

Ecole des Hautes Etudes Commerciales
Kolea
EHEC

This final dissertation has been submitted in fulfillment of the
Master's Degree in Commercial Sciences
Option: Marketing

THEME:

Consumer Perception and adoption of
sustainable Packaging in the home care
industry.

Case study: Henkel Algeria.

Elaborated by:

Miss Sid Ghadir

Supervised by:

Dr. Naima MESSAOUDI.

Senior lecture at EHEC.

11th Promotion

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Abstract:

Consumers' preferences and attitudes towards sustainability significantly influence their purchasing decisions. As sustainability gains importance, businesses must adapt their strategies. Implementing sustainable packaging requires a deep understanding of consumer behavior and their perceptions.

This dissertation explores the impact of perceived value, perceived barriers, and environmental consciousness on the purchase intention of sustainable packaging in the home care industry. To confirm or refute the stated hypotheses, we adopted a combined research method. This descriptive and analytical method allowed us to understand the conceptual framework of consumer perception and the adoption of sustainable packaging in Algeria.

It includes a thorough review of the literature and industry reports, as well as the collection and analysis of primary data through surveys and interviews with Algerian consumers, and the evaluation of Henkel Algeria's current practices. The perceived value of sustainable packaging strongly influences purchase intention, while perceived barriers, such as cost and accessibility, can have a negative impact. Environmental consciousness also influences consumers' attitudes.

This research provides insights into how these variables affect purchase intentions, thereby contributing to the development of more sustainable business practices in the home care industry.

Keywords: Adoption, Consumer Behavior, Consumer Perception, Decision-Making Processes, Sustainable Packaging.

Résumé:

Les préférences et les attitudes des consommateurs envers la durabilité influencent considérablement leurs décisions d'achat. À mesure que la durabilité gagne en importance, les entreprises doivent adapter leurs stratégies. Mettre en œuvre un emballage durable nécessite une compréhension approfondie du comportement des consommateurs et de leurs perceptions.

Ce mémoire explore l'impact de la valeur perçue, des barrières perçues et de la conscience environnementale sur l'intention d'achat d'emballages durables dans l'industrie des produits d'entretien ménager. Pour confirmer ou infirmer les hypothèses énoncées, nous avons adopté une méthode de recherche combinée. Cette méthode descriptive et analytique nous a permis de comprendre le cadre conceptuel de la perception des consommateurs et de l'adoption des emballages durables en Algérie.

Elle inclut une revue approfondie de la littérature et des rapports industriels, ainsi que la collecte et l'analyse de données primaires via des enquêtes et des entretiens avec des consommateurs algériens, et l'évaluation des pratiques actuelles de Henkel Algérie. La valeur perçue de l'emballage durable influence fortement l'intention d'achat, tandis que les barrières perçues, telles que le coût et l'accessibilité, peuvent avoir un impact négatif. La conscience environnementale influence également les attitudes des consommateurs.

Cette recherche fournit des informations sur la manière dont ces variables affectent les intentions d'achat, contribuant ainsi au développement de pratiques commerciales plus durables dans l'industrie des produits d'entretien ménager.

Mots-clés : Adoption, Comportement des Consommateurs, Perception des Consommateurs, Processus de Prise de Décision, Emballage Durable.

المخلص:

تؤثر تفضيلات ومواقف المستهلكين تجاه الاستدامة بشكل كبير على قرارات الشراء الخاصة بهم. مع تزايد أهمية الاستدامة، يجب على الشركات تكيف استراتيجياتها. يتطلب تنفيذ التغليف المستدام فهمًا عميقًا لسلوك المستهلكين وتصوراتهم.

يستكشف هذا البحث تأثير القيمة المدركة، والعوائق المدركة، والوعي البيئي على نية شراء التغليف المستدام في صناعة منتجات العناية المنزلية. لتأكيد أو نفي الفرضيات المذكورة، اعتمدنا منهج بحث مشترك. سمح لنا هذا المنهج الوصفي والتحليلي بفهم الإطار المفاهيمي لإدراك المستهلكين واعتماد التغليف المستدام في الجزائر.

يشمل ذلك مراجعة شاملة للأدبيات والتقارير الصناعية، بالإضافة إلى جمع وتحليل البيانات الأولية من خلال الاستطلاعات والمقابلات مع المستهلكين الجزائريين، وتقييم الممارسات الحالية لشركة هنكل الجزائر. تؤثر القيمة المدركة للتغليف المستدام بشكل كبير على نية الشراء، بينما يمكن للعوائق المدركة، مثل التكلفة وإمكانية الوصول، أن يكون لها تأثير سلبي. يؤثر الوعي البيئي أيضًا على مواقف المستهلكين.

يوفر هذا البحث رؤى حول كيفية تأثير هذه المتغيرات على نوايا الشراء، مما يساهم في تطوير ممارسات تجارية أكثر استدامة في صناعة منتجات العناية المنزلية.

الكلمات المفتاحية: الاعتماد، سلوك المستهلكين، إدراك المستهلكين، عمليات اتخاذ القرار، التغليف المستدام

List of abbreviations:

Abbreviations	Meaning
CSR	Corporate Social Responsibility
EHEC	Ecole des Hautes Etudes Commerciales
EU	European Union
FMCG	Fast-Moving Consumer Goods
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
NGO	Non-Governmental Organization
SCT	Social Cognitive Theory
SPA	Sustainable Packaging Alliance
SPC	Sustainable Packaging Coalition
TPB	The Theory of Planned Behavior
UN	United Nations
VBN	Values, Behavior and Norms

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General Introduction

Packaging is a crucial aspect of modern consumption and the global economy, valued at an estimated US\$400 billion. However, it also contributes significantly to environmental burdens through waste and resource consumption. In response, sustainable packaging has become a focal point for policymakers, environmental advocates, consumers, and the industry. Defined by the Sustainable Packaging Coalition, sustainable packaging is responsibly sourced, safe, effective, produced using renewable energy, and efficiently recycled.

The 21st century has seen a shift in consumer awareness towards sustainability, leading to deliberate choices to reduce ecological footprints. This trend towards eco-consumerism encourages collaboration between consumers and businesses for a more environmentally conscious future. Businesses are adapting by reducing carbon emissions, conserving resources, and implementing sustainable practices, including using renewable energy, recycling programs, and sustainable materials.

This theme was chosen for both subjective and objective reasons. Subjectively, there is a personal interest in contributing to environmental sustainability and understanding consumer behaviour. Objectively, there needs to be more literature regarding consumer behaviour towards sustainable packaging in Algeria, an emerging market with unique cultural and economic characteristics that pose specific challenges and opportunities

This dissertation explores how Algerian consumers perceive sustainable packaging for home care products and what influences their purchasing decisions. The central research question is: **"How can Henkel Algeria understand Algerian consumer preferences and potential barriers to adopting sustainable packaging for their home care products?"**

The sub-questions include:

How do Algerian consumers perceive the value of sustainable packaging compared to traditional packaging for home care products? How does this perception affect their purchase intention?

What are the primary barriers those Algerian consumers face when considering the adoption of sustainable packaging for home care products, and how do these barriers impact their intention to purchase?

To what extent does environmental consciousness influence Algerian consumers' attitudes towards sustainable packaging for home care products, and how does this influence their intention to purchase?

Hypotheses:

The perceived value of sustainable packaging positively influences the purchase intention of home care products with sustainable packaging.

The barriers to adopting sustainable packaging impact purchase intention.

Environmental consciousness positively influences the purchase intention of products with sustainable packaging.

To confirm or refute the hypotheses stated, we adopted two research methods:

The first method is Descriptive, which allows us to understand the conceptual framework of consumer perception and sustainable packaging adoption. This method involved a thorough review of existing literature, industry reports, and theoretical models related to sustainability in the home care industry.

The second method is Analytical, which helps us to assess the current state of sustainable packaging adoption in Algeria and its impact on consumer behavior. This method involved collecting and analyzing primary data through surveys and interviews with Algerian consumers, as well as evaluating Henkel Algeria's current practices and consumer feedback on sustainable packaging.

The work plan for this dissertation includes:

Chapter 1: Understanding Sustainable Packaging: Overview of sustainable packaging, including its definition, materials, life cycle assessment, and benefits and barriers.

Chapter 2: Consumer Perception and Behavior Towards Sustainable Packaging Adoption: Theoretical framework and literature review on consumer perceptions and behaviours.

Chapter 3: Empirical Study on Consumer Perception and Adoption of Sustainable Packaging: Methodology, data analysis, and findings from the empirical study with Algerian consumers.

Chapter 1: Understanding Sustainable Packaging

Introduction of the Chapter:

Packaging is a key element that goes beyond insulation. It effectively communicates with consumers, shapes their perceptions, influences purchasing decisions and promotes brand loyalty. However, its importance goes beyond market dimensions. Packaging is crucial in maintaining product integrity, facilitating transportation and ensuring safe consumption.

As consumers increasingly demand ecological solutions, sustainable Packaging has become an essential strategy for companies to adapt to environmental values and gain competitive advantages. Integrating effective design and environmentally conscious communication, sustainable Packaging improves brand image and directs consumer behaviour towards environmentally friendly choices.

Packaging has multiple functions, from disseminating information to protecting the product, but its evolution towards Sustainability reflects a broader societal shift towards environmental awareness and compliance. In this context, sustainable packaging innovations address environmental aspects and prioritize consumer safety, reflecting a holistic approach to product management and social well-being.

1. Packaging and Sustainability

The world's population explosion in the past half-century has led to a significant increase in the global economy and the production of goods and services. This exponential growth has strained our environment by increasing contaminants and the depletion of natural resources. Packaging is essential to valuable goods, but packaging production has environmental impacts, and packages are usually disposed of after use.

This disposal contributes to environmental distress if proper recovery methods are not in place. Significant efforts have been made to optimize Packaging along the packaging value chain to reduce waste and reduce its environmental footprint. Even though continuous technology development and attitude changes have helped to reduce packaging waste, Packaging and containers remain crucial to achieving sustainable systems.

1.1 Packaging definition:

The Packaging of a product serves as a means of communication between businesses and consumers and can attract consumers' attention. ¹

Packaging is all activities related to designing and manufacturing a container for a product. ²

Packaging ensures the best conditions for the safety, handling, preservation, storage, and transport of products. ³

Packaging refers to the technology and material for enclosing or protecting products for distribution, storage, sale, and use. ⁴

So, the primary functions of Packaging include containment, protection, convenience, and communication. Moreover, several additional functions, such as selling, Promotion, and environmental responsibility, should be considered simultaneously during the packaging design and development process.

We can classify Packaging into primary, secondary, and tertiary.

¹DRASKOVIC,(N),JOHN,(T),and JURICA,(P):"**Comparative Perceptions of Consumer Goods Packaging: Croatian Consumers Perspectives.**" International Journal of Management Cases,N°11, 2009 ,pp;153-163

² KOTLER, (P) and KELLER, (K): **Marketing Management**, 15ème Edition, Pearson, France, 2015, P 429

³ CLAUDE(D), **aide mémoire marketing**, 6em édition , DUNOD, France, CLAUDE(D), aide mémoire marketing, 6em édition , DUNOD, France ,2008,p.135

⁴ GEORGIOS (D): **Green Packaging**, Master of Science (MSc) in Strategic Product Design, SCHOOL OF ECONOMICS, BUSINESS ADMINISTRATION & LEGAL STUDIES, 2016 p4

- Primary Packaging, such as shampoo bottles, directly interacts with the product. It contains the primary Packaging and may often be discarded immediately after consumption.⁵
- Secondary Packaging contains one or more primary packages, protects and identifies them, and communicates the product's characteristics. It is usually removed when the product is used or consumed.⁶
- Tertiary Packaging is the Packaging necessary for storage, identification, and transport. It is often not visible to end customers and is more about distributors.⁷

1.2 Functions of Packaging:

Packaging serves several functions, such as protecting the contents inside from contamination and spoilage, facilitating transport and storage of the final product, and ensuring uniform measurement of the contents. This author's statement implies that if a package is designed to do its job, it must support all essential functions, including isolation, protection, convenience, and communication. In addition, several additional functions, such as sales, Promotion, and environmental responsibility, must be considered simultaneously in the package design and development process.⁸

Table 1 : Packaging functions

Function	Features
----------	----------

⁵Ampuero, (O),Vila, (N). **Consumer perceptions of product packaging**. Journal of Consumer Marketing, 23(2), 2006,pp 100–112.

⁶Ibid,p101.

⁷ KOTLER (P), KELLER (K), MANCEAU (D), **Marketing and Management**, 14th Edition, FABOrléans, published by Pearson France, 47 bis, Paris, 2012, p. 395

⁸NGUYEN TRUNG (N), **The link between green Packaging and Sustainability in the supply chain**, Bachelor's thesis, JAMK University of applied sciences, 2020, p. 17

Protection	<ul style="list-style-type: none"> - Prevent breakage (mechanical protection) - Prevent spoilage (barrier to moisture, gases, light, flavours and aromas) - Prevent contamination, tampering and theft - Increase shelf life
Promotion	<ul style="list-style-type: none"> - Description of product - List of ingredients - Product features and benefits - Promotional messages and branding
Information	<ul style="list-style-type: none"> - Product identification - Product preparation and usage - Nutritional and storage data - Safety warnings - Contact information - Opening instructions - End-of-life management
Convenience	<ul style="list-style-type: none"> - Product preparation and serving - Product storage - Portioning
Unitization	<ul style="list-style-type: none"> - Provision of consumer units - Provision of retail and transport units
Handling	<ul style="list-style-type: none"> - Transport from producer to retailer - Point of sale display
Waste reduction and recycling and reuse of by-products	<ul style="list-style-type: none"> - Enables centralized processing and reuse of by-products - Facilitates portioning and storage - Increases shelf life - Reduces transport energy

Source : (ECR Europe; The European Organization for Packaging and the Environment
Packaging in the Sustainability Agenda: A Guide for Corporate Decision Makers,
,2009, p7)

1.3 The Role of Packaging:

Packaging is vital to any country's economy, environment, and society. It is deeply integrated into people's daily lives, providing transportation, protection, and storage for materials used in producing and consuming goods. Packaging allows consumers to obtain electronics, clean and safe medicine, and food.

1.3.1 Economy:

Packaging serves a dual role in the economy. Firstly, it establishes markets for product sales and the birth of industries for producing and commercializing materials. Necessary materials like glass, metal, paper, and plastics are vital in economic activity. Secondly, Packaging plays a protective role during product distribution until it reaches the consumer. It also serves as a communication tool for product information. With the global market for packaging materials estimated to be 1 trillion U.S. dollars in 2020, Packaging is one of the leading economic drivers in many countries. In addition, the packaging industry promotes innovation and technological development, which leads to job creation and economic growth in various sectors.⁹

1.3.2 Environment:

Packaging can affect the environment in both positive and negative ways during its life cycle. During production, it consumes significant resources such as land, water, and energy while generating waste. Second, it protects and contains the product during its life and communicates dietary and nutritional information. In addition, Packaging plays a crucial role in extending the shelf life of products. However, upon reaching the end of its useful life, inadequate management can result in waste generation and pollution. As evidenced by the average global waste generation per capita of approximately 1.2 kg/person/day (equivalent to 1.3 billion tons of solid waste per year) in 2012, the environmental repercussions of packaging demand careful consideration, and it is expected to increase to 1.42 kg/person/day by 2025 (2.2 billion tons of solid waste per year.) High-income countries generate waste even as high as 14 kg/person/day.¹⁰

⁹ RAFAEL (A), SUSAN (S): **Life Cycle of Sustainable Packaging**, John Wiley & Sons, New Jersey, 2023,p2

¹⁰ Ibid, p3

1.3.3 Social:

The packaging industry has a dual role as a community builder. It offers opportunities for economic growth, pollution-related challenges, and its impact on human health and nature. Packaging employs several million people globally, contributing to livelihoods and economic well-being. For example, in the United States alone, according to the Bureau of Labor Statistics, there are about 49,755 people who work in packaging and labelling services, another 252,000 people involved in the operation and supply of Packaging and filling machines, and about 100,000 people who work in plastic packaging materials. Films and boards in 2020.

However, industrial processes related to packaging production and recycling of raw materials can lead to environmental pollution and social inequality. Typically, these industries are located in middle- and high-income countries, which brings economic benefits to their societies. In particular, countries such as Scandinavia, home to well-known companies such as Tetrapak® and Ikea, show excellent social indicators, including fair distribution of wealth, access to health care and educational opportunities. This suggests that promoting social justice and economic development in the packaging industry can be mutually reinforcing goals.¹¹

1.4 Sustainability:

Sustainability is a complex concept that is very open to interpretation. While we are reminded almost daily of human-caused environmental damage, including climate change, land degradation, and water availability and quality, the best way to respond as individuals, businesses, and governments remains to be determined. Levels. Many companies worldwide seriously consider and act on Sustainability and corporate social responsibility issues. Companies need help identifying their operations' most significant environmental impacts and addressing them through manufacturing, engineering, logistics, marketing, business, structures, and relationship changes.¹²

The precise meaning of Sustainability and what it embraces varies depending on who uses the term and in what context. Several definitions have been provided over the years. Some of them define Sustainability as:

¹¹ RAFAEL (A), SUSAN (S): Op. cit., p. 4

¹² Sustainable Packaging Alliance, *Sustainable Packaging Redefined*, report 2007

(The term 'sustainability' is generally used to indicate the limits placed on humans' use of ecosystems, or more specifically, to determine how resources can be used to meet changing future needs without undermining the natural resource base.)¹³

(a development that improves the quality of human life while living within the carrying capacity supporting Ecosystems.)¹⁴

(meeting the needs of the present without compromising the ability of future generations to meet their own needs)¹⁵

1.5 The impacts and gains of Packaging related to sustainability dimensions are:

In today's global environment, Packaging is a cornerstone of pursuing Sustainability in various industries. Its multifaceted role goes beyond mere containment and has profound implications for economic prosperity, environmental protection, and social equity. This review explores the complex interplay between Packaging and Sustainability, exploring its various impacts and tangible benefits along each dimension. By exploring the symbiotic relationship between packaging practices and the SDGs, we reveal the potential harms and benefits of the pillars of sustainable development, which are categorized under the three components of sustainable development. (See Table 2).

Table 2 : The impacts, costs and gains of Packaging about the three components of Sustainability

¹³ FRESCO,(L), and KROONENBERG, (S). **Time and spatial scales in ecological sustainability** . Land Use Policy N° 9, 1992, pp155–168

¹⁴ MUNRO, (D.A), **Caring for the Earth: A Strategy for Sustainable Living**. Gland, Switzerland, IUCN, UNEP, WWF, 1991, p. 10

¹⁵ <https://www.un.org/en/academic-impact/sustainability> consulted on (15/4/2024) at 22:00

Sustainability component	(Potential) impact or costs	(Potential) gains
Economic (Profit)	<ul style="list-style-type: none"> - Purchasing of materials, energy. - Cost of processing, converting, printing, transportation, etc. 	<p>Improving market potential through:</p> <ul style="list-style-type: none"> - Extended shelf life - Inducing sales through marketing - Convenience
Environmental (Planet)	<ul style="list-style-type: none"> - Impact of materials - Impact of processing, converting, printing, transportation, etc. 	<ul style="list-style-type: none"> - Reducing the waste of food - Reducing damage to products
Social (People)	<ul style="list-style-type: none"> - Social (People) - “Fosters unsustainable consumption habits, such as not valuing materials and a ‘throw-away mentality’.” (Lewis, 2005) 	<ul style="list-style-type: none"> - Enabling food availability in developing regions - Providing employment (Lewis,2005) - Enabling lifestyles (e.g.single household portions) - Protecting children from harmful substances

		- Inducing proper wasting behaviour
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Source : (Wever, (R), Tempelman,(E): **The Social Component of Sustainable Packaging** ,Faculty of Industrial Design Engineering, Delft University of Technology 2009, p4)

2. Definition and Conceptual Framework of Sustainable Packaging

2.1 Conceptualizing Sustainable Packaging:

Researchers have disputed sustainable Packaging due to its need for more conceptualization. several terms have been used for sustainable Packaging, including ecological Packaging: green packaging design, sustainable design, eco-design, environmental design, and environmentally conscious design.¹⁶

Since the term was introduced, sustainable Packaging has been assumed to be synonymous with responsibly sourced materials or Packaging with zero environmental impact. The definition must be more accurate for consumers because it neglects other criteria, such as economic and social impacts.¹⁷

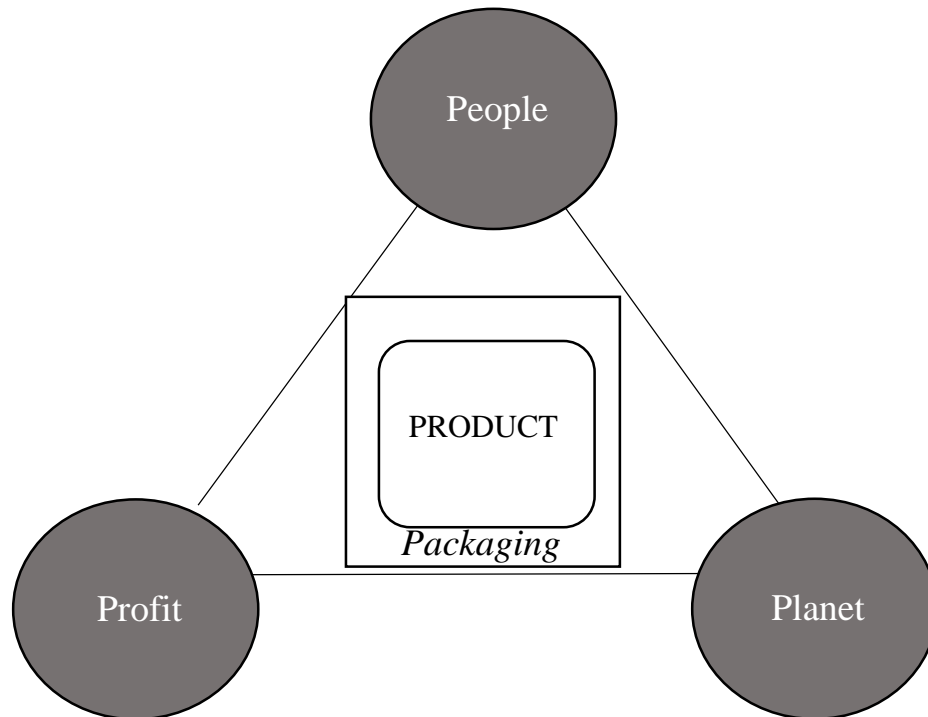
The Triple Bottom Line (TBL) framework provides a valuable lens for understanding sustainability. Attempts have been made to improve the original concept of the triple bottom line from People, Profit, and Planet to include Packaging and the Product as the two extra P's. It is said that packaging cannot be sustainable by itself; only a combination of the product and packaging

¹⁶ MAGNIER(L), CRIE(D): "**Communicating packaging eco-friendliness: An exploration of consumers' perceptions of eco-designed packaging**", International Journal of Retail & Distribution Management 2015,pp350-366

¹⁷ SAKSHI (K), **SUSTAINABLE PACKAGING: A CONSUMER PERSPECTIVE**, Master's Thesis , Jyväskylä University ,School of Business and Economics, 2023,p17

may be sustainable.¹⁸ Following this, they created the 5P A model that can be successfully applied to sustainable Packaging.

Figure 2-1 : 5's of sustainable Packaging



Source: (Crul, (M); Diehl,(J) Design for Sustainability; a Practical Approach, UNEP, Paris. 2006, p21)

Sustainability is based on long-term economic, environmental, and social development stability. Additionally, it defined the principles of sustainable design following a survey of international experts in corporate social responsibility (CSR) and sustainable development(S.D.), articulating the concept of the 'triple bottom line,' which encompasses People, Planet, and Profit.¹⁹

¹⁸ WEVER(R) . TEMPELMAN.(E) The Social Component of SustainablePackaging Faculty of Industrial Design Engineering, Delft University of Technology, 2009,p3

¹⁹ NGUYEN TRUNG (N), **The link between green Packaging and Sustainability in the supply chain**, Bachelor's thesis, JAMK University of applied sciences, 2020, p45

- **Planet:** Focus on the ecosystem, especially during the production and end-of-life phases of Packaging. Reducing the ecological burden is essential for achieving sustainable Packaging.
- **Profit:** where all stakeholders, including shareholders, customers, employees, and society, benefit from sustainable packaging practices.
- **People:** Highlight the social component of sustainable Packaging, which is closely linked with the profit side. Sustainable Packaging must meet the needs of people and align with consumers ' perceived product value.

2.2 Sustainable Packaging Definition:

Researchers describing sustainable Packaging usually refer to definitions developed by non-profit organizations, such as the Sustainable Packaging Alliance (SPA) in Australia and the Sustainable Packaging Coalition (SPC) in the United States.

2.2.1 SPA’s Sustainable Packaging Definition:

The Sustainable Packaging Alliance in Australia has defined sustainable Packaging as Packaging that meets the following four principles: effectiveness, efficiency, cyclicity, and cleanliness, and each of these is briefly discussed below. Key performance indicators (KPIs) have also been proposed (see Table 3)²⁰

Table 3 : Principles and indicators of sustainable Packaging

Sustainable packaging principle	Sustainable packaging indicator
1. Effective The packaging system adds real value to society by effectively containing and protecting products as they move through the supply chain and by supporting informed and responsible consumption	1.1 Reduces product waste
	1.2 Improves functionality
	1.3 Prevents over-packaging
	1.4 Reduces business costs
	1.5 Achieves satisfactory return on investment

²⁰ LEWIS et al. *Sustainable Packaging Redefined* DRAFT, November report 2007 P 4

<p>2. Efficient</p> <p>The packaging system is designed to use materials and energy as efficiently as possible throughout the product life cycle. This should include material and energy efficiency in interactions with associated support systems such as storage, transport and handling</p>	2.1 Improves product/packaging ratio
	2.2 Improves efficiency of logistics
	2.3 Improves energy efficiency
	2.4 Improves materials efficiency
	2.5 Improves water efficiency
	2.6 Increases in recycled content
	2.7 Reduces waste to landfill
<p>3. Cyclic</p> <p>Packaging materials used in the system are cycled continuously through natural or industrial systems, minimizing material degradation.</p>	3.1 Returnable
	3.2 Reusable
	3.3 Recyclable
	3.4 Biodegradable
<p>4. Clean</p> <p>The system's packaging components, including materials, finishes, inks, pigments, and other additives, do not pose any risks to humans or ecosystems. When in doubt, the precautionary principle applies.</p>	4.1 Reduces airborne emissions
	4.2 Reduces waterborne emissions
	4.3 Reduces greenhouse gas emissions
	4.4 Reduces toxicity
	4.5 Reduces litter impacts

Source : (LEWIS et al. Sustainable Packaging Redefined DRAFT, November report 2007,P

4)

2.2.2 SPC's Sustainable Packaging Definition:

SPC considers sustainable Packaging as Packaging that:²¹

- ✓ *It is beneficial, safe, and healthy for individuals and communities throughout its life cycle.*
- ✓ *Meets market criteria for performance and cost.*
- ✓ *It is sourced, manufactured, transported, and recycled using renewable energy.*
- ✓ *Maximizes the use of renewable or recycled source materials.*
- ✓ *It is manufactured using clean production technologies and best practices.*
- ✓ *It is made from materials that are healthy in all probable end-of-life scenarios.*
- ✓ *It is physically designed to optimize materials and energy.*
- ✓ *It is effectively recovered and utilized in the biological and industrial cradle-to-cradle cycles.*

This definition of SPC has many synergies with SPA but goes further, especially for renewable energy sources and materials. The fundamental concepts in both, however, remain the same. Although the concept is defined by creating different principles or criteria, the main idea is to consider the role of the product/packaging systems during their life cycle, considering social, economic, and environmental factors addressed in implementing genuinely sustainable packaging systems.²²

²¹ KOZIK, (N). **Sustainable Packaging as a tool for global sustainable development.** Cracow University of Economics, Department of Packaging Science, Poland. 2020 ,P3

²² NORDIN, (N), SELKE,(S). **The social aspect of sustainable Packaging.** Packaging Technology and Science, 2010, P23

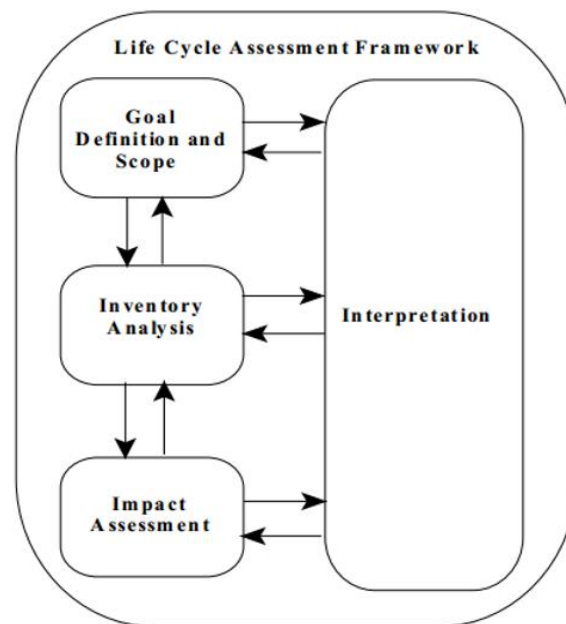
2.3 Life Cycle Assessment of Packaging

One of the most common ways to calculate Sustainability is through life cycle assessment (LCA)

Life Cycle Assessment (LCA) is a method for evaluating and measuring a product's environmental impact during its life cycle. It is based on standards such as ISO 14040 and ISO 14044. LCA has become a widely used approach for comparative analyses in sustainable product packaging.²³

It covers a variety of processes for gathering and analyzing the energy and raw materials used in production as well as for the outputs, or all the environmental effects connected to wastes directly related to a product's and its Packaging's functioning throughout its whole life cycle.²⁴

Figure 2-2 : Phases of an LCA



²³ SUBRAMANIAN, (S): **Sustainable Packaging** Springer Nature Singapore Pte Ltd. First edition 2021, page 7

²⁴ BELLOMO, (M) **Sustainable cosmetics: the impact of packaging materials, environmental concern and subjective norm on green consumer behaviour**, Louvain School of Management, Université Catholique de Louvain, 2021. P24

Source: (CURRAN,(M). Life Cycle Assessment: A review of the methodology and its application to Sustainability . Current Opinion in Chemical Engineering.N° 2. 2013 ,pp 273–277)

2.3.1 The Four Stages of LCA :

1. Goal and Scope Definition of an LCA :

Goal definition and scoping is a step in the LCA process that defines the goal and method for integrating life-cycle environmental impacts into the decision-making process. This step involves determining what information is needed to add value to the decision-making process, how accurate the results must be to add value, and how to interpret and display the results to be meaningful and usable.²⁵

2. Inventory analysis

Once the LCA constraints are drawn, the LCA analyst is ready to collect data. This is the stage of LCI where the inputs and outputs of the industrial system (according to the functional unit) are measured and recorded. At the end of this step, an inventory list contains all the input/output data for the system under study.²⁶

3. Impact assessment

The Life Cycle Impact Assessment (LCIA) phase of an LCA evaluates the possible effects of environmental resources and emissions on human health and the environment. The impact assessment should address ecological and human health impacts and the depletion of natural resources.²⁷

Life cycle impact assessment attempts to establish a link between a product or process and its potential environmental impacts.

²⁵CURRAN,(M). **Life Cycle Assessment:** A review of the methodology and its application to Sustainability . Current Opinion in Chemical Engineering.N° 2. 2013 ,pp 273–277.

²⁶ <https://sphera.com/glossary/what-is-a-life-cycle-assessment-lca/> consulted on (18/04/2024) at 2: 00

²⁷ Ibid p2

4. Interpretation

Life cycle interpretation is the final stage of the four-cycle process and a systematic technique for identifying, quantifying, monitoring, evaluating, and effectively communicating the information obtained from LCI and LCIA results.²⁸

ISO has defined the following two objectives for life cycle interpretation:

1. Analyze results, draw conclusions, explain limitations, and make recommendations based on findings from previous steps of the four-cycle analysis. Present life cycle interpretations transparently.
2. Provide an easy-to-understand, comprehensive and coherent presentation of LCA study results according to the purpose and scope of the study. (ISO 1998).

2.4 Sustainable Packaging: Insights from LCA Analysis²⁹

Lee and Xu reviewed various sustainable product packages using LCA and highlighted the importance of ecological design and lightweight in minimizing environmental Sustainability. In addition, they emphasized how packaging materials affect the environmental burden and the impact of legislation on the disposal of used Packaging.

Also, Dominic et al. suggested ecological design as a critical factor/benefit for Sustainability.

In contrast, Del Monte et al. studied the environmental impact of alternative packaging systems for coffee retail. They showed how changing plastic parts can reduce package weight and improve the energy efficiency of the production line.

Horowitz et al. analyzed the environmental impact of bottled water with different bottle materials, such as polylactic acid (PLA), corn-based, R-PET, and regular (petroleum-based) PET.

²⁸ CURRAN,(M). Op.cit, p3

²⁹ SUBRAMANIAN,(S): Sustainable Packaging Springer Nature Singapore Pte Ltd. First edition 2021, page 7

They showed that recycled PET is more environmentally friendly. Bottled water production, conventional PET, and PLA fill are also more environmentally friendly.

Another study focused on environmental impact assessment of milk and milk product packaging systems using LCA analysis.

The findings show which phase of the dairy life cycle of the package has the most significant impact, which is why choosing post-consumer materials is so significant

Within this framework, LCA is a thorough and methodical method to evaluate a product's or system's environmental effect. It may be an effective tool for sustainable Packaging, helping identify areas where changes can be made to reduce environmental consequences. Additionally, it may be applied to a wide range of products and systems, from consumer items to industrial processes, and can give valuable data for decision-making and design optimization.

The life cycle of Packaging and its evaluation are essential ways to identify and improve the Sustainability of Packaging and its supply chain.

2.5 Sustainable packaging materials:

Sustainable packaging materials offer a promising alternative to traditional, resource-intensive options, providing a path toward a more sustainable future.

2.5.1 Wood fibre-based materials:

Cellulose is abundant, readily available, and comes from several biomasses, including wood, forest residues, agricultural residues, algae, plants, and bacteria. This article discusses wood-based cellulosic fibres and other essential wood components, such as hemicellulose and lignin. Isolation methods affect the morphology and composition of cellulose fibres and packaging applications.³⁰

Cellulose fibres play a crucial role in sustainable Packaging, offering options from 100% cellulose products such as paper and board and nanocellulose additives (less than 1%) to

³⁰ STARK(N.M.) MATUANA (L.M.), Trends in sustainable bio based packaging materials Today Sustainability, N°15 2021 ,p2

biopolymers that improve protective properties. Paper and cardboard are traditional and widely used durable food packaging materials.³¹

Cellulose nanomaterials (C.N.s) are cellulosic fibres processed to the nanoscale. They represent an emerging market that has been extensively studied for Packaging. C.N.s are expected to contribute significantly to the future of sustainable packaging materials.³²

2.5.2 Bioplastic materials :

The emergence of bioplastics from biological sources challenges the traditional dependence on petroleum-based polymers for Packaging. This shift is due to growing environmental concerns, rising oil prices, waste management challenges, changing consumer preferences and regulatory changes. The packaging industry is increasingly looking to use bio-based and biodegradable materials combined with a circular economy approach to plastic recycling to meet future sustainability requirements in various applications. A versatile selection of bioplastics with different properties is now available for Packaging. These bioplastics can be broadly classified into three categories: (1) bio-based or partially bio-based non-biodegradable plastics, including bio-based P.E., P.P. or PET; (2) plastics that are both biobased and biodegradable, such as PLA, PHA or PBS; and (3) plastics derived from biodegradable fossil resources such as PBAT. Bioplastic has several advantages over oil-based plastics, such as a smaller carbon footprint and better compostability. In addition, bio-based plastics have similar physical-mechanical properties to petroleum-based plastics, making them an ideal alternative for packing. C.N.s are expected to contribute significantly to the future of sustainable packaging materials.³³

2.6 Practices examples:

- **Henkel**

³¹ STARK(N.M.) MATUANA (L.M.), Op.cit,p 3

³² Ibid,p4

³³Ibid , p4

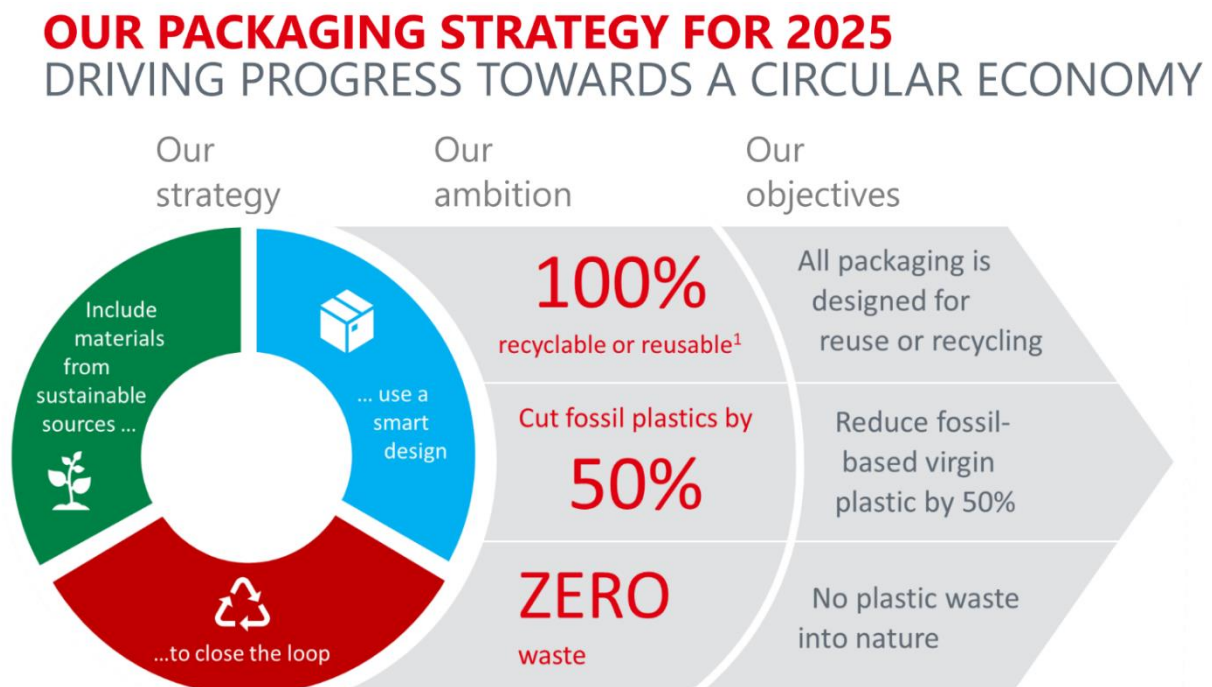
Building on its progress and activities in sustainable Packaging to promote a circular economy, Henkel is intensifying its efforts with new, more ambitious sustainable packaging targets for 2025³⁴:

100% Recyclable or Reusable: Henkel aims for all its Packaging to be recyclable or reusable.

Reduce Fossil Plastics by 50%: Henkel plans to decrease the amount of virgin plastics derived from fossil sources in its consumer products by 50%. This objective will be met by increasing the proportion of recycled plastic in its consumer goods globally to over 30%, reducing the overall plastic volume, and expanding bio-based plastics.

As of 2019, 85% of Henkel's Packaging was recyclable or reusable. Additionally, the proportion of recycled plastic in Henkel's consumer goods packaging in Europe was 12%.

Figure 2-3 : Henkel's Packaging Sustainability Goals for 2025



³⁴ <https://www.henkel.com/press-and-media/press-releases-and-kits/2020-03-05-henkel-sets-new-and-ambitious-targets-for-sustainable-packaging-and-climate-protection-1040808> consulted on (19/04/2024) At 3: 00

Source: Internal documents of HENKEL Algeria

Figure 2 4 : Image of some examples of Barilla's new eco-friendly Packaging



Source: (<https://news.italianfood.net/2022/08/23/barilla-launches-new-plastic-free-packaging/> consulted on (21/04/2024) at 22:00)

- **The Barilla company:**

with its famous cardboard packaging featuring a small transparent window on the front, designed Packaging to be easier to recycle compared to other brands that use entirely transparent Packaging³⁵. Sometimes, as a brand's awareness grows significantly over time, it may eliminate that small window to create 100% sustainable packaging. This is precisely what Barilla chose to do by introducing new Packaging without the window, confident that this change would not negatively affect sales. Instead, the prediction is that sales will grow (see Figure below).

³⁵ <https://www.barilla.com/fr-fr> consulted on 20/04/2024 at 2:00

Today, Sustainability is more critical than ever, which is why it is an integral part of us, says Alberto Costella, Marketing Manager of the Barilla Group. "The expansion of our new, fully recyclable packaging is another step in that direction, and don't plan to stop now." The company has consistently made ecological and sustainable initiatives, strengthening its commitment year after year. Through the "Good for you, good for the planet" program, Barilla demonstrates its commitment to environmental Sustainability through many activities.³⁶

- **Dell:**

Dell is a leader in responsible Packaging, striving to reduce waste and foster innovation to find recycled and renewable options that protect its products during transportation. By 2030, Dell will ship all its products in Packaging made from 100% recycled or renewable materials. In addition, by 2030, more than 50 per cent of the content of these products will be made from recycled or renewable materials.³⁷

Dell packaging is designed to maximize its recycling potential using recycled and renewable materials. From computers, displays and peripherals to servers, storage and networking, Dell designs and packages its products from recycled or renewable materials whenever possible.³⁸

Dell also implements multi-pack solutions that simplify unpacking, save setup time and reduce packaging waste. By shipping multiple products in one package, Dell increases the number of products on each rack, significantly saving space and reducing customer waste.³⁹

³⁶ <https://news.italianfood.net/2022/08/23/barilla-launches-new-plastic-free-packaging/> consulted on 2/05/2023 at 2:00

³⁷ <https://www.delltechnologies.com/asset/en-us/products/multi-product/briefs-summaries/dt-sustainable-products-solutions-services-brochure.pdf> consulted on 2/05/2023 at 3:00

³⁸ Ibid , p8

³⁹ Ibid p8

3. Benefits and Barriers of Sustainable Packaging

Sustainable Packaging offers a promising solution, but its implementation brings benefits and obstacles. This section explores both sides of the coin, looking at the environmental and financial benefits of sustainable Packaging while acknowledging the potential barriers companies face in implementing these practices.

3.1 Benefits of sustainable Packaging:

Traditional packaging practices often contribute to environmental degradation through resource depletion, waste generation and pollution. Sustainable Packaging is a possible solution because it prioritizes resource efficiency, minimizes waste and uses environmentally friendly materials. Ecological design has many environmental, economic and social benefits in this context.

3.1.1 Economic advantages :

Cost Savings can help reduce costs and improve production and distribution. Designers and companies are motivated to optimize resources such as raw materials and energy consumption. Adopting efficient production methods can reduce both variable and fixed costs.⁴⁰

Ecological design increases competitiveness. Any designer using ecological and ecological design semiotics can gain a competitive advantage in the market by distinguishing himself from other designers and attracting ecologically conscious consumers.⁴¹

Closer relationships with customers and suppliers - Finding solutions to environmental problems in the supply chain, such as developing systems to recycle used Packaging, can help build stronger relationships with customers and suppliers (customer loyalty)⁴²

⁴⁰ SANYE(M) et alii **Introduction to the Eco-Design Methodology and the Role of Product Carbon Footprint**. 2014,p 4

⁴¹ Borchardt,(M), **Redesign of a component based on ecodesign practices**: environmental impact and cost reduction achievements, Journal of Cleaner Production, 2011, Pages 49–57

⁴² Sustainable Packaging Alliance **Towards Sustainable Packaging** report2002

In addition, designers can improve their product image thanks to ecological design. In addition, they can improve their image and reputation by attracting customers who care about the environment and value sustainability.⁴³

3.1.2 Environmental benefits:

Firstly, ecological design can reduce waste by emphasizing sustainable materials and processes that reduce waste and extend product life. Second, ecological design can reduce the carbon footprint by optimizing the inputs and outputs of the production process, using renewable materials, minimizing energy consumption in production and transportation, and encouraging recycling.⁴⁴

Additionally, ecological design promotes resource efficiency, reduces the impact on natural ecosystems, and saves valuable resources for future generations, which helps to conserve natural resources better.⁴⁵

Furthermore, eco-design leads to more extraordinary biodiversity by reducing the loss of the environment and ecosystems, as it can help protect biodiversity and support a wide variety of species. Similarly, by using non-toxic materials and processes, ecological design can minimize air and water pollution and improve the health of residents and ecosystems, resulting in better air and water quality.⁴⁶

Eco-design improves human health by using non-toxic materials and minimizing indoor air pollution. Ecodesign can help create better indoor spaces, which can benefit the health of the space's occupants. In addition, ecological design approaches can encourage the use of environmental management systems (EMS). Environmental data can be used as external drivers of user interaction and marketing, while the presence of the environment is a decisive factor in purchasing.⁴⁷

⁴³ SANYE(M) et alii ,Op.cit ,p4

⁴⁴ Ibid, p5

⁴⁵ ELLEUCH(W), **The semiotics of eco-design: Overview, Benefits, and Inclusion in Designer Education**, N: 02/March 2023 pp.: 722 - 734

⁴⁶ VARZINSKA,(S) et alii, **Eco-design Methods and Tools**, No. 4 / 2020 pp. 32–45

⁴⁷ SANYE(M) Op,cit ,p5

Eco-design can significantly improve the environment and promote a more sustainable future.

3.1.3 Social advantages :

Eco-friendly design leads to a healthier indoor and outdoor space. More specifically, it improves the quality of life for people living and working in these areas and provides access to green spaces. Thus, it improves mental and physical health and promotes public health and well-being, especially for vulnerable groups such as children and the elderly. In addition, it increases community participation and engagement by encouraging people to participate in sustainability activities and increasing environmental awareness. In addition, ecological design helps to reduce exposure to toxins and pollutants due to sustainable development and respect for the environment; ecological design can promote cultural diversity by helping preserve traditional and indigenous knowledge and practices, encouraging the development of new sustainable technologies. Overall, ecological design can provide many social benefits for individuals, communities, and society.⁴⁸

3.2 Barriers to the adoption of sustainable Packaging:

Due to the increasing environmental impact of traditional Packaging, the need for sustainable alternatives has become increasingly urgent. While sustainable Packaging offers many benefits, it faces significant obstacles. Here, we explore the most critical barriers to adopting sustainable Packaging.

- **Cost:**

Sustainable materials and manufacturing processes can be more expensive than traditional options, straining the budget. The limited economies of scale of some sustainable materials can exacerbate this.⁴⁹

⁴⁸ Elleuch(W), Op.cit ,pp722 - 734

⁴⁹ <https://www.winssolutions.org/en/sustainable-packaging-the-good-best-practices-and-challenges/> consulted on (07/05/2024) At 11:39

The initial cost of adopting sustainable Packaging is often cited as a significant barrier. These costs can be prohibitive for companies, leading to a reluctance to adopt sustainable practices. There is a general perception among companies that adopting Sustainability is too expensive and needs more funding. This financial constraint hinders their ability to invest in sustainable solutions. Businesses may need help to see the financial return on investments in sustainable development, further hindering their implementation. There is a historical perspective that adopting Sustainability is a business disadvantage, indicating that sustainability initiatives have long been costly.⁵⁰

- **Law and regulation:**

Regulation: Sustainable Packaging is often subject to different regulations and standards, which can be complex and vary from region to region.⁵¹

Regulatory frameworks play an important role when companies adopt sustainable packaging. For example, the concept of extended producer responsibility forces producers to control the entire life cycle of a product, including take-back, recycling, and disposal. Conversely, appropriate legislation or government incentives can help adoption efforts, as Wang et al. emphasized the need for government support in promoting environmental policies in the packaging industry.⁵²

- **Consumer Demand :**

Consumer awareness and demand for sustainable Packaging can vary widely. While some consumers actively seek eco-friendly options, others may not prioritize Sustainability and must fully understand the benefits of sustainable Packaging. A lack of demand can prevent companies

⁵⁰ PALSSON(H)SANDBERG(E), **Adoption barriers for sustainable packaging practices**, Journal of Cleaner Production N°374, 2022, P4

⁵¹ <https://www.skymark.co.uk/challenges-and-strategies-of-sustainable-packaging/> consulted on (8 /05/2024) at 12:00

⁵² PALSSON(H)SANDBERG(E), Op,cit P4

from investing in sustainable alternatives, especially if they believe the market potential is limited or expect resistance from price-sensitive consumers.⁵³

- **Compatibility with Product:**

Some products can present challenges for sustainable packaging solutions. For example, products that require a high level of protection or have special storage requirements may need to work better with certain types of durable packaging materials. In addition, some durable materials may offer different durability or protective properties than traditional packaging materials, limiting their suitability for specific products.⁵⁴

- **Supply Chain and Logistics:**

Transitioning to sustainable Packaging may require significant changes in a company's supply chain and logistics systems. This may include sourcing new materials, reconfiguring package design, and adjusting transportation and distribution processes. Coordinating these changes across multiple stakeholders and ensuring seamless integration with existing operations can be challenging and resource-rich.⁵⁵

Conclusion of the chapter

In conclusion, understanding the central role of sustainable Packaging is extremely important to navigating the complex landscape of modern consumption. As Packaging evolves from a mere container to a strategic tool for brand differentiation and environmental protection, companies must understand the importance of aligning with consumer values and regulatory standards. Sustainable Packaging addresses environmental aspects, promotes brand loyalty, influences purchasing behaviour and protects public health. Continuous innovation and collaboration between industries are essential to develop sustainable packaging solutions that meet the needs of both consumers and the planet. By adopting sustainable practices in Packaging,

⁵³ <https://www.skymark.co.uk/challenges-and-strategies-of-sustainable-packaging/> consulted on (8 05/2024)at 13:00

⁵⁴ Ibid p2

⁵⁵ <https://www.skymark.co.uk/challenges-and-strategies-of-sustainable-packaging/> p3

companies can mitigate environmental impacts and embrace economic growth, Sustainability and positive social impacts.

**Chapter 2: Consumer Perception and Behavior Towards
Sustainable Packaging Adoption**

Introduction of the Chapter:

Consumer perceptions and behaviours towards sustainable packaging are pivotal in understanding the adoption of eco-friendly practices in the home care industry. This chapter explores the factors influencing consumer attitudes, including psychological, socio-demographic, and social influences. It also examines common misconceptions, decision-making processes, and the impact of marketing strategies such as packaging design, green marketing, and ecolabels. Understanding these factors is essential for businesses aiming to align their strategy with consumer preferences for sustainable products.

4. Understanding Consumer Perceptions of Sustainable Packaging

Many factors influence green purchase behaviour, delineated across three dimensions: individual factors, product attributes and marketing, and social influence.

4.1 Individual Factors:

Among the factors influencing green purchasing behaviour, we find the most important psychological factors, habits and lifestyles, and socio-demographic factors.

4.1.1 Psychological factors:

Psychological factors include attitudes, environmental consciousness, and personal beliefs and values.

The buyer chooses green packaging when they have a significant perception of its impact on the planet. If this perception is absent, when consumers do not recognize the connection between their purchase and its positive environmental consequences, they remain indifferent. As a result, they might require assistance distinguishing green packaging from other options and may be unable to complete the purchase.⁵⁶

- **Attitude towards environment**

⁵⁶ ROKKA, (J), USITALO,(L). **Preference for green packaging in consumer product choices** - Do consumers care? *International Journal of Consumer Studies*,N° 32(5), 2008, pp516–525.

Psychological factors have a profound driving effect on green consumer behaviour. Attitude has been the most studied factor in consumer behaviour theories about green purchasing behaviour.

Attitude is a mental state of readiness that is structured and learned from experience. It influences how a person reacts to other people, things, and circumstances to which it is connected.⁵⁷

Several researchers have found that consumers' environmental awareness significantly influences their decision to choose green products. Individuals who are environmentally concerned, for instance, those who associate environmental damage with producing goods, tend to consume fewer products with a high environmental impact.⁵⁸

The attitude is influenced by the perceived net benefit of environmentally friendly products. Nguyen et al. state, "Environmental attitudes are associated with an interest in the probable causal effects of environmental degradation as measured by behavioural engagements of individuals."⁵⁹

4.1.2 Environmental consciousness:

Environmental consciousness awareness (ECO) includes psychological factors influencing an individual's tendency toward environmentally friendly behaviour. In Western countries in the 1960s, ECO arose among people who avoided buying certain products because of their environmentally harmful by-products. Over time, this attitude became increasingly common, and consumers increasingly avoided environmentally harmful products. The increasing sensitivity and awareness of consumers has led companies to commit to producing more environmentally friendly products.⁶⁰

⁵⁷ Tan, (C.-S), Ooi,(H.-Y), Goh,(Y.-N) . **A moral extension of the theory of planned behaviour to predict consumers' purchase intention for energy-efficient household appliances in Malaysia** Energy Policy, 2017, pp459–471.

⁵⁸ LAURETI, (T), BENEDETTI,(I),**Exploring pro-environmental food purchasing behaviour: An empirical analysis of Italian consumers.** Journal of Cleaner Production, N°172,2018,pp 3367–3378.

⁵⁹ Nguyen, (A.T),Parker, (L), Brennan, L., Lockrey, S. (2020). **A consumer definition of eco-friendly Packaging.** Journal of Cleaner Production.N° 252,2020 , pp11-11.

⁶⁰ Mishal, (A) et alii **Dynamics of environmental consciousness and green purchase behaviour: an empirical study.** International Journal of Climate Change Strategies and Management.N° 9.2017, pp682-706.

Environmental consciousness has become a human value that reflects people's recognition, value assessment and belief in minimizing environmental damage. A person with a strong ecological consciousness is more concerned about protecting the environment. This concern can change a person's attitude about environmental issues.⁶¹

4.1.3 Habits and lifestyle :

Habits and lifestyle encompass status consciousness, health status, and healthy lifestyle.

- **Status consciousness:**

Status-conscious individuals buy conspicuous products to enhance their self-esteem, social image, or personal preferences. These products are often more expensive and exclusive. Research indicates that the pursuit of higher status not only encourages the display of extravagance but also promotes acts of charity and other pro-social behaviours.⁶²

- **Health status:**

Health status includes a person's current physical and mental well-being. Health-conscious consumers may be interested in sustainable packaging products because they perceive them as safer, cleaner, and more natural. The perceived health benefits of sustainable packaging can positively influence their purchasing decisions.⁶³

Healthy lifestyles:

Our framework also considers lifestyle variables. Health concerns can motivate purchasing green products, and smoking negatively affects green purchasing behaviour.⁶⁴

⁶¹ CHEUNG, (M. F. Y)., & To, (W. M.) **An extended model of value-attitude-behaviour to explain Chinese consumers' green purchase behaviour.** Journal of Retailing and Consumer Services, N°50,2017, 145–153. P2

⁶² DE SILVA, (M), Wang, (P)., & Kuah,(A. T. H). **Why would not green appeal drive purchase intention?** Moderation effects of consumption values in the UK and China. Journal of Business Research.2020 , P3

⁶³ PU(B) et alii,. **The Relationship between Health Consciousness and Home-Based Exercise in China during the COVID-19 Pandemic.** *International Journal of Environmental Research and Public Health.*; N°17(16),2020,p3

⁶⁴ Laureti, (T.), & Benedetti, (I.).*Op.cit p8*

4.1.4 Socio-demographic factors

Socio-demographic factors such as gender, age, education, and work create different consumer demands for green products.

- **Gender :**

Gender has been one of the most frequently used variables when profiling green consumers. A well-established finding is that females are generally more environmentally sensitive than males and are more likely to express concern about their consumption's social and environmental impacts. Women consider environmental issues more in their purchase decisions and are more willing to engage in ecologically conscious consumption than men. Furthermore, women are more willing to buy and pay a premium price for environmentally friendly products. Conversely, some studies have found that men possess a more profound knowledge of environmental issues, express higher levels of environmental concern, and have more positive attitudes towards green purchases.⁶⁵

Based on the above, we can conclude that gender is an essential socio-demographic ecological concern and ecologically conscious predictor of consumer behaviour; women seem to care more about the environment and are more likely to consider these concerns when purchasing.

- **Age:**

Age is another demographic variable extensively studied in previous studies, although the results are somewhat conflicting. Indeed, some studies have shown a positive relationship between age, environmental issues, and recycling behaviour. In contrast, other studies have shown that younger consumers are very aware of the need for environmental protection and are more involved in sustainability issues.⁶⁶

- **Education:**

Many studies have identified a consumer's level of education as a critical socio-demographic factor influencing environmental practices. Research consistently shows that

⁶⁵ ČATER (B), SERAFIMOVA, (J), **The Influence of Socio-Demographic Characteristics on Environmental Concern and Ecologically Conscious Consumer Behaviour among Macedonian Consumers.** Economic and Business Review, 21(2),2019 ,P217

⁶⁶ ChIRILLI (C), MOLINO (M), TORRI (L). **Consumers' Awareness, Behavior and Expectations for Food Packaging Environmental Sustainability: Influence of Socio-Demographic Characteristics.** Foods. 2022; 11(16) p4

individuals with higher levels of education tend to be more aware and sensitive to environmental issues.

They prioritize environmental protection and are willing to pay for sustainable options, leading to more environmentally conscious consumer behaviour. Higher education levels are associated with the increased purchases of environmentally labelled products across Europe. Educated individuals are typically better informed and have a deeper understanding of environmental issues, fostering a more significant concern for environmental quality and a stronger desire to protect it. As a result, they are more likely to engage in eco-friendly consumer behaviour.⁶⁷

- **Income:**

High-income consumers have fewer financial problems and can turn to other concerns. At the same time, they are more willing and able to pay for goods. Previous studies have shown that consumers with higher income levels are more interested in environmental protection and prefer a lifestyle based on environmentally friendly consumption.⁶⁸

The study found that low-income respondents were less likely to want green packages, possibly due to cost and price sensitivity. Income level can influence consumer choices regarding sustainable packaging, and lower-income people choose less environmentally friendly options.⁶⁹

- **Social influence and subjective norms :**

The social environment influences Consumers. When purchasing green products, consumers' behaviour can also be subject to subjective norms, which refer to the perceived social pressures that encourage or discourage a person from engaging in a particular behaviour.⁷⁰

The interaction with others impacts Consumer behaviour, which emphasizes the social characteristics inherent in human behaviour. While the term "economic man" implies that individuals make rational decisions based on weighing pros and cons, the "social man" concept acknowledges that people are inevitably influenced by their social environment and the groups they

⁶⁷ ČATER (B), SERAFIMOVA, (J) Op,cit ,P219

⁶⁸ Ibid,p219

⁶⁹ ALAM,(M). A Study on **The Selection Motives and Challenges Faced by Consumers Concerning Green Packaged Products**. TEM Journal. 10.2023 P P7

⁷⁰ SREEN, (N), PURBEY, (S)., & SADARANGANI, (P). . **Impact of culture, behaviour and gender on green purchase intention**. Journal of Retailing and Consumer Services, 41,2019, PP177–189

belong to. Social culture plays a significant role in this effect. Consumers who prefer collectivism are likelier to purchase sustainable products than those who emphasize individualism. In particular, consumers who value vertical collectivism believe that their environmental activities can serve as a positive example for their social groups, leading them to adopt green consumption practices.⁷¹

Product Attributes and Marketing :

Packaging should attract the consumer's attention since the client decides after experiencing a multisensory approach, primarily based on visual and tactile interactions.

Adequate packaging is crucial for brands because it captures consumer attention and can influence purchase intention and decisions. Ninety per cent of consumers make buying decisions based on the product's packaging. Elements such as shape, colour, typography, size, material, and graphics significantly contribute to the purchasing experience.⁷²

In addition, to facilitate communication with the end consumer, the package must include information about the product. Every word counts when it reaches the end user, so the message must be clear, given the space available.

Product attributes are crucial in influencing consumers' purchase intentions, with ecolabels highlighting sustainability as a critical factor affecting purchasing decisions. Therefore, a product's price premium does not significantly mediate the relationship between the ecolabel and purchase intention.

Green products can be advertised in both abstract and concrete ways. Abstract appeals, which describe product features in general or subjective terms, are more effective when the features match consumer interests. Companies should emphasize the environmental value and unique design concepts of green products in their marketing to differentiate them from traditional products.⁷³

⁷¹ ZHANG,(X), & Dong,(F). **Why Do Consumers Make Green Purchase Decisions**, Insights from a Systematic Review. *International Journal of Environmental Research and Public Health*, 17(18),2020,p 15

⁷² KAUPPINEN,(H). **Strategic Use of Colour in Brand Packaging**. *Packaging Technology and Science*, 27(8), 2014, pp663–676

⁷³ Zhang,(X), & Dong,(F),Op,cit p 14 -15

5. Consumer Behaviors in Sustainable Packaging Adoption

Consumer behaviours toward sustainable packaging adoption are pivotal for enhancing environmental sustainability. However, prevalent misconceptions among consumers about sustainable packaging significantly influence their purchasing decisions. This section delves into various psychological theories and decision-making processes shaping consumer behaviour toward sustainable packaging. We can understand how consumers perceive and interact with sustainable packaging options by exploring these factors.

5.1 Consumer Misconceptions of Sustainable Packaging

Consumers often perceive responsible consumption as a tedious and stressful task that requires much effort to choose products beyond simple factors such as price, quantity or brand. Despite the popularity of sustainable packaging, there are common misconceptions about sustainability.⁷⁴

Many consumers need help identifying sustainable packaging and clearly understanding its components, negatively affecting their purchasing decisions and attitudes.

In the packaging industry, sustainable packaging is often defined as having a cost-effective and environmentally friendly footprint throughout the supply chain, while consumers see it simply as recyclable packaging. Although consumers mainly associate sustainable packaging with recycling, they often need to pay more attention to the social and economic aspects of packaging. They are not considered part of the sustainable packaging concept as a whole.⁷⁵

These misconceptions have been shared over the years, concluding that customers regularly need clarification on sustainability and have their own perceived reviews of what makes a product packaging sustainable.

⁷⁴ SIMPSON, (B.J.K.); RADFORD, (S.K). **Consumer Perceptions of Sustainability**: A Free Elicitation Study. *J. Nonprofit Pub. Sect. Mark.* 2012, 24, pp272–291

⁷⁵ NORDIN, (N), & SELKE, (S). **The social aspect of sustainable packaging**. *Packaging Technology and Science*, 23(6), 2010 pp317–326.

5.2 Consumer Behaviour Theories:

Several theories have been recognized and developed to understand consumer behaviour. These theories are often used in marketing and consumer research to guide sales and advertising campaigns and influence buying behaviour.

5.2.1 Theory of Planned Behavior :

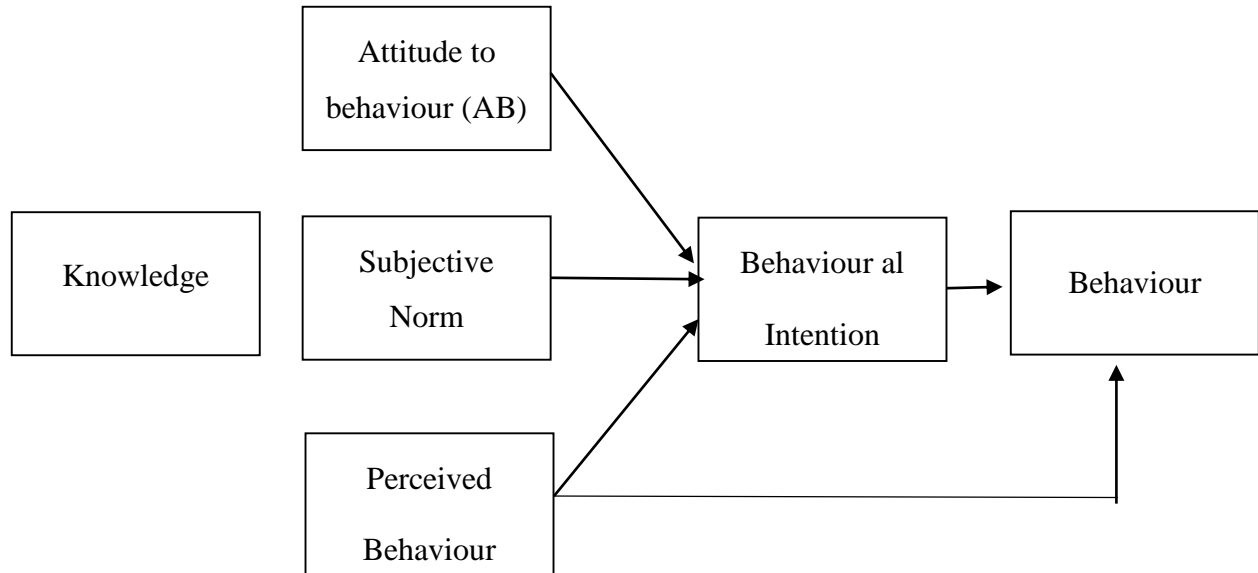
The Theory of Planned Behavior (TPB) framework, an extension of the Theory of Reasoned Action (TRA), is one of the most studied models by social psychologists for predicting behavioural intentions.

An intention is a conscious plan of action that requires behaviour and motivation. Many studies describe intentions and generally suggest that they are the best predictors of behaviour and fully mediate the effects of attitudes, subjective norms, and perceived behavioural control. Intentions are considered the best predictors of human behaviour, which is the core of the TPB framework.⁷⁶

The TPB has now become one of the most discussed theories of consumer behaviour, especially in predicting recycling behaviour.

⁷⁶ MAICHUM (K), PARICHATNON (S), PENF (K-C). **Application of the Extended Theory of Planned Behavior Model to Investigate Purchase Intention of Green Products among Thai Consumers.** Sustainability. 2016; N°8(10) 2016 p4

Figure 5-1 : Theory of Planned Behavior



Source : HUYNH, (F.V), GONZALEZ, (A.D), & YOUSEF, (W) . Sustainable packaging: A study of consumers' loyalty and behaviour. Bachelor thesis within Business Administration 2009 Pp13-14

The model clearly shows how intentions directly influence behaviour, which is directly influenced by factors such as attitude to behaviour, subjective norm, and perceived behavioural control. These factors are also based on three different beliefs: outcome beliefs, normative beliefs and control beliefs, which constitute knowledge.⁷⁷

- **Attitudes** toward behaviour are determined by some expected outcomes (outcome beliefs), weighted by assessing the outcome's desirability. Results are rated according to their probability of occurrence. Therefore, attitude behaviour is influenced only by the results that the respondent can come up with on the spot, which are easy to remember.
- **Subjective norms** are similar to attitudes toward behaviour, driven by beliefs that readily come to the respondent's mind. On the other hand, subjective norms are based on normative beliefs about what other people (referents) think (the respondent) should or should not do.

⁷⁷ HUYNH, (F.V), GONZALEZ, (A.D), & YOUSEF, (W) . **Sustainable packaging: A study of consumers' loyalty and behaviour.** Bachelor thesis within Business Administration 2009 Pp13-14

Subjective norms guide behaviour encouraged by the desire to behave as others think you should. Recommenders can be family, friends, environment, organizations, etc. For example, a customer in a supermarket may decide to buy an eco-packaged product instead of a conventionally packaged product because he is influenced by the label on the package or the advertisements of an eco-organization. Sometimes subjective norms influence socially valuable actions such as recycling paper, not littering the streets and so on, leading to feelings of self-esteem. In contrast, the opposite action can lead to feelings of shame or guilt.

- **Perceived behavioural controls** are based on control beliefs, which, unlike attitudes toward behaviour and subjective norms, have direct and indirect effects (through intentions) on behaviour. For example, suppose a consumer does not care about ecologically packaged products. In that case, he will go to the store and not even think about buying an ecological product, so this shows how perceived behavioural controls can influence behaviour directly without intentions. Perceived behavioural control is driven not by what comes readily to the respondent's mind but by how much the respondent trusts their behaviour.

5.2.2 Self-Perception Theory:

The Self-Perception Theory asserts that people's attitudes and values during one behaviour are transferred to other behavioural areas. For example, if a person chooses to use a reusable water bottle instead of single-use plastic bottles because they have a preservation attitude towards the environment, they will likely display environmentally friendly behaviour in other aspects of their

Van Birgelen et al. (2009) have already applied this theory by investigating the relationship between purchase and usage behaviour for beverage packaging in Germany. The results show a significant relationship between the two behaviours, suggesting that "a consumer for whom eco-friendly packaging is essential when shopping is likely also to value the proper disposal of used beverage packaging and vice versa."⁷⁸

⁷⁸ BIRGELEN, (M) & SEMEIJN, (J) & KEICHER, (M) . Packaging and Pro-environmental Consumption Behavior Investigating Purchase and Disposal Decisions for Beverages. Environment and Behavior - ENVIRON BEHAV.2009 . p125-146.

5.2.3 Social Cognitive Theory

Bandura (1991) demonstrated that when individuals encounter ethical dilemmas, their exercise of personal control through self-regulation must be paired with moral thinking or the force of fear in order for them actually to take moral action. Bandura believed that individual self-sanction plays a crucial catalytic role in determining whether moral standards can be converted into actual moral actions. Such self-regulatory abilities are acquired from a complex, multidimensional psychological mechanism. In this respect, Bandura (1982, 1986, 2006, 2008) introduced social cognitive theory (SCT) to explain human behaviour. He believed that self-regulation mechanisms are driven by social sanction and internalized self-sanction. Furthermore, he argued that combining these two forces more powerfully explains people's self-restraint against harmful behaviour than social sanction alone.⁷⁹

Social cognitive theory (SCT) describes the influence of individual experiences, other activities, and environmental factors on an individual's health behaviour. SCT provides opportunities for social support by creating expectations and self-efficacy and using observational learning and other reinforcements to change behaviour.⁸⁰

SCT helps explain how people can be encouraged to adopt sustainable packaging practices. For example, increasing consumers' self-efficacy by educating them about the environmental benefits of sustainable packaging, combined with social support and positive reinforcement, can lead to greater adoption of environmentally friendly packaging solutions. This approach is consistent with Bandura's assertion that behaviour change is most effective when supported by internal and external motivators.⁸¹

5.3 Values, Behavior and Norms

The Value, Behavior, and Norm (VBN) Theory posits that values are foundational to actions. It suggests that consumers begin purchasing sustainably packaged products because they

⁷⁹ LIN, (H.-Y), & HSU,(M.-H). . Using Social Cognitive Theory to Investigate Green Consumer Behavior. *Business Strategy and the Environment*, N°24(5),2013 pp 326–343.

⁸⁰<https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/social-cognitive> consulted on (1/05/2024) at 12:13

⁸¹ LIN, (H.-Y), & HSU , (M.-H). Op, cit p 326–343.

believe they are better for the environment. This theory is subdivided into minor theories, primarily focusing on the norm-activation theory, which examines moral norms.⁸²

VBN theory extends the norm activation theory, which was initially developed as a general altruism theory and is widely applied to environmental issues. According to the VBN theory of environmentalism, values influence pro-environmental behaviour through pro-environmental beliefs and personal norms. This supports the perception of value in green products, where these values shape norms and beliefs, influencing individuals to choose green products.⁸³

Stern et al. (1999) expanded on the Norm-Activation Model (Schwartz, 1977) by integrating the Value Theory (Schwartz, 1992) and the New Ecological Paradigm (Dunlap et al., 2000). The theory presents a causal chain where stable factors like values and environmental concern affect behaviour-specific variables (e.g., problem awareness, responsibility ascription, and personal norms), influencing specific behaviours. Individuals are more likely to engage in environmental behaviours when they feel a moral obligation. This sense of moral obligation is more robust when individuals know the consequences of their environmentally detrimental actions and feel responsible for mitigating these negative impacts. Moreover, a heightened awareness of environmental consequences is often linked to a robust environmental concern influenced by personal values.⁸⁴

While values are robust determinants of environmental behaviour, they do not directly influence behaviour. Instead, this influence is mediated by beliefs and norms, making norms the primary and direct determinant of pro-environmental behaviour. Thus, according to the VBN theory, adopting sustainable behaviours is driven by an interconnected chain of values, beliefs, and norms that shape an individual's perception and actions towards environmental responsibility.⁸⁵

⁸² SAKSHI (K), SUSTAINABLE PACKAGING: A CONSUMER PERSPECTIVE, Master's Thesis , Jyväskylä University ,School of Business and Economics, 2023 P 30

⁸³ LAKSMANA, (A.G), & HENDRIANA,(E). **An extended value-belief-norm theory to predict green purchase intention.** International Journal of Management (IJM), N°14(4),2023,pp 63-82.

⁸⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10184625/> consulte le 2 MAI AT 2 AM

⁸⁵ Ibid p3

5.4 Purchasing Decision-making Process:

The consumer decision-making process is a sequence of steps buyers go through before, during and after consumption. The marketer can influence consumption at every stage of the buying process.⁸⁶

There are five steps in the buying decision process. It starts with the pre-purchase stage and ends at the post-purchase stage. The buyer decision process consists of the following steps:

5.4.1 Need recognition:

Need recognition is the initial step in the buyer decision process. In this stage, the buyer identifies a need or becomes aware that a product or service they require is absent. This need may be recognized through either external or internal stimuli.⁸⁷

Problem recognition may be influenced by internal factors such as new needs, interests, and beliefs or external factors such as learning, dissatisfaction with current products, or advertising. When people know their needs, they feel compelled to find a solution and spend more time and energy exploring their options.⁸⁸

5.4.2 Information search:

Once a need is recognized, the consumer will likely seek additional information about the product before making a purchase decision. However, different individuals are involved in the search process in different ways depending on their knowledge of the product, past experiences or purchases, or external information such as feedback from others.⁸⁹ Information sources can be classified into four categories: personal, commercial, public, and experiential. Family members,

⁸⁶ DAHLSTROM(R):**Green Marketing Management** ,1st Edition .Mason ,OH South-Western Cengage Learning ,2011 p222

⁸⁷ <https://www.studysmarter.co.uk/explanations/marketing/customer-driven-marketing-strategy/buyer-decision-process/> consulted on 1 MAI at 2:am

⁸⁸ <https://visme.co/blog/consumer-decision-making-process/> consult le 1 May AM

⁸⁹ <https://research-methodology.net/consumer-decision-making-process-a-detailed-analysis/> consulted on (2/05/2024) at 2:00

friends, colleagues, and others are considered personal sources of information. The influence of personal sources is more significant than that of other sources.⁹⁰

5.4.3 Evaluation of alternatives:

Evaluation of alternatives. At this stage, the consumer gathers as much information as possible about potential products. The intensity of the evaluation depends on several factors: the available time, the intensity of the discomfort, the financial value of the products compared to the available financial resources, the consumer's income, etc. At this stage, the consumer also compares directly competing products. Alternatively, brands evaluate alternatives according to needs. For example, the need for fast daily transportation to work does not mean he should buy a car and compare different car models according to their parameters. Alternative routes should be considered, e.g. by taxi, train or bicycle. This step results in a specific product (manufacturer, brand, specific service, etc.).⁹¹

5.5 Purchase decision process:

Once the information search and evaluation process is over, the consumer makes a purchase decision, which is considered the most critical phase of the entire process. At this stage, the consumer makes a final purchase decision because he has already considered all the options and reached a final decision.⁹²

Two main factors influence this decision: attitudes and unexpected situational factors. Attitude refers to how the opinions of other consumers, such as word of mouth, influence consumers. When someone whose opinion we value speaks for a brand, we are more likely to buy from that brand. Unexpected situational factors refer to unexpected changes in factors that may influence consumer purchase decisions, such as unexpected price increases or better product benefits. At this stage, marketers must convince customers that their product is the best.⁹³

⁹⁰ <https://research-methodology.net/consumer-decision-making-process-a-detailed-analysis/> consulted on (2/05/2024) at 2:00

⁹¹ MIKLOSİK,(A).” **Changes in purchasing decision-making process of consumers in the digital era**”. European Journal of Science and Theology, December , No.6,2015 ,pp 167-176

⁹² <https://www.studysmarter.co.uk/explanations/marketing/customer-driven-marketing-strategy/buyer-decision-process/> consulted on 22/05/2024 AT 2:00

⁹³ ibid

5.6 Post-purchase behavior:

The consumption process does not end when the buyer pays for the product; Customers take the product, and their satisfaction or dissatisfaction develops even after the sale. Consumer attitude and awareness become essential elements in creating customer loyalty because existing customers buy more often than new ones and spread a positive image of the brand, which is the ideal advertising channel. At this stage, buyers experience satisfaction or dissatisfaction depending on how closely consumer expectations match the perceived experience. The more significant the difference between the manufacturer's claim and the expected result, the greater the level of dissatisfaction. Customer satisfaction is the key to building close customer relationships and loyal consumer groups.⁹⁴

6. Influence of Marketing Strategies on Consumer Perception and Behavior

This section will explore how marketing strategies influence consumer perceptions and behaviours regarding sustainable packaging. Specifically, we will examine the role of packaging design elements such as color, typography, and graphics in communicating sustainability. Additionally, we will discuss the impact of ecolabels and green marketing strategies on consumer preferences and purchase decisions.

Understanding these factors is crucial for marketers seeking to promote sustainable packaging effectively and build consumer trust in eco-friendly products.

6.1 The Role of Packaging Design and Visual Appeal

Packaging design is a critical element of product marketing and branding. It is not simply about covering a product in a seductive cover; it is a precisely thought-out process that combines creativity, functionality, and marketing strategy.

6.1.1 packaging design

Packaging design involves creating the structure (the container) and the visuals (surface graphics) of a product's packaging. This discipline encompasses carrying, identifying, describing,

⁹⁴ NGUYEN (H-A) Consumer's Buying Behaviour Towards Green Packaging in Finland Business Economics VAASAN AMMATTIKORKEAKOULU UNIVERSITY OF APPLIED SCIENCES International Business 2017 p23

protecting, displaying, and promoting the product. This can range from a straightforward bottle with a label to a complex system of boxes and inner packaging. Key factors typically considered include size and shape, colour, closure, exterior appearance, protection, cost-efficiency, convenience, labelling, and the environmental impact of the materials used. Additionally, packaging is essential for creating memorable consumer experiences, both in-store and during use, and for reinforcing brand values such as fun, community, or authenticity to motivate purchase intent and repurchase consideration.⁹⁵

6.1.2 Packaging Design Elements

Packaging is vital in branding because it conveys an organization's image and identity. A practical design should immediately evoke brand memories and bring the brand to the consumers' minds. Package design elements naturally convey the brand's identity and values to the consumer.

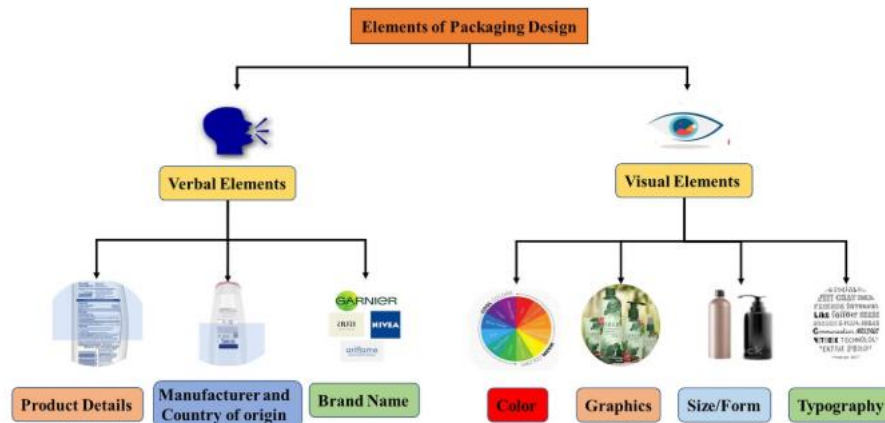
These design elements are divided into visual and verbal components interacting with consumers at the point of sale (POS). Verbal elements convey information, while visual elements influence emotions.⁹⁶

Regarding sustainable packaging, the design must evoke brand memories, highlight the brand and demonstrate the brand's commitment to sustainability.

Figure 6-1 : Classification of packaging design elements into verbal and visual elements.

⁹⁵ <https://fr.slideshare.net/slideshow/lecture-4-sustainable-packaging-design/78976163> consulted on 28 MAI at 11:25

⁹⁶ SRIVASTAVA, (P)et alii .: "**Package design as a branding tool in the cosmetic industry**: consumers' perception vs. reality", SN Bus Econ, 2022, p27



Source : SRIVASTAVA, Pragya; RAMAKANTH, Dakuri; AKHILA, Konala; GAIKWAD, Kirtiraj K.: "Package design as a branding tool in the cosmetic industry: consumers' perception vs. reality", SN Bus Econ, 2022, p27

6.1.3 Visual elements of the packaging design

The visual aspects of packaging that affect consumers' purchasing decisions include elements such as colour, typography, graphics, and the size or shape of the packaging.⁹⁷

- **Color**

Green colours and earth tones can symbolize a brand's dedication to sustainability. These colours are mostly linked with nature and environmental consciousness, making them suitable for sustainable packaging.

- **Graphics**

Incorporating sustainable icons and ecolabels in graphics can graphically represent a product's environmental advantages. For example, consumers can understand the product's sustainable features through signs showing that it is compostable or recyclable.

- **Size/Form:**

Minimalistic and eco-friendly forms can significantly bring about a considerable decrease in material consumption and waste.

⁹⁷ SRIVASTAVA, (P) RAMAKANTH, (D); AKHILA, (K); GAIKWAD, (K).: Op.cit , p28

- **Typography**

Clean and straightforward fonts increase the readability of text while communicating a message of sustainability. Important information is communicated through easy-to-read typography to maintain a sustainable brand identity.

6.2 The Influence of Visual Appearance on Consumer Perceptions of Packaging Sustainability

Literature has demonstrated that the visual appearance of a package strongly influences consumers' perception of packaging sustainability. To choose a sustainable package, consumers need to be able to categorize the package as sustainable or not. Consumers can only do this categorization correctly when clear cues indicate that the package is sustainable. Therefore, it is likely that a consumer will recognize a conventional-looking package as sustainable if an ecological character is given. Designers can provide an ecological character to the package by using, for example, recycled materials or adding an ecolabel.⁹⁸

Packaging with a sustainable appearance is defined as packaging that uses organic materials and has a sustainable appearance (e.g. packaging made from paper-based materials). Research has demonstrated that consumers use the appearance of the material to judge the sustainability of packaging and that these cardboard organic materials are often considered the most sustainable. However, not all sustainable packages are easy to detect. Some packages are designed to be sustainable, but it is hard to tell by their physical appearance. Packages made from recycled plastic or packages containing less plastic due to gas injection innovations are examples of sustainable packaging with a traditional appearance.⁹⁹

Many studies have investigated the effect of ecolabels on the perception of packaging sustainability. Visual appearance is one of many ways to convey a package's sustainability. Graphical and informational cues such as ecolabels can help consumers recognize the sustainability

⁹⁸ KRAH, (S)., TODOROVIC, (T), & MAGNIER, (L). **Designing for Packaging Sustainability. The Effects of Appearance and a Better Ecolabel on Consumers' Evaluations and Choice.** Proceedings of the Design Society: International Conference on Engineering Design, N°1(1)2019,pp 3251–3260

⁹⁹ Lindh, H., Olsson, A., & Williams, H. (2015). Consumer Perceptions of Food Packaging: Contributing to or Counteracting Environmentally Sustainable Development? *Packaging Technology and Science*, 29(1), 3–23

of packaging when it is not directly identifiable. However, consumers are often sceptical of ecolabels.¹⁰⁰

6.3 Green Marketing and Concept of Ecolabels:

6.3.1 Green Marketing

The concept of green marketing has evolved significantly over the years. In the beginning, the focus was mainly on promoting environmentally friendly products. However, modern green marketing strategies include a more comprehensive range of sustainability practices, including green product design, sustainable packaging, and corporate social responsibility (CSR) initiatives.¹⁰¹

Green marketing is a management process that identifies, anticipates, and satisfies consumer needs and wants while adhering to sustainable and profitable practices. Businesses must adapt to environmental changes by developing safer products. As a significant tool for better business performance, green marketing strategies are essential for achieving sustainability. Over time, green marketing has evolved with environmental sustainability and consumer segmentation, targeting environmentally conscious consumers who avoid products harmful to living organisms.¹⁰²

6.3.2 Ecolabels: Tools of Green Marketing

The first Ecolabel was introduced in Germany in 1977 and was intended to promote environmental consumerism. The labels have been said to be a way for producers to govern the segment of green consumers. Some researchers argue that the Ecolabel is a green marketing tool. In contrast, others define it as a way to inform consumers, foster more sustainable consumption patterns and reduce the environmental footprint in the long term. In addition, it has been argued

¹⁰⁰ KRAH, (S)., TODOROVIC, (T), & MAGNIER, (L).Op,cit ,p 3251–3260

¹⁰¹ Savale, (‘T. K) et alii **Green marketing strategies: Assessing consumer perception and adoption of eco-friendly products**. Remittances Review,N° 8(4), 2023 ,pp 2490-2503

¹⁰² SHABBIR, (M. S) et alii. **Green marketing approaches and their impact on consumer behaviour towards the environment**—A study from the UAE. Sustainability, 8(4),2020 p3

that ecolabels encourage companies to adapt their products and production from an environmental point of view to meet the expectations of consumers and other stakeholders.¹⁰³

The Ecolabel is a reliable symbol that manufacturers can use to differentiate themselves and claim that the products are better for the environment. Similar products are available on the market. According to the United Nations Environment Program (UNEP), ecolabels are voluntary, and governments should encourage organizations to use them and help green consumers make responsible decisions.¹⁰⁴

Figure 6-2 : Examples of ecolabels in the world



Source : (GOLUBEVAITE (L). **Ecolabelling as a marketing tool for green consumerism.** *Global Academic Society Journal: Social Science Insight*, No. 3, (2008).pp 25-36)

6.4 The role of ecolabels in promoting sustainable packaging:

Ecolabeling promotes sustainable packaging by providing consumers with information about the environmental impact of products and their packaging. These labels help bridge the gap between businesses and consumers by guaranteeing transparency and building trust.

- **Providing Transparency and Building Trust:**

Ecolabels are transparent tools that provide consumers with information about products that are less harmful to the environment. Environmental labels increase the ability of consumers to assess

¹⁰³ NYREMO,(H) et WIDERBERG ,(A) :**Eco-labels: A Tool to Enhance Sustainable Consumption**, Master's Programme in International Marketing and Brand Management, Lund University,2020, p9

¹⁰⁴ MALIK (M.S), "**Eco Labels: Tools of Green Marketing**", *International Research Journal Commerce Arts Science*, Issue 5, 2016, pp2277 – 9809

the potential environmental impact of products at the time of purchase. Ecolabels are the most reliable source of information for consumers when evaluating products. Consumer trust increases when companies use certified ecolabels to promote their green products. Using third-party certification is an effective way to attract consumers to products and shape their environmental behaviour. Ecolabels allows companies to send consumers a clear and compelling signal about their activities to ensure environmental sustainability.¹⁰⁵

- **Ecolabels Effect on Green Purchase Intention :**

The primary objective of the ecolabels is to offer details regarding particular products, which assists them in making environmentally friendly purchaser choices. Most consumers are influenced by product labelling when they purchase any product in the market. The green purchase intention is also influenced by ecolabels such as "Energy Star" and "EU labels" some of the numerous ecolabels that encourage individuals or organizations to act in an environmentally friendly way by indicating less electricity costs in consumer durables; the study proves that the ecolabels are often helpful to the green consumers when they go for purchase because the packaging is the most appealing factor which initially sways a consumer in the purchasing decision process. A study conducted by Gallup Organization in Europe found that Most people make their purchases based on ecolabels.¹⁰⁶

- **Consumer's Knowledge in Ecolabels:**

Understanding the concept of eco-labelling necessitates knowledge, as it allows consumers to comprehend the real intention behind green products. Due to insufficient consumer knowledge, transparency in the market is lacking, with few consumers aware of ecolabels. For instance, eco-labelled food products have not garnered significant attention because of this knowledge gap and a lack of trust. Misunderstandings about ecolabels can lead to "greenwashing," where companies falsely claim environmental benefits. Eco-labelling can be visual, verbal, or both, with consumer knowledge essential for informed purchasing decisions and building trust in ecolabels.¹⁰⁷

¹⁰⁵ HAMEED (I), WARIS (I): « **Eco Labels and Eco Conscious Consumer Behavior: The Mediating Effect of Green Trust and Environmental Concern** », Journal of Management Sciences, vol. 5(2), 2018, pp. 86-105

¹⁰⁶ SHARMA, (N. K), KUSHWAHA, (G. S). "**Ecolabels: A Tool for Green Marketing or Just a Blind Mirror for Consumers**", Electronic Green Journal, , N°42, 2019, p8

¹⁰⁷ Ibid,p7

Conclusion of the chapter

Chapter 2 comprehensively understood consumer perceptions and behaviours regarding sustainable packaging adoption. This knowledge is crucial for businesses and organizations promoting sustainable packaging solutions. It allows them to develop targeted strategies that engage consumers and encourage participation in a more sustainable future.

**Chapter 3: Empirical Investigation into Consumer Perception
and Adoption of Sustainable Packaging**

1. Presentation of the Host Organization: Henkel Algeria.

The detergent and cleaning products manufacturing sector revolves around three significant groups worldwide: Henkel, Procter & Gamble, and Unilever. The turnover is estimated to be just under 4 billion Euros.

1.1 Presentation of the Henkel Group

Henkel operates worldwide with a diversified and balanced business portfolio. The company has a strong global presence in its three industries, serving both industrial and consumer markets with its strong brands, innovations and technologies. Henkel was founded in 1876 and has been successful for over 140 years. As a recognized leader in sustainability, Henkel is in a leading position in several international rankings and indexes. Henkel, listed on the DAX-30 stock exchange and headquartered in Düsseldorf, employs nearly 48,000 people worldwide, approximately 83% of whom work outside Germany.¹⁰⁸

In 2023, Henkel's turnover was 21.5 billion euros, and its operating profit was 2.6 billion euros (after adjustment for extraordinary income, expenses, and restructuring costs).

Henkel's operations are organized into three main divisions, each playing an essential role in the company's success and the Market. These divisions are Adhesive Technologies, Beauty Care Products, Laundry & Home Care.

Adhesive Technologies division, Henkel is a leader in adhesive solutions, Sealants and surface treatments for the general public, artisans and industrial. We offer a comprehensive range of applications and customized solutions to meet the needs of our diverse customers- consumers, artisans or industry professionals. In 2019, the division generated a turnover of 9,461 million euros, equivalent to 47% of total sales.

¹⁰⁸ <https://www.henkel.fr/presse-et-medias/dossiers-presse/presentation-de-henkel> Consulted on 22/06/2024

The Beauty Care products division is available worldwide. Its leading brands include hair colouring, styling, skincare, dental care, and fragrances. It is also one of the world's largest suppliers of products for hair salons. In 2019, the division generated a turnover of 3,877 million Euros, representing 19% of the total Henkel sales.

Laundry & Home Care has always played a significant role in Henkel: the company's success.

Began with a product from this division. Today, it includes universal detergents, speciality detergents and laundry care products. The International brand portfolio also includes products for washing machines and dishwashers, bathroom and toilet cleaners, windows cleaners and specialist cleaners. We also offer deodorants and insecticides for the home in certain regions.

In 2019, the Laundry and home Care branch realized a turnover of 6,656 million euros, equivalent to 33% of the group's total turnover.

1.2 **Henkel Algeria:**

Established in Algeria in 2000 through a joint venture, Henkel is active in detergents, maintenance products, and adhesive technologies and holds leading positions in these categories. Its portfolio includes strong brands such as Isis, In, Le Chat, Pril Isis, Pattex, and Tangit.¹⁰⁹

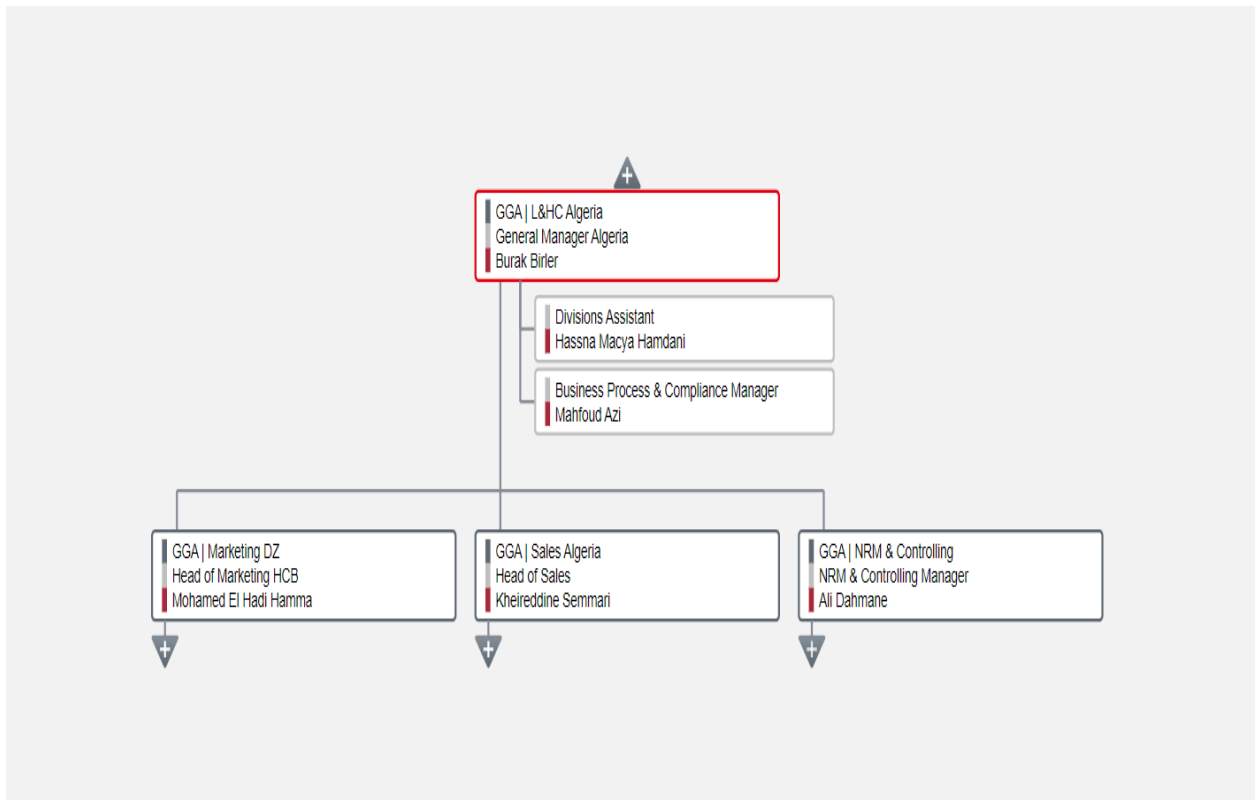
The company operates through a headquarters in Algiers, two production units in the industrial areas of Reghaia and Chelghoum Laid, and two regional offices in Constantine and Oran.

The Organizational Structure of Henkel Algeria

The figure shows the organizational structure of the different departments of Henkel Algeria.

¹⁰⁹ <https://www.henkel-algerie.com/fr/entreprise> consulted on 22/06/2024 at 11:56

Figure 1-1 : General Organization of HENKEL







Source: Internal documents of HENKEL Algeria.

1.2.1 The Marketing Department

Henkel Algeria operates in a single business sector, Laundry and Home Care, focusing on four categories.

Table 4 : Laundry and Home Care Categories within Henkel

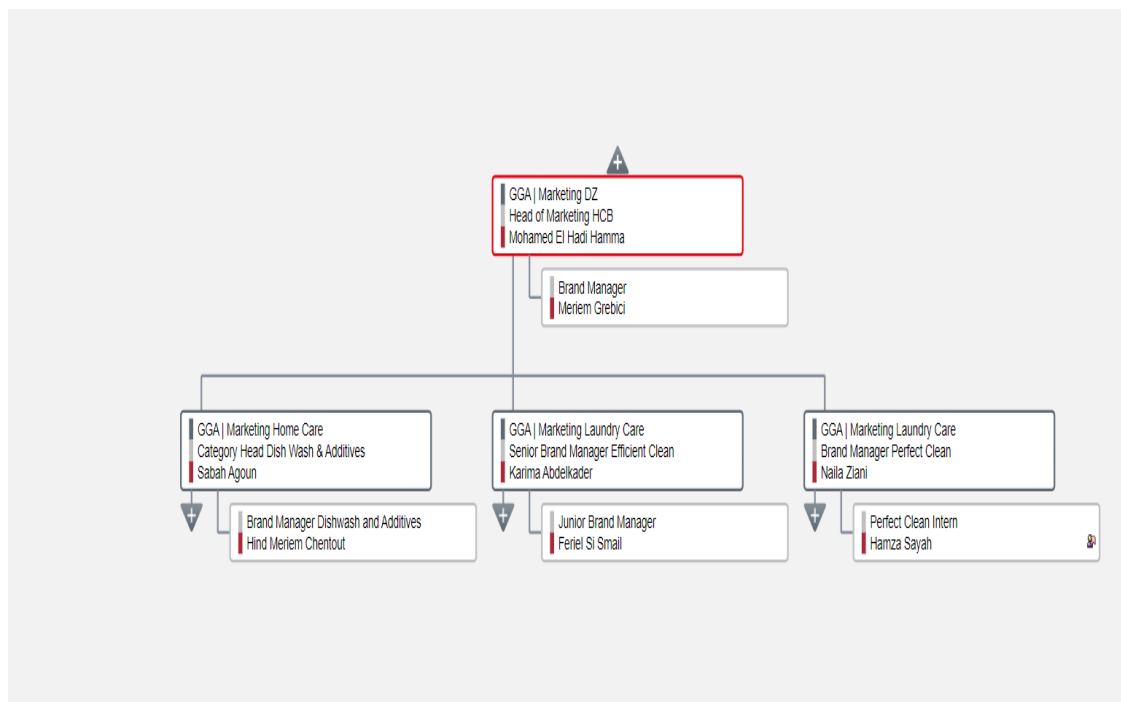
Portfolio	Category	Brand
Laundry detergent	Value for Money	ISIS 
	Leading premium LP	LE CHAT 
Liquid detergent	Dishwashing liquid	PRIL 

Hard surface cleaner	Hard surface cleaners	 BREF
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Source: Internal data from HENKEL Algeria

As part of our research, we focus on the Marketing Department that welcomed us. The following diagram illustrates the organizational structure of the Marketing Department at Henkel Algeria.

Figure 1-2 : The Organizational Chart of the Henkel Marketing Department



Source: Internal documents of HENKEL Alegria

2. Research Methodology and Empirical Study

In this section, we outline the rationale behind the methodological approach for our study and the methods of inquiry and data-gathering instruments applied to meet the study objectives and address the research problem. Then, we present our findings during our work and start a discussion to interpret them and draw a conclusion.

2.1 Explanation of the Mixed-Method Approach:

A mixed-method approach was chosen to understand better consumer perceptions and the company's vision regarding sustainable packaging. This approach integrates quantitative and qualitative research methods, allowing for a more comprehensive analysis.

2.1.1 Research objective:

The objective of this survey is to answer the main problem posed, which is "How can Henkel Algeria understand Algerian consumer preferences and potential barriers to adopting sustainable packaging for their homecare products?" and to test the hypotheses to answer our problem, we conducted a field study that was carried out in two stages: a quantitative study and qualitative study.

2.1.1.1 Qualitative Methodology:

- **Study Objective:**

This qualitative study, based on interviews with key stakeholders in the home care industry, aims to gather detailed insights into consumer perception and adoption of sustainable packaging. Our study aims to understand various aspects, including consumer attitudes towards sustainable packaging, factors influencing their adoption decisions, and challenges faced in implementing sustainable packaging solutions.

- **The profile of the interviewees:**

To capture diverse perspectives on the consumer perception and adoption of sustainable packaging in the home care industry, we strategically chose interviewees from three distinct roles within Henkel Algeria. Our objective was to gain varied insights into how consumers engage with sustainable packaging for home care products while also understanding Henkel Algeria's approaches and obstacles in this domain.

Table 5 : Profile of the Interviewees

Position of the interviewees	Date and duration of the interview	Location of the interview
Head of Purchasing Algeria	On: May 30, 2024 Duration: 45 minutes	Headquarters of Henkel Algeria, Dely Ibrahim, Algiers, Algeria
Head of research & development	On: May 05, 2024 Duration: 45 minutes	
Brand manager	On: May 05, 2024 Duration: 1 hour	

Source: Prepared by us

- **Interview Guide:**

The semi-structured interview is characterized by its flexible structure, combining prepared questions with the ability to ask additional questions based on participants' responses. This approach allows in-depth exploration of participants' perceptions, behaviours, and attitudes while retaining the flexibility to delve into relevant aspects. The interview, specifically tailored to investigate consumer perception and adoption of sustainable packaging in the home care industry, is provided in the Appendix. It consists of 12 open questions categorized into different thematic areas. (see Appendix)

- **Quantitative Methodology:**

To test our research hypotheses, we followed a quantitative approach to achieve our desired objectives.

“Quantitative research, known as empirical research, involves the accurate and precise measurement of variables. The data collected can be categorized, ranked, or measured in specific units. This approach allows for the creation of graphs and tables from raw data, facilitating easier analysis and interpretation of the results by the researcher.”¹¹⁰

1. Description of the Survey Questionnaire

The "Consumer Survey: Sustainable Packaging in the Home Care Industry" questionnaire is designed to gather data on Algerian consumers' perceptions, attitudes, and behaviours regarding sustainable packaging in the home care sector. The survey uses various question types, including multiple-choice, Likert scale, and select-all-that-apply questions, to capture a comprehensive range of responses.

2. Structure of the Questionnaire:

Our questionnaire is divided into three sections:

- **Filter Questions**

This section contains questions assessing respondents' familiarity with "sustainable packaging."

- **Core Model**

This section includes Likert scale questions to analyze consumers' opinions on the studied variables (Environmental Consciousness, Perceived Value, and Perceived Barriers, purchase intention).

- **Demographic Information:**

This section contains questions to collect the socio-demographic information (gender, age, income, status, responsibility for household grocery shopping, and frequency of grocery shopping) of each respondent.

¹¹⁰ AHMAD (S), et alii. **Qualitative v/s. Quantitative research- a summarized review.** J. Evid. Based Med. Healthc. 2019; 6(43) p 2829

3. Sampling:

- **Study Population:**

Our study targeted a diverse group of individuals responsible for grocery shopping. This includes married individuals, students living alone, single parents, and independent adults. All participants are capable of making their own purchasing decisions.

- **Sample Size:**

We ensured a robust number of respondents for our study, collecting 217 responses.

- **Survey Procedure:**

- **The Pre-test:**

Initially, we conducted a pre-test using a quantitative survey based on a questionnaire with a sample of 10 individuals (mostly from our surroundings) to identify any errors that could hinder understanding the questions asked. This pre-test revealed that the questions, as formulated, were understandable.

- **The place and the duration:**

The survey was conducted from April 23, 2023, to May 10, 2023. Participants were recruited through targeted email invitations, Messenger groups, LinkedIn connections, and direct engagement at grocery stores.

3. Results and Interpretations

This section presents the findings from our study's quantitative and qualitative components. We provide a detailed analysis of the data collected, interpreting the results in the context of our research objectives and hypotheses.

3.1 Qualitative Analysis:

The interviews conducted with company employees were fully transcribed and then analyzed using thematic analysis, corresponding to the different sections of the interview guide (Appendix n° 2°).

3.1.1 Current Practices and Sustainability

1. Roles and responsibilities

- **Brand Manager:**

She oversees all aspects of the Pril brand, managing product communication, brand image, and brand equity. She ensures product profitability while maintaining brand cohesion and positioning.

- **Head of Research and Development (R&D):**

As the Head of Research and Development, she oversees the development of new products and technologies. Initially a formula specialist, she manages formulas and packaging for Algeria and Tunisia, ensuring they meet our sustainability standards.

- **Head of Purchasing:**

He oversees procuring all raw and packaging materials. He handles subcontracting contracts with local suppliers.

2. The importance of environmental sustainability

- **Brand Manager:**

Local companies may not prioritize sustainability, but European laws mandate it for multinationals.

The belief is that local companies must demonstrate more understanding and dedication to sustainability.

- **Head of Research and Development:**

Emphasizes the individual responsibility of sustainability.

The statement acknowledges the need for more initiatives to integrate sustainable practices fully.

- **Head of Purchasing:**

The report highlights observed improvements in waste management and growing investor interest, marking a positive trend towards sustainability.

3. Packaging materials and sustainability initiatives

- **Brand Manager:**

Although uncertain about the packaging details, I believe in Henkel's worldwide sustainable packaging efforts.

The goal is for packaging to be both recyclable and composed of recycled materials.

- **Head of Research and Development:**

Although recyclable, PET (polyethylene terephthalate) bottles are not made from recycled materials.

- **Head of Purchasing:**

The article describes the use of HDPE plastic for bottles and emphasizes recyclability.

The article highlights initiatives to reduce packaging weight and achieve 100% local production to minimize the environmental impact. These initiatives are not just about reducing our carbon footprint; they also hold the potential to revolutionize our industry, making sustainable packaging the norm rather than the exception.

3.1.2 Market Awareness and Interest.

1. Growing Interest in Sustainable Packaging:

- **Brand Manager:**

The study observes a growing but slight interest in sustainable packaging among Algerian consumers.

- **Head of Research and Development:**

For sustainable packaging, note a niche and minimal market growth.

- **Head of Purchasing:**

The article highlights that sustainability initiatives are primarily internal, noting that consumer interest still needs to be more widespread.

2. Critical Factors in Choosing Home Care Products:

- **Brand Manager:**

Consumer preferences vary by income; some prioritize quality, others price or brand performance.

- **Head of Research and Development:**

The study identifies a divide in consumer behaviour based on brand loyalty and price sensitivity.

- **Head of Purchasing:**

He underscores the brand's priority over price and sustainability, mirroring a societal perspective.

3. Algerian consumers' environmental awareness

- **Brand Manager:**

The statement underscores a consumer awareness and education deficiency regarding the environmental impact.

- **Head of Research and Development:**

She acknowledges the lack of awareness and the need to raise awareness about sustainability.

- **Head of Purchasing:**

Environmental issues are receiving more and more attention due to global warming and environmental crises.

3.1.3 Potential Adoption and Challenges.

1. Henkel Algeria's Sustainability Initiatives

- **Brand Manager:**

The article emphasizes the importance of Henkel Algeria implementing a recycling program in facilities and collaborating with nearby recycling companies.

- **Head of Research and Development:**

The article refers to several confidential initiatives focusing on sustainable product formulations and processes.

- **Head of Purchasing:**

The article outlines global sustainability campaigns, carbon emission reductions, and energy efficiency efforts.

2. Adopting sustainable packaging presents challenges.

- **Brand Manager:**

The report identifies significant hurdles to more supportive legislation and consumer awareness.

- **Head of Research and Development:**

High costs, regulatory complexities, and the limited availability of eco-friendly materials pose significant challenges.

- **Head of Purchasing:**

The article emphasizes the need for more explicit legislation and proactive government support to overcome regulatory ambiguities and promote sustainability.

3. The impact of sustainable packaging materials

- **Brand Manager:**

She thinks that using sustainable materials will not significantly affect shelf life and functionality, but it will raise production costs. However, these increased costs are a worthwhile investment in our sustainability efforts.

- **Head of Research and Development:**

The company acknowledges potential cost implications and the need for strategic decisions regarding pricing and profitability.

- **Head of Purchasing:**

The product does not impact shelf life, and sustainable packaging maintains functionality and integrity.

3.1.4 Future Outlook and Vision for Sustainability

1. Future of sustainable packaging in Algeria and Henkel's vision.

- **Brand Manager:**

Despite current challenges, the organization anticipates long-term progress in sustainability through proper legislation, educational campaigns, and consumer awareness initiatives. Henkel's global vision is to achieve 100% sustainable packaging, but this depends on the availability of sustainable materials and the willingness of suppliers to provide them. Overcoming these obstacles is crucial for realizing our sustainability goals in Algeria.

- **Head of Research and Development:**

The project envisions a gradual yet optimistic advancement towards sustainability, aiming to achieve 100% sustainable packaging by 2028.

- **Head of Purchasing:**

He promotes the alignment of market demands with sustainability objectives and addresses the growing need for sustainable packaging.

2 Addressing concerns about consumer trust

- **Brand Manager:**

The article emphasizes the importance of communication and education to ensure consumers perceive sustainability efforts as genuine.

- **Head of Research and Development:**

Emphasizes prioritizing consumer education about the environmental benefits of eco-packaging.

- **Head of Purchasing:**

The statement underscores the importance of transparency and upholding consumers' comprehension of Henkel's dedication to sustainability. We are not just making efforts to be sustainable, but we are also ensuring that our consumers understand and trust our commitment, thereby building a solid foundation of credibility.

Henkel Algeria demonstrates a firm dedication to sustainability despite encountering obstacles like limited legislative support, low consumer awareness, and potential costs. The company has introduced various measures and strives to achieve its long-term sustainability objectives. The interviews emphasize the importance of aligning these endeavours with market needs and skillfully conveying them to establish consumer trust and credibility.

3.2 Quantitative Analysis:

Understanding customer attitudes and actions about ecologically responsible goods is essential for formulating sustainable marketing strategies. This research aims to investigate consumers' comprehension of the environment, their evaluation of the significance of sustainable packaging, their inclination to purchase items with sustainable packaging, and the challenges they connect with sustainable packaging. The survey aims to examine the following research inquiries:

How do Algerian consumers perceive the value of sustainable packaging compared to traditional packaging for home care products, and how does this perception influence their intention to purchase?

What are the primary barriers that Algerian consumers face when considering the adoption of sustainable packaging for home care products, and how do these barriers impact their intention to purchase?

To what extent do environmental concerns influence Algerian consumers' attitudes towards sustainable packaging for home care products, and how does this influence their intention to purchase?

Data was gathered from 217 individuals using a standardized questionnaire. The poll included several subjects, such as demographics, environmental Consciousness, perceived value, purchase intentions, and perceived barriers to sustainable packaging. We used SPSS version 26 to analyze the data.

3.2.1 Measurement of Cronbach's Alpha Reliability

Cronbach's alpha statistic is a statistical metric that quantifies the level of internal consistency among a set of items. It demonstrates the interconnectedness of these elements. The repeated measurements reveal a high level of consistency. When the Cronbach's Alpha score exceeds 0.70, it indicates that the items on the scale are internally consistent. This suggests that they can effectively evaluate the same fundamental concept. The study included the calculation of Cronbach's Alpha for four significant variables. The variables included environmental Consciousness, perceived value, purchase intention, and perceived barriers.

Table 6 : Reliability test results (Alpha Cronbach)

Variables	Number of items	the reliability coefficient (α Cronbach)	credibility Coefficients
Environmental Consciousness	1 – 4	0,743	0,862
Perceived Value	1 – 10	0,843	0,918
Purchase Intention	1 – 4	0,918	0,958
Perceived Barriers	1 - 5	0,817	0,904
Total	1 - 23	0,892	0,944

Source: Established by us using SPSS ver.26

We note in Table no. (6) that the Alpha Cronbach reliability coefficients for all variables range between (0.74 and 0.91), and that their totality was more significant than 0.60; this indicates a good correlation among the items within each variable, proving the reliability and credibility of the questionnaire.

The same saying applies to the total reliability coefficient of the scale across the four variables (Environmental Consciousness, Perceived Value, Purchase Intention, and Perceived Barriers), which amounts to 0.89, which is higher than 0.60, which indicates an excellent correlation between the expressions of its chapters. Based on the above, we confirmed the reliability of the variables to be studied, making us entirely confident in their validity to analyze the results, answer the research questions and test the hypotheses.

3.2.2 Interpretation of the first part

➤ Statistical analysis

The data was analyzed using Statistical Package for Social Science Programs (SPSS) 26.0 to analyze, interpret, and present the findings. We used the statistical methods in this study as the following:

- **Gender Distribution**

Table 7 : Gender distribution

Gender	Frequency	Percentage
Male	90	41,5
Female	127	58,5
Total	217	100,0

Source: Established by us using SPSS ver.26

We note in Table No.(7) Most respondents are female, with a percentage of 58.5%(127 respondents), while 41.5%(90 respondents) are male.

- **Age distribution**

Table 8 : Age distribution

Age	Frequency	Percentage
18-24 years	68	31,3
25-34 years	94	43,3
35-44 years	37	17,1
45-54 years	12	5,5
More than 55 years	6	2,8
Total	217	100,0

Source: Source: Established by us using SPSS ver.26

We note in Table (8) that the age group with the highest number of respondents was between (25 and 34 years), where their percentage reached 43.32%, while the percentage of those aged (18 to 24 years) reached 31.34%. As for the respondents in the sample aged (35 to 44 years old), their percentages reached 17.05% of the total sample, and we note that the lowest percentage concerned the age group (Over 55 years old).) with a percentage that reaches 2.76%.

- **Status Distribution**

Table 9 : Status Distribution

Status	Frequency	Percentage
Student	52	24,0
Employed	122	56,2
Entrepreneur	20	9,2
Unemployed	23	10,6
Total	217	100,0

Source: Established by us using SPSS ver.26

In table n° (9), we note that the most answered status is employee, with a percentage of 56.22%, followed by profession (Student), with a percentage of 23, 96% of the sample studied,

followed by status (entrepreneur), with a percentage of 10.60%, followed by status Unemployed, with a percentage of 9.22%.

- **Income distribution**

Table 10 : Income distribution

Income	Frequency	Percentage
Below 4 0000	77	35,5
40000 -100000	97	44,7
Plus 100000	43	19,8
Total	217	100,0

Source: Established by us using SPSS ver.26

From the Table above, we see that the sample's most significant proportion of respondents is between 40,000 and 100,000 DA, with a percentage of 44.70%. In comparison, the percentage who have an income below 40,000 DA is 35.5%, and 19.8 have an income of more than 100,000 DA.

- **Responsibility for Household Grocery Shopping distribution**

Table 11 : Responsibility for Household Grocery Shopping

Answers	Frequency	Percentage
Yes	149	68,7
No	68	31,3
Total	217	100,0

Source: Established by us using SPSS ver.26

According to the Table above, 68.7% of respondents answered the question positively, meaning they are responsible for household grocery shopping, while the rest are not.

- **Frequency of Grocery Shopping Distribution**

Table 12 : Frequency of Grocery Shopping

Answers	Frequency	Percentage
Never	15	6,9
Once a month	39	18,0
Once every two weeks	33	15,2
Once a week	67	30,9
More than once a week	63	29,0
Total	217	100,0%

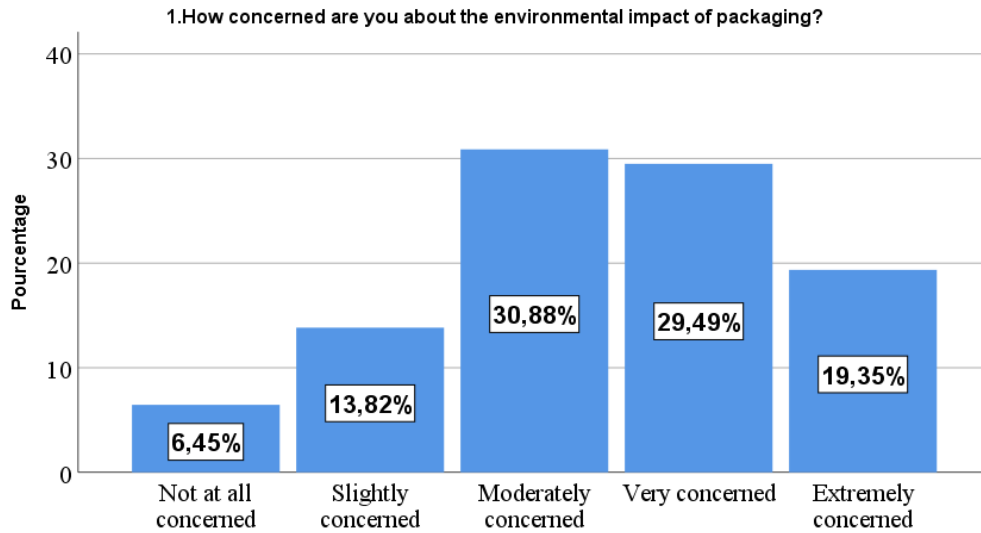
Source: Established by us using SPSS ver.26

From Table no. (12), We notice that the highest percentage of respondents shop for groceries once a week, with a percentage of 30.88%, and we note that 29.03% shop for groceries more than once a week. Week, the percentage of those who do their classes once a month was 17.97%, and the percentage of respondents who shop for groceries once every two weeks was 15.21%, followed by those who never made the courses their courses with a low percentage of 6.91%.

3.2.3 Interpretation of the second part

- **Concern About the Environmental Impact of Packaging**

Figure 3-1 : Concern About the Environmental Impact of Packaging

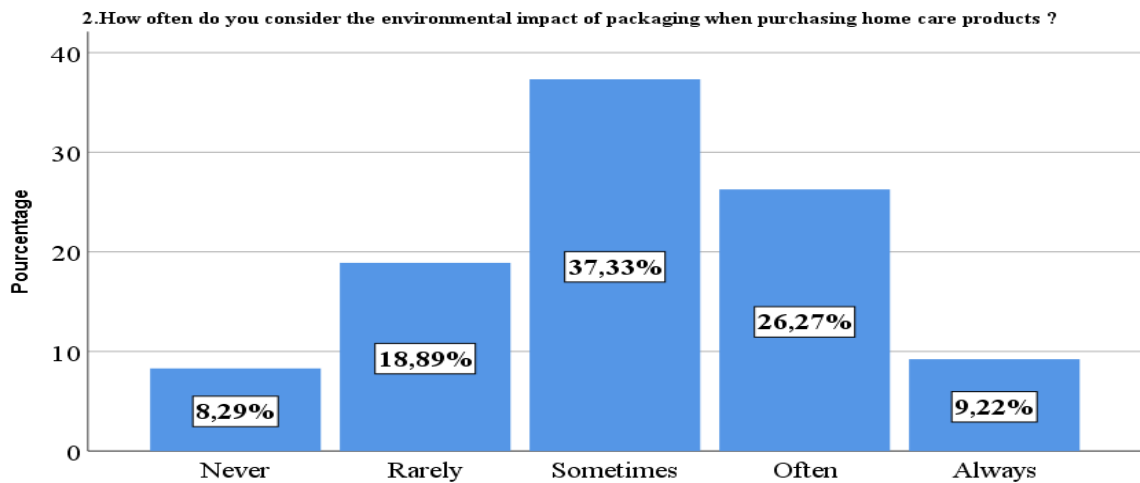


Source: Established by us using SPSS ver.26

We notice in Figure no (3-1) that the majority of respondents are moderately concerned about the environmental impact of packaging with a percentage of 30.9%; in addition to this, there are 29, 5% of the sample studied are very concerned about the environmental impact of packaging, while a percentage of 19.4% of respondents are highly concerned about the environmental impact of packaging, and 6.5% are not at all concerned about the environmental impact of packaging and the rest of percentage slightly concerned.

- Environmental Impact When Purchasing Home Care Products

Figure 3-2 : Environmental Impact When Purchasing Home Care Products

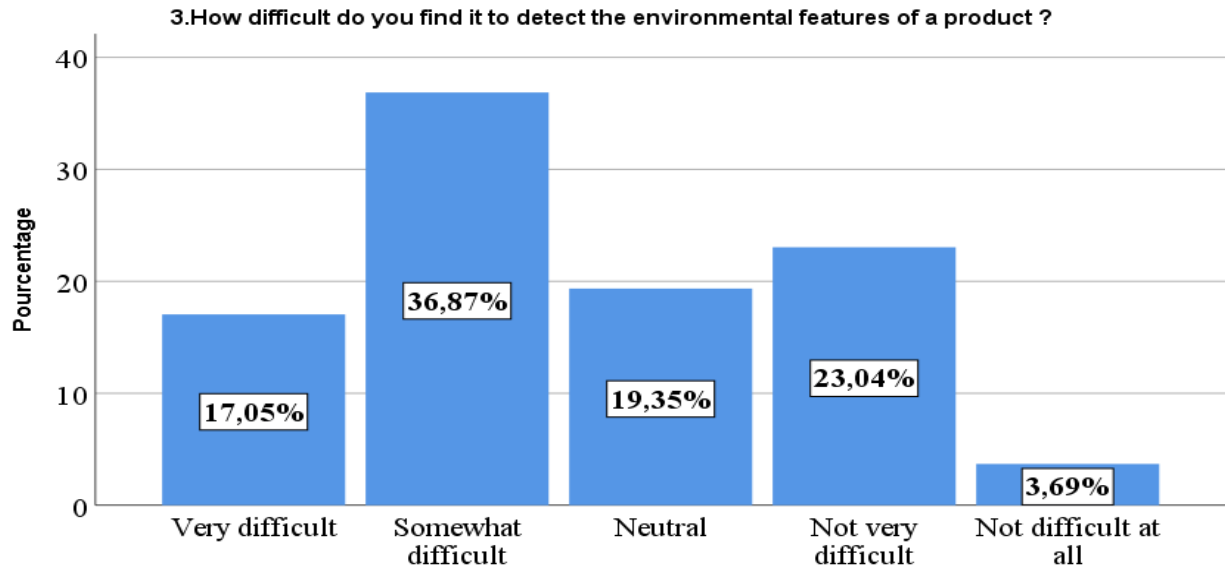


Source: Established by us using SPSS ver.26

We notice in Figure 3-2 that the majority of respondents (37.33%) sometimes consider the environmental impact of packaging when purchasing home care products. Additionally, 26.27% of the sample often see the environmental impact of packaging when purchasing household care products. Furthermore, 18.89% of respondents believe that the impact is rarely considered, and 9.22% always consider the environmental impact of packaging when they buy home care products. Only 8.29% responded that they never consider the environmental impact of packaging when purchasing home care products.

- **Difficulty in Detecting Environmental Features of a Product**

Figure 3-3 : Difficulty in Detecting Environmental Features of a Product



Source: Established by us using SPSS ver.26

We notice in Figure 3-3 that the majority of respondents (36.87%) find it somewhat difficult to detect the environmental characteristics of a product. Additionally, 23.04% of respondents answered that it is not very difficult to detect the environmental characteristics of a product. 19.35% of respondents remained neutral on the difficulty level. Meanwhile, 17.05% of respondents revealed that it is very difficult to detect the environmental characteristics of a product, and 3.69% answered that it is not difficult at all.

- **Avoidance of Products from Environmentally Irresponsible Companies**

Table 13 : Avoidance of Products from Environmentally Irresponsible Companies

Answers	Frequency	Percentage
Never	36	16,6
Rarely	50	23,0
Sometimes	68	31,3
Often	63	29,0
Always	0	0
Total	217	100,0%

Source: Established by us using SPSS ver.26

We notice in Table No. (13) that the majority of respondents sometimes avoid purchasing products from companies that they consider environmentally irresponsible, represented by a percentage of 31.3%. In addition to this, 29% of the sample often avoid purchasing products from companies they consider environmentally irresponsible, while 23% rarely avoid purchasing products from such companies. Meanwhile, 16.6% of respondents never avoid purchasing products from companies they consider irresponsible on the environmental level.

- understanding of sustainable packaging

Table 14 : Understanding of sustainable packaging

Responses	Frequency	Percentage
I am not familiar with the term	26	12,0
I have heard the term, but I am not clear as to its meaning	63	29,0
I have heard the term and know what it means	128	59,0
Total	217	100,0%

Source Established by us using SPSS ver.26

We notice in Table no. (14) that the majority of respondents have heard the term and know what it means, presented by a percentage of 59%; in addition to this, there are 29% of the sample have heard the term but do not clearly understand its meaning, while a percentage of 12% of respondents do not know the term.

- Importance of Various Factors in Evaluating Packaging Sustainability

Table 15 : Importance of Various Factors in Evaluating Packaging Sustainability"

N°	Item	Not at all	Slightly	Moderately	Important	Very important	Mean	Standard deviation	Response Trend	order
		frequency								
		percentage								
01	Made with recycled content	12	4	5	144	52	4,01	0,92	Important	6
		5,5	1,8	2,3	66,4	24,0				
02	Biodegradable	8	7	7	118	77	4,15	0,91	Important	2
		3,7	3,2	3,2	54,4	35,5				
03	Reusable	3	6	8	129	71	4,19	0,75	Important	1
		1,4	2,8	3,7	59,4	32,7				
04	It can be easily recycled	8	5	6	133	65	4,12	0,86	Important	3
		3,7	2,3	2,8	61,3	30,0				
05	Minimizes material use	5	11	11	131	59	4,05	0,86	Important	5
		2,3	5,1	5,1	60,4	27,2				
06	Made from renewable resources	6	8	7	131	65	4,11	0,85	Important	4
		2,8	3,7	3,2	60,4	30,0				

Source: Established by us using SPSS ver.26

We notice from Table no (15) that the expression "Reusable." is ranked in the first position with an arithmetic mean of 4.19, a standard deviation of 0.75, and a critical response trend because the value of this mean belongs to the interval (3.4 – 4.19) according to the Likert scale this indicates that the respondents believe that the reusable Factor is essential for the sustainability of packaging, In the second position is the expression "Biodegradable" with an average of 4.15 and a standard deviation of 0.91 with a crucial general trend this indicates also that the majority of respondents believe that this Factor is essential for the sustainability of packaging. , in third position is ranked the expression "It can be easily recycled" with an arithmetic mean of 4.12, a standard deviation of 0.86 and in a general trend which is essential this indicates that the majority of respondents see that the ease recycling is essential, and the expression "Made from renewable resources" is ranked fourth, with a mean of 4.11 and a standard deviation of 0.85 and in a general trend which is essential this indicates that my majority of respondents see it as essential to make packaging from renewable

resources , and the expression "Minimizes material use" ranks fifth with a mean of 4.05 and a standard deviation of 0.86 and in a general trend which is essential this indicates that the majority of respondents see the importance of minimizing the use of materials, and at the end the expression "Made with recycled content" comes in sixth position with an average of 4.01 and a standard deviation of 0.92 and in a general trend which is essential this indicates that the Factor made with recycled content is essential for packaging sustainability.

- **Extent of Agreement with Statements on Products with Sustainable Packaging**

Table 16 : Extent of Agreement with Statements on Products with Sustainable Packaging

N°	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard deviation	Response Trend	order
		frequency								
		percentage								
01	This product's environmental benefits provide good value for me.	5	16	53	108	35	3,70	0,91	Agree	1
		2,3	7,4	24,4	49,8	16,1				
02	I consider purchasing this product because it minimizes environmental impact	8	21	43	104	41	3,69	1,01	Agree	3
		3,7	9,7	19,8	47,9	18,9				
03	I am more likely to choose this product if it has eco-friendly packaging compared to similar products	8	21	41	105	42	3,70	1,01	Agree	2
		3,7	9,7	18,9	48,4	19,4				

Source: Established by us using SPSS ver.26

We notice from Table no (16) that the expression "The environmental benefits of this product give me good value for money" is ranked in first position with an arithmetic mean of 3.70 and a standard deviation of 0 .91 and response tendency Agree because the value of this average belongs to the interval (3.4 – 4.19) according to the likert scale this indicates that the respondents

see that products with sustainable packaging they have environmental benefits and good value for money, in second position came the expression “I am more likely to choose this product if it has eco-friendly packaging compared to similar products” with an average of 3.70 and a standard deviation of 1.01 with a general tendency Agree that also indicates that respondents see products with sustainable packaging as having environmentally friendly packaging compared to similar products, in third position is ranked the expression "I consider purchasing this product because it minimizes environmental impact" with an arithmetic mean of 3.69, a standard deviation of 1.01 and in a general trend which is agreed this indicates that the respondents see these products minimize the environmental impact.

- **Perception of Value: Sustainable Packaging vs. Conventional Packaging**

Table 17 : Perception of Value: Sustainable Packaging vs. Conventional Packaging

Responses	Frequency	Percentage
Much lower value	13	6,0
Slightly lower value	25	11,5
Similar value	37	17,1
Slightly higher value	65	30,0
Much higher value	77	35,5
Total	217	100,0%

Source: Established by us using SPSS ver.26

We notice in Table no. (17) that the majority of respondents perceive the value of products with sustainable packaging compared to conventional packaging as much higher, present by a percentage of 35.5%; in addition to this, there are 30% of the sample perceive the value of products with sustainable packaging compared to conventional packaging slightly higher, while a

percentage of 17.1% of respondents perceive the value of products with sustainable packaging compared to similar conventional packaging and 11.5% perceive a slightly lower value and the remaining percentage receiving a much lower value.

- Agreement Levels on Purchasing Products with Sustainable Packaging**

Table 18: Agreement Levels on Purchasing Products with Sustainable Packaging.

N°	Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Standard deviation	Response Trend	order
		frequency								
		percentage								
01	If sustainable packaged products are available, I will buy them	6	17	32	81	81	3,99	1,04	Agree	1
		2,8	7,8	14,7	37,3	37,3				
02	If I were going to purchase a similar product, I would buy the sustainable packaged product	4	15	38	88	72	3,96	0,98	Agree	2
		1,8	6,9	17,5	40,6	33,2				
03	I intend to buy sustainable products in the future	7	12	44	89	65	3,89	1,00	Agree	3
		3,2	5,5	20,3	41,0	30,0				
04	The probability I would consider buying the sustainable packaged product is high	8	16	38	86	69	3,88	1,05	Agree	4
		3,7	7,4	17,5	39,6	31,8				

Source: Established by us using SPSS ver.26

We notice from Table no (18) that the expression "If sustainable packaged products are available, I will buy them" is ranked in the first position with an arithmetic mean of 3.99 and standard deviation of 1.04 and response trend agrees because the value of this average belongs to the interval (3.4 – 4.19) according to the Likert scale this indicates that the respondents they will sustainably packaged products are available , in second position came the expression "If i were

going to purchase a similar product, I would buy the sustainable packaged product” with an average of 3.96 and a standard deviation of 0.98 with a general tendency to agree, this also indicates that respondents if they need a similar product they will buy the product packaged in a sustainable way , in third position is ranked the expression “I intend to buy sustainable products in the future” with an arithmetic mean of 3.89, a standard deviation of 1.00 and in a general trend which is agreed this indicates that the respondents plan in the future of buying sustainable products et in fourth position came the expression "The probability i would consider buying the sustainable packaged product is high" with an average of 3.88 and a standard deviation of 1.05 with a general tendency to agree. It also indicates that the respondents are likely to purchase sustainably packaged products.

- **Barriers to Purchasing Homecare Products with Sustainable Packaging**

Table 19 :Barriers to Purchasing Homecare Products with Sustainable Packaging

N°	Item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Standard deviation	Response Trend	order
		frequency								
		percentage								
01	Difficulty understanding environmental claims on the packaging.	52	20	1	57	87	3,49	1,64	Agree	5
		24,0	9,2	0,5	26,3	40,1				
02	Concerns about the actual environmental benefit of the product compared to claims.	44	9	16	42	106	3,72	1,58	Agree	3
		20,3	4,1	7,4	19,4	48,8				
03	Inconvenience associated with disposal or recycling of the packaging.	36	28	8	22	123	3,77	1,60	Agree	2
		16,6	12,9	3,7	10,1	56,7				
04	There is limited availability of sustainable packaging options in stores I frequent	39	23	14	46	95	3,62	1,55	Agree	4
		18,0	10,6	6,5	21,2	43,8				
05	Higher price points compared to non-sustainable alternatives	19	21	3	71	103	4,00	1,29	Agree	1
		8,8	9,7	1,4	32,7	47,5				

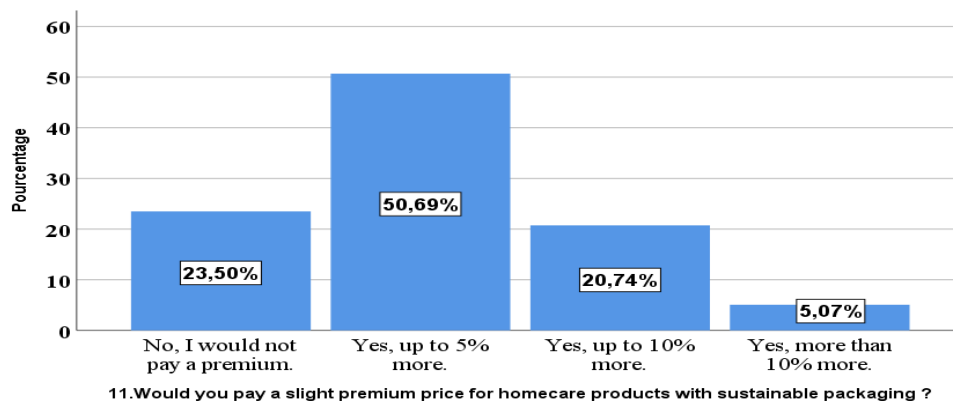
Source: Established by us using SPSS ver.26

Table no (19) shows that the expression "Higher price points compared to non-sustainable alternatives" is ranked first with an arithmetic mean of 4.00 and a standard deviation of 1.294. The response trend agrees because the value of this average belongs to the interval (3.4 – 4.19) according to the Likert scale. It indicates that the respondents see that among the obstacles to purchasing homeCare products with sustainable packaging is the difficulty of understanding the environmental claims on the packaging; in second position came the expression "Inconvenience associated with disposal or recycling of the packaging" with an average of 3.77 and a standard deviation of 1.60 with a general agreeing trend. This also indicates that the respondents also see that among the barriers concerns about the actual environmental benefits of the product versus the claims, in third position is ranked the expression “Concerns about the actual environmental benefit

of the product compared to claims” with an arithmetic mean of 3.72, a standard deviation of 1.58 and in a general trend which is agreed this indicates that the respondents see that there are obstacles related to the disposal or recycling of packaging and in fourth position came the expression “There is limited availability of sustainable packaging options in stores I frequent” with an average of 3.62 and a standard deviation of 1.55 with a general trend agreeing this also indicates that the respondents see that among the obstacles the availability of sustainable packaging options is limited in the stores they frequent, in fifth position came the expression “Difficulty understanding environmental claims on the packaging” with an arithmetic mean of 3.49 and a standard deviation of 1.64 and in a general trend which is agreed this indicates that the respondents see that there is a barrier linked to higher prices of sustainable products.

- **Willingness to Pay a Premium for Homecare Products with Sustainable Packaging**

Figure 3-4 : Willingness to Pay a Premium for Homecare Products with Sustainable Packaging



Source: SPSS 26.0 output

In Figure (3-4) We noticed that most respondents are willing to pay up to 5% more, and their percentage is 50.7%. In addition, 23.5% of the sample are not willing to pay a premium, while 20.7% are willing to pay a price up to 10% more, and the remaining percentage are willing to pay a price of more than 10% more.

- **Perceived Availability of Products with Sustainable Packaging in the Market**

Table 20 : Perceived Availability of Products with Sustainable Packaging in the Market

Responses	Frequency	Percentage
Yes, there are many options for products with sustainable packaging.	31	14,3
Somewhat, but they are less common than products with conventional packaging.	75	34,6
No, it is challenging to find products with sustainable packaging.	111	51,2
Total	217	100,0%

Source: Established by us using SPSS ver.26

In Table No. (20), we notice that most respondents, 51.2%, find it challenging to find products with sustainable packaging. On the other hand, 34.6% of the sample see that products with sustainable packaging are available, but they are less common than products with conventional packaging. Meanwhile, 14.3% of respondents believe there are many options for products with sustainable packaging.

3.2.4 Testing hypotheses of the study

Accept the null hypothesis H0: if the significance level is superior to (0.05).

Reject the null hypothesis H0 if the significance level is inferior to (0.05).

➤ **Hypothesis 1**

Table 21 Regression Analysis of the Impact of Perceived Value on Purchase Intention

H1- The perceived value of sustainable packaging positively influences the purchase intention of homecare products with sustainable packaging.

Model	Some of Squares	Df	Mean Square	F	(Sig) Probable value
Regression	72,216	1	72,216	143,766	0,000
Residues	107,998	215	0,502		
Total	180,213	216			
Variable	Coefficient	Standard deviation	t	probable value (Sig)	
Constant	0,142	0,320	0,443	0,658	
Perceived Value	0,959	0,080	11,990	0,000	
Dependent variable : Purchase Intention		Correlation coefficient R = 0,633		Coefficient of determination R ² = 0,401	

Source: Established by us SPSS ver.26

X₁: Perceived Value.

Y: Purchase intention for products with sustainable packaging.

➤ **The regression line is:**

$$Y = 0,142+0,959X_1$$

The results contained in Table No. (21), it becomes clear that the calculated F value amounted to (143.766) with a sig probability value of (0.000), which is less than the significance level ($\alpha = 0.05$). It proves the model's validity when testing the hypothesis using the simple linear regression method to determine the effect of the independent variable (Perceived Value) on the dependent variable (Purchase Intention). It is also evident from the Table above that the correlation coefficient between the two variables is estimated at 0.633, indicating a strong positive correlation between them.

We also note that the coefficient of determination is equal to 0.401. It means that 40.1% of the changes in (Purchase Intention) refer to the changes in Perceived Value, and the rest is due to other factors.

Through the same Table, we see that there is a statistically significant relationship at the level of significance ($\alpha = 0.05$) between the independent variable (Perceived Value) and the dependent variable (Purchase Intention), whose calculated T value is equal to 11.990 with a probable value (Sig) which is equal to 0.000 which is less than the significance threshold of 0.05. Therefore, we reject the null hypothesis, which says no positive influence exists between (Perceived Value) and the dependent variable (Purchase Intention). Consequently, we accept the alternative hypothesis, which says:

There is a positive influence between (Perceived Value) and the dependent variable (Purchase Intention) at the significance level of 0.05.

➤ **Hypothesis 2**

Table 22 Regression Analysis of The barriers to adopting Sustainable packaging impact purchase intention.

H2- The barriers to adopting Sustainable packaging impact purchase intention.

Model	Some of Squares	df	Mean Square	F	(Sig)Probable valu
Regression	62,335	1	62,335	113,694	0,000
Residues	117,878	215	0,548		
Total	180,213	216			
Variable	Coefficient	Standard deviation	t	probable value (Sig)	
Constant	2,219	0,168	13,185	0,000	
Perceived Barriers	0,460	0,043	10,663	0,000	
Dependent variable : Purchase Intention		Correlation coefficient R = 0,588		Coefficient of determination R ² = 0,346	

Source: Established by us SPSS ver.26

X2: Perceived Barriers.

Y: Purchase intention for products with sustainable packaging.

➤ **The regression line is:**

$Y = 2,219 + 0,460X_2$

The results contained in Table No. (22), it becomes clear that the calculated F value amounted to (113,694) with a sig probability value of (0.000), which is less than the significance level ($\alpha = 0.05$). It proves the model's validity in testing the hypothesis using the simple linear regression method to determine the effect of the independent variable (Perceived Barriers) on the dependent variable (Purchase Intention). It is also evident from the Table above that the correlation coefficient between the two variables is estimated at 0.588, indicating a strong positive correlation between them.

We also note that the coefficient of determination is equal to 0.346. This means that 34.6% of the changes in (Purchase Intention) refer to the changes in the Perceived Barriers, and the rest are due to other factors.

Through the same Table we see that there is a statistically significant relationship at the level of significance ($\alpha = 0.05$) between the independent variable (Perceived Barriers) and the dependent variable (Purchase Intention), whose calculated T value is equal to 10.663 with a probable value (Sig) which is equal to 0.000 which is less than the significance threshold of 0.05. Therefore, we reject the null hypothesis, which says no positive influence exists between (Perceived Barriers) and the dependent variable (Purchase Intention). Consequently, we accept the alternative hypothesis, which says:

A positive influence exists between (Perceived Barriers) and the dependent variable

➤ **Hypothesis 3**

Table 23 Regression Analysis of Environmental Consciousness Impact on Purchase Intention for Products with Sustainable Packaging

H3- Environmental Consciousness positively influence the purchase intention of products with sustainable packaging.

Model	Some of Squares	df	Mean Square	F	(Sig) Probable value
Regression	13,693	1	13,693	17,679	0,000
Residues	166,521	215	0,775		
Total	180,213	216			
Variable	Coefficient	Standard deviation	t	probable value (Sig)	
Constant	2,893	0,254	11,386	0,000	
Environmental Consciousness	0,363	0,086	4,205	0,000	
Dependent variable : Purchase Intention		Correlation coefficient R = 0,276		Coefficient of determination R ² = 0,076	

Source: Established by us SPSS ver.26

X3: Environmental Consciousness.

Y: Purchase intention for products with sustainable packaging.

➤ **The regression line is:**

$Y = 2,893 + 0,363X3$

The results contained in Table No. (23), it becomes clear that the calculated F value amounted to (113,694) with a sig probability value of (0.000), which is less than the significance level ($\alpha = 0.05$). It proves the model's validity in testing the hypothesis using the simple linear regression method to determine the effect of the independent variable (Environmental Consciousness) on the dependent variable (Purchase Intention). It is also evident from the Table above that the correlation coefficient between the two variables is estimated at 0.276, indicating a positive correlation between them.

We also note that the coefficient of determination is equal to 0.076. It means that 0.76% of the changes in (Purchase Intention) refer to the changes in Environmental Consciousness, and the rest is due to other factors.

Through the same Table we see that there is a statistically significant relationship at the level of significance ($\alpha = 0.05$) between the independent variable (Environmental Consciousness) and the dependent variable (Purchase Intention), whose calculated T value is equal to 4.202 with a probable value (Sig) which is equal to 0.000 which is less than the significance threshold of 0.05. Therefore, we reject the null hypothesis, which says no positive influence exists between (Environmental Consciousness) and the dependent variable (Purchase Intention of products with sustainable packaging). Consequently, we accept the alternative hypothesis, which says:

There is a positive influence between (Environmental Consciousness) and the dependent variable (Purchase Intention) at a significance level of 0.05.

3.3 .Discussion

1. Quantitative Study Discussion

The quantitative analysis revealed that Algerian consumers perceive sustainable packaging positively, particularly among younger adults. However, several barriers to adoption were identified, aligning with the broader literature on sustainable consumer behaviour:

✓ **Lack of Awareness and Information:**

Many consumers needed to demonstrate more knowledge about sustainable packaging options and their environmental benefits. This lack of awareness hinders their ability to make informed choices and prioritize sustainable packaging.

✓ **Perceived Inconvenience:**

Sustainable packaging is often perceived as less convenient than traditional packaging. Issues such as the difficulty in disposing of or recycling certain sustainable materials deter consumers from actively seeking these options.

✓ **Price Sensitivity:**

The cost of sustainable packaging is a significant barrier. Many consumers would prefer to pay a premium for sustainable options, particularly in price-sensitive markets or during economic downturns.

✓ **Limited Availability and Variety:**

Sustainable packaging alternatives are limited in availability and need more variety for different types of products. This restriction limits consumer choices and hampers the widespread adoption of sustainable packaging.

✓ **Conflicting Priorities and Trade-Offs:**

Consumers often prioritize price, convenience, product quality, and brand loyalty over sustainability. This leads to a preference for conventional packaging that better aligns with these priorities, even if it is less sustainable.

✓ **Scepticism or Greenwashing Concerns:**

Skepticism about green claims and concerns about greenwashing—where companies falsely present their products as more sustainable than they are—undermine consumer trust in sustainable packaging claims.

2. Qualitative Study Discussion

The qualitative analysis provided valuable insights from Henkel Algeria's perspective, highlighting the company's commitment to sustainability despite facing several challenges. Employees from different roles emphasized the importance of sustainability driven by both personal responsibility and regulatory requirements:

✓ **Current Practices and Sustainability Initiatives:**

Henkel Algeria has made notable strides in adopting sustainable practices, such as using recyclable materials, reducing packaging weight, and sourcing locally. However, significant hurdles remain, including high costs, regulatory complexities, and limited availability of eco-friendly materials.

✓ **Market Awareness and Consumer Interest:**

The interviews indicated a growing but limited interest in sustainable packaging among Algerian consumers. This aligns with the quantitative finding of a general lack of awareness and information.

✓ **Challenges in Adopting Sustainable Packaging:**

The company faces significant hurdles, including more supportive legislation, consumer education, and overcoming regulatory ambiguities.

✓ **Impact and Future Outlook:**

Henkel Algeria anticipates long-term progress in sustainability through proper legislation, educational campaigns, and consumer awareness initiatives. The company envisions achieving 100% sustainable packaging by 2028, contingent on the availability of sustainable materials and supplier cooperation.

Overall Discussion

The combined results from the quantitative and qualitative studies provide a comprehensive understanding of the factors influencing the adoption of sustainable packaging in Algeria. While consumers have a positive attitude toward sustainability and Henkel Algeria has a strong commitment, several challenges must be addressed to facilitate wider adoption.

3.4 Recommendations and Suggestions

Based on the findings from both the quantitative and qualitative studies, the following recommendations and suggestions are proposed to enhance the adoption of sustainable packaging in Algeria:

✓ **Increase Consumer Awareness and Education**

- **Educational Campaigns:** Launch comprehensive educational campaigns to inform consumers about the benefits of sustainable packaging and its environmental impact. To reach a broad audience, utilize various media channels, including social media, television, and print.
- **Clear Labeling:** Implement clear and informative product labelling to help consumers quickly identify sustainable packaging options. Labels should highlight the environmental benefits and proper disposal methods.

✓ **Improve Convenience and Accessibility**

-
- **User-Friendly Design:** Develop sustainable packaging that is convenient and easy to use. Focus on designs that simplify recycling and disposal processes.
 - **Expand Availability:** Increase the availability and variety of sustainable packaging options across different product categories. Collaborate with suppliers to ensure a consistent supply of eco-friendly materials.
 - ✓ **Address Price Sensitivity**
 - **Cost Reduction Strategies:** Explore ways to reduce the cost of sustainable packaging through innovation, bulk purchasing, and economies of scale. Pass on cost savings to consumers to make sustainable options more affordable.
 - **Subsidies and Incentives:** Advocate for government subsidies or incentives for companies that adopt sustainable packaging. These financial supports can offset the higher costs and encourage broader adoption.
 - ✓ **Enhance Market Demand and Consumer Trust**
 - **Transparent Communication:** Communicate sustainability efforts transparently to build consumer trust. Avoid greenwashing by providing accurate and verifiable information about the environmental benefits of sustainable packaging.
 - **Consumer Engagement:** Engage with consumers through surveys, focus groups, and feedback mechanisms to understand their preferences and concerns. Use this information to refine and improve sustainable packaging offerings.
 - ✓ **Strengthen Legislative and Regulatory Support**
 - **Advocate for Legislation:** Work with policymakers to develop and implement supportive legislation that promotes sustainable packaging. Regulations should encourage the use of eco-friendly materials and mandate recycling programs.
 - **Industry Collaboration:** Foster collaboration within the industry to set standards and best practices for sustainable packaging. Share knowledge and resources to drive collective progress towards sustainability goals.
 - ✓ **Encourage Corporate Responsibility**
 - **Internal Sustainability Initiatives:** Continue and expand internal initiatives to reduce packaging weight, use recyclable materials, and achieve local production. Set ambitious sustainability targets and regularly report on progress.
 - **Employee Training:** Provide training and resources for employees to understand and contribute to sustainability goals. Encourage a culture of environmental responsibility within the organization.

In conclusion, while Algerian consumers demonstrate a positive inclination towards sustainable packaging, effective strategies are needed to overcome existing barriers and foster widespread adoption. By addressing consumer education, affordability, availability, regulatory support, and corporate responsibility, stakeholders can collectively contribute to a more sustainable future, aligning consumer preferences with environmental imperatives. This integrated approach will be pivotal in achieving lasting change towards sustainable packaging practices in Algeria.

General Conclusion

The primary objective of this research was to understand Algerian consumer preferences and potential barriers to adopting sustainable packaging for home care products, using Henkel Algeria as a case study. This study aimed to investigate how perceived value, environmental Consciousness, and perceived barriers influence the purchase intention of home care products with sustainable packaging.

➤ **Main Theoretical Foundations**

The theoretical framework is grounded in consumer behaviour theories, sustainability concepts, and the triple-bottom-line approach. Critical theories include the Value-Belief-Norm (VBN) theory, which links consumer values and environmental beliefs to behaviour, and the Theory of Planned Behavior (TPB), which examines how attitudes, subjective norms, and perceived behavioural control influence intentions and actions.

➤ **Main Results of the Research**

- Environmental Consciousness. Many participants expressed a high level of concern regarding the environmental consequences of packaging, indicating a strong environmental consciousness among consumers.
- Perceived value. Consumers highly value sustainability factors like biodegradability and renewable materials. Companies should prioritize these aspects when developing sustainable packaging.
- Purchase Intentions. Although many respondents take the environmental impact of packaging into account at times or frequently, there is potential to prioritize this aspect consistently. Marketing strategies emphasizing the ecological benefits of products can effectively enhance purchase intentions.
- Perceived Barriers. Further investigation is necessary to explore the specific data on perceived barriers, as the study did not address this area. Gaining insight into these obstacles can help devise strategies to overcome them and encourage the widespread adoption of sustainable packaging.

➤ **Answer to the Research Problem**

Research Hypothesis 1: The perceived value of sustainable packaging positively influences the purchase intention of homecare products with sustainable packaging.

Confirmation: The study found that respondents who perceived sustainable packaging as valuable showed a higher intention to purchase products with such packaging.

Research Hypothesis 2: The barriers to adopting sustainable packaging impact purchase intention.

Confirmation: Perceived barriers, such as difficulty detecting environmental features and understanding labelling, affected purchase intentions.

Research Hypothesis 3: Environmental Consciousness positively influences the purchase intention of products with sustainable packaging.

Confirmation: Respondents with higher environmental Consciousness demonstrated a greater willingness to purchase products with sustainable packaging.

➤ **The Objective Difficulties Encountered During the Research**

- Difficulty in accessing a diverse sample of respondents,
- Limited availability of secondary data on sustainable packaging in the Algerian Market.
- Challenges in ensuring respondent understanding of technical terms related to sustainable packaging.

➤ **The Perspectives of the Research**

Explore the role of educational campaigns in enhancing consumer understanding and appreciation of sustainable packaging.

Investigate long-term consumer behaviour changes and the impact of regulatory changes on sustainable packaging adoption.

Managerial Implications

- **Consumer Education:** Educating consumers about sustainable packaging and its benefits is crucial. This includes clearly and compellingly communicating environmental claims.
Consumer Perception: Companies should establish procedures to understand consumer perceptions of green packaging and develop effective CSR communication plans.
- **Packaging Design:** Packaging professionals should focus on simple, eye-catching designs that convey environmental benefits.
- **Economic Incentives:** Offering cost-effective options or incentives for sustainable packaging can make it more accessible, especially for low-income consumers.

➤ **Limitations of the Research**

Limited Studies: More research is needed to connect consumer behaviour with environmental factors and packaging, which has constrained the depth of the study.

Resource Limitations: The research faced constraints in terms of time, funding, and access to comprehensive data sources, which limited the depth and breadth of the study.

Scope of Research: While this study focused on consumer perceptions and behaviours, it did not extensively explore the perspectives of retailers, policymakers, or other stakeholders in the supply chain. Future research could explore these perspectives to gain a more comprehensive understanding of sustainable packaging adoption.

➤ **Future Research Opportunities**

Consumer Behavior Theories: Further studies connecting individual consumer behaviour theories with sustainable packaging would be valuable.

Cross-Cultural Research: Conducting research in different countries can provide insights into cultural, social, and economic factors influencing consumer behaviour.

Communication Strategies: Exploring effective communication strategies to convey the environmental benefits of green packaging can help promote sustainable practices.

In conclusion, this research underscores the importance of understanding consumer behaviour in promoting sustainable practices within the home care industry. By addressing consumer perceptions and barriers, companies can enhance their sustainable packaging strategies and contribute to environmental goals while meeting consumer expectations.

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Appendices

Appendix n°1 questionnaire

Consumer Survey: Sustainable Packaging in the Homecare Industry

Do your part for a sustainable future!

Hi everyone, I am Sid Ghadir, a marketing student at the School of Higher Commercial Studies of Algiers (EHEC Alger). I am conducting research for my thesis on consumer perceptions and adoption of sustainable packaging in the homecare industry. This survey aims to **gather data and insights on your views and choices regarding sustainable packaging. Your participation is crucial in shaping the future of sustainable packaging and contributing to my academic research.**

This survey will take approximately 5 minutes to complete and will help me understand how consumers like you view and choose products with sustainable packaging. Sustainable packaging refers to materials and methods that have a reduced environmental impact, such as using recycled materials or being biodegradable. **Your honest feedback is crucial for my research.**

Rest assured, all your responses will be kept strictly confidential. They will be used solely for statistical purposes within the scope of this academic research, ensuring your privacy and comfort in sharing your honest feedback.

Thank you in advance for your time and cooperation. Your participation is crucial for my research, and I appreciate your willingness to contribute to this vital topic.

Sincerely,

Sid Ghadir

Marketing Student

Ecole des Hautes Etudes Commerciales d'Alger (EHEC Alger)

email: ghadirsid93@gmail.com

Questions :

which statement best describes your understanding of the term sustainable packaging

I am not familiar with the term

I have heard the term, but I am not clear as to its meaning

I have heard the term and know what it means

Environmental Consciousness

1. How concerned are you about the environmental impact of packaging?

Not at all concerned

Slightly concerned

Moderately concerned

Very concerned

Extremely concerned

2. How often do you consider the environmental impact of packaging when purchasing home care products?

Never

Rarely

Sometimes

Often

Always

3. How difficult do you find it to detect the environmental features of a product?

Very difficult

Somewhat difficult

Neutral

Not very difficult

Not difficult at all

4. Do you avoid purchasing products from companies you perceive as environmentally irresponsible?

Never

Rarely

Sometimes

Often

Always

Perceived Value

5. How important are the following factors when considering the sustainability of packaging? Using a scale of (Not at all important) to (Very important) By 'sustainable packaging,' we mean packaging that is designed to have a reduced environmental impact, such as using recycled materials or being biodegradable (Not at all critical Slightly important Moderately important, Important, Very important)

Made with recycled content

Biodegradable

Reusable

It can be easily recycled

Minimizes material use

Made from renewable resources

6. To what extent do you agree with the following statements about products with sustainable packaging? Click on the box that corresponds to your level of agreement or disagreement based on the scale below (Strongly disagree, Disagree, Neutral Agree, Strongly agree)
- This product's environmental benefits provide good value for me.
 - I consider purchasing this product because it minimizes environmental impact.
 - I am more likely to choose this product if it has eco-friendly packaging compared to similar products.

7. How do you perceive the value of products with sustainable packaging compared to conventional packaging? By "Conventional packaging," we mean Traditional packaging materials and methods that are not designed with environmental sustainability in mind, often contributing to landfills, ocean pollution, and other environmental issues.

Much lower value

Slightly lower value

Similar value

Slightly higher value

Much higher value

Purchase Intention

8. Click on the box that corresponds to your level of agreement or disagreement based on the scale below (Strongly disagree, Disagree, Neutral Agree, Strongly agree)

if sustainable packaged products are available, I will buy them

if I were going to purchase a similar product, I would buy the sustainable packaged product

I intend to buy sustainable products in the

future

The probability I would consider buying a sustainable packaged product is high.

Perceived Barriers

9. What are the most significant barriers to purchasing home care products with sustainable packaging?

Response Scale: Strongly disagree, Disagree, Neutral, Agree, strongly agree

Difficulty understanding environmental claims on the packaging.

Concerns about the actual environmental benefit of the product compared to claims.

Inconvenience associated with disposal or recycling of the packaging.

There is limited availability of sustainable packaging options in stores I frequent.

Higher price points compared to non-sustainable alternatives.

10. Would you pay a slight premium price for homecare products with sustainable packaging?

No, I would not pay a premium.

Yes, up to 5% more.

Yes, up to 10% more.

Yes, more than 10% more.

11. Do you believe that products with sustainable packaging are widely available on the Market?

Yes, there are many options for products with sustainable packaging.

Somewhat, but they are less common than products with conventional packaging.

No, it is challenging to find products with sustainable packaging.

Demographics

12. Gender:

Male

Female

13. Age:

18-24

25-34

35-44

45-54

55+

14. Status

Student

Employed

Entrepreneur

Unemployed

15. Income

Below 4 0000

40000 -100000

Plus 100000

16. Are you responsible for grocery shopping in the household?

Yes

Non

17. How often do you shop for groceries?

Never

Once a month

Once every two weeks

Once a week

More than once a week

Appendix n°2: Interview Guide.

Interview Guide: Consumer Perception and Adoption of Sustainable Packaging in Home Care Industry (Henkel Algeria)

Introduction

Hello, thank you for agreeing to participate in this interview. My name is Sid Ghadir, and I am a researcher investigating consumer perception and adoption of sustainable packaging in the home care industry. My focus is specifically on the Algerian Market. Your insights and experiences are crucial in understanding Henkel Algeria's current practices, potential interest, and perceived

challenges related to sustainable packaging for their home care products. You play a significant role in shaping the future of sustainable packaging in the Algerian home care market.

Before starting the interview, we would like to clarify that this interview is conducted for academic and educational purposes as part of our final thesis project.

We want to ensure the confidentiality of our conversation. Please be reminded that this interview is conducted entirely anonymously, and your responses will not be linked to your identity in any way.

The interview will last for a maximum of one hour. We will ask you some questions for which there are no right or wrong answers.

We are interested in anything that comes to your mind, so the spontaneity of your responses is valuable to us.

Is it acceptable to record our conversation to facilitate information collection?

Is that agreeable to you?

Current Practices and Sustainability

1. Please briefly describe your role and responsibilities at Henkel Algeria.
2. In your opinion, how important is environmental sustainability for the home care industry in Algeria?
3. Can you describe the current packaging materials for Henkel Algeria's home care products and any related sustainability initiatives?

Market Awareness and Interest

4. In your experience with customers and the Market, have you observed a growing interest in sustainable packaging options for home care products?
5. In your experience, what are some key factors Algerian consumers consider when choosing home care products (e.g., price, brand, performance)?
6. Are Algerian consumers becoming more interested in the environmental impact of their products, particularly in the home care category?

Potential Adoption and Challenges

7. Does Henkel Algeria currently have any initiatives or strategies related to environmental sustainability (beyond packaging)?
8. What are the primary technical considerations or challenges Henkel Algeria faces in potentially adopting sustainable product packaging?
9. How would using sustainable packaging materials impact the shelf life, functionality, or production costs of Henkel Algeria's home care products?

Future Outlook and Vision:

10. How do you envision the future of sustainability and sustainable packaging in the Algerian home care market, and what is Henkel Algeria's vision for this future?
11. In recent years, there has been growing scepticism and trust issues surrounding eco-packaging, with some consumers perceiving it as a marketing tactic rather than a genuine effort towards sustainability. How do you think Henkel Algeria can address these trust concerns and build credibility among consumers regarding its eco-packaging initiatives?

Conclusion

Thank you again for your valuable time and insights. Your contribution to this interview has been precious and will significantly contribute to my research. Your insights are highly appreciated.

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