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Supply chain Management

Postgraduate Dissertation

Sustainable Procurement: A survey on Retail Market

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Patras, Greece, June 2023

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Sustainable Procurement: A survey on Retail Market

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*First and foremost, I would like to thank my mentor, Prof. Michail Geranios, for his
unceasing support, kindness, inspiration, and breadth of knowledge.*

*My husband Andreas and my son Stavros, who have supported me through every
stage of my life and given me the opportunity to pursue my aspirations, also deserve
my sincere appreciation and love.*

Abstract

Sustainable procurement has become increasingly important in the retail market, as it addresses issues related to the environment, society, and the economy. Businesses increasingly understand how important it is to integrate sustainability into their supply chains and purchasing procedures. Growing consumer demand for ethical products, improved consumer understanding of the long-term advantages of sustainable corporate practices, and an international sustainability movement all contribute to this transition. It is also a fact that governments now impose stronger social and environmental laws and restrictions than in previous years.

Including environmental and social factors in purchasing decisions is part of sustainable procurement. It entails choosing suppliers and goods that support sustainability objectives like lowering carbon emissions, advancing ethical employment standards, and cutting down on waste. Retail businesses can gain from this strategy in several ways, including improved customer loyalty, risk mitigation, cost savings, access to new market opportunities, and brand reputation.

Sustainable procurement is following the Triple Bottom Line (TBL), which takes into consideration economic, social, and environmental factors. Environmental sustainability aims to preserve natural resources and avoid gas and waste emissions. Social sustainability aims to promote fair working conditions practices, human rights, and safe working conditions to ensure it. Finally, cost-cutting measures, efficient operations, and resistance to market fluctuations promote economic sustainability.

This research tries to identify whether sustainable procurement is valued in modern businesses by looking in depth at a specific retail company through a single-case study methodology. It also identifies the actions taken by the company selected for the case study to achieve sustainability according to the three Pillars of Sustainability.

Keywords

Sustainable Procurement, Sustainability, Supply Chain, Retail Market

Βιώσιμες Προμήθειες: Μια έρευνα στην Αγορά Λιανικής

Γεωργία Μαγγανά

Περίληψη

Οι βιώσιμες προμήθειες γίνονται όλο και πιο σημαντικές στον τομέα του λιανικού εμπορίου, καθώς αντιμετωπίζουν ζητήματα που αφορούν το περιβάλλον, την κοινωνία και την οικονομία. Οι επιχειρήσεις κατανοούν όλο και περισσότερο την σημαντικότητα της βιωσιμότητας και την ενσωμάτωση της στις αλυσίδες εφοδιασμού και τις διαδικασίες αγορών τους. Η αυξανόμενη ζήτηση των καταναλωτών για ηθικά προϊόντα, η κατανόηση των μακροπρόθεσμων πλεονεκτημάτων των βιώσιμων εταιρικών πρακτικών και το διεθνές κίνημα βιωσιμότητας συμβάλλουν όλα σε αυτή τη μετάβαση. Επίσης είναι γεγονός ότι οι κυβερνήσεις πλέον επιβάλλουν ισχυρότερους κοινωνικούς και περιβαλλοντικούς νόμους και περιορισμούς από ό,τι τα προηγούμενα χρόνια.

Η συμπερίληψη περιβαλλοντικών και κοινωνικών παραγόντων στις αποφάσεις αγοράς αποτελεί μέρος των βιώσιμων προμηθειών. Συνεπάγεται την επιλογή προμηθευτών και αγαθών που υποστηρίζουν στόχους βιωσιμότητας, όπως η μείωση των εκπομπών άνθρακα, η προώθηση των δεοντολογικών προτύπων απασχόλησης και η μείωση των απορριμμάτων. Οι επιχειρήσεις λιανικής μπορούν να επωφεληθούν από αυτή τη στρατηγική με διάφορους τρόπους, όπως η βελτίωση της αφοσίωσης των πελατών, ο μετριασμός του κινδύνου, η εξοικονόμηση κόστους, η πρόσβαση σε νέες αγορές και η φήμη της επωνυμίας τους.

Οι βιώσιμες προμήθειες είναι σύμφωνες με τους τρεις βασικούς Πυλώνες Βιώσιμης Ανάπτυξης (Triple Bottom Line), η οποία λαμβάνει υπόψη οικονομικούς, κοινωνικούς και περιβαλλοντικούς παράγοντες. Η περιβαλλοντική βιωσιμότητα στοχεύει στην διατήρηση των φυσικών πόρων και αποφυγή εκπομπών αερίων και αποβλήτων. Η κοινωνική βιωσιμότητα στοχεύει στην προώθηση δίκαιων εργασιακών πρακτικών, ανθρωπίνων δικαιωμάτων και ασφαλών συνθηκών εργασίας για τη διασφάλιση της.

Τέλος, τα μέτρα μείωσης του κόστους, οι αποτελεσματικές λειτουργίες και η αντίσταση στις διακυμάνσεις της αγοράς προάγουν την οικονομική βιωσιμότητα.

Η παρούσα έρευνα έχει στόχο να εντοπίσει εάν οι βιώσιμες προμήθειες εκτιμώνται στις σύγχρονες επιχειρήσεις, εξετάζοντας εις βάθος συγκεκριμένη εταιρεία του λιανικού εμπορίου μέσω της μεθόδου μελέτης περίπτωσης. Επίσης εντοπίζονται οι ενέργειες που πραγματοποιούνται από την εταιρεία που έχει επιλεγεί για την μελέτη περίπτωσης για να επιτευχθεί βιωσιμότητα σύμφωνα με τους τρεις Πυλώνες Βιώσιμης Ανάπτυξης.

Λέξεις – Κλειδιά

Βιώσιμες προμήθειες, Αειφορία, Εφοδιαστική Αλυσίδα , Λιανικό Εμπόριο

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List of Abbreviations & Acronyms

ACT	'Action, Collaboration, Transformation' initiative
CmiA	Cotton made in Africa
FAWC	Farm Animal Welfare Committee
FSC	Forest Stewardship Council
IFC	International Financial Company
IFS	International Food Standard
ILO	International Labor Organization
INA	Initiative for Sustainable Agricultural Supply Chains
IPR	Initiative Pro Recyclingpapier
ISCC Plus	International Sustainability and Carbon Certification Plus
MSC	Marine Stewardship Council
RSPO	Round Table for Sustainable Palm Oil
TBL	Triple Bottom Line
UNGC	United Nations Global Compact
WEP	Women's Empowerment Principles

1. Introduction

1.1 Procurement

1.1.1 Procurement definition

Identification, sourcing, selection, negotiation, contracting, and administration of suppliers are all part of the strategic business activity known as procurement, which is used to purchase goods, services, or works that are crucial to the operations and objectives of a company. Understanding the organization's demands, the supply market, and the rules and regulations regulating procurement operations are essential for effective procurement. Guarantee that the business gets the best value for its resources, it entails establishing and putting into practice procurement strategies that strike a balance between cost, quality, and risk factors. Additionally, procurement is essential for managing relationships with and performance from suppliers, ensuring adherence to moral and social responsibility standards, and promoting an ongoing development of procurement procedures and practices.

According to Lysons and Farrington (Lysons & Farrington, 2020), procurement is supposed to be a “proactive, strategic activity” and its purpose is to maintain a constant supply of goods and services to empower world-class business performance. Supply network risks can be handled by procurement through important supplier features such as quality, cost models and successfully negotiating contracts.

1.1.2 Procurement in retail sector

The retail industry relies heavily on procurement because it is in charge of procuring the products that are offered in shops and online. Procurement, which in the retail sector is frequently referred to as "merchandising," includes a variety of tasks, such as: recognizing the needs of the business, searching for potential suppliers, making negotiations with them, inventory forecasting, and placing orders and securing an on-time delivery and at the agreed quality.

1.2 Sustainable Procurement

1.2.1 Sustainable Procurement definition

Despite procurement focusing to maximize profitability by achieving the best possible price through negotiations with suppliers, Sustainable Procurement examines economic, social, and environmental effects from all procurement processes and tries to achieve the sustainability goals that the company has set. Suppliers and Suppliers Management are the basic elements for a shift from classic procurement to green procurement. (Upadhyay, Dr. Sheetal, & Dr. Mohd. Imran Khan, 2022)

According to Sustainable (or Green) procurement in the retail market, there are plenty of practices such as (Sustainable procurement for green logistics, 2022):

- Cooperation with suppliers who fulfill the company's social and environmental standards
- Reduce transportation emissions by collaborating with local suppliers
- Helps suppliers shift to more sustainable production line
- Encourage recycling in all processes like packaging or design
- Minimize waste at all processes
- Create fair labor conditions and implement ethical practices
- Invest in digital management and automation

1.2.2 Sustainable Procurement Advantages

Green Procurement offers a lot of advantages and some of which are listed below (UNEP, 2016):

- Economic advantages like cost savings through waste reduction, promoting innovation, and empowering competitiveness.
- Social benefits such as promoting fair labor practices, job satisfaction, social responsibility, and human rights protection.
- Environmental benefits like natural resources protection, waste, and emission reduction and minimizing pollution.
- Reputation advantages through creating a brand image that attracts stakeholders like customers or investors.

- The level of consumer loyalty improved, thereby promoting social and environmental advantages by putting pressure on suppliers to lessen their effects.

1.2.3 Sustainable Procurement Drivers

The drivers of sustainable procurement are the basic reasons that lead organizations to implement more green practices. The key drivers of sustainable procurement can be categorized into internal and external drivers (Hinrichs & Wettlin, 2019) and will be analyzed below. Also, they are shown in Table 1.

Internal Drivers	External Drivers
Expected financial gains and cost-saving goals	Customers and Brand Reputation
Management Support and Engagement	Competitors
Employees	Government Regulations
Altruistic Values	

Table 1: Sustainable Procurement Drivers

1.2.3.1 Internal Drivers

Expected financial gains and cost-saving goals

Expected financial gains and cost-saving goals can be crucial drivers of green procurement. It promotes that companies that invest in environmentally friendly services, raw materials, and products, can enjoy long-term financial benefits. Companies can achieve these through energy and waste reduction, longer product lifespan, and easier access to funding for green projects.

Management Support and Engagement

This is also a key driver for the successful implementation of sustainability in an organization's procurement strategy. Setting specific goals and developing a clear sustainability vision, makes leadership supportive for the whole organization and helps the overall business strategy.

Some examples of how managers support sustainable procurement are analyzed below (Sautma Ronni Basanaa, Hotlan Siagiana, Sahnaz Ubudb, & Zeplin Jiwa Husada Tarigana, 2022).

First of all, resources like labor training, labor time, and funding are allocated by management. Management is supposed to be supportive when prefers to invest in green systems and innovative technologies, like electronic procurement systems to achieve the company's sustainability targets.

Furthermore, as already mentioned before, management supports sustainable procurement when setting specific sustainability goals that can be measured and evaluated. Some of these targets could be recycling, waste and water reduction, gas emission decrease, and other.

Another way to create supportive management is by building a sustainability culture within the company and also by communicating green procurement's significance. Staff engagement should be encouraged and the implementation of sustainable practices should be rewarded.

At last, the implementation of the green procurement strategy should be monitored, so management must find the most suitable reporting mechanisms to control the whole sustainability process and the deviations from the goals that had been set.

Employees

Another internal driver of sustainable procurement is the company's employees. Engaging your staff in "Going Sustainable" is not an easy case.

Employee selection should focus on people with social and environmental responsibility. Corporate values should be aligned with their personal values and they should be engaged in the company's sustainability vision. (www.nbs.net)

Some ways that could be helpful for staff engagement are listed below:

- Encourage people to participate in the company's projects and also in volunteering
- Upload sustainable goals on the company's website
- Motivate people to suggest sustainability ideas in their daily duties
- Provide training and offer them flexible schedules of employment
- Focus on maintaining a work-life equilibrium and especially on Health and Safety

Altruistic Values

This driver is based on a set of moral principles that affect the company's strategy. Companies with altruistic values enjoy brand reputation and customer loyalty because of their great positive results in the social and environmental domain.

1.2.3.2 External Drivers

Customers and Brand Reputation

Nowadays, people are more sensitive about sustainability issues and the demand for sustainable products and services tends to be increased. This fact makes customers a powerful driver for suitable procurement.

Image and Reputation can also drive sustainable procurement strategy by creating a positive perception and strong competitive advantage over competitors. Organizations attract people who value sustainability and can gain market share through the implementation of green procurement practices. The firm's reputation and customer loyalty can also affect risk management because companies are more likely to decrease potential risks, legal liabilities, and supply network disruptions.

Corporate Reputation has a lot of dimensions some of which are presented to the following Table 2 (David von Berlepsch, Fred Lemke, & Matthew Gorton, 2021).

Dimension of Corporate Reputation	Examples
CSR	Fair trade Social and environmental responsibility Sustainable production
Communication	Transparency Presentation of facts and figures
Legal Compliance	Fraud and bribery avoidance Compliance with laws and contracts
Product or service Performance	Value for Money Focus on quality Customers satisfaction
Technology	Data security and protection Information exchange
Working environment	Protection of human rights Prevention of child labor Focus on staff satisfaction and well being Provision of equal pay without discrimination

Table 2: *Dimension of Corporate Reputation*

Competitors

According to Walker et al. (Helen Walker, Lucio Di Sisto, & Darian McBain , 2008) one of the most powerful drivers of green procurement is competition. Competitors can be an external driver in several ways. First and foremost through the competitive pressure that is put on other organizations in order to both of them adopt innovative sustainable procurement practices. Meaning that via competition, companies are motivated to create sustainable procurement strategies to surpass their competitors.

Additionally, a company can examine its competitors' green procurement strategy, analyze their strengths and failures, and draw a better strategy for its supply chain network.

Finally, competition can inspire organizations to invest in research and development and find innovative solutions and methodologies to reduce social and environmental negative impacts.

Government Regulations

Government regulations are supposed to be a really important external driver for adopting sustainable procurement practices. In many countries, governments tend to increase the implementation of regulations that oblige organizations to create green procurement strategies. Some ways and examples in which government regulations influence green procurement are shown in Table 3.

Ways	Examples
Procurement Policies	Encourage the use of environmentally friendly products and services
Certification Programs	Recognize organizations for their sustainable procurement practices Certify suppliers for their sustainable production procedures
Requirements	Set certain sustainability standards or targets Require information exchange about environmental impacts
Incentives and subsidies	Provide tax credits to companies that purchase environmentally friendly products

Table 3: Ways of government influence on Sustainable Procurement

1.2.4 Examples of Sustainable procurement in Retail sector

Sustainable procurement in the retail market is an important factor that contributes to creating a green future. By establishing green procurement techniques, retailers can achieve consumer demand for sustainability, minimize their environmental footprint, and draw more socially responsible supply network. Here are some examples of sustainable procurement practices that can be applied in the retail industry:

1. Sustainable sourcing: Retailers should collaborate with suppliers who use sustainable production techniques, like organic farming or renewable energy sources. Furthermore, suppliers that are certified for their environmental and social performance, should be prioritized.

2. Packaging: Retailers can minimize the environmental effects of product packaging by using friendly materials, decreasing the amount of material used and drawing packaging recycling programs.
3. Energy efficiency: Retailers should focus on their energy consumption, water and other waste, and greenhouse gas emissions. There are plenty of sustainable solutions to obtain more efficient lighting, heating, and cooling systems both in their stores and distribution centers.
4. Transportation: Transportation sustainability programs, vehicle fleet renewal, delivery routes optimization, and low-emission vehicles are some alternative solutions that help retailers reduce their environmental impact.
5. Waste management: Retailers can decrease waste and increase recycling rates by following waste reduction programs, like minimizing packaging waste and participate in composting or recycling programs.
6. Sustainable product offerings: Retailers should provide a variety of sustainable goods, for instance, organic or locally sourced products. In this way, they can meet the increasing demand for eco-friendly options among customers.

According to recent research, (Courtnell, 2022) over the 1/3 of retail brands set a clear sustainability vision with long-term green goals. Specifically:

- 53% of retailers believe that sustainability issues are a major priority
- 40% of retailers draw a more sustainable product packaging
- 60% of retailers provide goods/services with positive results regarding society and the environment
- 41% or retailers encourage transparency to present their sustainability strategy and targets

1.3 The Triple Bottom Line

Elkington (Elkington, J., 1997) invented the phrase "Triple Bottom Line" (TBL), which refers to "People, Planet, and Profit," and since then, it has gained attraction all around

the world (Chabowski, B., Mena, J., & Gonzalez-Padron, T., 2011) (Svensson, G., & Wagner, B., 2015). This model created the main components of long-term strategies for firms switching to sustainability based on three essential characteristics of sustainable development: environmental quality, social fairness, and economic advantages. . (Elkington, J., 1998)

The nested spheres model, in other words the Venn diagram explanation, is the most widely used model to explain the Tree Bottom Line and sustainability (Figure 1 (Sandhu, S., McKenzie, S., & Harris, H., 2014)). The point where the three dimensions intersect is sustainability. One of this method's shortcomings is that it does not show the three dimensions' levels of hierarchy.

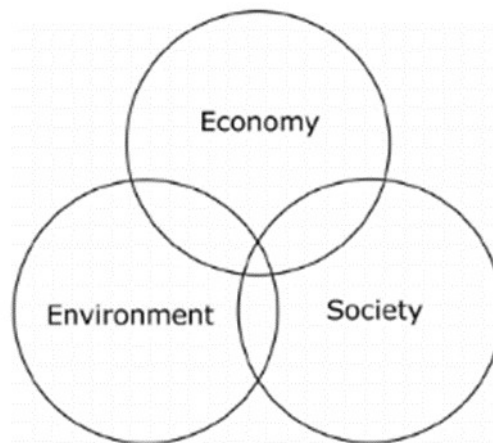


Figure 1: The nested spheres model

This caused Getzner (Getzner, M, 1999) to characterize as a "weak approach" to sustainability and propose a "strong approach," which shows the boundaries of a wider environmental system in which the economic and social sectors are subsystems. (Figure 2 (Sandhu, S., McKenzie, S., & Harris, H., 2014)). This strategy, often known as the Russian doll model, is regarded by many scholars as being a more successful sustainability approach. (Hosseinian-Far, A., & Jahankhani, H. , 2015). Similarly to this, Lawson and Beckmann (2010) argue that this approach illustrates the necessity of "everything that operates in a business system being in harmony with the wider societal and ecological systems."

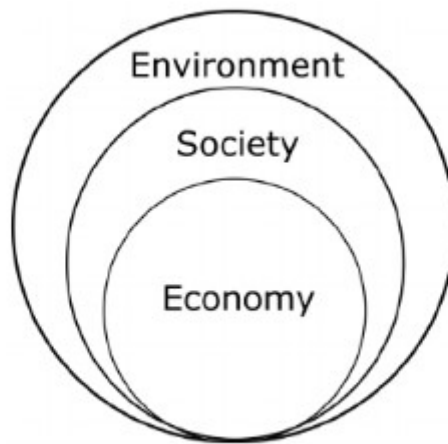


Figure 2 : The overlapping spheres model

1.3.1 Social dimension

Regarding the social dimension of Sustainable procurement in the retail market, plenty of advantages can be referred to. The social dimension is based on the company's impact on people's well-being, including not only the company's staff but the whole society (Correia, 2019).

Initially, with a more sustainable procurement strategy, society can enjoy environmental advantages such as a decrease of air and water pollution, reduction of gas emissions, and natural resource depletion that contributes to better quality of life.

Also, society benefits when retailers collaborate with socially responsible suppliers because inequality and exploitation in the supply network are decreased and on the other hand ethical practices, well-being, and Health and Safety are promoted.

Green procurement can also increase customers' awareness of sustainability issues. A positive feedback loop can be raised when sustainable production and consumption processes become more widespread.

From the economic point of view, society will benefit from the new markets that will be created with more eco-friendly products and services. The domain of research and development will enjoy great significance because new techniques and research will be carried out.

Some examples of sustainable procurement practices in the Greek retail market are listed below:

1. Sklavenitis, a Greek supermarket chain, has developed a sustainable procurement strategy that calls on suppliers to adhere to several environmental and social standards, including the use of eco-friendly products and backing for ethical labor practices.
2. AB Vasilopoulos, another Greek supermarket chain, has implemented a sustainable sourcing program that focuses on sourcing products from local farmers and supporting fair trade initiatives.
3. The Greek fashion retailer, Zeus and Dione, has a sustainability program that focuses on using sustainable materials, supporting local artisans, and promoting ethical labor practices.
4. The Greek beauty brand, Korres, has a sustainable procurement policy that includes sourcing ingredients from sustainable sources, reducing waste in packaging, and promoting ethical labor practices.
5. The Greek furniture retailer, Papadatos, has a sustainable procurement policy that focuses on using sustainable materials, reducing waste, and supporting local artisans.

1.3.2 Economic Dimension

In the retail market, the economic dimension of green procurement refers to the financial impact of incorporating sustainability into the procurement process for goods and services. Organizations that implement sustainable procurement practices can benefit from cost savings, improved efficiencies, and increased customer loyalty.

Here are some specific examples of the economic benefits of sustainable procurement in the retail market:

1. Cost Savings: Sustainable procurement can help retailers reduce costs by sourcing products that are made using eco-friendly raw materials, minimizing waste

and packaging, and following sustainable transportation techniques. By reducing the amount of raw materials and energy needed to produce goods and optimizing transportation, retailers can decrease production and distribution costs.

2. Efficiency: Green procurement practices and collaboration between retailers and suppliers can improve the efficiency of the supply chain network. By working together to identify opportunities for improvement, organizations can to lower lead times, achieve better delivery times and increase overall efficiency.

3. Increased Sales: Green procurement can also give retailers the opportunity to entry in new markets and focus on environmentally and socially conscious customers. With a variety of green products and services, retailers can achieve increased sales and customer loyalty from consumers who are able to pay a premium for them.

4. Risk Mitigation: Environmental and social risks can be reduced by retailers with the use of sustainable procurement. Retailers can lessen the reputational, legal, and financial risks connected to environmental and social issues by using sustainable procurement strategies. Both the retailer's financial results and reputation may benefit from this.

1.3.3 Environmental dimension

The operation of warehouses, distribution centers, and stores is included in the environmental aspect of green procurement in the retail sector in addition to the purchase of sustainable goods and resources. Here are some strategies that can be used to implement sustainability practices in these areas:

Energy Efficiency: By implementing energy-efficient procedures in their warehouse, distribution center, and store operations, retailers can lessen their negative environmental effects. This entails installing solar panels and other renewable energy sources as well as utilizing energy-efficient lighting, heating, and cooling systems.

Water Conservation: Retailers can reduce their water use by incorporating water-efficient procedures into their business operations, such as employing low-flow faucets and toilets and constructing rainwater collection systems for irrigation and other non-potable uses.

Waste reduction: By implementing recycling and reducing waste programs in their warehouse, distribution centers, and store operations, retailers can lessen their impact on the environment. This involves setting in place a zero-waste program, lowering back on packaging waste, and starting recycling programs for items like paper and plastic.

Transportation: By applying sustainable transportation strategies in their distribution hubs and retail locations, retailers may lessen the impact they have on the environment. This includes streamlining delivery routes, driving low-emission cars, and rewarding staff and clients who commute by bike and public transportation.

Retailers can implement sustainable design solutions into the layout of their stores, distribution centers, and warehouses. This entails utilizing energy-efficient design elements, such as passive solar heating and cooling, as well as sustainable materials, including recycled steel or recovered wood.

2. Sustainable Procurement in Retail Market

2.1 Methodology

Purpose and research questions

The main purpose of this research work is to investigate the perceptions and experiences of individuals who hold important positions in a company active in the Retail market, regarding the concept of sustainable procurement and to gather valuable material for study and drawing conclusions. This paper analyzes the case study of Lidl Hellas.

For the implementation of the research purpose set in the present study, the topic was developed through three basic research questions.

The first research question concerns how interviewees perceive the company's sustainable procurement vision and strategy. This question aims to gain an in-depth understanding of interviewees' perceptions of:

- 1) What do we mean by the term sustainable procurement?
- 2) How do they perceive the concept of sustainable procurement?
- 3) What is the company's strategy and vision regarding sustainable procurement and the area of responsibility of each interviewee?

The second research question concerns the views of the interviewees regarding the triple bottom line of sustainable procurement. The goal of this specific query is to identify the company's actions regarding:

- 1) Environmental dimension
- 2) Social dimension
- 3) Economic dimension

The third research question concerns the opinions of the interviewees regarding the measurement process of sustainable procurement as well as its evaluation process. The aim of this specific query is to:

- 1) Present the most important KPIs by giving examples
- 2) Discuss ways of checking and identifying any deviations from the agreed terms and conditions
- 3) Methods of dealing with any deviations and methods of prevention are mentioned

Research strategy

The study that was conducted is a case study. In a case study, the emphasis is on a single case that is broadly interpreted while considering the context according to Robson (2010).

In addition to the bibliographic research carried out for this specific case study, some interviews were carried out with people who hold important positions in the Lidl Hellas, specifically in the distribution center based in Attica. This distribution center is the largest of Lidl Hellas and serves the supply of 75 stores.

This particular study focuses on an empirical investigation of the topic under discussion among a group of people who are in senior positions of responsibility within the organization under review. Particular focus was placed on study design, collection, analysis, and data interpretation to create a solid research strategy. Since the researcher is a Supply Chain associate at the chosen retail company, there weren't any difficulties gathering all the necessary data because of this direct contact with the subject matter.

Defining the Sample

The appropriateness and sufficiency criteria form the basis of qualitative sampling. The sample should be suitable for the interpretation of the findings of a survey and offer adequate qualitative data. We are interested in the methodology employed to carefully analyze a single-case study; after all, the objective of qualitative research is not to generalize the findings to a population.

Purposive sampling is a sampling that has this objective in mind. Purposive sampling refers to the deliberate selection of individuals and locations by researchers to better understand the phenomenon they are researching. A major requirement is to ensure "richness of information" (John Creswell, 2016)

Based on this theoretical approach, eight people who hold important positions in the company, specifically in the distribution center of Attica, were approached, to investigate their intention to participate in the interview process. After being informed about the nature of the research, the anonymity of the participants, and the interview process, they were asked if they wanted to participate.

Of the eight people, who were the starting point, three didn't manage to participate in the interview process for several various reasons. Finally, the collection of qualitative data was carried out with five semi-structured interviews (two stages each) and a pilot call that had preceded to check the technical equipment as all the interviews were carried out online. At the initial stage a discussion was held about sustainable procurement and specific questions were answered by the executives. In the second stage, a more targeted discussion took place, based on flows, indicators, and guidelines of each sector. Also, the material was given to study and draw conclusions that were quite useful for the present research.

The average time of conducting the interviews was 50 minutes in the initial stage and 30 minutes in the second stage where the supporting material was shared and any questions were answered.

The main objective of the interviews was to study different departments of the company regarding the application of sustainable procurement.

For this reason, the interviews were conducted with the following:

1. Freshness Manager who is responsible for Fruits and Vegetables
2. Bake-off Manager who is responsible for Bakery products
3. Transportation Manager whose main duties are the daily vehicle routing from the central warehouse to the stores and vice versa
4. Warehouse Manager with main responsibilities the storage of goods, pallet management, and recycling
5. Autodispo Specialist who is the key user of a new innovative program named Relex, and is responsible for the correct stores' orders

In all the interviews there were some common elements, mainly the following:

- It is obvious that the company has a clear vision and sustainability strategy
- There are specific and measurable goals in each department that are monitored and evaluated at regular intervals by the company
- Although the research identified more actions regarding the environmental aspect of sustainable procurement, from all the interviews the involvement of all three dimensions of sustainable procurement was evident. For example, several activities that aim at the sustainability of the environment, have an abundance of benefits for society as well as the economy and profitability of the company.

Additional interviews with corporate leaders and managers were not deemed appropriate because the researcher found the data obtained through the interview process to be particularly satisfying in terms of the caliber of the knowledge they gave.

2.2 Initial description

Lidl Stiftung & Co. KG, a German company, operates Lidl Hellas, a network of supermarkets in Greece. In Greece, Lidl Hellas was founded in 1999 and currently has more than 220 stores there. The retailer has an extensive variety of low-cost goods, which includes groceries, fresh fruits and vegetables, meat, dairy, bakery products, and household goods that are known as Non-Food products.

Lidl Hellas has been working on integrating sustainable practices into its operations recently, such as the use of renewable energy, low-energy lighting, and eco-friendly

product packaging. Programs for recycling and waste reduction have also been developed by the corporation in its stores and distribution facilities. Lidl Hellas also works with Greek farmers and producers to get fresh, homegrown goods, and it promotes regional suppliers and producers.

Additionally, Lidl Hellas has been recognized for its efforts in sustainability, winning the Top Employers Hellas 2021 designation for its employee-friendly policies as well as the Hellenic Association of Energy Suppliers' Green Energy Supplier Certificate.

Lidl takes its relationships with both people and the environment extremely seriously, therefore sustainability is ingrained in the company's culture. The company operates ethically in all facets of its operations and adheres to the highest standards of sustainability and social responsibility in its daily pursuit of a better tomorrow.

2.3 Sustainable development strategy

Lidl Hellas identified the key concerns for developing a sustainable development strategy, with a focus on Sustainable Development Goals. This strategy addresses the following fields and combines particular responsible entrepreneurship principles and practices:

- **Lidl Hellas offers high-quality products**

Because it expects a lot from its products, it establishes stringent selection and control standards. It provides customers with high-quality goods at competitive pricing.

Comparing the data from the company's sustainability reports that are presented in Table 4 and Figure 3, we can see that there is a rapid increase in quality controls regarding fresh products such as fruits and vegetables (Sustainability Report 2017-2018) (Sustainability Report 2019-2020).

FOOD QUALITY ASSURANCE ELEMENT	2017	2018	2019	2020
Number of quality analyses on Fruits and Vegetables	761	1344	1254	1677
Number of quality analyses on Food products	2862	2938	2039	2315
Number of controls	59	50	No available data	
Consumer tastings	222	232		

Table 4: Food Quality controls of Lidl Hellas

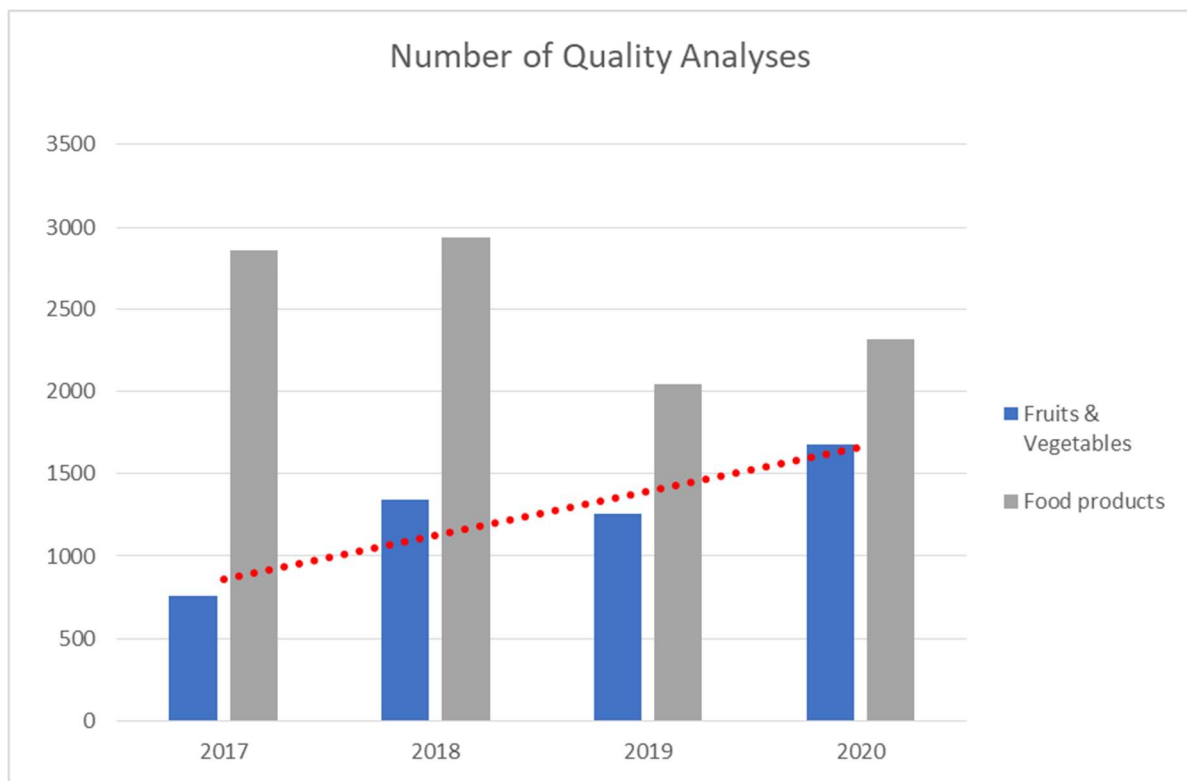


Figure 3: Quality Analyses of Lidl Hellas through the years

The main reason that the quality analyses of fresh products are particularly increased in contrast to the other food products categories is that fruits and vegetables are more susceptible to spoilage and contamination than other food products.

Fruits and vegetables are frequently produced in soil that may contain pathogens and hazardous germs, and they are also exposed to environmental elements like pesticides

and air pollution. Fresh food is frequently moved over great distances and kept for lengthy periods, which can further raise the risk of contamination and spoiling.

The implementation of quality controls across the fresh fruit supply chain, including on-farm operations, transportation and storage, and retail display, has received increased attention to mitigate these risks. As Freshness Manager point out in the interview, the implementation of food safety guidelines, the monitoring of soil and water quality, and routine testing for toxins are just a few examples of these quality controls.

Also, the laboratory of Agrolab carries out continuous audits and microbiological, chemical, and natural analyses of poultry, beef, and pork products. In this way, Lidl Hellas sets high-quality standards and provides maximum consumer assurance.

- **Lidl Hellas puts environmental responsibility in the foreground**

The corporation is concerned with converting its environmental sensitivity into best environmental practices and implementing them across the board of its operations. It lessens packing, recycles resources, and uses less energy. It makes investments in cutting-edge technology, puts in place energy-saving measures, and funds environmental actions.

Some of the most important sustainability targets of Lidl Hellas regarding the environment, according to its sustainability reports that have been recently published, are shown in Table 5. (Sustainability Report 2019-2020)

Conservation of resources	
<i>Lidl is committed to the continuous protection and responsible use of resources throughout the value chain and setting specific goals.</i>	
	YEAR
25% average recycled plastic content in private label product packaging	2025
20% less plastic	2025
100% of private label packaging to be fully recyclable	2025
Edge sustainable building certification for 100% of stores	2025
100% of private label product packaging to be free of black plastic	2021
Use of biodegradable bags for bakery, fruit and vegetables in 100% of stores	2021
100% certification of critical raw materials	2025
Climate protection	
<i>Lidl contributes to limiting the rise in global temperature to 1.5 degrees Celsius</i>	
	YEAR
Lidl aims to reduce greenhouse gas emissions resulting from its operational operation, a total of 80%, compared to 2019, in all countries	2030
Use of 100% green electricity in all facilities	2022
Use of natural refrigerants to cool products in 100% of central warehouses	2030
Use of natural refrigerants to cool products in 100% of stores	2026
Installation of at least one charging station in 100% of stores	2026
Installation of photovoltaic installations in 11% of stores and 40% of central warehouses	2026
Committing suppliers, who account for 75% of product-related emissions, to set their own climate targets based on the methodology of the "Science Based Targets" initiative	2026

Respect for biodiversity	
<i>Lidl supports the protection and sustainable use of biodiversity.</i>	
	YEAR
Procurement policy release: Deforestation-free supply chains and forest conversion	2021
Committed to sustainable supply chains without deforestation and unnecessary waste of resources. Related materials are soy, palm oil, cocoa and cellulose/wood	2025

Table 5 : Sustainability targets of Lidl Hellas regarding environment

- **Lidl Hellas plays a vital and active part in society**

The company works with reputable social partners to help both agency initiatives and other people. The objective is to actively shape processes and inspire action and engagement in the social environment.

The following Table 6 shows some of the most crucial sustainability targets of Lidl Hellas regarding society, according to its sustainability reports that have been recently published. (Sustainability Report 2019-2020)

Business law	
<i>Lidl contributes to the improvement of the living and working conditions of the people affected by its business activity</i>	
	YEAR
Ensuring equal treatment in terms of pay	2022
Employee Diversity Awareness	2022
Creating equal opportunities for young people at work	2022
Promoting human rights throughout the value chain, continuously expanding the range of products with Fairtrade certification	∞

Health Protection	
<i>It motivates customers and partners to a healthier way of life and work, ensuring them appropriate conditions.</i>	
	YEAR
Reduce average added sugar and salt content by 20% in private label products	2025
Development of the employee health and welfare operational program	2022
Engage in dialogue	
<i>It is in constant dialogue with stakeholders, partners and customers, with transparency and consistency.</i>	
	YEAR
Increasing transparency on sustainability issues across the value chain through communication and dialogue	2030
Strategic partnerships to support society and the environment	∞
Mobilizing employees to operate sustainably	∞

Table 6: Sustainability targets of Lidl Hellas regarding society

2.4 Sustainable Procurement and Environmental dimension

2.4.1 The commitment to sustainable agriculture

Lidl Hellas tries to obtain social and environmental responsibility in everyday transactions. It has published documents in which it is committed to responsible and sustainable practices in various fields that will be analyzed below.

The main goal of Lidl Hellas is to minimize negative impacts to the environment through using a more “green” procurement. Sustainable practices are used in order to make the soil more productive, and to reduce impacts at water, air, land, climate and biodiversity.

Sustainable procurement and especially sustainable agriculture ensure food safety and the undivided production of agricultural products. Also, it cares about the nutritional requirements of not only today’s society but also of future generations. Furthermore,

through sustainable procurement, Lidl Hellas cares about those who work in the agricultural supply chain and tries to provide equal and decent working conditions through income improvement and long-term employment.

Lidl Hellas offers Private Label products that are characterized by environmental responsibility and are certificated by Fairtrade, Bio or Rainforest Alliance, UTZ. These recognized certification standards and their significance will be presented below.

Another goal of Lidl Hellas is to increase transparency and traceability by providing information to consumers about the origin of its products. This information is captured in the packaging of the products and helps customers do their shopping.

2.4.2 Coffee

Lidl Hellas cooperates with Rainforest Alliance which is a globally recognized organization. Many of its products have the signal Rainforest Alliance Certified on their packaging which means that are produced on certified plantations where sustainable agricultural practices are used and good working conditions are a priority (Sustainable Procurement of Coffee, 2019). The strict SAN (Sustainable Agriculture Network) requirements, which emphasize environmental preservation, social responsibility, and economic effectiveness, are followed by products that come from plantations and forests that have received Rainforest Alliance certification. Additionally, they take into account the local economy, workers, and working circumstances.

In 2019 more than 18% of coffee products were certified and Lidl Hellas's target was to achieve 50% certificated products by 2020. However, no data were found during the literature search to indicate whether the specific goal is achieved or not.

The suppliers that produce coffee products for Lidl Hellas source raw coffee mainly from plantations in Central and South America. All of them they are certified by the International Food Standard (IFS) which is a highly demanding standard, and they are often subject to unannounced inspections.

Also, coffee growers are trained with ongoing seminars to learn sustainable ways of agriculture like the environmental footprint, the right use of land and pesticides, and also ways to protect the existing biodiversity.

2.4.3 Tea

It is common knowledge that tea production could have a negative impact on the environment since it causes soil erosion, extensive use of fertilizers, requiring large amounts of water and firewood for drying tea. On the other hand, concerning the human factor, tea production will easily violate labor rights. Employees that are usually collect manually the tea during harvest season, are facing challenges regarding salary, accommodation, health and safety, insurance, and lack of freedom of association. For all these reasons, Lidl Hellas is trying to cooperate only with certified suppliers (Sustainable Tea production, 2019).

Sustainable purchasing of tea means that Lidl Hellas cooperates with producers who meet strict requirements about the conservation of water resources, protection of fauna and flora, reasonable usage of natural resources, observance of labor rights, and care of health safety, and education of their employees.

Lidl Hellas has already committed to more sustainable tea cultivation. Mainly for raw sources of green and black tea, chamomile, and tea from herbs and fruits.

In 2019, more than 38% of green and black tea raw materials were certified by UTZ or Rainforest Alliance.

UTZ program promotes sustainability for coffee, cocoa, and tea. UTZ offers manufacturers educational programs to help them produce high-quality goods while using practices that are economical, safe, and environmentally friendly. This program's primary goal is to enable producers to sell their goods for higher prices and better quality. This will raise their standard of living.

In 2020, more than 50% of the raw materials of tea from herbs and fruits were certified by Rainforest Alliance, Fairtrade, or UTZ.

Lidl Hellas's target is to achieve 100% certified raw materials for tea from herbs and fruits by the end of 2022.

2.4.4 Eggs

Lidl Hellas uses sustainable purchasing practices for eggs and products that include eggs (Sustainable Procurement of Eggs, 2019). It has complied with the following principles had been set by Farm Animal Welfare Committee (FAWC):

- Exemption from hunger and thirst. Animals must have access to clean water and nutritious food.
- Exemption of captivity's discomfort means that facilities should be suitable and comfortable for animals.
- Exemption of pain, injuries, and diseases in order to provide high level of health to animals.
- Group living and freedom for normal behavior.
- Exemption from fear and stress.

Lidl cooperates only with suppliers who secure all the above principles. Concerning animal nutrition, Lidl Hellas supports the use of non-genetically modified soy. Also, antibiotics are forbidden to be used for preventive reasons.

At Lidl Hellas's stores customers can find organic eggs, eggs that are from free-range animals or barns, and conventional eggs from animals living in cages.

In 2019, approximately 75% of eggs are least from animals that live in barns and not in cages. The company's goal is by the end of 2025 to provide consumers with eggs and products that include eggs at least from animals in a barn.

2.4.5 Animal Products

The above principles had been set by Farm Animal Welfare Committee (FAWC) are referred not only to eggs and products that include eggs but also to fresh meat, fresh poultry, sausages, dairy products, fabrics, and footwear (Lidl Hellas: Animal products, 2019).

Lidl Hellas tries to introduce innovative products in the market, like Vegan burgers that launch in 2020 under the brand "Next Level Meat". This action satisfies moral and ecological customers need and complementary to the eco-friendly packaging contributes to environmental protection.

Furthermore, Lidl Hellas provides products that are certified by Marine Stewardship Council (MSC). This organization focus on fish farming and animal husbandry in sustainable and responsible ways

2.4.6 Fruits and vegetables

Lidl Hellas has managed to create a strong competitive advantage through the great relationships with its suppliers. The selection of reliable and efficient producers and suppliers is key to success because they are responsible for the everyday delivery of high-quality products at Lidl's distribution centers (Fruits and Vegetables, 2019).

As mentioned from Freshness Manager during the interview, the supply of fruits and vegetables is influenced by weather conditions and for this reason, all members of the supply network should be aware and capable to face difficulties like that.

Lidl Hellas is supposed to be one of the most reliable partners in Greece, due to the fact that it commits its suppliers to absorb the planned and agreed quantities of fresh fruits and vegetables. With this flexible marketing, Lidl supports and protects its suppliers, many of whom are small family companies.

Thus, by investing in mutual trust with suppliers, Lidl managed to supply all the stores on an everyday basis with fruits and vegetables and satisfy customers' needs for freshness and quality.

Lidl's purchasing policy is highly connected with quality and safety. For this reason, continuous controls of quality take place all over the procedures and this helps Lidl to take action and improve the whole process.

Concerning quality, it is worth mentioning that Lidl cooperates only with partners who are certified by Global C.A.P. which is an internationally recognized standard. Together they try to create more sustainable supply chain by the reduction of fertilizers and other plant protection chemical substances. Lidl also cooperates with external laboratories that are certified by DIN EN ISO/ IEC 17025 that carry out systematics and unannounced inspections to improve the quality and focus on more sustainable procurement procedures.

Furthermore, since fruits and vegetables are extremely perishable products, Lidl Hellas has to find ways to limit food waste or food destruction. Thus, the company has focused on sustainable procurement practices like efficient transportation, suitable temperature and hygiene conditions, and short delivery time. Also, allows store managers to sell fresh products with discounts at the end of the day, so food waste is minimized.

2.4.7 Wood and Paper

Lidl Hellas is responsible towards nature and people via sustainable purchasing of paper and wood products for private label packaging (Paper, 2019).

Lidl's actions are highly connected with criteria that had been set by Forest Europe. Forest Europe is a collaboration of the European Union that cares about sustainable forest management. So, Lidl Hellas' procurement strategy follows the criteria below:

- Maintain the health and viability of forest ecosystems.
- Protection and improvement of forests' biodiversity.
- Maintain and improve the forest management, mainly in the matter of water and soil.
- Focus on sustainable forest management, for wood or products that include wood.
- Maintain other socio-economic functions and conditions.

The procurement strategy of Lidl is based on three pillars recycled materials, certified sources of primary materials, and cost savings. First of all, the organization tries to use recycled materials wherever possible. However, there are some limitations in the use of recycled materials in food packaging, mainly because sometimes they do not satisfy stability or printing requirements. For these reasons, Lidl must use primary materials despite recycled. In this case, Lidl, use materials whose origin is certified by Forest Stewardship Council (FSC). Also, cost saving is a key factor for saving natural wood, protecting forests and contributing to climate protection.

In 2008, Lidl became a member of Forest Stewardship council (FSC) in order to strengthen sustainable forest management.

In 2009, Lidl became a member of Initiative Pro Recyclingpapier (IPR) its goal is to increase society's awareness and acceptance of recycled paper.

In 2019, Lidl managed to replace the products of viscose with fibers of Lenzing EcoVero. Lenzing is one of the most innovative standards for environmentally friendly fibers cellulose because they are made from natural wood. The wood is produced from sustainably managed forests which are certified by FSC and they use optimal procedures for water and energy consumption.

In 2025, Lidl aims to use only recycled materials or primary materials certified by FSC for private label packaging.

2.4.8 Flowers and Plants

Lidl Hellas' stores have also a variety of flowers and other plants that are 100% certified by standards related to environmental sustainability. The main goals that Lidl has set are supply chain transparency and traceability, protection of biodiversity, respect for social standards, and creation of long-term partnerships.

The majority of its suppliers are from Italy, Holland, Kenia, Colombia, and Ethiopia since the climate is more suitable for all-year cultivation.

Through sustainable procurement and correct supplier management, Lidl is capable to face a lot of challenges related to plant crops, many of which are listed below (Lidl Hellas: Flowers and Plants, 2019):

- Secure healthy and safety and improve working conditions of employees
- Eliminate work discrimination
- Reduce its contribution to climate change and its negative impacts like droughts
- Minimize the use of synthetic fertilizers and pesticides by creating more sustainable pest management that includes eco-friendly measures for cultivation and reproduction methods
- Care about efficient use of land, water, and other resources in plant crops
- Promote the importance of bees' protection and of other pollinators that contribute to biodiversity's maintenance
- Combine sustainability with responsiveness to demand
- Prevent plant crops to influence land of other raw materials like wheat

In 2018 approximately 85% of plants and flowers that Lidl was traded, were certified by Global G.A.P., Fairtrade of Millieu Project Sierteel, and at the end of 2019, Lidl managed to provide customers 100% certified commodity, mainly from Global G.A.P Chain of Custody.

2.4.9 Palm Oil

Lidl has been trying for years to improve sustainability in palm oil production and use, mainly for private-label products (Sustainable Procurement of Palm Oil, 2019).

Since 2014, Lidl uses only palm oil produced by mass balance model (MB) or segregation (SG) and is certified by the Round Table for Sustainable Palm Oil (RSPO). Some examples of private-label products that contain certified palm oil are VITA DOR margarine, VITA vegetable oils, or CHOCO NUSSA hazelnut praline.

The company's goal is to use 100% certified palm oil at all its private label products at the end of 2022 but it is not known yet if this target has been achieved.

So, by being a member of Round Table on Sustainable Palm Oil and through sustainable procurement, Lidl prevents palm oil cultivation to harm rainforests or other areas. Also, secure the human rights of landowners, small farmers, and their families.

Lidl also, keeps its distance from illegal logging or clearing land through fire to create new agricultural areas and supports organizations such as Rainforest Alliance and International Sustainability and Carbon Certification Plus (ISCC Plus).

2.4.10 Sustainable packaging

Lidl Hellas tries to become the leading discount supermarket in Greece regarding Sustainability and its daily activities indicate a high level of social, ecological, and financial responsibility. Through optimization, the company wants to create value for society and nature, as well as success for the organization through efficiency and effectiveness and it focuses on reducing packaging materials and avoiding food waste.

Regarding packaging, it is necessary for product protection during transportation and storage (Sustainable Packaging, 2019). Also, there is important information on it that increase traceability and transparency.

The Green Dot is a European Recycling Label that influences Lidl packaging practices. By using fewer packaging materials, the company pays lower fees and reduces its costs. By 2025, the company through systematic improvements and innovations will be able to reduce the use of plastic by at least 20%.

- Packaging materials for Fresh Fruits and Vegetables

Lidl Hellas offers a wide variety of bulk and unpackaged fruit and vegetables. Plastic cartons liners had been replaced with recyclable paper cartons wherever possible. This measure will save 12 tons of plastic per year.

- Packaging materials for Bakery products

Every store has a bakery where consumers can choose from a variety of sweets, pastries, and bakery products.

Products are presented and customers can easily put one or more products in the same bag. As Bake-off Manager referred in the interview, in this way Lidl avoids unnecessary individual packaging and also at the end of each day the surplus of bakery products can easily be removed from the bakery without packaging materials waste.

- Packaging materials for dry products and detergents

Lidl is a member of the European Association of Detergents and Cleaners A.I.S.E. and is constantly looking for sustainable practices in the packaging area as well. Some examples of the company's actions are listed below:

- Provides cosmetics products with minimal instead of bulky packaging, like lipsticks, nail polishes, etc.
- Improves detergent action to reduce the weight of wash dosage. In this way the company keeps the same washes per package but reduces its weight. It is estimated that this change in weight of packages of two product codes will save approximately 7 tons of plastic per year.
- The company has already reduced the packaging of ALESTO cashew nuts by 20% by keeping the same product quantity. This technique will be applied at other ALESTO products packaging in order to minimize CO₂ emissions through the transport of more packages on the same pallet.

- Packaging materials for Water and soft drinks

A small change in these categories can bring create results in materials savings.

Specifically, by reducing the weight of 2 liter-bottle (from 47.5 to 40 g) at Cola, Gazoza, Lemon Ice Tea, Peach Ice Tea and Orange, Lidl can save 65 tons of plastic per year.

Furthermore, 42 tons of plastic can be saved by reducing the weight of the cap of bottled water.

2.4.11 Transportation

First of all, Lidl is going to replace DD pallet with HHP Pallet (Heilbronner) soon, which is one of the most innovative loading surfaces. It weighs only 6, 5 kg, is much lighter than wooden DD pallet, and has a more ergonomic design without sharp corners that provides safety. Also, its durable material helps cleanliness and has longer life. This replacement will help improve important indicators used by the company, such as truck occupancy.

Lidl focuses also on empty pallets management. Empty pallets are collected at distribution centers and then they are returned to the production units. During the interviews, empty pallet management was an important topic of discussion with both the Warehouse Manager and the Transportation Manager.

As referred the company has a Chep Pallet Sustainability Certificate (Sustainability Report 2019-2020).

CHEP, the leading international provider of supply chain solutions, management, and equipment reuse, has awarded Lidl Hellas with a sustainability certificate for its outstanding results in promoting sustainability at all stages of its supply chain and its contribution to protecting the environment.

CHEP's model allows the sharing and reuse of pallet equipment, as well as their collection with coordinated transports, reducing costs and environmental footprint. At the same time, it frees producers and distributors from the problems, questionable quality, and risks of white pallets and the additional costs arising from their use.

Thanks to this model, the following results were achieved by the supply centers of Lidl Hellas in 2019:

- 250,590dm³ of forest resources were saved (approximately 242 trees saved).
- A 302,618 kg decrease of carbon dioxide carbon emissions, or seven truck trips throughout the globe.
- Municipal waste decrease by 27,127kg, which is comparable to six waste-filled trucks.

For 2020, the corresponding results were as follows:

- 252,972dm³ of forest resources were saved (approximately 244 trees saved).
- A 307,332 kg decrease of carbon dioxide carbon emissions, or seven truck trips throughout the globe.
- Waste decrease by 27,062kg, which is comparable to six waste-filled trucks.

Regarding transportation, Lidl Hellas invests in research and development to use as many as possible low-emission vehicles and achieve delivery route optimization.

From the study of published sustainability reports of Lidl Hellas, Table 7 results, which presents the evolution of some important indicators of the transportation department over a five-year period. (Sustainability Report 2017-2018) (Sustainability Report 2015-2016).

		2015	2016	2017	2018
Kilometers traveled per pallet	km/Pal.	7,3	7,09	7,22	7,19
Occupancy rate per truck	%	98,94	97,85	98,2	98,5
Packing per pallet	case /pallet	67	70	79,67	79,36

Table 7: KPIs of Lidl Hellas Transportation department

Some equally important indicators as mentioned by the interview carried out with the Transportation Manager are the number of trucks and shifts as well as the routes per shift (meaning how many routes the particular truck makes within the agreed time).

2.4.12 Food Waste

Regarding food waste, the main responsibility of Lidl Hellas is to provide high-quality products to consumers and secure that they have enough time from the product purchase until its expiration date.

One of the most crucial factors for food waste is demand forecasting and inventory management. Ordering the right quantities at the right time, increasing the company's responsiveness to consumers' needs, and minimizing food waste. Lidl has five distribution centers and four of them have a department of Supply Chain Management. Demand forecasters are responsible to keep optimal inventory levels at warehouses and maximize their freshness. Stores' daily orders are aggregated to every single distribution center, and they are sorted in everyday bases.

Other measures to minimize food waste are that stores could proceed to discounts independently. Specifically, at every store employees are responsible to check the quality of fresh fruits and vegetables many times during the day. If they noticed that some products the next day will not fulfill the quality requirements, then they decide to sell this product on a discount.

Stores follow a similar policy for refrigerated products that have not been sold before their expiration date. For this purpose, there is a red-marked area in the refrigerators of each store, where these products are sold at lower prices a few days before they expired, usually with a 30% discount.

Some other Lidl Hellas sustainability procurement actions are the following:

- In 2019 Lidl Hellas stopped selling plastics for single use like cups, plates, and straws. This results in a reduction of 204 tons of plastic.
- Use paper packaging for juices and iced tea products with the sign of FSM- Mix. This sign means that paper packaging materials are from forests that are certified for FSM for sustainable forest management.
- Lidl Hellas was the first supermarket retailer in Greece who withdraw the single-use plastic bag that costs 0,04euro. This bag had been replaced by a new multi-purpose bag, more durable and 100% recyclable. This action saves approximately 730

tons of plastic. Lidl provides a lot of different bag types to customers some of them are the daily bag, the resistant, the cool, and the cotton bag.

2.4.13 Raw Materials

The Corporate Social Responsibility strategy of Lidl covers six important focus areas: Resources conversation, Climate protection, Respect for biodiversity, Fair action, Health promotion, and Participation in the dialogue.

Raw materials are natural resources of the earth that can be used directly in manufacturing or some processes like harvesting, or mining should take place to use them. The main three categories of raw materials are Animal-based (leather, silk, wool, etc.), Plant-Based (cotton, oil, corn, sugar, etc.), and Mineral-Based (sand, gas, iron, etc.). The acquisition of raw materials may harm the environment, for example when excessive amounts of pesticides and fertilizers are used or when forest land is cleared for cultivation (Raw materials, 2019).

Depending on the origin, the method of acquisition, and their further processing, the raw materials may also have negative impacts on people. More than 400 million people live by growing various agricultural products and they run the risk of human rights violations and inappropriate work conditions.

Raw materials form the basis of Lidl's product range and for this reason, Lidl tries to use them in socially acceptable and environmentally friendly ways, from cultivation to harvest and from further processing to transport to the branches. The risk analysis that Lidl carried out together with experts focuses on some critical raw materials that have the greatest effect on society and the environment, but also they are really important for Lidl's product range.

The critical raw materials of Lidl are listed in Table 8 and some of them will be analyzed further in this thesis.

Critical Raw Materials	
1.	Cotton
2.	Flowers and Plants
3.	Fishes
4.	Coffee
5.	Cacao
6.	Nuts
7.	Fruits and Vegetables
8.	Palm Oil
9.	Rice
10.	Soy
11.	Tea
12.	Wood-Cellulose
13.	Eggs

Table 8: Critical raw material of Lidl Hellas

2.4.14 Recycling

Paper from cartoons

Paper from product packaging is gathered by Lidl and sent to recycling facilities. With the help of other partners, it has been able to recycle about 22,000 tons yearly.

Paper packing compressors have been placed in stores and corporate warehouses, significantly reducing their bulk. As a result of the bulk reduction, each vehicle can transport more cardboard to recycling facilities, lowering carbon dioxide emissions.

Additionally, the proper mechanical equipment is purchased each year so that the bundling stage of processing, which is performed in the store and involves additional routes and pauses before the finishing units, is avoided.

Animal by-products and bread

Animal-derived organic waste is separated from general garbage, collected in the proper streams, and used as a raw material for the production of organic fertilizers, animal feed, soil conditioners, and energy. In essence, each by-product is transformed into a beneficial good for society. Also, the practices used prevent diseases, infections, and hazards to the public's health that may occur if the organic waste of animal origin were allowed to accumulate in the disposal sites uncontrolled.

As a result, Lidl practices zero waste, which entails designing products with a life cycle that maximizes the use of all components and forgoes their disposal or combustion.

Non-food (Electrical equipment, textiles, toys, etc.)

Products from the weekly offers that are removed from the sales area for business purposes are resold to a particular external partner, who channels these products in nations where the organization is not actively using their sorting techniques.

In this approach, buyers are encouraged to buy things that are defect-free to reuse them.

Reset Plastic

Lidl consistently follows the vision "Less plastic -Closed Circles of Raw Materials", in a wider economic frame. This strategy includes the following five areas of action:

- REduce / Reduction: As much as possible, avoid using plastic and uses sustainable methods

- REdesign / Redesign:

It "closes the loop" in the context of the circular economy by designing recyclable items.

- REcycle / Recycling: It gathers, sorts, recycles, and "closes the circle" on the raw materials.

- REMove / Removal: It promotes research, innovation, and awareness in addition to the elimination of plastic waste from the environment.

- REsearch / Innovation and awareness: It makes investments in the study and creation of novel solutions and disseminates information on recycling and the preservation of natural resources.



Cooperation with Responsive Recycling

Lidl Hellas provides recycling options for its clients and partners in its offices and warehouses thanks to a partnership with Responsive Recycling.

Plastic bottle recycling bins, metal can recycling bins, glass container recycling bins, and paper bins have all been erected in the common areas of the major facilities in Sindos and Attica. The effort is carried out as part of Lidl Hellas's partnership with Responsive Recycling, a company that re-receives the placement and collection of packaging recycling through partner social agencies.

Additionally, recycling huts from Responsive Recycling have been installed outside of some stores in the Attica region, slowing the general public to recycle their packaging. Customers have the option to return used packaging and have it associated with them using high-tech let machine evidence with the appropriate financial incentive.

Recycling of transparent and colored packaging films

Lidl gathers and groups colored and transparent (plastic) film. After the goods have been organized in the store area, the associates of the stores remove the plastic film used to wrap and stabilize the pallet boxes during transit, and they return it daily to the warehouses in separate boxes. Additionally, the colored plastic packing of the boxes is sorted and collected along with the plastic film and is then returned and done so separately at the warehouses. The materials are then compressed using the proper technology (compressors) on the premises of the central warehouses, and the compressed plastic is then directed for recycling at various recycling businesses.

It becomes yearly training for employees in the warehouses so that the wrapping of the pallets should be done in such a way that no more clear plastic is used than is necessary in order to reduce the overall plastic consumed throughout the classification process.

The weight of recyclable materials is gathered by having them weighed at Lidl's facilities, warehouses, or facilities owned by its partners. Every year, at the end of the fiscal year, a summary statement of the indicators and their insurance is prepared. This method enables the tracking of the indicators and the identification of areas for development.

2.5 Sustainable Procurement and social dimension

As consumers grow more conscious of the environmental and social effects of their shopping decisions, sustainable procurement is becoming more and more crucial in the retail sector. Recognizing the significance of sustainable procurement, many retailers are putting sustainable procurement processes into place in their supply chains. Setting sustainability goals, collaborating with suppliers to enhance their sustainability performance, and incorporating sustainability factors into the procurement process are all examples of this.

The social aspect of sustainable procurement in the retail sector entails making sure that the procurement procedure upholds social fairness, supports fair labor practices, and respects human rights. This may entail collaborating with suppliers to make sure they offer secure workplaces, pay fair wages, and uphold the rights of their employees. Additionally, it may entail helping regional communities and fostering diversity and inclusion in the supply chain.

2.5.1 Code of conduct

When dealing with commercial business partners and throughout the supply chain, The Schwarz Group places a high priority on social and ecological sustainability. The Code of Conduct outlines Lidl's core values for working with its business partners in relation to this issue. (Lidl Hellas and Code of conduct)

The minimum requirements for their commercial interactions are outlined in these principles.

The following rules and values form the foundation of the Code of Ethics:

- Universal Declaration of human rights
- United Nations Global Compact (UNGC)
- UN guidelines on the economy and human rights
- UN Convention on the Rights of the Child
- UN Convention on the Rights of Women
- OECD Guidelines for Multinational Enterprises
- Core labor standards of the International Labor Organization (ILO)
- Paris Agreement on climate change

Discrimination is prohibited

Lidl's business partners must not discriminate in any way. No one should be treated differently based on their gender identity, age, sexual preference, pregnancy, ability, and nationality, origins of ethnicity, skin color, religion, worldview, politics, socioeconomic standing, or family situation. When a person is treated unfairly due to one of the aforementioned traits or another feature that cannot be objectively justified, discrimination has taken place.

Also Lidl supports that women and men will have equal access to training in all areas, as well as opportunities for personal and professional growth.

Fair treatment

Business partners must make sure that there are no instances of cruel or nasty treatment at work. Particularly among these behaviors are sexual harassment, physical violence, psychological pressure, and verbal abuse of workers. Additionally, such actions shouldn't be used to intimidate personnel.

Right to Association

Partners in business must protect the right to band together. In line with applicable laws, employees have the right to collectively bargain, form or join unions, and form employee representation bodies. Additionally, employees are entitled to participate in labor relations discussions to address concerns related to the workplace and pay.

There must never be a reprisal for exercising these rights.

Health and Safety

A safe workplace must be provided by business partners. Workplace settings and tools should adhere to all applicable rules and regulations. It is forbidden to violate any fundamental human rights in the workplace or on business property.

Child labor and minor protection

Business partners abide by laws on the protection of children and do not use child labor. The age at which obligatory education finishes should not be less than the minimum employment age. Workers may never be younger than 15 (or 14, if permitted by

national law and in accordance with International Labor Organization Convention No. 138). International and national rules for the protection of minors should both be adhered to. Teenagers are also prohibited from working at night.

Laws for the Protection of the Environment

Business Partners are required to abide by all applicable environmental protection laws and rules.

Legislation governing the protection of trash, pollution, and water must be complied with by the business partner's company. Partners in business are required to abide by any hazardous materials restrictions. The management, storage, and disposal of hazardous materials are the key topics here. Hazardous material handling training is required for employees.

Resources and environmental impact

To the greatest extent possible, the impact on the environment should be minimized or, at the least, limited by the employment of appropriate measures. The maintenance of the level of protection, the continued reduction of resource usage, and the elimination of waste are ongoing tasks that must be completed to safeguard the environment, and the climate, and to improve biodiversity. The business partners will put forth the appropriate effort in the framework of their business activity for this objective.

Controls

Business associates must make the process simpler to monitor compliance with the Code of Conduct. They will facilitate on-site inspections of their business and respond to requests with written information as a result. The business partners will consent to the review of the relevant papers needed for each audit. The audit may be contracted out to outside parties, such as auditors.

The business partner agrees to give the corresponding control rights to the subcontractors it uses to perform its services upon request.

Contract termination

If a business partner violates the rules outlined in this code of conduct, a suitable deadline may be set for them to act responsibly; if this is not feasible given the severity of the violation, a warning may be issued. The commercial partnership may be ended

without notice if the business partner repeatedly violates the terms of the agreement, permits the deadline to lapse without taking corrective action, or both. The contractual arrangement may also be terminated instantly and a deadline in the event of persistent or substantial violations.

2.5.2 Claims and Liabilities

The Schwarz Group respects and demands that its business partners respect the human rights of their employees. It is vital to follow the rules and requirements of the ILO's basic labor standards as well as the increasingly strict relevant norms of local legislation. Specific guidelines that pertain to setting up working conditions include (lidl-hellas.gr):

- Respecting the ban on child labor and forced labor
- Ensuring health and safety in the workplace
- Treating all employees equally
- Tolerating no form of discrimination
- Provision of compensation at least equal to the legally mandated minimum wage for hours worked in compliance with applicable criteria
- Protection of personal information
- Respecting that every worker has the right to organize unions and engage in collective bargaining to regulate working conditions

The Group Schwarz has developed the essential corporate authorities, corporate rules, and procedural guidelines to adequately protect employees' human rights. The Schwarz Group often conducts confidential employee investigations to find any potential irregularities. Additionally, employees have open access to internal persons of trust as well as fair and open complaint processes.

With its business partners in Lidl Hellas's immediate sphere of influence, they routinely concentrate on spotting genuine breaches and then cooperating to make improvements. For instance, they rely on many years here in the control and development of production facilities for non-food goods.

Schwarz Group firms' risk analyses have revealed a similar focus on risk in the raw materials industry. Therefore, the Schwarz Group sets particular targets for raw materials with high human rights risks and works tirelessly to put those targets into action. These include, for instance, product and raw material certifications, in which Lidl Hellas also participates in the advancement of standards and the funding of projects.

2.5.3 Human Rights

The retail and food industries' worldwide value chains face human rights challenges. Rights frequently have complex underlying causes and serve as invitations to the industry. Because of this, systemic solutions are typically required to address the social concerns associated with health and safety at work, cost, associational freedom and equality. The same holds true for forced work or child labor.

Human rights violations often get worse by systemic poverty, inequality, and weak legal frameworks in the nations that create them, which contributes to them in global supply chains. Poor people have fewer options to remove themselves from reliant relationships. The pandemic coronavirus Covid-19 made things worse. The pandemic cost the global workforce more than 8% of all labor hours in 2020 and 108 million more individuals were pushed into severe or moderate poverty. On the other side, millions of people can benefit from wealth, development, and stability when they are freed from dependency and poverty.

2.5.4 Forced Labor

As reported by Lidl (www.lidl-hellas.gr, 2022), the following product and raw material supply chains are crucial in preventing forced labor: salmon, chocolate, bananas, rice, and tea, , soy, palm oil, hazelnuts, coffee, flowers, plants, and cotton.

Any type of forced labor is categorically unacceptable to Lidl. However, there are several concerns associated with forced labor that affect workers in global supply chains. If Lidl's suppliers fail to take action in instances of forced labor, Lidl concentrates on a no-tolerance policy. Investigates potential infractions systematically as part of its due diligence. It emphasizes migratory workers' rights with particular

attention. They frequently have an extremely reliant relationship with their employment or placement service.

2.5.5 Child Labor

According to UNICEF, 160 million kids between the ages of five and seventeen are currently compelled to labor.

More than 70% of the population is involved in the main illicit industries of fishing, aquaculture, forestry, and cattle, and only about a third of the children attend school. Given that agriculture is one of the three industries with the highest risk of occupational diseases, fatal work-related accidents, and non-fatal accidents, and this is even more concerning.

In terms of child labor, Lidl has determined that the supply chains for the following goods are crucial: flowers and plants, coffee, tea, cocoa, palm oil, soy, rice, bananas, fish, hazelnuts, cotton, as well as the phases of manufacturing for clothing and accessories.

Lidl wants to create training programs for high-risk supply chains by the year 2025 with the intention of preventing and rehabilitating child labor.

It is possible that kids will need to work to sustain their families' way of living in the case of supply chains, which frequently go out to extremely impoverished nations. This is because there aren't enough teaching chances, which is made extra harder for migrant workers by their frequent job changes, low earnings, and low family income. Lidl thus seeks to stop child labor among its suppliers and producers.

Lidl has taken additional steps against child labor in conjunction with Save the Children in addition to the training programs (www.lidl-hellas.gr, 2022).

- Implementing specific steps in the operational process and good risk management, such as a safe age verification system during the recruitment process
- Training external auditors to audit standards in factories
- Better treatment in cases of child labor
- Better protection for young persons engaged in legal jobs from risky behaviors
- Intervention in child labor situations

In 2021 German Federal Ministry for Economic Cooperation and Development collaborated with Lidl and Save the Children to implement an action to safeguard kid's rights in Turkey's hazelnut supply network. For the first time, compliance with children's rights is verified on-site along the whole supply chain, from hazelnut production through harvest and processing.

2.5.6 Improved working conditions

The International Financial Company (IFC) and the International Labor Organization (ILO) have partnered to create the Better Work Program to boost labor standards and supply networks' worldwide competitiveness, it began in August 2006.

Since 2021, Lidl has participated in the ILO Better Work program.

In this situation, Lidl requires its importers to include all first-tier workers in Bangladesh and Cambodia in the IOC program as a first step toward better work. This will be carried out up until 2023 in accordance with program limitations.

In this way, Lidl improves collaboration between staff and upper management to enhance labor conditions and increase staff happiness, and thus performance and working efficiency. By the way, Lidl also depends on a sustained improvement in living and working circumstances, and pledges not to abruptly terminate supply agreements with them if they violate those agreements. Instead, the company will engage with them to advance their workers' interests.

Within the context of the initiative, operational advisers from the ILO frequently visit the first-tier suppliers, and the staff receives training on compensation and collective bargaining agreements.

Since 2020, Lidl has taken part in the Initiative for Sustainable Agricultural Supply Chains (INA), which seeks to promote social and environmental guidelines everywhere.

In order to increase the sustainability of global agricultural supply networks and, specifically, to enhance the living conditions of individuals who engage in micro-farming around the world, a group of actors from the commercial sector, civil society, and politics came together.

To create concepts and political projects collaboratively and in exchange with others for resources that assure incomes and wages for farmers in particular agricultural supply networks, Lidl Hellas joined the INA working group for living wages in January 2020.

It is currently creating an experimental effort on the supply network for bananas in Ecuador and other banana-producing countries with AG. This effort aims to advance wages and earnings livelihoods in the banana supply chain through the following four strategies (www.lidl-hellas.gr, 2022):

- The establishment of ethical shopping habits in the retail sector
- The encouragement of powerful employee representatives to assist salary negotiations
- The use of transparency –creating monitoring methods
- The achievement of suitable framework conditions through program definition with the necessary agencies and stakeholders

2.5.7 Commitment against discrimination

The availability of resources including property, credit, and studies for women farmers is still limited, despite the fact that their standing in agriculture is improving. Additionally, female employees face unique dangers such as pay discrimination, termination due to pregnancy, assault, and sexual harassment at work.

Gender equality is promoted by Lidl Hellas both internally and throughout its value chain. Equal opportunity and diversity are seen as essential elements of long-term business success. It has made them a part of its business principles and code of conduct because of this (www.lidl-hellas.gr).

This means:

- Improving the proportion of women in managerial roles: The business has established a target to have more women in middle and senior management positions.
- Compatibility of family and professional duties, for both men and women, is a specific challenge: Lidl Hellas actively ensures that all employees are aware of

organizational solutions addressing pregnancy, maternity, and parental leave because of this.

- The uniform salary structure is based on objective factors including professional experience, specialized knowledge, and talents, providing equal career prospects for all employees. Equal access is also provided by the company to chances for training and ongoing education.
- Persons of trust for all employees: The Company has selected impartial independent contact persons who may be contacted by employees for general employment-related concerns as well as for any grievances or complaints about issues of diversity and gender equality.
- Equal opportunities in the supplier chain: As part of corporate responsibility, the supply chain also promotes the values of gender equality and equal chances. Lidl delivers pertinent information and demands and promotes equal opportunities among its international partners.

Regarding discrimination inside the company, from data been collected by sustainability reports and are presented in Table 9 and Figure 4, we can observe that the percentage of women employees is consistently over 60% of the total staff.

	2015	2016	2017	2018	2019	2020
Women	3234	3551	3615	3673	3836	4087
Men	1705	1866	1849	1856	2036	2261
Sum	4939	5417	5464	5529	5872	6348
%Women	65%	66%	66%	66%	65%	64%

Table 9: Employees analysis of Lidl Hellas by gender

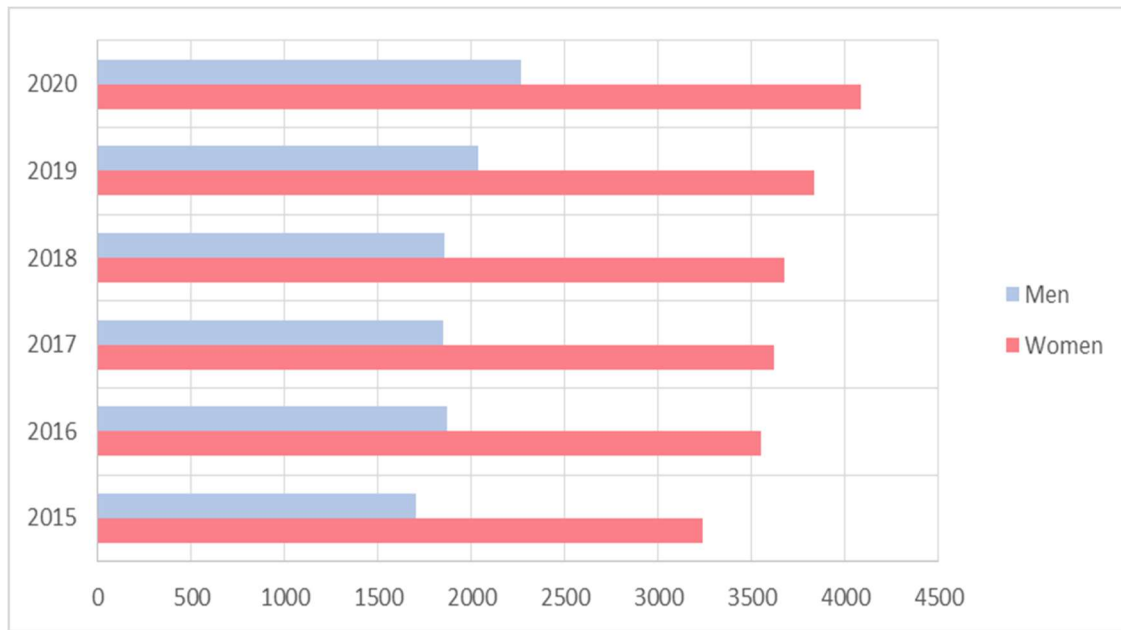


Figure 4: Employees analysis by gender

However, from Table 10 it seems that there is room for improvement regarding the annual Average Training Hours by gender. We should also refer that there are no available data from recent years.

Training Hours per year by gender	2015	2016	2017	2018
Women	40	36	38	17,6
Men	58	40	58	46,2
Sum	98	76	96	63,8
%Women	41%	47%	40%	28%

Table 10: Average Training Hours by gender in Lidl Hellas

Although, gender is not the sole distinguishing feature. According to the study, hate speech, attacks on persons of color, and other forms of prejudice are still widespread among individuals and have even gotten worse since the coronavirus outbreak. Lidl tries to mitigate all these phenomena of discrimination both within the company but also among its partners.

2.5.8 Actions to empower women in the supply chain

2.5.8.1 Women's Empowerment Principles (WEP)

Lidl Hellas signed the 2019 Empowerment of Women Principles as one of the first actions and established a shopping strategy for male and female equality in the supply network to implement WEP until 2021. The company reported its measures, including projects for the advancement of women, and emphasized specific goals there.

A mutually beneficial agreement among the UN Women and the UN Universal Compact is known as the WEPs. This is the first global project that focuses especially on the subject of empowering and promoting women in supply chains and enterprises (www.lidl-hellas.gr, 2022).

2.5.8.2 Way To Go chocolate production

Women in Ghana make up a significant portion of the cocoa harvest's added value: a quarter of cocoa producers are female, according to government statistics.

Women make up about 70% of the workers in cocoa planting in the neighboring Ivory Coast, for instance, yet they only receive around 21% of the cash derived from it. However, the harvest of cocoa is the only source of income for women.

Lidl hopes to support greater cocoa crop pay by selling Way To Go-Chocolate under its own private label (Gender Equality in Supply Chain, 2022). Way To Go chocolate bars are available in Lidl's international product lineup since 2021. Lidl in Ghana pays an additional premium on top of the Fairtrade premium per ton of cocoa consumed to make Way To Go chocolate as part of the collaboration with Fairtrade, the NGO Rikolto, and the Kuapa Kokoo farmers' cooperative. These funds are provided to initiatives that, particularly for women farmers, will continue to and sustainably improve the income situation.

2.5.8.3 Gender Equality with the Fairtrade

Businesses that meet specific conditions aiming both directly and indirectly at the equal treatment of the sexes are certified following the Fairtrade for Small Scale Producers

standard. In addition to these criteria, Fairtrade actively promotes gender equality through its gender equity policy.

Since a long time ago, Lidl has included a large number of Fairtrade-certified products in its product line. This includes items like tea and flowers, which the risk analysis by gender indicates pose very high hazards to gender equality (Gender Equality in Supply Chain, 2022).

Lidl Hellas assists businesses in eradicating the factors that contribute to the unfair treatment of small farmers and employees by carrying Fairtrade goods in its catalog. The standard specifically calls for protection from sexual assault, fundamental anti-discrimination guidelines, protection for expecting and nursing mothers, and the development of women-specific complaint channels. Additionally, the cooperatives that have received Fairtrade certification are given a financial buffer to address the issue of gender equality through targeted programs.

2.5.8.4 ACT and gender equality

Since November 2019, Lidl has participated in the global 'Action, Collaboration, Transformation' (ACT) initiative, that cooperates with various companies, unions and governments to advocate on a global scale for living wages in the apparel, textile, and footwear industries.

Through collective bargaining, ACT is requesting an increase in living wages. Collective bargaining is the procedure through which parties in an industry can come to a legally enforceable agreement on a variety of topics, such as the payment of a living wage. According ACT, a living wage is compensation obtained during regular, legal working hours, without overtime, and contains enough free spending money to support the employee's household and immediate family's costs. (actonlivingwages.com)

At the moment, ACT is engaged in activities in Cambodia and contacts with additional exporting nations. In this situation, binding purchase volumes are created for a predetermined time period, preventing manufacturing firms from moving to regions with cheap labor. Additionally, there are plans to expand its activities into additional producing nations.

Apart from Lidl, many companies and retailers are also members of ACT such as Primark, Inditex, H&M Group, G-Star Raw, ASOS, TESCO and others.

Lidl Hellas pledged to support the development of national collective agreements across the sector in the producing nations as part of this. The supply of the Lidl product line heavily relies on textiles. Important portions of the variety of textile products are purchased by business partners from Bangladesh, Cambodia, and Myanmar. These nations have some very low legislated minimum wages. Lidl has a significant obligation to support fair living wages in the countries where the textiles are produced and, in particular, to raise the status of women's incomes. Lidl is one of the leading retailers in the textile business (Gender Equality in Supply Chain, 2022).

To make it possible for salaries to rise gradually while textile items are being produced, it is crucial that they develop processes with their suppliers. In this approach, Lidl Hellas actively aids in the improvement of the income circumstances for female workers in the textile industry.

Additionally, it takes part in an arbitration procedure that is available in cases of labor law infractions in ACT members' supply chains.

2.5.8.5 Gender Equality and the World Banana Forum

Men traditionally work in banana farming. Women's jobs are frequently restricted to fruit packaging. In addition to limiting women's access to jobs, the gender wage disparity across industries is mostly caused by the division of responsibilities in the workplace. When compared to their male colleagues, female fruit workers consistently make less money. Lidl was the first budget retailer to take part in the World Banana Forum effort in 2016 to address these issues (Gender Equality in Supply Chain, 2022).

The World Banana Forum collaborates with the Task Force on Gender Equity specifically to comprehend the causes of the absence of gender equality along the global supply chain for bananas and to raise the representation of women in decision-making.

2.5.8.6 Cotton made in Africa (CmiA) and gender equality

One of the top standards for cotton that is produced sustainably is CmiA. Non-discrimination and women's empowerment are two of the key subjects. Pay equity is

advocated, along with mother protection measures including parental leave and the opportunity to resume employment. It is also made stronger by educating cotton-growing communities about concerns connected to gender. To enhance their function and eradicate their prejudices, CmiA customizes educational seminars on cotton production for sustainable practices to the needs of the participants.

Lidl pledges to only use sustainable African cotton after joining the Cotton Made in Africa (CmiA) project in 2020. Additionally, it backs the campaign for women's empowerment in cotton farming in Africa. Long-term commitment is prioritized, and it will grow over the coming years (Gender Equality in Supply Chain, 2022).

2.5.8.7 Commitment to Health and Safety

All employees have a fundamental right to health and safety at work. Effective job security ensures employees' well-being and establishes the framework for successful work.

Among the riskiest industries are agriculture and textiles in particular. Health dangers include but are not limited to, unprotected or improperly educated handling of toxic compounds like textile dyes or plant pesticides. Each year, 25 million workers experience acute pesticide exposure at work.

The coronavirus pandemic increases people's health risks. As a result, there is frequently an inadequate supply of cleaning supplies, disinfectants, and protective gear for supply chain personnel, as well as a lack of hygiene precautions.

Concerning worker safety, Lidl has highlighted a number of supply networks for raw materials and finished goods as crucial, like textiles, cotton, cellulose, materials and electronics, fruits and vegetables, and seafood.

Some of the targets that Lidl Hellas has set for the next years are listed below (www.lidl-hellas.gr, 2022):

- By 2022, the updated vendor guidelines will have stronger health and safety requirements.
- By 2023, the logistics risk chains will adopt a risk-based approach and social control will be increased, with an emphasis on workplace health and safety.

- By 2025 it conducts three impact assessments on human rights in supply chains high risk, in order to record also potential health and safety hazards on site workers' work and deal with them with appropriate measures.

In addition, a program named “I am healthy, I work safe” was launched in 2016 (Sustainability Report 2019-2020). Several measures are taken as part of this initiative to embrace and promote a healthy way of living and working. Lidl Hellas looks after the partners' health and well-being within this program. The program's primary axes include exercise, sports, nutrition, self-improvement, job safety, etc. Some of the actions that have taken place are:

- Organization of a national football tournament with a share of groups of workers from its various cities in Greece, under the name Lidl League
- Participation of Greece in an International football tournament organized by another Lidl country and groups of workers from various participating Lidl countries
- Financial coverage of participation in a road race every year, for any employee who wishes
- Lidl Hellas running team participation in four different events in Athens, Thessaloniki, Patras, and Crete, with over 200 of its partners who ran on behalf of the company.

2.5.9 Support of local society and economy

Sustainable procurement of Lidl, regarding social dimension, is that Lidl tries to buy local and support the Greek economy. This preference at local suppliers is mainly for fresh products like meat, dairy products, fruits, and vegetables. In order to maximize freshness Lidl orders smaller quantities more frequently and wants to cooperate with suppliers who can travel short distances easily and quickly (Food Waste, 2019).

Approximately 95% of the fresh meat comes from Greek suppliers. In the dairy sector, Lidl cooperated with 23 domestic suppliers, who procure milk from at least 2,500 small milk producers from all over Greece. In the fruit and vegetable sector, it cooperated with 94 Greek suppliers, of which 15 are cooperatives (Sustainability Report 2019-2020). According to the available data derived from the company's sustainability

reports and they are shown in Table 11 and Figure 5, there is an increase in preference for local suppliers from 2015 to 2020.

	2015	2016	2017	2018	2019	2020
Expenditure percentage in Greek Suppliers	56%	61%	68%	71%	74%	71,0%
Number of Greek Suppliers	1816	2893	3543	3072	3174	2775

Table 11 Lidl Hellas preference for Greek Suppliers through the years

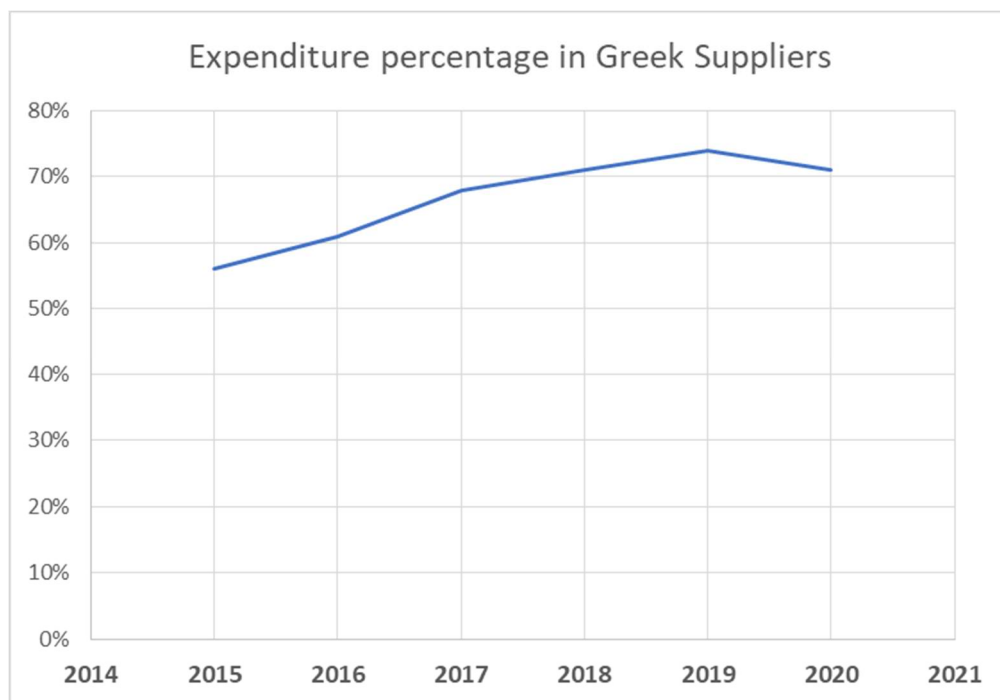


Figure 5 : Expenditure percentage in Greek Supplies

Short routes for the transport of products and seasonality characterize local products. By buying products locally, Lidl Hellas enables its customers to in turn buy Greek products and indirectly support local producers.

The company develops and expands its network of collaborations with domestic producers and suppliers. The range of products was gradually enriched with fresh fish of Greek origin, fresh fruits, and vegetables from local producers, as well as standardized products from the Greek food industry. As a member of a group with international activity, Lidl Hellas has set itself the goal of promoting Greek products

both within the Greek borders and outside them, in the countries where Lidl operates. For this purpose, Greek-themed weeks are held promoting local products, from Greek producers. Thus, it practically contributes to the support of the local producer and locality, in combination with highlighting of the special taste heritage and culture of the different regions of Greece.

Strengthening the local economy and society, Lidl Hellas implemented local product-themed weeks in 2019 and 2020. The thematic weeks are among the actions to strengthen the Greek economy and Greek producers and concern the regions of Macedonia - Thessaly, Epirus - Thrace, Crete - Peloponnese, and Islands - Central Greece. In these actions, the flavors of each place are highlighted separately, with products and suppliers.

Worth noting that this shift of the company to local producers and suppliers not only strengthens the social dimension of sustainable procurement but also the economic dimension. Shorter routes lead to lower transportation costs but also improve the freshness of products and reduction of food waste.

2.6 Sustainable Procurement and economic dimension

The social and environmental dimensions of sustainability can have significant impacts on the economic dimension. By addressing social and environmental issues, Lidl Hellas can create value and cost savings that contribute to its bottom line.

On the social side, sustainable practices that Lidl Hellas uses put a high priority on fair labor, community involvement, and ethical sourcing and can boost its brand reputation and consumer loyalty. This can result in more sales and revenues. Additionally, spending on the health and well-being of employees can enhance productivity and decrease absenteeism, which can also result in cost saving for the company.

On the aspect of the environment, sustainable practices of Lidl Hellas can lead to cost savings through improved efficiency and decreased operational costs by reducing waste and resource use. In addition, using renewable energy sources over time can lower energy expenditures, increasing profitability.

In its business practices, Lidl Hellas places a lot of emphasis on the economic side of sustainability. The company's sustainable procurement procedures strive to boost efficiency and lower costs while simultaneously reducing the environmental and social effects of its products. For instance, Lidl Hellas purchases goods directly from manufacturers to cut out middlemen, lowering the price of goods for customers while guaranteeing that quality and safety standards are met.

Additionally, Lidl Hellas makes investments in energy-saving technologies and renewable energy sources, which minimize energy costs while also reducing carbon emissions. On the roofs of its stores and distribution centers, the company has installed photovoltaic panels, which produce electricity to run its operations and feed any extra energy back into the grid. This has helped Lidl Hellas save money while simultaneously lowering its carbon footprint.

Lidl Hellas has also put in place inventory management technologies that optimize stock levels, cut waste, and save expenses related to overstocking and product spoilage. The business also makes use of environmentally friendly packaging materials that not only lessen their negative effects on the environment but also minimize shipping costs and boost logistical effectiveness.

Lidl Hellas, in general, is aware of the significance of the economic aspect in attaining sustainability and has put in place several measures to maintain commercial viability while also minimizing environmental and social effects.

2.6.1 Economic Dimension of Sustainability and Innovation

The sustainability's economic component and innovation are closely linked in today's rapidly changing business landscape. In today's quickly evolving corporate environment, innovation and sustainability share a common economic component. By opening up new markets, boosting productivity, bringing down costs, and improving goods and services, innovation is frequently considered as a strategy to boost economic performance. The creation of new technologies, procedures, and goods that have favorable effects on the economy, the environment, and society is referred to as sustainable innovation.

Innovation can assist businesses in finding new opportunities to cut costs, boost productivity, and lessen their environmental impact when it comes to sustainable procurement.

The most important actions and innovations carried out in the framework of Lidl Hellas' environmental and financial management are linked to medium and long-term goals (Sustainability Report 2019-2020):

- Utilizing renewable energy sources for power energy from the primary source to meet the entire electricity demand. From 96.77% in 2019 to 99.3% in 2020, it increased the proportion of green certificates in the total amount of energy consumed. Green certificates serve as assurances that the electricity was produced using green resources.
- In two of the main warehouses, the refrigerants in refrigeration equipment (freezers and refrigerators) will be replaced with natural refrigerants that are more environmentally friendly (propane, CO₂, and NH₃). By 2030, it is intended to replace all warehouse refrigerants with new, environmentally benign ones.
- Utilizing ventilation systems that pre-heat, chill, or warm outside air using energy recovery (heating/cooling energy) from exhaust air can help ventilation systems use less energy.
- Use of photovoltaic installations for the production of electricity in 2 stores.
- Set a target, 226 stores, or 100% of all of them, will employ heat pumps to provide heat for building heating, together with 5 warehouses.
- Applying an air curtain to thermally separate areas with varying temperatures in order to reduce air exchange and, as a result, energy consumption.
- Use of building automation system to control and regulate technical building facilities, monitor and oversee them depending on needs, and optimize energy usage. Some examples of this automation are automation with time setting (lighting, ventilation systems), lighting control, heating/cooling with automatic switching on and off closing of parallel operation, and monitor and analyze the consumption of energy.

Regarding efficiency and innovation, Lidl Hellas managed to gain a lot of awards recently.

Specifically, three gold awards in categories Energy efficiency certification, Energy efficiency improvement, and Energy efficiency innovations at the Energy Mastering Awards event in 2019 (Boussias).

Also Lidl Hellas at 2020 gained one gold award and one silver in the categories of Energy efficiency certification and Energy efficiency improvement at the Environmental Awards (Boussias).

In the same year, in 2020, Lidl Hellas also gained a gold award in the Energy management category at the Supermarket Awards, (Boussias) and a silver award in the Energy management category at the Hellenic Responsible Business Awards, (Boussias).

2.6.2 Economic Dimension of Sustainability and New Markets

Livestock farming contributes at various levels to the loss of biodiversity. In order to support the shift towards reduced consumption of meat, sausages, and dairy products, Lidl Hellas is expanding its range of vegan and vegetarian alternative products and informing about the advantages of this consumer choice. With Vemondo series products manufactured by vegetables, peas, wheat, and soy protein, Lidl Hellas offers a climate-neutral and vegan alternative to meat consumption.

Vemondo products also win the PETA Vegan Food Awards 2022 in Germany (vegconomist.com, 2022) The discount food retail chain wants to make it easier for customers to choose healthy and sustainably produced items in the future by expanding the range of products it sells and its communication around healthier products.

Due to entering this new market of vegan products, Lidl Hellas increases its sales and also the loyalty of its customers. In this way, the economic sustainability of the company is strengthened.

3. Participations and Distinctions

Lidl Hellas provides high-quality goods, plays an active and significant part in society, builds trustworthy connections in a responsible manner, and practices ecologically friendly behavior (Sustainability Report 2019-2020) (Sustainability Report 2017-

2018). All these years that the company has been active in Greece, it has taken part in important events. The company's work and contribution to all dimensions of sustainability have been recognized.

The following Table 12 shows some of the most important distinctions of the company in recent years. (Sustainability Report 2017-2018)

Organization	Awards	Action
Hellenic Responsible Business Awards	BRONZE -Environment Sustainable development	For the sponsorship at Reciprocal Park Recycling
Self Service Excellence Awards	Silver	#apotalidl CSR Action
Fortune Self Service Awards	Gold	Distinction-9th place in the list Change the World Bake off products
Supply Chain Awards	Gold - Warehouse facilities	For the infrastructure of distribution storage centers
Waste and Recycling Awards	Recycling	For the action Marathon recycling
Waste and Recycling Awards	Corporate Social Responsibility	For the first park environmental education and recycling
Ecopolis	Sponsorship Award Environmental Project	About the project Marathon of Love and recycling
Most Sustainable Company	Gold	
Corporate Responsibility Index	Silver	

Table 12: Distinctions of Lidl Hellas regarding sustainability

Lidl Hellas is also a member of many international organizations. Through these participations, the company achieves certified methods and certified products and contributes to a more sustainable procurement process. The following Table 13 presents some of the organizations in which Lidl participates. (Sustainability Report 2017-2018)

Lidl Hellas participates in the following links/initiatives:	CSR Hellas Women Empowerment Principles
Through the Lidl Stiftung, Lidl Hellas represented in following international organizations:	Supply Chain Initiative Round Table on Responsible Soy(RTRS) Amfori Business Social Compliance Initiative Bündnis für nachhaltige Textilien ACT(Action, Collaboration,Transformation) Alliance for Water Stewardship Leather Working Group International ACCORD Forum nachhaltiger Kakao e.V. Roundtable on Sustainable Palm Oil Leading Executives ADVANCING Diversity Initiative Nachhaltige Agrarlieferketten Donau Soja Sustainable Rice Platform World Banana Forum Forest Stewardship Council Fruit Juice Platform Global G.A.P.&Global G.A.P. GRASP Sustainable Nut Initiative ILO Better Work
Through the Schwarz group, Lidl Hellas is a member of the following institutions/initiatives	Ellen MacArthur Foundation Science Based Target Initiative UN Global Compact

<p>Lidl Hellas also cooperates, with the following organizations</p>	<p>Marine Stewardship Council</p> <p>Aquaculture Stewardship Council</p> <p>Fairtrade</p> <p>Save the Children</p>
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Table 13: Participations of Lidl Hellas regarding sustainability

4. Interviews

All the interviews that were transcribed are detailed below. The main goal is to connect the findings from various sources and literature with what was presented during the interviews conducted by the executives of the company, regarding sustainable procurement practices.

4.1 Warehouse Manager's interview

At the initial interview stage general issues about sustainable procurement were discussed. The main topics regarding the social dimension of sustainable procurement were staff education and health and safety. On the other hand, the issues discussed about the environmental and economic dimensions were mainly recycling, pallet management, and heating and cooling conditions.

In the second interview stage that follows, some performance indicators were presented and examples of interaction between the warehouse and procurement department of the company were provided for extra study.

First of all, great importance is given to the training of employees. As said by the Warehouse manager, staff training is carried out twice a year on waste management issues, specifically regarding the saving of water and electricity as well as the cooling and air conditioning conditions in order to achieve minimal losses. Also, concerning energy-saving issues, an internal audit is often carried out at the facilities in order to take into account any deviations.

Additionally, on an annual basis, staff training is carried out on maintaining a cold chain to ensure the best temperatures from the receipt of the goods, their storage, sorting, and delivery to the stores. In this way, Lidl Hellas delivers high-quality products to its consumers and also reduces food waste and write-offs.

Another important part of the operation of the warehouse is also recycling. Recycling has a positive effect on the environment and society as well as providing income to the company. According to the Warehouse Manager there are three different types of bins in the warehouse facility. A bin in which the transparent plastic is placed, a bin where the paper is placed, and a bin where the rest of the materials that are not recycled and are considered garbage are placed.

Regarding recycling, the company collects and sorts plastic films (colored and plastic). The plastic film, which is used to wrap and stabilize the pallet boxes during transport, is separated by the store associates after the goods are arranged in the store area and returned daily in separate boxes to the warehouses. Together with the sorting and collection of the plastic film, the colored plastic packaging of the boxes is also sorted and collected, which is also returned as a separate stream to the warehouses. Then, at the facilities of the central warehouses, these materials are bundled with the help of the appropriate technological equipment, and the now-bundled plastic is sent for recycling to various recycling companies.

The fact that through recycling income is generated for the company, increases the need for the best possible separation of these three categories of garbage. For this reason, there is the cleaning department which is responsible for the optimal separation of materials in order to reduce the amount of materials that are not recycled and are considered garbage.

The receiving department of the company has also a rather important tool that is used in the traceability of the pallets. Specifically during the receipt and counting of the goods, a separate barcode is placed on each pallet. In this way when replenishing a sorting position, the system automatically displays the pallet with the closest expiration date that should be placed in the position. This is how the freshness of products is achieved in stores and the reduction of depreciation and food waste.

Empty pallet management is supposed to be a difficult but also important procedure of sustainable procurement strategy. The central idea of this particular process is that no pallets be thrown away or destroyed. The main distinction is made between closed and opened circuit pallets. The closed-circuit pallets are owned by specific companies and weekly are collected from the stores and returned to the collaborating companies.

On the other hand, the open-type pallets, also known as Europallets, come from the supplier during the delivery of products. On the same day, with the unloading of the products, the supplier will take back an equal number of empty pallets.

In the case that some europallets are damaged, they are not returned to the supplier. In the past, damaged pallets were repaired by external partner who used certified repair materials, such as certified nails used in europallets. Later, the repaired pallets were used for the needs of sorting goods within the company. However, this process has stopped for various reasons and damaged pallets are sold as broken ones at extremely low prices.

Finally, regarding Health and Safety, there are strict company's guidelines and regulations that must be followed. For this reason, on an annual basis, mandatory trainings are carried out regarding work-related health and safety issues. There is also the arbitrary observance of timetables and rest time in the context of strengthening the work-life balance. Furthermore, any discrimination between gender, nationality, and others is prohibited.

Some of the main procurement processes in Lidl's supply chain management are sourcing, purchasing, selecting vendors, negotiating prices and terms, placing orders, and receiving and inspecting the supplied goods. The delivery of goods and the deviations that may occur were discussed in the supplementary interview with the Warehouse manager. After receiving the items, the warehousing department meticulously inspects them for any shortcomings or damage. Ensures that the quantity and quality are as stated on the purchase order, assures the correct case size and pallet size, and checks the temperature of the truck.

In case any deviation from what was agreed upon is observed, then the warehouse department is responsible for communicating with purchasing department to report the problem. Then the procurement department will contact the respective supplier and make any changes to the terms of the contract.

4.2 Freshness Manager's interview

The initial interview discussed the Freshness manager role and his department's interaction with the purchasing department. Then topics such as food waste, campaigns,

and actions related to economic and environmental dimensions of sustainable procurement were discussed. Also, regarding the social aspect of green procurement, some actions were presented as well as the empowerment of local society through cooperation with local producers.

The Freshness Manager communicates daily with the purchasing department and together with the other members of the team take care of the daily supply of fresh fruits and vegetables to the stores. The main goal, apart from avoiding deficits, is also avoiding surpluses. Great attention is given to the orders of fresh products to limit the overexploitation of the land and of course the depreciations and the cost of the company.

The main goal is that nothing ends up in the trash. Therefore, a series of activities take place in the stores and the company's central warehouses.

Each store, depending on the stock it has in each code, can make price reductions that apply only to the specific store. In this way, an extra sales opportunity is given as well as a reduction of food waste.

In addition, what is withdrawn from the sales area due to lack of freshness, is not thrown away but stored in special boxes and returned to the central warehouse. There, they are separated into by-products of plant or animal origin and are received by cooperating companies to produce animal feed, fertilizers, or biofuels.

The sustainable procurement strategy of Lidl Hellas focuses also at the sustainable packaging. For this reason, fresh fruits and vegetables are presented in bulk in cardboard boxes and the use of plastic is minimal as a special net is usually used for multipacks.

Furthermore, Lidl Hellas often runs campaigns around sustainability. A few years ago, there was a campaign with fresh products that did not have a nice appearance but fully met the quality standards set by the company. These specific products, instead of being returned to the supplier as defective, were placed on a special shelf in the stores and sold at lower prices. This campaign has been stopped as the quantities were not enough to be presented on a separate shelf. However, the company continues to absorb from suppliers products that do not meet the appearance specifications and places them in the sales area but sells them at much lower prices.

From this conversation, it was realized that the Procurement department tries to cooperate mainly with local producers. While in the past the suppliers were mainly Spanish and Italian, now the company prefers to strengthen Greek society through cooperation with Greek producers. The main reason for choosing foreign suppliers is either for the supply of exotic fruits such as mangoes and bananas or due to reduced availability from Greek producers.

The supplementary interview that took place was based on a very important topic which was the continuous conduct of quality controls. Lidl Hellas, within the code of conduct it has signed, requires its suppliers to meet specific terms and conditions. The Procurement and Purchasing departments are responsible to communicate with suppliers about the quality deviations that may occur. For example, about fresh products, samples are taken continuously to identify any deviations from the permitted limits of chemical substances and fertilizers that have been agreed upon.

Excessive use of pesticides is a burden on the soil, flora and fauna on the one hand, and is harmful to consumers on the other. As part of the quality assurance system, they are closely monitored and in regular contact with suppliers regarding the use of pesticides.

The common goal of Lidl Hellas and the cooperating companies is the cultivation of fruit and vegetables with the minimization of the residues of plant protection substances. The requirements set by the company are stricter than those set by the legislator and actively contribute to the reduction of plant protection substances by setting high standards in the industry.

From the material to be studied, which was given during the interview with the Freshness Manager, it becomes clear that Lidl Hellas's main specifications for fresh fruit and vegetables are as follows:

- The maximum residue concentration of an active substance is set at 1/3 of the corresponding applicable maximum permissible limit, as defined based on national and Community food legislation
- The sum of the maximum residue limits of all identified active substances should not exceed a maximum of 80%
- The maximum allowable number of these identified substances should not exceed five.

- The ratio of exposure to the Acute Reference Dose (ARfD) for an identified active substance should not exceed 100%

4.3 Bake-off Manager's interview

The first phase of the interview shows that the company has set a clear sustainability vision and a zero-waste strategy that was discussed further. A presentation of sustainable procurement actions took place and innovation and automation solutions were discussed. In the second phase of the interview control mechanisms were discussed such as the automatic washing functions of ovens and deviations from the baking plan, known as baksema in the company's terminology. Also some examples of baksema were presented and the factors that are taken into account to create these baking plans. Both of the interview phases are analyzed below.

The sustainable procurement strategy of Lidl Hellas focuses on cost savings and efficiencies. As Bake-off Manager mentioned there are plenty of areas where the company implies sustainable procurement practices. Regarding bakery products, there is a variety of actions that had been taken in order to achieve sustainability.

Sustainable packaging:

-In each store there are specially configured display windows where the baked products are placed in bulk so that there is the possibility of self-service.

-New white bags are provided which, in contrast to the older brown bags, are thinner and biodegradable.

-There are multipacks (or family packs) available and not individual pieces so fewer packaging materials are used.

Cost Savings:

- Ovens are programmed to automatically shut off after a certain period of inactivity

- Also the ovens have an automatic washing function. It is important that the ovens are connected to the company's network and thus any additional washings by staff that did not need to be carried out, can easily be controlled. Thus reducing the waste of water and electricity.

- The heated plates, where the baked products are placed on, close automatically in the evening and open again in the morning with the opening of the store.
- At the end of the day, bakery products that have not been sold, do not throw away but stored in special boxes and returned to the central warehouse. There, they are separated into by-products of plant or animal origin. Animal-origin by-products are those which include milk, meat, cheese, or chocolate. All these by-products are received by cooperating companies to produce animal feed, fertilizers, or biofuels.

The three bottom line of sustainable procurement is obvious since Lidl Hellas tries to enter in a new market and increase sales by promoting vegan products like vegan donut and vegan bread. From the conversation with Bake-off Manager and the study material that he gave to researcher, it is obvious that there has been a strengthening of the Greek society's economy through the NOMA campaign. The specific campaign promotes local products and producers in the entire range of Lidl products, refrigerator, dry and freezer codes as well as bakery codes such as village cheese pie.

One last measure to reduce food waste and the discredit of the company is the creation and sending of a baking plan separately to each store. Based on the study of past sales, write-offs and also taking into account other factors, a baking proposal is created which the stores must follow daily. However, each store is allowed to take the initiatives and adapt the pieces it will bake based on its real-time needs.

4.4 Transportation Manager's Interview

An equally important part of the procurement process is the transportation sector. The head of the transport department emphasized that the company has a clear attitude towards sustainability and is constantly looking for ways to upgrade and improve the department's processes in order to achieve more sustainable procurement management.

Initially, in the first interview, he presented the company's fleet of vehicles and emphasized that the company, trying to integrate into the Greek society and not be considered simply a German company, decided from the start that it would not have its fleet. Instead, the company uses public utility trucks, which it rents from partner companies.

The trucks it uses must meet specific terms and conditions and comply with the anti-pollution strategy followed by the company.

Specifically, the following actions related to the environmental and social dimensions of procurement have been carried out:

- Attempt to upgrade the fleet of vehicles by replacing them
- Use of vehicles of category from Euro 5 and above and not of past technology
- It has been set as a goal that the vehicles it uses until 2025 will all be of Euro 6 category
- A pilot test of the installation of alternative fuels in a truck was carried out. In particular, liquid gas was used, which on the one hand was considered quite economical, but on the other hand, the truck presented several mechanical problems. For this reason, the pilot test is currently on hold until further notice.
- The company is proceeding with research regarding the use of other alternative fuels such as natural gas. However, the partner companies from which Lidl Hellas rents the trucks it uses do not have such vehicles as the cost of purchasing such a truck is particularly high.

Particular importance was also given to the recycling procedures followed at Lidl Hellas. Since the transportation department is responsible for the organization and transportation of this huge volume of materials to be managed from the stores to the warehouse and then from the warehouse to the cooperating companies, an extensive presentation of the overall process was made.

As discussed in previous interviews with the heads of other departments, the main recycling categories are as follows:

- paper
- transparent and colored plastic (film)
- by-products of animals (like meat, milk, etc.)
- by-products of vegetable origin
- batteries and other materials

During the interview, the above categories were analyzed, citing specific examples. Specifically, the main packaging materials that Lidl Hellas has to manage are paper

boxes and plastic films, which act as secondary packaging for the products. The unpacking of these products in stores creates a large volume of cardboard and plastic (transparent and colored).

The daily report from the company's commercial activity includes secondary packaging materials, fruits, and vegetables that have lost their freshness, and products suitable for consumption and eating, but not for sale due to damaged or damaged packaging. It also includes meat, poultry and fish, which are no longer suitable for sale due to the approaching expiration date, products falling into the category of non-food, which have been deemed unfit for sale due to some quality characteristic or due to a long stay in the warehouse, broken electrical appliances, burnt out light bulbs, etc.

Lidl Hellas recognizes the need for special management of this volume. Some materials are promoted for reuse, some for recycling, and some for processing. The company's aims to achieve a minimal to zero footprint and to minimize the volume that is disposed of in landfills.

Recyclable materials are weighed at the facilities of the warehouses or the facilities of Lidl Hellas partners and thus the relevant figures of the total weight are collected. The summary declaration of the indicators and their assurance is done on an annual basis, at the end of the financial year, a process that allows the monitoring of the indicators and highlights the possibilities for improvement.

In the second phase of interview, study material was presented and given, which mainly concerned the economic dimension of procurement. The main indicators of the transport sector as well as the ways of measuring and evaluating them were also discussed.

4.5 Autodispo Specialist's Interview

In recent years, Lidl Hellas has been using Automatic replenishment and allocation solution system with the aim of better inventory management, reducing food waste as well as the hours required by employees to place manual orders. The automatic replenishment system used by the company is called Relex.

In the first interview that held with the Autodispo specialist, the program was presented in detail and a brief introduction was made to the platform it is used daily. Also through a SWOT analysis and further study material that was given in the second interview, the capabilities of the program were presented as well as potential risks arising due to its recent implementation.

Initially, Relex was implemented on a trial basis in one of the five distribution centers that the company has in Greece. After the successful tests, it is now used in four of them as one distribution center manages mainly non-food products such as clothing and electrical appliances. The main product categories managed through the program are refrigerator and freezer products, while dry products have recently been added. Through tests and studies, the future management of the remaining categories such as bakery products is also examined.

The selection and use of such a program by Lidl Hellas strengthen the company's sustainable procurement strategy. The main benefits presented by Autodispo specialist are the following:

- Relex's automatic replenishment system accomplishes the necessary routine duties, allowing the planners to concentrate on jobs that call for their knowledge and ingenuity, like planning, performance analysis, and not routine calculations.
- Make hundreds of precise orders per day using machine learning-based forecasting that takes into account all demand-related factors, such as weekends, pricing, promotional activities, cannibalization, holidays, regional events, and weather conditions.
- When demand and supply are out of balance, autonomous inventory rebalancing can be used to maximize sales, decrease costs, allocate scarce supply, start force-outs, or use pick-to-zero strategies as necessary.
- The autonomous replenishment system from Relex reduces operating expenses, and supports full truckload shipments and direct-to-shelf refilling, and while optimizing stock levels rapid inventory turnover and shelves availability.
- Relex allows the organization to manage seasons efficiently. Relex's smooth integration of prior to the season scheduling, starting allocations, autonomous in-season

restocking and focused end-of-season distributions and markdowns, can close any gaps in seasonal planning.

- Regarding new products Relex improves replenishment accuracy by using efficient initial allocations and attribute-based forecasting. Then, undertakes a monitored ramp-down of products that will be paused and withdraw, reduces remaining stock, and facilitates seamless assortment adjustments.
- When demand or supply changes or is disrupted, the company can adjust swiftly and affordably. Also offers more affordable and superior client service.
- Relex automates and streamlines replenishment following service level objectives, demand projections, lead times, and the requirement to fill trucks.

5. Conclusions

Prior to all else, it should be mentioned that this survey is incomplete because just one organization was studied and only qualitative data was collected during the research, which was done using the case study methodology. It did, however, help us get a glimpse of how crucial sustainable procurement procedures are in a modern company of the retail market. The results of this survey can also serve as the basis for new studies.

According to this single-case study's findings, the environment appears to be at the forefront of sustainable procurement, but this does not imply that social and economic sustainability issues are not given the appropriate attention. For instance, many initiatives focused on conserving the environment are extremely advantageous to society, economy, and the success of the business.

Also, it seems that it is really important for an organization to create clear sustainability vision and strategy, such as the company examined in the present survey. From this research, it is also derived that setting specific goals for each supply chain's department is beneficial. Also, every target should be measurable and easily to be monitored and evaluated.

Through the acquisition of certificates and participation in internationally recognized environmental protection organizations, a retail company can achieve better control and

supervision of the entire supply chain, both its own and the suppliers with which it cooperates.

On the way to an environmentally and socially acceptable way of doing business, the procurement department of retail companies is of crucial importance. A central part of the sustainability strategy seems to be the socially and environmentally acceptable configuration of raw material supply chains. That's why companies are committed to reducing as much as possible the negative ecological and social impact of raw materials - from cultivation to harvest and from further processing to transport to stores' shelves.

Certainly, among others, economic sustainability is what provides companies with the ability to invest in new technologies and the implementation of innovations. In this way, cost savings are achieved, their entry into new markets is facilitated and, in general, profitability and corporate stability are strengthened.

Although this research is based on a single-case study, its findings provide valuable insights into sustainable procurement in the retail market. Future researchers can build upon this study by examining additional retail companies or by focusing on specific dimensions of sustainability. Expanding the scope of research to include a broader range of companies would allow for a more comprehensive understanding of sustainable procurement within the retail industry. By conducting such investigations, researchers can further contribute to the body of knowledge surrounding sustainable procurement, providing valuable guidance for businesses aiming to implement green strategies and highlighting areas for improvement.

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