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Module 1 – Introduction to Sustainable Retail

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Agenda

1.1. The Context of Sustainability in Retail

1.2 Evaluation of sustainable impact in retail



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1.1. The context of sustainability in retail

Summary



Sustainable retail

Sustainable retail refers to business practices and strategies that consider environmental and social impact while conducting commercial activities. It is characterized by a responsible and ecological approach to the production, distribution, and sale of products and services.

The importance of sustainable retail lies in its contribution to protecting the environment, conserving natural resources, and improving the quality of life for local and global communities.

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Impact of Retail Practices on the Environment and Communities

Retail practices can have a significant impact on the environment and communities, influencing natural resources, carbon emissions, public health, and social cohesion. Sustainable retail aims to reduce these negative impacts by promoting responsible practices such as using recyclable materials, efficiently managing the supply chain, reducing waste, and supporting local communities through social and economic engagement programs.

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Sustainable retail: definition and importace



Sustainable retail represents a strategic approach in the commercial industry, which concentrates on the minimization of the negative impact upon the environment, while activating in commercial activities.

This approach implies the consideration of ecological, social and economical aspects of the enterprise, with the aim of bringing benefits to the environment, local and global communities

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Essential aspects of sustainable retail

1 **Ecologic**



2 **Social**



3 **Economic**



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The impact of retail practices on the environment and communities

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Environment protection



Natural resources preservation





Life quality improvement

Business reputation and sustainability



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1.2. Evaluating environment impact in retail

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Summary

Product Life Cycle Analysis in Retail

Life Cycle Analysis (LCA) is a method used to assess the environmental impact of a product throughout its entire lifespan, from raw materials and production to use and disposal. In the retail context, LCA can help identify and reduce negative environmental impacts by optimizing production, distribution, and disposal processes.

Calculating Carbon Footprint and Other Sustainability Indicators

The carbon footprint is a measure of the amount of greenhouse gas emissions associated with a product or activity. In retail, calculating the carbon footprint can be used to assess and compare the environmental impact of different products or processes. Additionally, other sustainability indicators, such as water consumption, waste generation, and natural resource use, can be considered to obtain a comprehensive view of the environmental impact in retail.

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Life Cycle Analysis (LCA) in the Retail Process

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The LCA process involves the following stages:

- Defining objectives and scope
- Life cycle inventory
- Impact assessment
- Interpretation of results and identification of improvement opportunities

- *In retail, LCA can be applied at different levels, including the life cycle analysis of individual products, packaging, production processes, and distribution, among others.*

- *For example, a retailer can conduct an LCA to assess the environmental impact of a product range, identifying the materials and processes with the highest impact and seeking more sustainable and eco-friendly alternatives.*

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Calculating carbon footprint and other sustainability indicators



- *The carbon footprint is one of the most well-known indicators used to measure the environmental impact of a product or service. It represents the total amount of greenhouse gases emitted throughout a product's life cycle, measured in carbon dioxide (CO_2) equivalent. In retail, calculating the carbon footprint can be a useful tool for assessing and comparing the impact of different products or processes. For example, a retailer can compare the carbon footprint of two packaging options to determine the most sustainable solution. Additionally, other sustainability indicators, such as water consumption, waste generation, and natural resource use, can be considered to obtain a more comprehensive view of the environmental impact.*

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In order to calculate the carbon footprint and other sustainability indicators in the retail industry, it is necessary to:

- ✓ **Identify data and relevant information**
- ✓ **Calculate carbon footprint**

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Carbon footprint=$\sum_{i=1}^{n} (Emissions_i x\ Factor_i)$

- This formula is applied to each stage of the life cycle of the product or process being analysed.
- The greenhouse gas emissions associated with each stage are multiplied by the corresponding conversion factors and then summed to obtain the total carbon footprint.

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The calculation of the sustainability indicators

- **water consumption - calculating the total amount of water used at each stage of the life cycle**
- **waste generation - quantifying the total amount of waste generated during the production, distribution, and use of products**
- **natural resource use - measuring the total use of natural resources, such as wood, water, and other materials, at each stage of the life cycle**

Interpretation and use of results

- Analysing the results to identify weaknesses and opportunities for improvement regarding environmental impact.
- Using this data to make informed decisions about procurement practices, supply chain management, marketing strategies, and other aspects of retail operations, with the aim of reducing the carbon footprint and promoting greater sustainability.

The importance of assessing environmental impact in retail

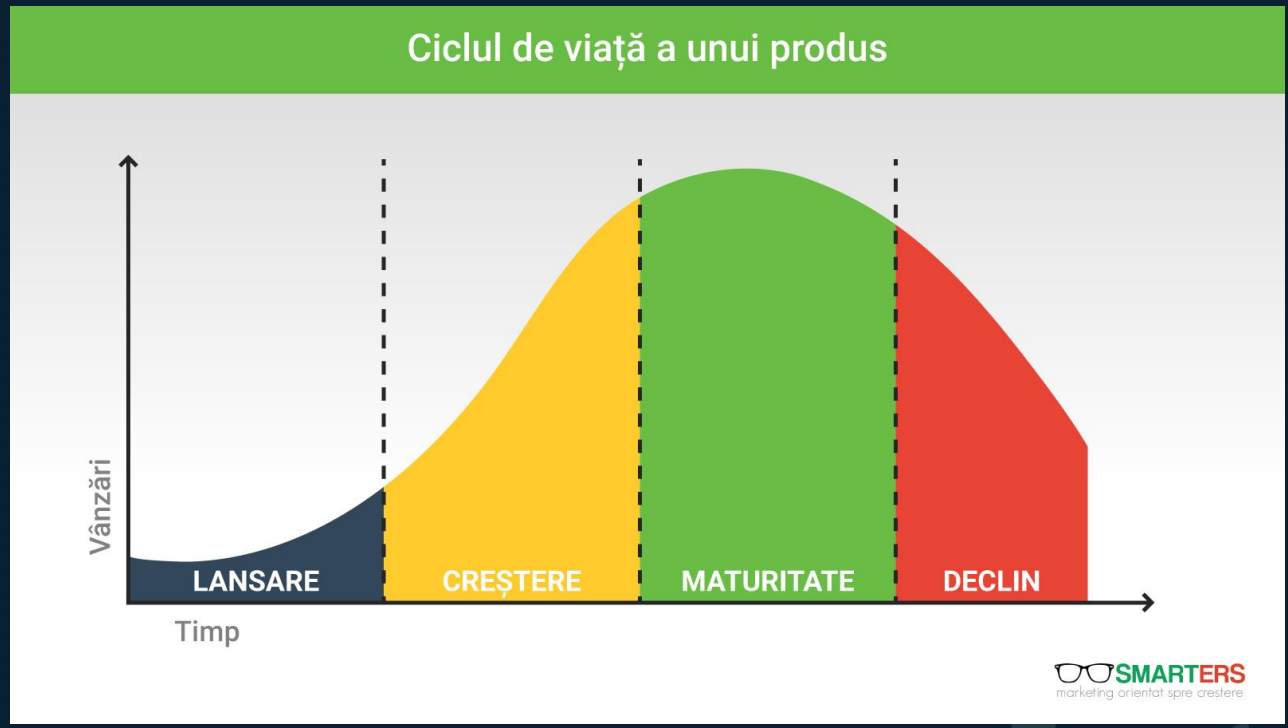
- Environmental impact assessment in retail is crucial for several reasons:
- Identifying weaknesses and opportunities for improvement
- Promoting more sustainable and responsible retail
- Accountability to consumers and the environment



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Example
The life cycle analysis (LCA) process at EcoMart

- **Defining the Goals and Scope**
  EcoMart, a fictional retail company, has set out to assess and improve the environmental impact of the products sold in its stores. The goal is to identify the weak points in the life cycle of products and develop solutions to reduce this impact, promoting more sustainable and responsible retail practices.
- **Life Cycle Inventory**
  To begin the LCA process, EcoMart chose to analyze a selection of representative products from different categories, such as food, household products, and cosmetics. For example, for fresh fruits and vegetables, the analysis includes the conditions of cultivation, the resources used for production, packaging processes, transportation from the farm to the store, in-store storage, and how these items are managed by consumers after purchase, including the disposal of organic waste.



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- **Impact Assessment**

  Using various methods and indicators, EcoMart assessed the environmental impact of each stage in the life cycle of the analyzed products. Factors such as greenhouse gas emissions, water consumption, energy use, and other sustainability-related aspects were considered. For example, it was found that the production and distribution of fresh fruits and vegetables have a significant impact on carbon emissions due to the need for refrigeration and rapid transportation to maintain freshness.

- **Interpretation of Results and Identification of Improvement Opportunities**

Based on the analysis results, EcoMart identified several opportunities to improve the life cycle of its products. Using the data and analysis performed for fresh fruits and vegetables, EcoMart pinpointed several actions to reduce environmental impact: Optimizing the supply chain by collaborating with local suppliers to reduce transportation distances and, consequently, carbon emissions. Reducing single-use packaging by promoting reusable and recyclable packaging. Implementing energy-efficient refrigeration systems in stores and warehouses to reduce electricity consumption. Managing inventory to minimize waste and promoting sustainable consumption practices among customers. Applying the results and extending them to other products

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Applying LCA to the Entire Product Range

- EcoMart decided to extend the life cycle analysis (LCA) to the entire range of products sold in their stores nationwide.
  Thus, the environmental impact of food products, household items, personal care products, and more was evaluated.
  This approach allowed EcoMart to identify and prioritize products with the highest environmental impact and implement improvement measures across their entire portfolio.

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Reflect on the Life Cycle Analysis (LCA) process at EcoMart

- What do you think are the biggest challenges for a retailer in reducing the environmental impact of fresh food products? What innovative solutions would you propose to overcome these challenges?
- How can consumer choices influence food products' life cycle and how could retail encourage sustainable buying behaviours?
- Reflecting on the role of packaging in product sustainability, what other effective strategies do you think could be implemented to minimize the use of single-use packaging for fresh fruits and vegetables, without compromising product quality?

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Questions?



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