Implementation of Sustainable Packaging: A review	Boz, Korhonen, and Koelsch Sand	2020	Defining sustainable packaging and the consumer considerations required to ensure successful integration of sustainable packaging in the market
Consumer Perceptions of Food Packaging: Contributing to or Counteracting Environmentally Sustainable Development?	Lindh, Olosson and Williams	2016	Consumer perceptions on food packaging and what material of food packaging they consider the most sustainable.
Consumer response to packaging design: The role of packaging materials and graphics in sustainability perceptions and product evaluations	Steenis et al.	2017	Effect of elements of green packaging on consumer perceptions



### 3 THEORETICAL FRAMEWORK

This section aims to define and explain the main concepts and theories that represent the main focus of this study. First, sustainable packaging as a concept will be discussed followed by the various elements of packaging as well as green packaging. Then, consumers as a stakeholder group will be discussed along with why they are so important to sustainable packaging, following which some misconceptions commonly found among consumers will be briefly mentioned.

Since consumers are often segregated into focus groups, consumers through gender demographics will be summarized following which consumer disposal behaviour will be discussed. Lastly this section will cover four distinct consumer behaviour theories that are most commonly used to understand consumer behaviour in context of sustainable packaging.

Throughout this section, various hypothesis will be formed that cover the most important aspects of these consumer behaviour theories. These hypotheses will be discussed in the Results and Analysis section of this thesis.

#### 3.1 Understanding Sustainable Packaging

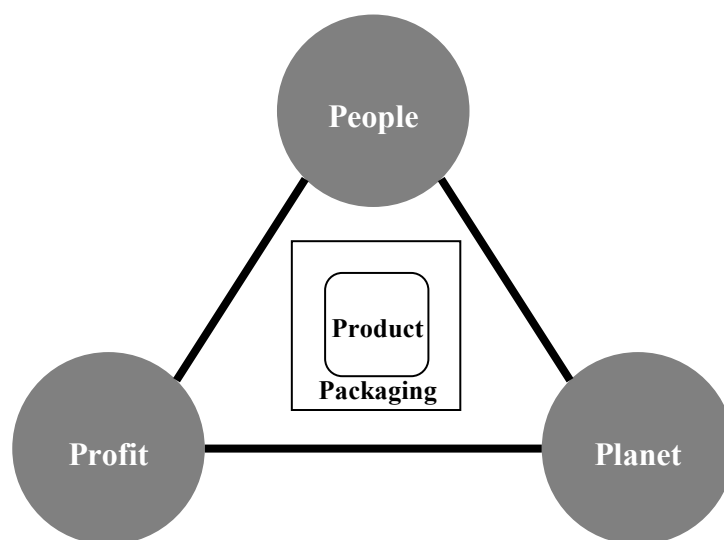
The packaging of a product is a communication instrument between the businesses and end users, capable of attracting a consumer's attention instantly if used correctly (Draskovic et al., 2009).

Packaging can be categorized into three types: primary packaging, secondary packaging and tertiary packaging (Ampuero & Vila, 2006). Primary packaging contains only the product inside, for example in chocolate bars. Secondary packaging contains the primary packaging and may often be discarded immediately when the product is consumed. Tertiary packaging is used for bulk handling and storage of the products.

When packaging was first being evolved into sustainable packaging, the term sustainability was being used to describe anything associated with the environment. For instance, if a product was generating less waste during disposal as compared to its competitor's product or if a product had green outer packaging, it was being called sustainable. Sustainable packaging is not so simple however.

Since the introduction of the term, sustainable packaging has been assumed to be the equivalent to responsibly sourced materials or packaging that has zero environmental impacts, however this definition in itself is greatly misleading for the consumers. In addition, the economic and social aspects of the term are often forgotten when describing sustainable packaging.

A sustainability framework called the 'Triple Bottom Line' was often used to describe the different aspects of sustainability. This is applicable in the context of packaging as well. Crul and Diehl (2006) attempted to improve the original concept of triple bottom line from People, Profit and Planet to include the Packaging and the Product as the two extra P's. It is said that packaging cannot be sustainable by itself, only a combination of the product and packaging may be sustainable (Wever and Tempelman, 2009). Following this, they created the 5P model that can be successfully applied to sustainable packaging.



**Figure 1:** 5P's of sustainable packaging (Adapted from Crul and Diehl, 2006)

While the term sustainable packaging was later discovered, the central concept has existed for centuries among modern civilizations in the form of food preservation till the next harvest season. Since then, sustainable packaging has evolved and researchers have attempted to establish a common definition for this concept.

Two most established definitions have been mentioned in Table 2. Sustainable Packaging Alliance, Australia supported a stakeholder survey study which was formed to promote sustainable packaging and their implementation via science-based tools and strategies in the packaging industry, this led to the formation of their more practical definition of sustainable packaging. On the other hand, the Sustainable Packaging Coalition is a stakeholder-based organization with the vision, 'a world where all packaging is sourced responsibly, designed to be effective and safe throughout its life cycle, meets market criteria for performance and cost, is made entirely using renewable energy, and once used, is recycled efficiently to provide a valuable resource for subsequent generations'.

**Table 2:** Defining sustainable packaging (Adapted from Boz et al., 2020)

Origin of the Definition	Definition of Sustainable Packaging
Sustainable Packaging Alliance, Australia	<ol style="list-style-type: none"> <li>1. Effective: "Reduces product waste, improves functionality, prevents overpackaging, reduced business costs, achieves a satisfactory return on investment (ROI)"</li> <li>2. Efficient: "Improves product/packaging ratio, improves energy, material, and water efficiency, increases recycled content, reduce waste to landfill"</li> <li>3. Cyclic: "Returnable, reusable, recyclable, biodegradable"</li> <li>4. Clean: "Reduces airborne, waterborne, and greenhouse gas emissions, reduces toxicity and litter impacts"</li> </ol>
Sustainable Packaging Coalition, USA	<ol style="list-style-type: none"> <li>1. Beneficial, safe &amp; healthy for individuals and communities throughout its life cycle</li> <li>2. Meets market criteria for performance and cost</li> <li>3. Is sourced, manufactured, transported and recycled using renewable energy</li> <li>4. Optimizes the use of renewable or recycled source materials</li> <li>5. Is manufactured using clean production technologies and best practices</li> <li>6. Is made from materials healthy throughout the life cycle</li> <li>7. Is physically designed to optimize materials and energy</li> <li>8. Is effectively recovered and used in biological and/or industrial closed loop cycles</li> </ol>

While both the definitions in the table above are similar, the definition for Sustainable Packaging Coalition further delves into renewable energy and materials, the fundamental concepts in both however remain the same. Essentially, for packaging it can be said that sustainable packaging is the integration of the broad objectives of sustainable development to business considerations and implementing strategies that address social aspects as well as environmental concerns related to product/packaging systems, it's entire life cycle throughout the supply chain (Nordin and Selke, 2010).

However not all business considerations or strategies take into account the various other drivers such as consumer behavior, consumption trends, market segmentation and developments in distribution which might often conflict with the objectives of sustainable development and create significant challenges for implementing sustainable packaging within the market.

The term green packaging is often used as a marketing tool, showing the business's commitment to the environment helps increase the brand popularity and makes the business stand out. Many corporations and governments make efforts to implement green packaging by getting rid of plastic waste or using

recyclable materials instead. Some companies have taken an initiative to implement internal policies to help further their contribution to sustainability.

The definition of eco-friendly or sustainable packaging provided by Svanes et al. (2010) emphasizes two key aspects: materials and economic sustainability. Based on their definition, eco-friendly packaging can be described as packaging that meets the following criteria:

1. **Eco-friendly Materials:** The packaging is produced using materials that have a minimal negative impact on the environment. This may include using renewable or biodegradable materials, reducing the use of non-renewable resources, and minimizing waste generation throughout the packaging life cycle. The focus is on selecting materials that are environmentally responsible and have a reduced carbon footprint.
2. **Economic Sustainability:** The packaging is economically sustainable, meaning that it supports long-term profitability and viability for businesses. This involves considering the cost-effectiveness of the packaging materials, production processes, and distribution logistics. Sustainable packaging should strike a balance between environmental considerations and economic viability, ensuring that it can be implemented without incurring significant financial burdens.

By incorporating both environmental and economic considerations, the definition provided by Svanes et al. (2010) acknowledges the need for sustainable packaging to be environmentally responsible while also being feasible and sustainable from a business perspective. This definition provides a framework for evaluating and developing packaging solutions that minimize environmental impacts and contribute to a more sustainable packaging industry.

### 3.2 Elements of Green Packaging

In the literature reviewed, a specific process to identify the main elements of packaging does not exist since there are multiple variables to consider in different circumstances. There are unique ways each researcher may define the main elements of packaging; however, it is possible to simply divide them into three main categories which are the different elements of packaging as listed in the following Table 3.

**Table 3:** Elements of Packaging (Ampuero and Vila, 2006; Kuvykaite et al., 2009)

Visual Elements	Verbal Elements	Structural Elements
Color	Brand	Shape
Typography	Slogans	Size
Graphical Shapes	Product Name	Material

Images	Country of Origin	
Logos	Information	
Size	Instruction of Usage	
Material	Special Offers	

(Size and Material can be considered either visual or structural elements depending on the study)

Table 3 generalizes the various elements of packaging which can be used in the analytical approach to study a market and consumers responses to these elements before making a strategic decision regarding the product. Magnier and Crie (2015) conducted exploratory research where they defined which are the elements of packaging that are considered green or sustainable by the consumers. Further, they were able to divide the elements of packaging into three main categories: structural, graphical and informational as shown in Table 4.

**Table 4:** Elements of Green Packaging (Adapted from Magnier and Crie, 2015)

<b>Structural Cues</b>	Reduction	Over-packaging removal	Container Enlargement (more content, less container)	Loose unpackaged products
		Size (package small if compared to product)	Shape (adaptable to product; reduces the surface to cover the product)	Eco refills
	Materials	Recycled materials	Biodegradable materials	Material weight
		Recyclable materials	Made from renewable resources	
	Re-usability	Re-employable container	Reusable package	
<b>Graphical Cues</b>	Colors	Photographs	Images	Logos
<b>Informational Cues</b>	Environmental labelling/ certifications	Licensing agreements	Pedagogical attributes	General environmental claims

These categories are relatable to the attributes usually considered by analytical researches as listed in Table 3. It can be observed that the visual attributes of a product primarily affect the purchase decision of the consumer. For instance, the color green and symbol of leaves is often associated with green packaging. When green colored packaging is used without any eco-label or certification claim, the product efficacy perception declined leading to lower purchase intention (Tobler et al., 2011). When the eco-label was added to the packaging, the negative effect decreased.

A holistic approach to understand consumer response to sustainable packaging has also been previously conducted. These studies focus on the concept of packaging as a whole and generally do not consider the independent characteristics that make up the packaging (Magnier & Crie, 2015). Orth and Malkewitz (2008) state that “the overall effect of the package come not from any individual element but rather from the gestalt of all elements working together as a holistic design”.

Nguyen et al. (2020) were able to conclude that consumer’s perceptions of green packaging are limited to the design, price, and the biodegradability and recyclability of the packaging materials. Overall, it can be concluded that the elements of sustainable packaging directly impact the purchase intention and purchase behavior of the consumer. The most influential element are the visual cues that ultimately decide if the consumer likes the product enough to purchase it or not.

### **3.3 Consumers as a Stakeholder group**

Sustainability is a complex concept, especially when its implications differ from industry to industry. Most available discussions and highlights related to sustainable packaging systems focus on the technological, economic and environmental elements. Social elements are recognized as influential factors, however discussions related to issues on this factor are relatively scarce. One of the main reasons for this scarcity is that the relevance of consumer input in sustainable packaging is assumed to being only relevant to marketers (Nordin and Selke, 2010).

Freeman (1984) mentioned in his text on stakeholder management that consumers are considered to be the core or immediate stakeholder group, along with employees, suppliers and shareholders. However, unlike the latter three groups, consumers are independent and have no formal obligation to represent any other group as a part of the consumption cycle, nor are their decisions influenced by others. The consumer also does not have any ethical responsibility other than the satisfaction of his/her own needs, wants and desires. This is why consumers are the most influential group of stakeholders and understanding

their behavior is essential to develop business strategies and make decisions which will benefit both the organization and the consumer.

Consumers have the power to demand the use of green packaging strategies from businesses to reduce the negative impact of packaging on the environment. Consumer demand has also been proven to be the key driver in increased usage of green packaging by companies, which also leads to the development of formal sustainability policies within the organization (Wandosell et al., 2021). It is important to understand that consumer opinions and beliefs of a package which ultimately influence choice and purchase decisions cannot be not determined by scientific or technological assessments such as Life Cycle Assessment (Oloyede & Lignou, 2021).

The success of environment friendly packaging or sustainable packaging is largely dependent on consumers as they are the ones who determine whether or not to they should purchase the product. Understanding their opinions and perceptions of sustainable packaging is needed to increase consumer acceptability of the product (Magnier & Schoormans, 2015).

### **3.4 Consumer Misconceptions of Sustainable Packaging**

Consumers view responsible consumption as a time consuming and tedious task, more often than not stressful due to having to put extra effort in choosing a product rather than just making the decision based on simple attributes such as price, quantity or the brand. While sustainable packaging is popular with the consumers, many have misconceptions on sustainability in general (Simpson & Radford, 2012). Some consumers also displayed that they could not identify the sustainable packaging nor did they have a clear idea as to what it involves. This can affect the purchase and post-purchase attitudes of the consumers in a negative manner.

Consumers are also not full-time consumers. In a consumers' daily life, they take on many distinct roles, they are students, parents, workers, citizens, entrepreneurs, etc. To be a responsible buyer, consumers need to be fully devoted to their roles as consumers (Gonzalez et al., 2009).

In the packaging industry, sustainable packaging is often understood in terms of cost effectiveness and environmental footprint generation throughout the supply chain, consumers perceive it simply as recyclable packaging (Nordin and Selke, 2010). While consumers mostly associate sustainable packaging with recycling, the social and economic features of packaging are often ignored by them and not considered as a part of the concept of sustainable packaging as a whole.

This is often caused due to the attribute of recyclability having more weight in the decision-making process of consumers as opposed to the other sustainable packaging attributes and the fact that consumers can relate more to the role of recyclers even though their knowledge in what materials can be globally recycled and what cannot is lacking.

Some consumers believe that manufacturers are responsible for creating sustainably packaged products without any additional costs to the supply chain. While they recognize their responsibility towards sustainable packaging, they perceive their obligation to contributing to the environment as secondary to manufacturers.

The introduction of the various environmental labels and different standards have also caused difficulty in consumers understanding of what to perceive of the product. Each label has a different claim and a combination of such labels on a product lead to different interpretations of the same message.

Consumers often rank the product based on the type of material of the packaging, glass or paperboard packaging being ranked the highest. This does not include how the product or material was sourced or how it is disposed. In a study done by Van Dam in 1996, consumers ranked glass, paper-wrapper and canned peas as the most sustainable however based on the origin and material of the packaging their environmental impacts were the highest.

These types of misconceptions are consistent over the years leading to the conclusion that consumers often are not clear on what the elements of sustainability are and have their own perceived opinions on what makes a product packaging sustainable.

### **3.5 Sustainable Packaging through Gender Demographics**

Various demographics including age, gender, education and income levels are consistently used in many studies to understand the positive or negative effect on promoting sustainable purchase behaviors. An interesting aspect relating to consumption among genders is the income allocation priorities. Men tend to spend more on personal items while women tend to spend for their family and children's needs and well-being, creating a very obvious divide when studying green consumption.

A study revealed that the effect of environmental attitude and human-nature orientation on green products purchase were prevalent for women (Chekima et al 2016). Women take part in the consumption cycle of choosing, buying, using and disposing, not only for themselves but for others as well. Grunert-Beckmann (1997) consider women as the family manager who often buys what suits her husband and kids rather than herself, showing that women are the ones making everyday purchase decisions.



Horowitz and Mohun (1998) claim that consumption is a gendered process with women being more ecologically conscious and engaging more in environmentally friendly products than men. The reason for this is because women and men do not have the same purchase behavior. Many studies have shown that women are the major group of consumers worldwide and consumption is often closely associated with women than with men.

A study done by Rokka and Uusitalo, 2008 found through a sample of 330 consumers for functional drink products that the number of women who make informed and environmentally conscious decisions on average will be higher in choosing green packaging. It was also mentioned in the study that older respondents are more likely to choose green packaging and the level of education in making such decisions did not indicate green preferences.

Other than gender, demographics are not a major factor in predicting or understanding recycling behaviors (Iyer et al., 2007). Therefore, gender demographics are not a contributing factor in studying consumption behavior in sustainable packaging.

### **3.6 Consumer Disposal Behaviour**

To achieve the goal of reducing the impact of waste on the environment within their borders, governments have been actively creating personalized legislative frameworks using different methods that target their highest contributors for waste generation. A widely used approach is the 3R method: reduce, reuse and recycle which is often associated with an individual's waste reduction. When applied to packaging, the 3R method can be understood as follows:

1. **Reduce:** The goal of reducing packaging is to minimize the amount of material used, thus reducing waste and environmental impact. This can be achieved through various strategies, such as designing packaging that is more compact, using lighter-weight materials, or eliminating unnecessary layers or components. However, it is important to balance reduction efforts with maintaining the necessary functionality and protection of the product.
2. **Reuse:** Reusing packaging involves utilizing it multiple times before disposal. This can be done by returning the packaging to the manufacturer or retailer for refilling or repurposing. For example, glass bottles, plastic containers, or tote bags can be designed for repeated use. Reusable packaging helps to minimize waste and conserve resources compared to single-use alternatives.
3. **Recycle:** Recycling packaging involves processing the materials to create new products. Materials such as paper, cardboard, metals (e.g., aluminum, steel), and glass are commonly recyclable. By recycling packaging

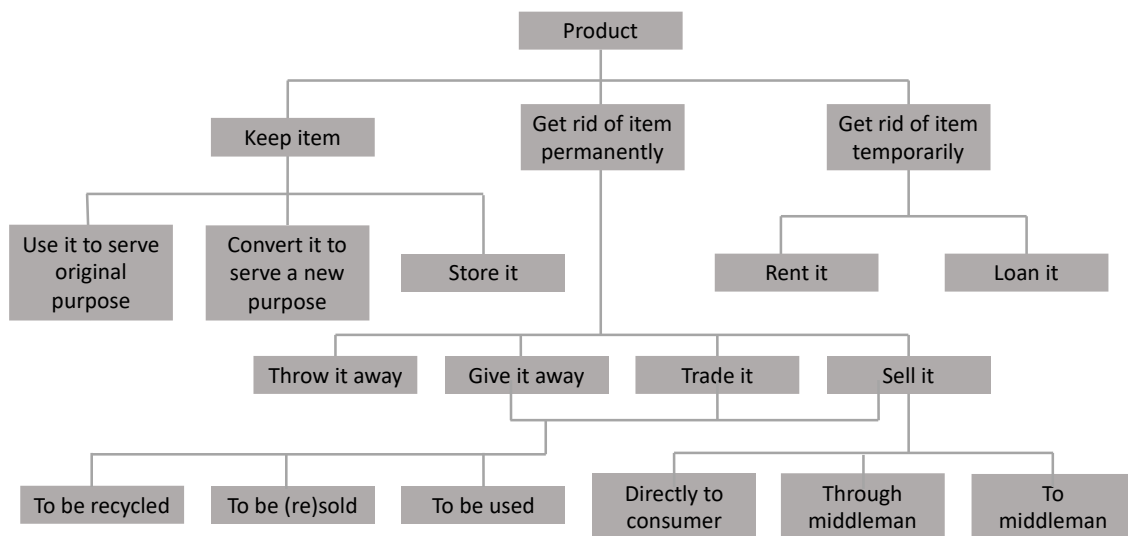
materials, valuable resources are conserved, energy is saved, and the environmental impact of waste disposal is reduced. Effective recycling requires consumer participation in proper waste sorting and recycling programs.

To understand waste disposal behavior, many different taxonomies that described disposal behavior in various capacities were created and are commonly used. Table 5 shows how Harrell and McConocha (1992) distinguish between the disposal options a consumer has between altruistic (philanthropic or noble) and non-altruistic (selfish or uncaring).

**Table 5:** Harrell's taxonomy of disposal behavior (Adapted from Harrell and McConocha, 1992)

Keeping	Non-altruistic	Chronic keepers, sometimes referred to as "pack rats", have the tendency to hoard items.
Throwing away	Non-altruistic	Discarding through the garbage system or trashing usable items may be viewed as irresponsible behavior.
Selling/Swapping	Non-altruistic	A "price" is agreed upon by two parties.
Giving away	Altruistic Non-altruistic	- Passing along. - Donating with tax deduction. - Donating without tax deduction.

Based on the table above, only the act of giving a used product away has been classified as altruistic. A much more detailed taxonomy of disposal behavior was depicted by Jacoby, Berning and Dietvorst (1977) where several options are divided between the consumer deciding whether to permanently dispose, to temporarily dispose or to keep the product. This is shown in Figure 2 through a flowchart.



**Figure 2:** Jacoby's taxonomy of disposal behavior (Adapted from Jacoby et al. 1977)

In the context of packaging, some clarifications are needed when using Jacoby's taxonomy of disposal behavior.

Firstly, 'Get rid of item temporarily' is not possible since packaging is an object that does not have enough value to be rented out or loaned for any period of time. Similarly, the option to 'Sell it', 'Trade it', 'Give it away to be re-sold' and 'Give it away to be used' are not applicable. Most common behaviors for packaging from the remaining behaviors are in-house storage and recycling/reuse.

Now keeping in mind consumer disposal behaviors for packaging, the options of keeping the item and recycling should be considered less harmful to the environment as compared to throwing it away. Harrell and McConocha (1992) state that behavior that 'prevents or delays the waste and pollution associated with trashing still useful items' is considered responsible disposal behavior. According to this definition and Table 5, 'keeping' and 'throwing away' are considered non-responsible behaviors. Meaning that recycling is considered as the only responsible behavior as it is assumed that the third party that collects the packaging ultimately recycles it.

It can also be observed that keeping the item is not considered a green behavior. It is simply due to the fact that hoarding the items does not guarantee re-use of the product while it is still in the possession of the consumer.

## 3.7 Consumer Behaviour Theories

Various theories have been recognized and developed over the years to understand consumer behavior. Often these theories are used in marketing and consumer research to drive sales and promotional campaigns to influence purchase behaviors in the marketplace. In this section, four such theories will be discussed to understand consumer behavior.

### 3.7.1 Self-Perception Theory

The Self-Perception Theory claims that the attitude and values that people exhibit in one behavior will be transferred to other behavioral areas (Bem, 1967). For instance, if a person chooses to use biodegradable paper cups instead of plastic cups because they have a preservation attitude towards the environment, they will likely display environmentally friendly behavior in other aspects of their life.

This theory was already applied to a study done by Van Birgelen, Semeijn and Keicher (2009) which focused on the relation between buying and disposal behavior in the case of beverage packaging in Germany. The findings show that there is a significant relationship between the two, it implies that 'a consumer, for whom ecological packaging is important during purchasing, is also likely to value the appropriate disposal of used beverage packages, and vice versa'.

This theory is very similar to a concept called the 'spillover effect' which is identified as the effect of influencing a non-targeted behavior based on the engagement in another behavior (Trulove et al., 2014). The effect on non-targeted behaviors can be both positive and negative. For instance, a positive effect could be the improvement of pro-environmental behavior or lead to an unintended pro-environmental behavior while a negative non-targeted behavior could be a pro-environmental behavior in one area which leads to the elimination or reduction of that behavior in another area.

A study done by Lacasse (2016) showed that labelling consumers who have shown environmentally responsible behavior in the past as 'environmentalist' improved the self-identity and positive spillovers while reducing guilt and negative spillovers. Truelove et al. (2014) also pointed out that positive and negative spillovers can occur simultaneously leading to limited generalization of sustainable consumption behaviors.

From the above discussions, the following hypotheses can be drawn:

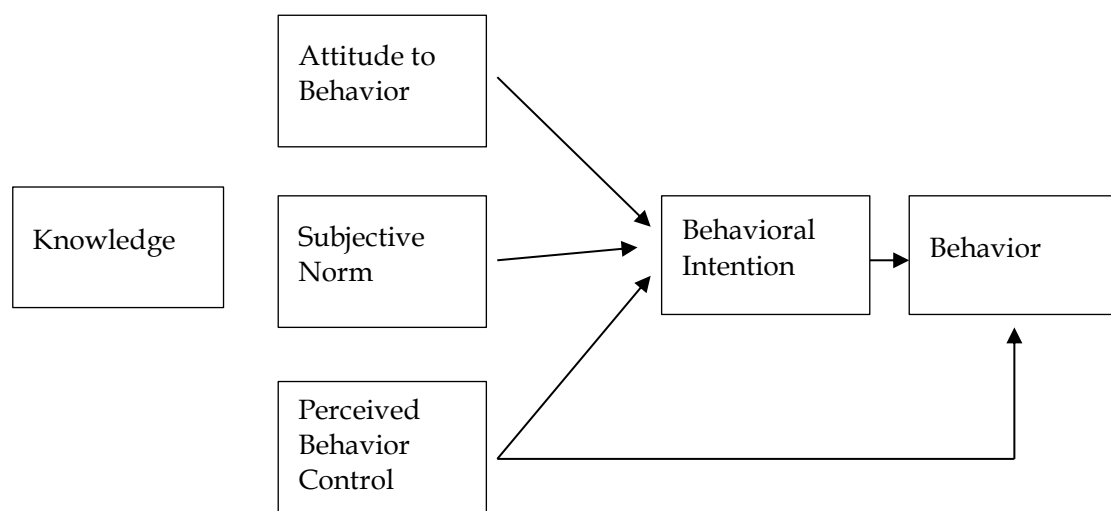
*H1: Consumers who display a positive attitude while purchasing a sustainably packaged product are more likely to show similar behavior while disposing the product and vice versa.*

### 3.7.2 Theory of Planned Behavior

People's behavior and motivation to engage in certain behavior includes various factors. Some of these factors were discussed in the Theory of Reasoned Action (TRA) which states that a person's attitude toward and object and behavior is related to the object itself (Fishbein et al., 1975). For instance, a person's intentions and views on environmental issues is a direct result of their environmentally responsible behavior.

While this is theoretically correct, TRA fails to consider external factors such as income, cultural norms, price, etc. in its model. To include these factors, the Theory of Planned Behavior (TPB) was formed. TPB has now become one of the most commonly discussed theories when it comes to consumer behavior, especially predicting recycling behavior. This theory was originally proposed by Ajzen (1991). It claims that behavioral intentions represent a good approximation of the final behavior.

The model clearly shows how behavior is directly influenced by intentions, which are in turn directly influenced by factors such as attitude to behavior (overall positive or negative evaluation and likelihood of performing the behavior), subjective norm (considerations of other person's attributes) and perceived behavior control (perceived ease of behavior). These factors are further based on three different beliefs respectively: outcome beliefs, normative beliefs and control beliefs, which together make up knowledge (Gonzalez et al., 2009).



**Figure 3:** Theory of Planned Behavior (Ajzen, 1991)

The three psychological determinants in the model motivate behavioral intention and the emotional tendency of the target behavior, perception of social pressure and judgement of consumer's own control ability (Wang et al., 2020). In the past, this theory has been broadly used by researches in various areas of 'green' studies. For example, Moorthy et al. (2021) applied TPB to a study the factors that influence the intention and behavior of Malaysian consumers in green packaging product purchasing.

Attitudes towards a specific behavior represent the personal favorable or unfavorable evaluation of performing that behavior. Attitudes and behaviors might be transferred between different areas. Various studies including Prakash and Pathak (2017) have pointed out, consumers with positive attitudes toward preserving the environment were more willing to consider sustainable packaging in their purchase decisions. As such, consumers who are environmentally conscious are more likely to adopt eco-friendly behavior. This psychological determinant is very similar to the Self-perception Theory leading to a similar hypothesis being generated:

*H2: Consumers who display higher preservation attributes towards the environment are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.*

The value placed by the overall society as social norms influence the consumer consumption behavior greatly. Subjective norm can be defined as the personal perception of the social pressure to behave a certain way or not. Consumers with high social pressure to behave positively regarding purchasing products with sustainable packaging would also be more willing to dispose of the product in an eco-friendly way. This is mainly seen through the perceptions of important customers and constraints of laws and regulations.

Some studies have shown that subjective norms have different degrees of influence in different cultures. For instance, in countries where collectivism is preferred to individualism, individuals' behavioral intentions are constrained by external circumstances (Wang et al., 2020). In a more recent study in India, Verma and Chandra (2018) reported that among local consumers, subjective norm has a very significant positive influence on green hotel visit intentions. Individuals who perceive their peers and society to have displayed preservation attitude towards the environment may purchase products with green elements of packaging.

*H3: Consumers who display more green social norms, they are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.*

Perceived behavioral control is the individual perception of difficulty or simplicity to perform a specific behavior. It can be defined as the personal view

of the capacity of contributing to solving environmental issues (Cammarelle et al., 2021). Taking this into consideration, a consumers purchase decision can be influenced by their personal belief of contribution to saving the environment through their day-to-day environment practices.

Therefore, the stronger the PBC, the greater the consumers intention to purchase products in green packaging. In the environmental sense, PBC can be the consumer's internal locus of control, such as their personal efforts that can make a difference in conserving the environment (Cleveland et al., 2012). For instance, a consumer purchases and disposes packaging multiple times on a daily basis, it is possible that over time the consumer might perceive this repetitive action to be a major contributor to their efforts in being a responsible or eco-friendly consumer.

*H4: Consumers who have higher perceived behavioral control are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.*

Ajzen (1988) suggested that behavioral intention is an individual's degree of determination and willingness to perform a specific behavior which is often influenced directly by attitude and subjective norm. This could further suggest that higher levels of willingness could result in a better chance of performing the behavior. Keeping this in mind, Wang et al. (2020) tried to incorporate the intention variable to understand pro-environmental behavior, believing the exclusion of this variable to be the reason for low correlation between environmental attributes and behaviors.

As mentioned previously, an environmentally responsible consumer will be more willing to make pro-environmental purchase decisions. Lin and Huang (2012) argued that when two products are similar or identical to each other, the environmental characteristics of each products become the deciding factor in the consumer's product evaluation. However, in a study done by Steenis et al. (2017), the results show that consumers show a disconnect between perceived and actual sustainable packaging.

Mancha and Yoder (2015) have already applied TPB in the environmental context, naming it the 'Environmental Theory of Planned Behavior (ETPB). This improved theory has already been tested to focus on green behavioral intent. It was demonstrated that green subjective norms, preservation attributes toward the environment and green perceived behavioral control do create a green behavioral intention.

### **3.7.3 Values, Behavior and Norms**

The Value, Behavior and Norm (VBN) Theory essentially claims that values underlie actions, suggesting that consumers begin purchasing sustainably packaged products because of the belief that these products are better for their

environment. This theory is subdivided into three smaller theories, but the most discussed and commonly used theory is the Norm-activation theory which studies moral norms.

Schwartz (1977) implies that in the context of environmentalism or sustainable behavior, moral norms are activated when the individual becomes aware of the adverse consequences to themselves and to others, and claim responsibility that their actions can avert or influence those consequences.

The VBN theory is very closely linked to another theory called 'Attitude-Behavior-Context' or the ABC theory which claims that attitudes affect behavior when context is neutral. Context includes external factors such as policies or cost of the product. Often the ABC theory is used to find why there are inconsistencies within the results of the VBN theory studies.

A lot of evidences support that consumer attitudes towards everyday consumer behavior are based on moral norms (Thøgersen, 2001). A choice is made by the consumer when their desired product comes in alternative packaging and the decision often comes down to the price of the product. If a typical product with an additional characteristic that makes it more ecological is available in the market with a higher price or premium, it would create the perception of financial risk for the consumer. Meaning if the price of the product is high, the consumer morality won't be as influent as opposed to if the price was lower.

Zepeda & Deal, (2009) found that for their respondents, the importance of VBN in influencing attitudes and therefore behavior is reflected in the notion that particularly for organic shoppers, buying local was like belonging to a family. Many individuals found the personal aspect of organic shopping to be a part of their identity.

*H5: Consumers who are more aware of the adverse consequences of their actions on the environment are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.*

### **3.7.4 Social Cognitive Theory**

Bandura (2007) indicated that abandoning current high-consumption lifestyles will leave a habitable planet for the future generations, and the willingness to pursue this goal is an ethical issue. A shift like this would influence the lifestyle of every single individual on the planet and directly impact the global environment, leading this to come under the area of ethical issues.

Very few studies have regarded green consumption as an ethical dilemma faced by the consumers (Ozaki, 2011). Even though this perspective has been addressed before, consumers do in fact face ethical dilemmas when making a purchase decision on a day-to-day basis. Lin & Hsu, (2015) describe ethical



dilemmas as situations in which there are multiple solutions of various ethical values are provided in the form of solutions.

To solve ethical dilemmas, consideration of behavioral or technical aspects are not enough. One must consider personal aspects such as self-belief, personal values and moral courage. This is where the Social Cognitive Theory (SCT) comes in. SCT claims that self does not originate from the abstract concept of social reality, but is the reciprocal result of interaction with environmental factors (organizational expectations, social norms) and the behavior itself (experience associated with the behavior).

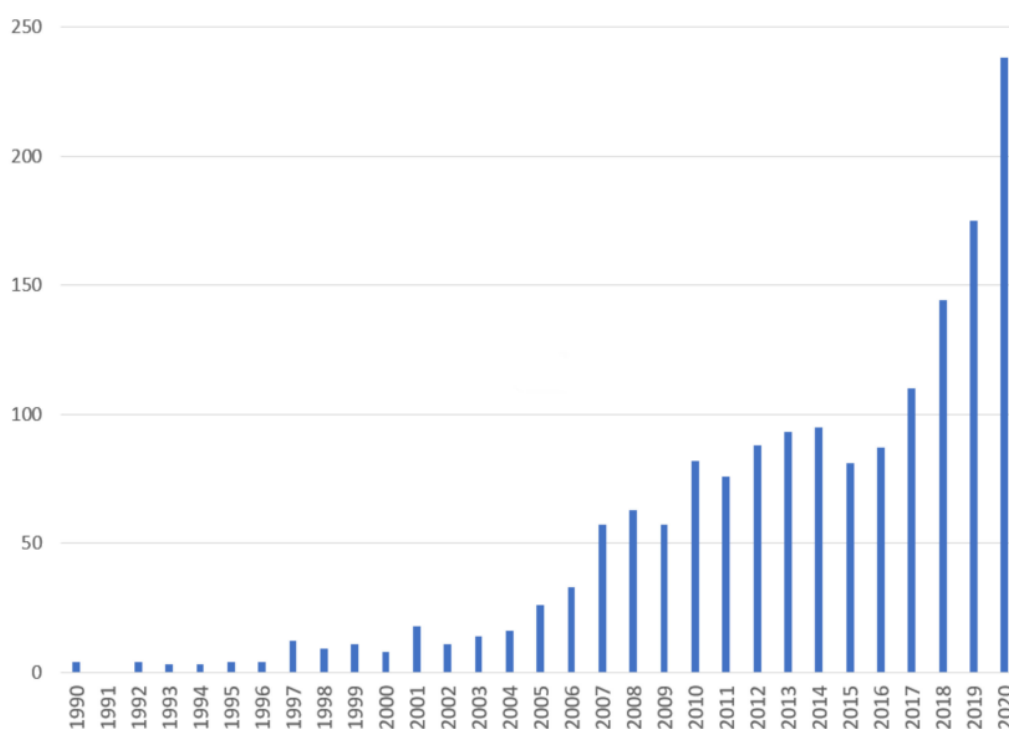
Self-efficacy is a concept used to indicate the degree to which individuals believe that they themselves can initiate motivation, cognition and action to successfully execute certain tasks (Bandura, 1982). Based on this definition, it can be said that self-efficacy does not focus on the skills that an individual possesses, but rather the degree of conviction an individual holds to complete a task using those skills. Green consumption self-efficacy is the confidence in one's capabilities to practice green consumption with the addition of a behavior control variable to explain the situations in which people face the challenge of practicing green consumption (Lin & Hsu, 2015).

To influence green consumer behaviour on part of the consumers, creation and improvement of a consumer's self-regulation abilities in terms of enhancing their green consumption self-efficacy is essential (Lin & Hsu, (2015). In other words, consumers who are expected to act on their purchase intentions might not display that behavior without a high level of self-efficacy on the consumers' part.

*H6: Consumers who have a higher degree of self-efficacy are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.*

## 4 DATA AND METHODOLOGY

Since this thesis is primarily a literature review, it was imperative to find the most relevant research papers published. The secondary data was collected from existing sources, such as databases, surveys, or previous studies. Which means the keywords used had to be accurate and most relevant to the theme of this paper. This was a considerable task taking into account the large number of papers that are related to the keyword ‘sustainable packaging’.



**Figure 4:** Number of documents per year related to ‘green packaging’ retrieved from Scopus (Adapted from Wandosell et al., 2021)

The study conducted by Wandosell et al. (2021) utilized data retrieved from Scopus, which is a widely recognized abstract and citation database for research literature. Scopus is known for its extensive coverage of scholarly publications across various disciplines.

The authors found a total of 1620 documents published within the timeframe of 1990 to 2020. These documents primarily consisted of journal articles published in established journals. This indicates that the study focused on analysing a substantial volume of research literature related to their research topic. Baas et al. (2020) have discussed Scopus' capabilities, data sources, or features related to bibliometric analysis in their study.

Overall, Wandosell et al. (2021) relied on Scopus as a data source to obtain a substantial number of relevant documents for their study. This approach allowed them to access a wide range of scholarly articles published over three decades and analyse the existing research in their field of interest.

For the purpose of this thesis, JYKDOK was selected to be the database for data collection, despite the availability of data from Scopus, Google Scholar, and Web of Science. The JYKDOK database is likely a specialized library database that provides access to a diverse collection of learning materials.

JYKDOK offers users the ability to conduct both basic and advanced searches. The basic search feature allows users to perform a general search using keywords or other basic search criteria. On the other hand, the advanced search option provides more advanced search functionalities, enabling users to refine their search by utilizing additional filters or specifying search criteria in a more granular manner. Additionally, JYKDOK offers users the option to categorize their search results into different sections, such as "Books, journals and databases" and "International e-articles." This feature allows users to narrow down their search results based on the specific type of learning materials they are interested in accessing.

By utilizing the JYKDOK database, access to a curated collection of materials that are relevant to the University of Jyväskylä's academic programs and research interests was available. This database may offer a more targeted and specialized selection of resources compared to the broader databases like Scopus, Google Scholar, and Web of Science.

Using a dedicated institutional database like JYKDOK can be advantageous for researchers as it ensures access to resources specifically curated for the institution's needs and facilitates efficient literature search and retrieval within the university's ecosystem. Since it was not possible to simply rely on the keywords and type of content of the documents due to the vast amount of research conducted for each field the keywords belong to, the following process of elimination was followed for each of the keywords. By employing a systematic process of elimination, the selection was able to be refined to show only relevant documents, strike a balance between comprehensiveness and manageability, and focus on the most pertinent sources for their literature review.

**Table 6:** Process of elimination for each keyword used

Keywords Used	Search results	'Peer Reviewed'	'English' Language	Content Type	
				Article	Review
Sustainable packaging	494,629	72,538	72,250	70,869	437

Sustainable packaging consumer	303,474	36,939	36,829	36,229	242
Theory of planned behavior	584,884	421,286	419,794	409,876	6,269
Theory of planned behavior packaging	14,845	10,396	10,368	10,170	135
Consumer Behavior Theories	810,670	567,584	565.950	546,922	13,465

The result of this process of elimination was still very high, to reduce the number of documents to be reviewed, only the first 30 results under the 'most relevant' filter were considered. This approach was employed to manage the workload and focus on the most pertinent and significant articles for the literature review.

By applying the 'most relevant' filter and limiting the number of documents to review, the aim was to prioritize the articles that are likely to be the most informative and directly related to the research topic or question. This filtering step helps to streamline the literature review process and ensures that the selected articles are highly relevant to the research focus.

It is important to note that the decision to limit the number of documents to 30 and use the 'most relevant' filter may have implications for the comprehensiveness and representativeness of the literature review. However, in situations where there is an overwhelming number of articles to review, such as in extensive or rapidly growing research fields, this approach can be a practical strategy to manage the workload and still obtain valuable insights from the selected subset of literature.

During the process of selecting articles for the literature review, Wandosell et al. (2021) considered the title, abstract, and keywords visible in the summary of each paper. This approach suggests that they used these components as a basis for determining the relevance and suitability of articles for inclusion in their literature review.

The title of a paper often provides a concise description of the study's topic or main focus. By reviewing the titles, researchers can quickly assess whether a paper aligns with their research area or question. The abstract is a brief summary of the paper that highlights its main objectives, methods, results, and conclusions. Reviewing the abstracts allows researchers to gain a deeper understanding of the content and relevance of each paper without having to

read the full text. Keywords, often provided by authors or extracted from the paper's content, serve as descriptors that capture the main themes or concepts covered in the study. Examining the keywords helps researchers identify papers that address specific aspects of their research topic.

By considering the title, abstract, and keywords of each paper, researchers can make informed decisions about which articles are most likely to be relevant to their literature review. This initial screening step allows them to narrow down the pool of articles and focus on those that are most likely to provide valuable insights and contribute to their research objective. A similar method was used to narrow down the pool of articles selected for this literature review, the number being no more than 30 papers.

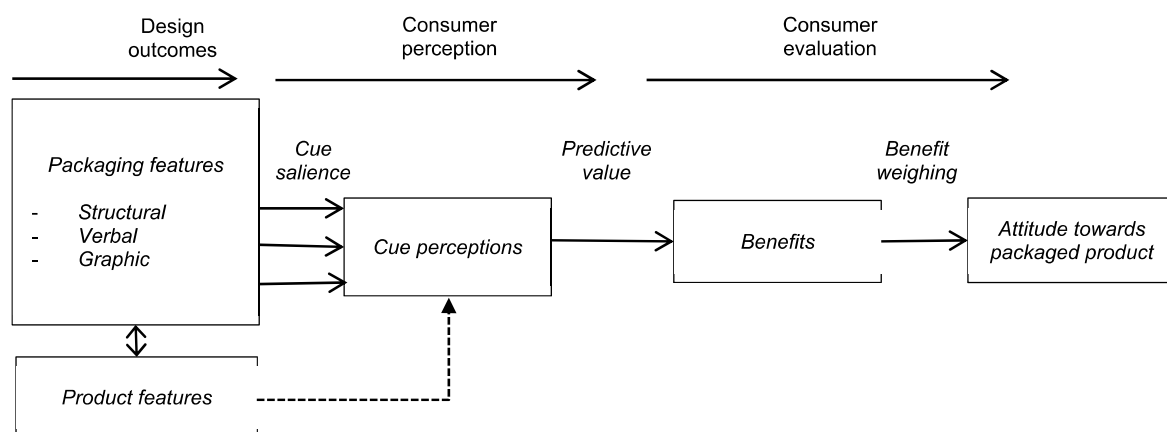
## 5 RESULTS AND ANALYSIS

Through this section, the research questions posed in the beginning of this paper will be answered and a conceptual model will be presented based on the different hypothesis stated throughout the theoretical framework section.

### 5.1 How do the elements of green packaging influence consumers' buying behaviour?

After discussing the various elements of packaging that consumers consider green, it can be said that consumers often focus on the sustainable aspects that they are able to view clearly when purchasing the product.

Consumers also strongly rely on material or structural cues to form their opinions on packaging however the holistic approach does not explain how specific cues lead to different consumer behaviours. This approach also points out that consumers are not very knowledgeable about not just sustainability, but also sustainable packaging and their perceptions on green packaging are often inconsistent, for instance over-emphasizing some aspects of sustainability while ignoring the others. Recyclability and transportation costs are one such example of over-emphasising.



**Figure 5:** Effect of elements of packaging on consumer attitudes towards the product  
(Adapted from Steenis et al., 2017)

Steenis et al. (2017) developed a conceptual framework that simplifies the process of understanding the effect of various packaging features on consumers attitudes towards a product. This study analysed the various cue perceptions

indicated by the respondents and found that convenience followed by sustainability were the two most salient features of packaging as preferred by the consumers.

Consumer's perceptions contribute directly to sustainable packaging. As previously mentioned, attractive qualities of a product lead to more consumers choosing that product in the market. Lindh et al. (2016) found through their study that Swedish consumers focus on how packaging can facilitate their handling of the product. For instance, 'easy to re-seal', 'easy to open' and 'packaging size' were the most mentioned qualities of the product which are appealing to the consumers.

Lofgren and Witell (2005) applied Kano's theory to consumer's perceptions of packaging dividing it into five categories: must-be, one-dimensional, attractive, indifferent and reverse qualities.

Must-be qualities of a product are those aspects that do not provide any satisfaction to the consumer but result in a high level of dissatisfaction if not fulfilled, for example qualities such as 'no leakage', 'product protection' and 'best before date'. These are often viewed as the basic packaging requirements of a product. One-dimensional qualities give satisfaction when fulfilled and dissatisfaction when not fulfilled, for example qualities such as 'easy to empty', 'hygienic' and 'easy to use'. Attractive qualities are those which the consumer does not expect in the product but provide satisfaction when fulfilled but has no impact on dissatisfaction if not met, for example qualities such as 'recyclable material', 'biodegradable material' and 're-sealable'. Indifferent qualities are those qualities which are neither good nor bad, and can therefore not generate any form of satisfaction with the consumer. Lastly, reverse quality refers to those aspects of packaging that generally generate high levels of dissatisfaction.

A study (Rokka & Uusitalo, 2008) analyzed consumer choices between realistic product alternatives when consumers have to balance their preferences over different product attributes. This study concluded that green packaging, or products with clear elements of green packaging, such as labels and environment-friendly material, can have a clear positive impact on consumer choices, packaging material and price being the top two attributes chosen by the consumers. Another study found that a clear indication of the sustainable features of the material, when clearly reflected in the products appearance, has a key role in affecting consumer preferences (Marchi et al., 2020).

The level of packaging also affects the purchase decision, excessive packaging is often claimed to be off putting as supported by a study done in the UK which found that consumers have a negative reaction to overpackaging of foods (Oloyede & Lignou, 2021; Clonan et al., 2010). Chen et al. (2017) did a study that assessed the effect of over-packaging on brands with an environmentally inclined image and consumer attitudes. They found that over-packaging did not have a direct impact on green brand attachment, however consumers view on

green brands impacts a negative attitude towards excess packaging and attachment to these brands. Monnot et al. (2015) found that consumer's perception of environmental friendliness and price of the product increased while convenience associated with the product decreased with the elimination of overpackaging. Perceived quality was also shown as decreased but this was only valid for private label products.

Packaging can give rise to thoughts about sustainability. Elements of green packaging can therefore have a positive effect on consumer's buying behaviour if used appropriately. While sustainability does encourage packaging redesign, it is critical for the key benefits to the end user to be highlighted in purchasing decisions. For instance, initial consumer studies can be the source of some biases and misinterpretations if the consumers do not have a clear understanding of the various elements of green packaging. This can influence the on-label claims which fail to deliver the desired message in the marketplace.

In light of the observations made on elements of green packaging and consumer's perceptions on the various attributes of sustainable packaging, the following concluding table was developed.

**Table 7:** Positive and Negative attributes based on consumer perceptions of elements of green packaging (Formed from the elements in Table 3 and 4)

<b>Elements of Packaging</b>	<b>Positive attributes</b>	<b>Negative attributes</b>
Visual elements	Product attractiveness	Misleading name of the product
Informational elements	Origin of Material of Packaging	Environmental claim without proof of label or license
	Clear instructions on how to dispose of the product	Lack of information or disposal instructions
Structural elements	Re-usable packaging	Overpackaging
	Sustainably sourced materials	Compromised quality of contents of the product due to shape or size

Table 7 highlights only the green elements of packaging that have a direct effect on consumer's purchase decisions.

1. **Material Source and Composition:** Consumers are concerned about the source and composition of packaging materials. They may prefer packaging made from renewable or recycled materials, as well as those that minimize the use of harmful substances or chemicals.
2. **Recyclability and Biodegradability:** Consumers value packaging that is recyclable or biodegradable, as it aligns with their desire to reduce waste



and environmental impact. Packaging that can be easily recycled or composted is often perceived as more sustainable.

3. **Energy and Resource Efficiency:** Consumers appreciate packaging that is designed to minimize energy and resource consumption during production and distribution. Packaging that is lightweight, uses fewer resources, and has a low carbon footprint is often seen as more environmentally friendly.
4. **Reusability and Functionality:** Consumers value packaging that can be reused or repurposed. Packaging that offers practical functionalities beyond its primary purpose, such as storage containers or multi-use features, is often perceived as more sustainable.
5. **Minimal Packaging and Excessive Packaging:** Consumers are increasingly critical of excessive or unnecessary packaging. They prefer packaging that is minimal and avoids excessive layers, unnecessary plastic films, or excessive use of packaging materials.
6. **Brand Transparency and Trust:** Consumers trust brands that demonstrate transparency in their sustainable packaging practices. They appreciate clear labeling and certifications that indicate a product's sustainable attributes and environmentally friendly packaging choices.
7. **Aesthetics and Visual Appeal:** While sustainability is a priority for many consumers, the visual appeal of packaging also plays a role in their perceptions. Sustainable packaging that is visually appealing, aesthetically pleasing, and conveys a sense of quality can enhance consumer perceptions.

It's important to note that consumers' perceptions of sustainable packaging can be influenced by cultural factors, demographic characteristics, and personal preferences. Additionally, individual consumers may prioritize certain attributes over others based on their own values and environmental concerns.

## 5.2 What are the barriers for sustainable packaging?

Consumer's fail to choose environment friendly products when there are no important characteristics involved in the purchase situation, for instance higher prices or less product quantity. Many consumers fail to understand the relationship between their buying decision and the subsequent environmental consequences if there is a lack of information to remind them of it, for example labels on the product. Other reasons could be the lack of options available in the market or the consumers lack of ability to distinguish between various types of products with more or less environment-friendly packaging.

Consumers are still unclear as to what sustainable packaging is. Often using their own judgements and personal perception as opposed to the sustainability characteristics of the product. Participants in the study done by Oloyede and Lignou (2021) agreed that consumers need to be better informed of the production process in order to make a better and informed decisions.

Nordin and Selke (2010) reviewed the social aspect of sustainable packaging and found that consumer perceptions show a lack of consumer's knowledge about the concept of sustainability, significant terminology gaps and inconsistency in their attitudes towards sustainable packaging. For sustainable packaging to take hold in the marketplace, it is necessary for consumers to know the difference between this type of packaging and basic packaging.

The terminology gap is observed when it comes to consumers' hearing the words like sustainable packaging, recycled content, renewable, made partially from or biodegradable while making the purchase decision. Each of these terms has a different meaning and different process of being recycled. Consumers' lack the knowledge that is required to make informed decisions based on the information given on the packaging.

Besides the confusion that arises due to the various sustainable messages on the packages, suspicions of 'greenwashing' is one of the main identified barriers related to consumer's unwillingness to pay and change their preference towards sustainable products or packaging.

Greenwashing is a misleading claim, symbol or color that is used to convey that the package is more environmentally-friendly or sustainable than alternative packaging. Often claims include the terms 'eco-friendly' or 'green', symbols used are leaves or three arrows in the shape of a triangle, and the color green are associated with greenwashing. Often a visible aspect of packaging disposal leads to consumers associating that image with environmental impacts which directly affects their perception on that type of packaging. An example of this could be plastic bags being stuck on trees or glass bottles strewn about in the streets.

Connecting sales and sustainable packaging has also caused consumer backlash within the packaging food industry. Greenwashing claims and

misleading messages have led to consumers often assuming that all advertising of this type of packaging is false and a marketing strategy that only adds to the psychological value of the product rather than practical value. Since brands avoid making such claims due to the potential negative consumer feedback, the use of the color green without accompanying environmental labels or proof negatively affect the product perceptions (Pancer et al., 2017). In the past, some legitimate brands have lost their competitiveness and the result from the consumers has been discouraging. The practice for highlighting green packaging in promotional aspects was since reduced.

A value-action gap has also been observed in some areas of environmentally friendly packaging (Olson, 2013). Value-action gap indicates there is an 'attitude-behavior' difference meaning even if consumers indicate preference during the surveys or testing, they might not purchase the actual product from the store due to economic, socioeconomic or demographic reasons. Features that highlight sustainable packaging in a product do not always indicate a willingness to pay.

Since some eco-friendly packaging might demand consumers with some trade-offs in terms of quality, performance or price, value-action gaps were almost always observed. Trade-offs often mean the factors that are not related to the product inside the packaging in any way, they can mean the small extra step to recycling the product or compromising the quality or the price of the product. If the consumer perceives the costs of the purchase decision to be higher than the benefits, they will most likely not act in a pro-environmental manner even if their attitude is in favor of being pro-environmental. This was supported by a study (Xue, 2010) done in China that found that almost half of their respondents were unwilling to pay more for green products.

In case trade-offs were absent, willingness to pay was high. To understand this point, consider the shift of whole category of laundry packaging to a more sustainable version with less product as opposed to only a part of the category shifting to sustainable packaging requiring more premium and slightly less quantity of the product. A consumer in the first situation would instantly shift to the sustainable option despite having to change their consumption habits due to a change in the volume of detergent. A consumer in the second situation would prefer the regular detergent to avoid paying higher for less quantity of the product despite being more environmentally friendly. It can be concluded that sustainable packaging is best observed with a category wide initiative.

However, Niell and Williams (2016) found that an average consumer would be willing to pay a premium for sustainable packaging, specifically returnable glass bottles, if they perceived that to be more environmentally friendly than plastic. This was supported by Cammarelle et al. (2021) who found in their research that consumers were willing to pay a premium price of milk packaged in biodegradable packaging regardless of the raw material used for the

packaging. Martinho et al. (2015) also found that around 70% of the respondents for their study were willing to pay a 1%-5% premium for the product. In this case, packaging design was not an important feature to them, rather low prices, high quality and high functionality were the most important aspects of the product.

Price was often pointed out in previous researches as a barrier and influencing factor for purchase intentions of green products and environmentally friendly packaging (Chekima, 2016). Van Birgelen et al. (2009) also showed that taste and price were the primary determining factors of purchase. This determined that sustainable packaging needs to be comparable in price with the alternative products, thereby removing one trade-off making it easier and convenient for consumers to choose between the two options. However due to material differences such as manufacturing, processing and supply, shifting to sustainable packaging can be more expensive for food packaging in particular.

After reviewing the various barriers of sustainable packaging observed, the following points can be concluded:

1. **Lack of Awareness and Information:** Many consumers have limited knowledge and awareness about sustainable packaging options and their benefits. They may not be fully informed about the environmental impact of different packaging materials or the availability of sustainable alternatives. This lack of information can hinder their ability to make informed choices and prioritize sustainable packaging.
2. **Perceived Inconvenience:** Consumers may perceive sustainable packaging options as inconvenient or less practical compared to conventional packaging. For example, they may find it difficult to properly dispose of or recycle certain types of sustainable packaging materials. The perception of inconvenience can deter consumers from actively seeking out and selecting sustainable packaging options.
3. **Price Sensitivity:** Consumers are often price-sensitive and may be unwilling to pay a premium for sustainable packaging. Sustainable packaging materials and processes may be more costly, which can make them less attractive to price-conscious consumers, particularly in price-sensitive markets or during economic downturns.
4. **Limited Availability and Variety:** Sustainable packaging alternatives may have limited availability or may not offer a wide range of options for different types of products. Consumers may find it challenging to find suitable sustainable packaging alternatives for the products they purchase regularly. This limited availability can restrict consumer choices and limit the adoption of sustainable packaging.
5. **Conflicting Priorities and Trade-Offs:** Consumers often have multiple priorities when making purchasing decisions, such as price, convenience, product quality, and brand loyalty. Sustainable packaging may not always align with these priorities, leading consumers to prioritize other factors over sustainability. For example, consumers may choose

packaging that offers better product protection or convenience, even if it is less sustainable.

6. Skepticism or Greenwashing Concerns: Some consumers may be skeptical of green claims or concerned about "greenwashing" - when companies present their products or packaging as more sustainable than they actually are. This skepticism can lead to a lack of trust in sustainable packaging claims and deter consumers from actively choosing sustainable options.

To overcome these barriers, education and awareness campaigns can play a crucial role in informing consumers about sustainable packaging choices and their benefits. Providing clear and transparent information about the environmental impact of different packaging materials, along with proper disposal and recycling instructions, can address some of the perceived inconvenience and knowledge gaps. Moreover, offering affordable and accessible sustainable packaging alternatives, expanding product variety, and ensuring clear labeling and certification can help build consumer trust and encourage sustainable packaging choices.

### **5.3 What behaviour norms influence consumers' decision making when purchasing sustainable packaging?**

Behavioral norms influence how individuals make decisions and act as consumers. These norms can shape consumers' attitudes, preferences, and purchasing behaviors. When studying consumer behavior, it is important to identify and understand the behavioral norms that are prevalent within a specific market or target audience.

A term 'Meta-motivation' coined by Maslow et al. (1970) suggests that once consumers have fulfilled their basic needs such as food, clothing and shelter and a state of self-actualization, social and environmental needs become more relevant. This was supported by consumer researches done on the environment with consumer groups in which basic needs are met (Van Birgelen et al., 2009). Issues related to packaging sustainability became relevant post the basic needs were met and this was most especially relevant in low-income consumers.

While TPB provides a solid foundation for understanding behaviour, integrating other relevant factors can enhance its predictive power. Two important factors that can be included in an extended TPB model for sustainable packaging are environmental concern and willingness to pay. These factors can significantly influence consumer behaviour and decision-making processes in relation to sustainable products, including packaging choices.

Environmental concern reflects an individual's level of awareness and concern for environmental issues. Consumers who have a higher degree of environmental concern are more likely to be motivated to engage in sustainable behaviours, including choosing products with environmentally friendly packaging. Therefore, incorporating environmental concern as a factor in the extended model can provide insights into the motivational aspect of consumer behaviour.

Willingness to pay refers to a consumer's readiness to pay a premium for sustainable or eco-friendly products, including packaging. Understanding the role of willingness to pay can provide valuable information about the economic aspect of consumer behaviour. Consumers who are willing to pay a higher price for sustainable packaging are more likely to choose such products, indicating the importance of considering economic factors in the decision-making process.

By including environmental concern and willingness to pay in an extended TPB model, we can capture a more comprehensive range of factors that shape consumer behaviour towards sustainable packaging. This expanded model would provide a more accurate prediction of consumer behaviour by considering not only the psychological factors but also the environmental and economic dimensions.

Consumers with pro-environmental attitudes were more likely to adopt multiple sustainable behaviours with respect to different topics such as recycling, waste management, energy consumption, transport use and purchase of green products (Cammarelle et al., 2021). A survey (Orzan et al., 2018) done to understand Romanian consumer behaviour concerning sustainable packaging found that people want to purchase products in sustainable packaging and want to get informed about this topic, 65.6% of 268 respondents claimed they did not have enough information about ecological packaging. However, purchase intention did not translate to the actual purchase behaviour, even though a high percentage of respondents claimed they preferred products in organic packaging, less than 45% of the respondents said they bought sustainably packaged products on a weekly basis.

Social norms can also directly impact the decision-making process of the consumer. Depending on whether the norm of purchasing a particular product is widely acceptable or not can influence the consumer's purchase decision. For example, if a consumer is aware that majority of other consumer's avoid purchasing non-biodegradable bottles, the consumer is more likely to adopt a similar behaviour. Further, incentives such as an extra charge on non-biodegradable bottles would strengthen the consumer's decision to avoid purchasing the product.

A study done by Moorthy et al. (2021) to understand the green packaging behaviour of Malaysian consumers found that social norms do not affect the decision-making process when it comes to purchasing green packaging products. While this can be seen as an advantage when choosing marketing strategies, it can also be argued that consumers in Malaysia are still lacking awareness on environmental issues as compared to other countries. This study also found that environmental concern and green purchase behaviour intention have a direct and strong impact on green packaging purchase behaviour.

Contradicting the previous statement, a study was done in China to understand consumer's intention to use recyclable express packaging showed that Social Norms, Moral Norms and Attitudes play a significant role in making a choice (Wang et al., 2020). Young consumers consider the legal and moral requirements before making a purchase decision, this is also aided by the convenience factor which enhances their quality experience.

Taufique and Vaithianathan (2018) found out through their study that young consumers at a personal level believe that through their individual efforts they are contributing to environmental protection. While this study focused on young Indian consumers, this study also showed that these results are similar to studies conducted in developed countries as well. This fact may be used by marketers to enhance this belief through emphasizing utilitarian benefits for the consumers and for the environment in their strategies or packaging on the products. Fraij and Martinez (2006) established a positive correlation between the

environmental protection activities of individuals and the importance they place on the environment.

Chen and Tung (2014) argued that when a consumer is aware of the environmental issues or problems, they are more willing to make an effort to help solve those issues. This is done in by way of purchasing sustainably packaged products and eco-friendly disposal behaviour. The more a consumer is aware of their responsibility towards the environment, the more positive changes in their behaviour are witnessed. This point was further proved by Auliandri et al. (2018) who found through hypothesis testing that a consumer's attitude towards green packaging was affected by their level of concern towards the environment.

Some studies also found that among young consumers, subjective norms might not hold as much significance in the sustainable consumption decision making process as they used to. Marketers may benefit from moving on from the traditional marketing practices which targeted collectivistic natures of the consumers in countries like India. While some consumers are still a part of collective societies, for example China, individualistic traits play a strong role in pro-environmental behaviour among the young urban segment of consumers globally.

It was observed in Young's (2008) study that about 40% out of 500 consumers indicated that their purchasing preference was first driven by package functionality and protection of the products. These consumers initially expressed concern about environmental issues but the study shows that sustainable features were not a primary factor in the purchase decision of the product. Environmental considerations would have been the driving factor if the functional needs were met and quality of the product was assured. Their increased environmental concerns and willingness to act on those concerns somehow does not reflect in their willingness to pay more for sustainable packages (Rokka & Uusitalo, 2008; D'Souza et al., 2007).

TPB primarily focuses on the psychological aspects that influence consumer behaviour, such as attitudes, subjective norms, and perceived behavioural control. While TPB provides valuable insights into the decision-making process, it may not directly address how specific packaging design elements influence behaviour.

To understand how specific packaging design elements affect consumer behaviour, additional frameworks or theories that incorporate the role of packaging aesthetics, functionality, or sustainability attributes may be needed. For example, the Extended Packaging Attributes Model (EPAM) expands upon TPB by including packaging-specific variables such as packaging functionality, visual design, and sustainability attributes to better explain consumer behaviour in the context of packaging.

Regarding the studies narrowing down on sustainability aspects, it is important to acknowledge that research studies often rely on participants as



sources of data. However, it is important to consider the limitations associated with sampling, generalizability, and potential biases inherent in participant responses. Researchers strive to mitigate these limitations by employing rigorous methodologies, larger sample sizes, and diverse participant demographics to enhance the validity and reliability of their findings.

Nonetheless, it is essential to continually evaluate and improve research methods to address these limitations. Future studies can incorporate mixed-method approaches, including qualitative and quantitative data collection, to gain a more comprehensive understanding of consumer behaviour related to sustainable packaging. Combining different methodologies can provide deeper insights into the complex interplay between psychological factors, packaging design elements, and sustainable behaviour.

By acknowledging these limitations and exploring avenues for further research, we can advance our understanding of consumer behaviour in the context of sustainable packaging and develop more comprehensive models that capture the multidimensional aspects influencing consumer choices.

## 5.4 Conceptual model using hypotheses formed through consumer behaviour theories

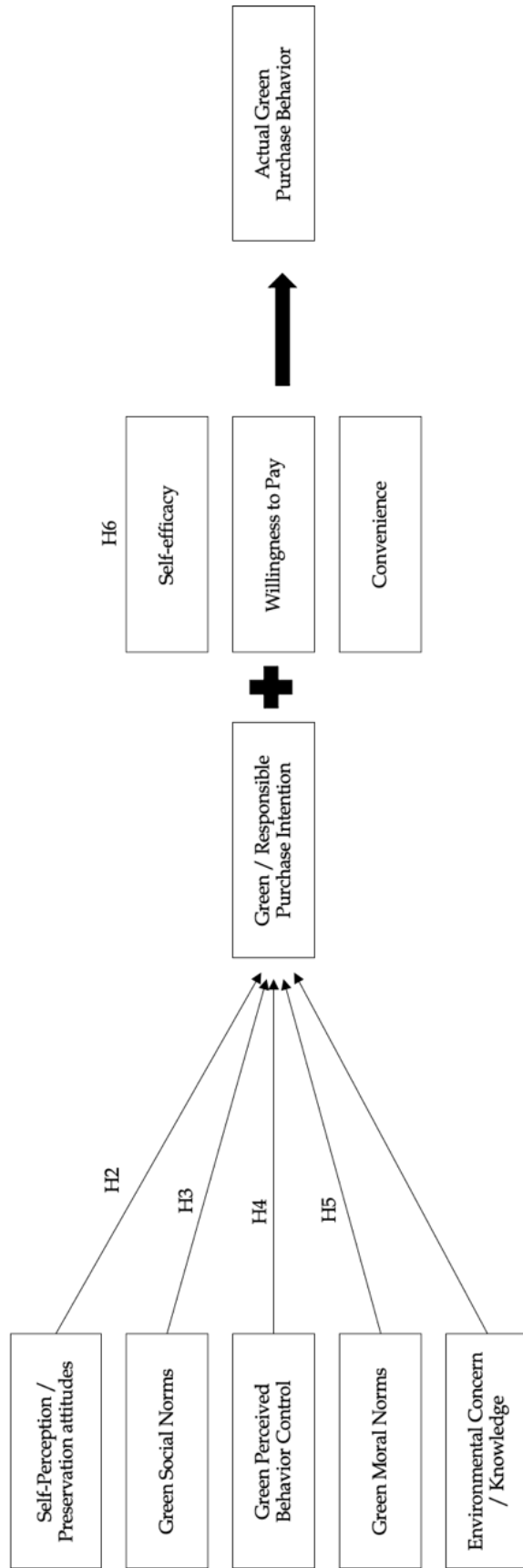
Given the literature reviewed and consumer behaviour theories explained in the previous sections, the following hypotheses were drawn in the theoretical framework keeping in mind consumer behaviour with respect to sustainable packaging.

**Table 8:** Summary of hypotheses drawn from the consumer behaviour theories

<b>H1</b>	Consumers who display a positive attitude while purchasing a sustainably packaged product are more likely to show similar behavior while disposing the product and vice versa.
<b>H2</b>	Consumers who display higher preservation attributes towards the environment are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.
<b>H3</b>	Consumers who display more green social norms, they are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.
<b>H4</b>	Consumers who have higher perceived behavioural control are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.
<b>H5</b>	Consumers who are more aware of the adverse consequences of their actions on the environment are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.
<b>H6</b>	Consumers who have a higher degree of self-efficacy are more likely to buy products with green elements of packaging and dispose packaging in an environmentally friendly manner.

Seeing as the hypotheses cover the various behavioural norms already mentioned in the model of Theory of Planned Behaviour, the following conceptual model was drawn to include the extended aspects of the theory as well as the additional behavioural norms that should be included when this theory is being used to understand or predict consumer behaviour.

Combining the model from Figure 6 with the elements of packaging that a consumer considers green, or even Table 7 with consumer perceptions of green packaging, can be used to predict consumer behaviour towards sustainably packaged products. It outlines the relationships and interactions between the various factors, indicating how they influence consumers' intentions and actual behaviour. This model can guide packaging professionals in understanding consumer decision-making and developing effective strategies for promoting sustainable packaging.



**Figure 6:** Conceptual model from the hypotheses drawn

## 6 CONCLUSIONS

The key findings are summarized in this section with reference to the research questions. Additionally, some managerial implications are discussed and recommendations are given based on the observations made previously. Finally, the limitations related to this study are addressed and some suggestions for future research are presented.

Brundtland Commission 1987 defined Sustainable Development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'; this would involve three principles of sustainability to be addressed namely economic, social and environmental (Nordin and Selke, 2010). In the context of packaging, it would mean integrating the broad aspects of sustainable development in the business and strategies which would affect the life cycle of a product/systems throughout each stage of the supply chain.

One of the major aspects of sustainable packaging development is to educate the consumers about sustainable packaging, its role in sustainable development and overall benefits to the environment. This requires time and energy on behalf of the various stakeholders who would benefit from consumers thinking that packaging is more than just waste or throwaway (Doyle, 1996).

Despite the various studies discussed in this paper, it is not surprising to note that consumer focused initiatives for sustainable packaging are still in the development stages and not many efforts involve end-users or consumers in the sustainability efforts in the packaging field (Nordin and Selke, 2010).

It has been observed that the elements of packaging have a direct influence on the consumer's buying behavior, however in the emerging markets, consumers perceptions of green packaging are not always clear. Due to this, companies should establish procedures to understand consumer's perceptions of green packaging and carry out clear and effective CSR communication plans. Various packaging professionals should focus on keeping the packaging design simple but eye-catching, keeping the environmental claims and benefits must be conveyed in a clear and compelling manner allowing consumers to improve their knowledge and support sustainability efforts by making the purchasing process easier for the consumer.

The literature review conducted in this paper serves several purposes. First, it provides stakeholders, such as marketers and packaging professionals, with insights into how consumer behaviour can be influenced in a positive manner. By understanding the underlying theories and principles that drive consumer decision-making, stakeholders can devise effective strategies and interventions to encourage sustainable packaging adoption.

Second, the literature review sheds light on the importance of engaging consumers in the decision-making process for sustainable packaging. Consumer involvement and participation are crucial for the success of sustainable initiatives. By involving consumers and considering their perspectives, stakeholders can better understand consumer needs, preferences, and values related to sustainable packaging. This knowledge can inform the development of packaging solutions that align with consumer expectations and facilitate positive behavioural change.

The conceptual model presented in the paper aims to provide a practical framework for predicting consumer behaviour towards sustainably packaged products. By incorporating relevant consumer behaviour theories and taking into account consumer perceptions and attitudes towards sustainable packaging, the model offers a valuable tool for marketers and packaging professionals to anticipate consumer responses and tailor their strategies accordingly.

The paper emphasizes the importance of understanding consumer behaviour, engaging consumers, and utilizing theoretical frameworks to drive positive changes in sustainable packaging. By incorporating these insights, stakeholders can make informed decisions and implement effective strategies to promote sustainable packaging practices in a manner that aligns with consumer preferences and values.

Based on the results of the study, it is evident that consumer perceptions of sustainable packaging are highly diverse. This suggests that individual consumers may have their own unique understandings and interpretations of what constitutes sustainable packaging. This diversity of perceptions highlights the importance of considering the various perspectives and preferences of consumers when designing and promoting sustainable packaging solutions.

Furthermore, the study indicates a lack of consumer knowledge regarding sustainability and sustainable packaging. This lack of awareness and understanding contributes to inconsistencies in consumer attitudes and behaviours towards sustainable packaging. Consumers may hold different beliefs, values, or priorities when it comes to sustainability, which can lead to variations in their willingness to adopt and support sustainable packaging initiatives.

In light of these findings, organizations involved in packaging should conduct research on the social effects of packaging. This research can help shed light on the broader societal impact of packaging choices and how they relate to sustainability goals. Understanding the social effects can inform organizations about the potential environmental, economic, and social consequences of different packaging options, aiding in the development of more sustainable practices.

Additionally, organizations should actively seek and consider consumer feedback regarding their sustainable packaging initiatives. Consumer input and insights can provide valuable information about their expectations, preferences, and concerns, allowing organizations to refine their sustainable practices and meet consumer needs more effectively.

Overall, the study highlights the importance of acknowledging and addressing the diversity of consumer perceptions of sustainable packaging. It emphasizes the need for ongoing research, consumer education, and active engagement with consumers to improve sustainable practices in the packaging industry. By considering consumer feedback and understanding the social effects of packaging, organizations can make informed decisions and contribute to more sustainable packaging solutions.

## **6.1 Managerial Implications**

Consumers have high expectations from packaging, seeking qualities such as product protection, functionality, attractive design, reasonable pricing, and more. Packaging professionals face the challenge of meeting these diverse expectations since it is difficult to create a single product that satisfies all consumers.

Although consumers value environmentally friendly and ethical products, their daily buying behaviour often contradicts this observation. This inconsistency poses a challenge in persuading consumers to choose sustainable packaging alternatives that may not align with their perceptions of environmental friendliness.

This study highlights the motivational factors that influence consumers' purchase intentions and behaviours, aiming to inform decision-makers and packaging professionals. It identifies the lack of information and consumer knowledge, as well as the perceived high costs of sustainably packaged products, as reasons for consumers' hesitation to purchase them. Increasing consumer knowledge and educating them about the long-term benefits of sustainable packaging can positively impact their purchasing decisions.

Packaging professionals need to understand the misconceptions associated with sustainable packaging held by consumers. By addressing these misconceptions and highlighting the benefits of sustainable packaging, professionals can work towards changing consumer views and promoting the advantages of sustainable practices. Communication campaigns that encourage responsible consumption can also play a vital role in fostering a shift towards sustainable packaging.

Additionally, it is important to recognize that low-income consumers may face financial constraints when it comes to purchasing sustainably packaged products. To overcome this barrier, companies can offer economic incentives or cost-effective options that balance ecological benefits with affordability. By addressing the economic concerns of low-income consumers, organizations can encourage their engagement in environmental efforts and make sustainable packaging more accessible.

In summary, this study highlights the challenges and motivations affecting consumer behaviour towards sustainable packaging. It emphasizes the importance of consumer education, addressing misconceptions, encouraging responsible consumption, and considering the financial circumstances of different consumer segments. By understanding these factors, packaging professionals can develop strategies to promote sustainable packaging and align consumer behaviour with environmental objectives.

## 6.2 Limitations of the Research

The acknowledgement of limitations is an important aspect of any research study. In this case, the thesis recognizes certain limitations that affected the review process and the overall scope of the study:

**Limited Studies Connecting Consumer Behaviour and Environmental Factors:** The thesis acknowledges that while consumer behaviour is a well-researched topic in consumer psychology, there is a relatively limited body of research that specifically examines the connection between consumer behaviour and environmental factors. This limitation suggests that the available literature on consumer behaviour in relation to sustainable packaging may be relatively scarce, making it challenging to draw comprehensive conclusions.

**Limited Studies Connecting Consumer Behaviour and Packaging:** Similarly, the thesis recognizes that there is a lack of research specifically focusing on the intersection of consumer behaviour and packaging. This limitation implies that the literature available on consumer behaviour in the context of sustainable packaging may be even more limited, which can impact the depth and breadth of the study's findings.

**Language Limitation:** The thesis notes that the review was limited to studies published in the English language. This restriction excludes potentially relevant studies published in other languages. Consequently, the language barrier may have led to the exclusion of valuable research that could have provided further insights into the topic.

By acknowledging these limitations, the thesis demonstrates a transparent and critical approach to the research process. It also highlights potential areas for future research, such as the need for more studies connecting consumer behaviour with environmental factors and the importance of considering research published in languages other than English.

Overall, while these limitations may have constrained the available literature and scope of the study, they provide an opportunity for future research to expand upon and fill these gaps in knowledge.



### 6.3 Future Research Opportunities

Conducting further studies that connect individual consumer behaviour theories with sustainable packaging or the elements of green packaging would be valuable. This would allow for a deeper understanding of how specific theories, such as the Theory of Planned Behaviour or the Norm-Activation Model, can be applied to predict and influence consumer behaviour in the context of sustainable packaging. By linking these theories with the conceptual model developed in this study, researchers can enhance our understanding of the underlying drivers of consumer behaviour and how they relate to sustainable packaging choices.

It is also important to recognize that consumer behaviour can vary across different countries and demographics. Conducting similar research in various countries can provide insights into cultural, social, and economic factors that influence consumer perceptions and behaviours related to sustainable packaging. Comparing results between developing and developed countries may shed light on the differences and similarities in consumer attitudes and behaviours, highlighting the need for tailored strategies and interventions.

The study by Boz, Korhonen, and Sand (2020) that suggests strategies for communicating sustainability to consumers presents an opportunity for packaging professionals to effectively engage with consumers. Understanding the communication strategies that resonate with consumers and effectively convey the environmental benefits of green packaging can assist professionals in promoting sustainable packaging practices and driving consumer behaviour change.

In summary, further research on connecting consumer behaviour theories with sustainable packaging, considering different countries and demographics, and exploring effective communication strategies can expand our knowledge and guide packaging professionals in their efforts to promote green packaging and achieve positive environmental outcomes.

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