Lisbon School of Economics & Management
Universidade de Lisboa

MASTER

Management and Industrial Strategy

Master's Final Work

DISSERTATION

Circular economy through innovation within business networks: A case study on returnable bottles

MIGUEL PENAS DO CARMO

October – 2023

Lisbon School of Economics & Management
Universidade de Lisboa

MASTER

Management and Industrial Strategy

Master's Final Work

DISSERTATION

Circular economy through innovation within business networks: A case study on returnable bottles

MIGUEL PENAS DO CARMO

SUPERVISION:

José Manuel Novais de Magalhães Santos

October – 2023

Acknowledgments

This dissertation would not be complete without the help of some people, and I want to thank them individually.

Firstly, and most importantly, I want to thank Professor José Santos for his guidance and availability during the process. He gave me several alternatives when things were more complicated, especially during the case study choice.

Secondly, I would also like to thank those who contributed to the conclusion of this study, especially the company, for their availability to meet with me and for sharing essential information during the interview I conducted with them.

I would also like to thank my parents for the support and the opportunity they gave me to complete this master's degree. Finally, I would like to thank all my colleagues on the course for their friendship and mutual help.

Abstract

Innovating is extremely important to companies, even more so when innovation aligns with sustainability. The circular economy is substituting the classic linear model to increase the product life cycle. A productive circular economy is necessarily a well-coordinated business network. The difficulty in implementing a business model that benefits from these relationships between innovation, sustainability, circular economy, and business networks is a key factor for companies. This study aims to explore the relationship between innovation and circular economy from a business network perspective. A case study of a refreshing drinks company that follows a returnable bottle strategy was developed and supported by a semi-structured interview. In this company, all the innovation projects go through a filter that gives a sustainability score (A, B, C, and D), considering several environmental factors such as sustainable packaging, water, energy, resources consumed, and consumer perception. Returnable packaging currently constitutes, for the company, more than 85% of what is sold in bars, cafes, and restaurants. Additionally, ecological concern has contributed to changing consumer behavior, as they are much more attentive to today's products. Consumers increasingly demand sustainable packaging, which puts pressure on the company, as it will impact its sales and reputation. Finally, the company maintains relationships with several companies and favors nearby suppliers to mitigate the C02 footprint. These relationships have mutual benefits because they often challenge suppliers or vice versa, which always results in process optimization and continuous improvement.

Keywords: Sustainability; Innovation; Circular Economy; Business Networks

Resumo

Inovar é extremamente importante para as empresas, ainda mais quando a inovação está alinhada com a sustentabilidade. A economia circular está a substituir o clássico modelo linear para aumentar o ciclo de vida dos produtos. Uma economia circular produtiva é necessariamente uma rede de negócios bem coordenada. A dificuldade em implementar um modelo de negócio que beneficie destas relações entre inovação, sustentabilidade, economia circular e redes de negócios é um fator chave para as empresas. Este estudo tem como objetivo explorar a relação entre inovação e economia circular a partir de uma perspetiva da rede de negócios. Um estudo de caso de uma empresa de bebidas refrescantes que segue uma estratégia de garrafas retornáveis foi desenvolvido e apoiado por uma entrevista semiestruturada. Nesta empresa, todos os projetos de inovação passam por um filtro que dá uma nota de sustentabilidade (A, B, C e D), considerando diversos fatores ambientais como embalagens sustentáveis, água, energia, recursos consumidos e a perceção do consumidor. As embalagens retornáveis representam hoje, para a empresa, mais de 85% do que é vendido em bares, cafés e restaurantes. Além disso, a preocupação ecológica tem contribuído para a mudança de comportamento dos consumidores, que estão muito mais atentos aos produtos atuais. Os consumidores exigem cada vez mais embalagens sustentáveis, o que pressiona a empresa, pois impactará as suas vendas e reputação. Por fim, a empresa mantém relações com diversas empresas e privilegia fornecedores próximos para mitigar a pegada de C02. Estas relações têm benefícios mútuos porque muitas vezes a empresa desafia os fornecedores ou vice-versa, o que resulta sempre na otimização dos processos e na melhoria contínua.

Palavras-chave: Sustentabilidade; Inovação; Economia Circular; Redes de Negócio

Table of contents

1. Introduction

Sustainability is increasingly present in companies' strategy, management, and decision-making, as climate emergency has been discussed worldwide. Companies should invest in more sustainable projects to minimize waste and increase productivity. Besides contributing to positive results regarding environmental sustainability, eco-innovation allows companies to explore new initiatives to increase their competitive level, standing as a long-term competitive advantage (Zulkiffli et al., 2022). The connection between innovation and sustainability must be critical in companies' decision-making. Innovating while doing it in a sustainable and environmentally friendly way is a "new concept of great importance to business and policymakers" (Arundel & Kemp, 2009, p.3). Another important fact is that companies no longer follow the classic linear method. It is being substituted by a circular one, where goods have more than one life and are reused several times (Neves & Marques, 2022). At the same time, companies are increasingly connected through business networks that enable firms to promote innovation processes and reach market opportunities they could not get before (Snehota & Hakansson, 1995).

This study aims to explore the relationship between innovation and circular economy from a business network perspective through a case study of the most prominent refreshing drinks company in Portugal, with several concerns about the planet's future. In a world increasingly innovative, worried about sustainability, and increasingly connected through businesses. This study aims to address four research questions:

1- How does the adoption of sustainable practices affect innovation processes?
2- How do innovation efforts relate to those in the circular economy?
3- How does a circular economy affect companies' reputations?
4- Why are business networks pivotal for the companies' efforts in a circular economy?

This study represents explanatory and qualitative research, where primary data was collected through a semi-structured interview to answer the research questions.

In order to contribute to the future of new generations, the company's three pillars are social, economic, and environmental sustainability. The company aims to reduce the environmental impact, particularly in packaging, through innovation during the value chain and better coordination with its partners (taking advantage of business networks' benefits). The company seeks increasingly sustainable packaging, ensuring its circularity by creating returnable packaging.

This dissertation is divided into six chapters. The first chapter is this introduction. The second chapter covers the literature review, which has a detailed revision of the dissertation's main topics: sustainability, innovation, circular economy, and business networks. The third one analyses the research methodology of this study, in other words, what were the methodological choices that led to the research data. The fourth chapter represents the case study with the findings that came from the interview. The fifth one contains an analysis of the case study's data and if they are according to the literature reviewed. The last chapter is the conclusion of this dissertation, followed by the references and the appendices containing the interview guide used.

2. Literature Review

2.1. Sustainability

Originally, sustainability was defined as a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987, p.35). But at the business level, sustainability can be defined as "meeting the needs of a firm's direct and indirect stakeholders, without compromising its ability to meet the needs of future stakeholders as well" (Dyllick & Hockerts, 2002, p.131)—corporate sustainability results from the relationship between a firm's stakeholders (Vildåsen & Havenvid, 2018).

Sustainability was not a big concern some years ago. For many years, companies used only financial indicators to evaluate their businesses. Many companies were convinced "that the more environment-friendly they become, the more the effort will erode their competitiveness" (Nidumolu et al., 2009, p.56). Companies also believed sustainability required high initial investments and had a long payback time (Hermundsdottier & Aspelund, 2021). Nowadays, sustainability and environmental worries are two significant topics for "strategic business, management, manufacturing, and product development decisions" (Sezen & Çankaia, 2013, p.154).

In recent decades, companies' business strategies have been pressured to become more sustainable due to natural resource depletion. This pressure is related to the implementation of environmental regulations by the governments. Companies started to develop sustainable strategies to promote their products and processes to be "greener," focusing their attention on the environmental impact of their activities (Sezen & Çankaia, 2013). Companies should also worry about the product life cycles and products/services' future impact to produce more sustainable products (Laranja, 2022).

According to a study from McKinsey and Company (2023, p.2), “more than 60 percent of respondents said they’d pay more for a product with sustainable packaging, " meaning that customers are also pressing the companies to follow a more sustainable path. Bam Am and others representing views from McKinsey’s Consumer Packaged Goods Practice argue that consumers are indeed backing ESG (environment, social,

governance) preferences with their purchasing behavior.

Companies had to incorporate strategies such as eco-design and eco-innovation to become more sustainable. Eco-design involves integrating environmental worries into a product's lifecycle while the product's quality is maintained (Laranja, 2022). Eco-innovation regards the necessity of protecting present and future generations, which has created a more significant interest in supporting the development of sustainable innovations (Keränen et al., 2023). These are innovations where all sustainability dimensions, "including environmental, social, and economic, are considered during the whole innovation process" (Hermundsdottier & Aspelund, 2021, p.3). Companies are facing pressure to become more environmentally friendly, but at the same time, they are also pressured to innovate. Eco-innovation also aligns these two topics (sustainability and innovation) and can be summarized as "the production or exploitation of a product, production process or service that is novel to the firm and which results, throughout its life cycle, in a reduction of environmental risk, pollution and other negative impacts of resources use" defined by Kemp and Pearson (2007, p.7) in the final report MEI project for the European Commission, it is also a responsible approach that "involve making intentional changes to organizational mindsets and values, as well as the products, processes or practices that produce environmental and/or social benefits in addition to economic value" (Adams et al., 2016, p.181). Eco-innovation competencies include process innovation, product innovation, organizational innovation, and logistics innovation (Zulkiffli et al., 2022). Innovating responsibly deals with sustainability as a goal that will allow the development of competencies that other companies will have difficulties competing with. Sustainability is crucial for companies that operate in highly competitive markets because businesses are increasingly evaluated for their sustainable practices (Casidy & Yan, 2022). Besides decreasing environmental pollution, eco-innovation can also be a way to reach new market opportunities that stand as a competitive advantage because sustainability is crucial to companies' development (Zulkiffli et al., 2022). The eco-innovation study goes through five topics: viewing compliance as an opportunity, making value chains sustainable, designing sustainable products and services, developing new business models, and creating next-practice platforms (Nidumolu et al., 2009).

2.2. Innovation

Innovating is exploring and transforming new concepts based on new technologies or ideas into a good or service (OECD, 2009). It is also the ability to take advantage of opportunities and possible connections (Tidd & Bessant, 2020).

Nowadays, innovation is one of the primary pillars to increase a company's competitiveness. Innovation allows companies to produce high-added-value products. As Tidd and Pavitt (2011, p.7) argue, "Innovative enterprises typically achieve stronger growth or are more successful than those that do not innovate".

Companies competing in the same sector have different innovative levels because of different innovative strategies that are also important for building competitive advantage. Therefore, innovative actions become vital for firms to gain a competitive advantage (Genis-Gruber & Öğüt, 2014).

Innovation is a complex process that creates new processes, ideas, products, technologies, and business models to satisfy customers and has an essential role in leveraging companies' performances (McKinsey & Company, 2022). Innovations allow companies to stand out from the rest, making companies unique and different and facilitating long-term success (Chapman & Magnusson, 2006). The capacity of a company to innovate differs from the competitors in the "knowledge, skills, and abilities of its employees" (Doran & Ryan, 2014, p.108).

Innovation is classified into two types: radical and incremental. Toner (2011) claims that radical innovation requires scientific, engineering, and design skills and causes more considerable technological, economic, and social change, while incremental innovation requires critical thinking skills and involves fewer modifications and improvements in existing products.

There are four dimensions of innovation: product, process, paradigm, and position innovation. Product innovation refers to "a product which is new, at least in some respects, for the market into which It is introduced" (Angelmar, 1990, p.182). Process innovation refers to how a company creates and delivers that offering. Paradigm innovation refers to "changes in the fundamental principles of the enterprise

functioning", and position innovation regards “changes in the user’s perception of goods and services” (Zastempowski & Przybylska, 2016, p.4).

Technological innovation is a crucial factor of development in economic competitiveness as it allows for more efficient processes. Only after integrating technological innovation into policymaking companies have the best conditions for ensuring sustainable development (Frone & Constantinescu, 2014).

Innovation can be applied to several areas, such as technology (when it creates a new technological product/process) or markets (when new businesses are made). However, innovation is not just about creating new businesses or products but also about offering new ways of serving existing ones, often using old services in new ways (Tidd & Bessant, 2020).

The innovation process is based on three steps: the search (for new ideas), followed by the selection (allocating the available resources), and the implementation (when the new concept is introduced in the market) (Seebode et al., 2012).

Globalization is an essential factor in the world economy and innovation growth. Globalization enabled and pressured companies in developing countries to innovate. Areas such as R&D, software, and marketing are increasingly becoming more important in producing goods and services. R&D is a crucial activity that provides the necessary information and experience to innovate, and it is a precondition of innovation (Doğan, 2016).

2.3. Circular Economy

The European Parliament (2017) argues that a circular economy is "a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible" in a circular economy, "the value of products and materials is maintained, waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used to create further value" (European Commission, 2015, p.2). The circular economy is based on three principles: eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature (MacArthur, 2013).

The multiple challenges that the world has faced in recent years, including the pandemic, climate emergency, social crises, and rapid technological change, were essential to get attention to the need to change previous ways of doing things. "Business not as usual" became a reality. This type of business is based on the premise that the way we have been doing business is not sustainable. From this point, they started to appear a concept like circular economy. Circular sourcing can deal with waste disposal, which is dangerous to the natural environment, reduce the depletion of natural resources, and simultaneously improve economic efficiency. Circular networks can be perceived as more expensive at the beginning of the process because new materials may have higher production costs due to re-tooling of the productive components (Knight et al., 2022).

Over the last decade, the circular economy has had a more critical role in the industrial world, and it has received increasing attention because it contributes to a new industrial method that aims at ending the linear "take, make, dispose" economic model of production by increasing the resources' efficient use, as a result of limitations in many natural resources that forced an urgent change in methods for using the resources (European Commission, 2014). A circular economy allows a more innovative way of producing, better opportunities for local jobs, energy savings (fewer production processes require less energy), and environmental benefits (European Commission, 2015). The circular economy is a way that contributes to sustainable economic growth for industrial companies (Aarikka-Stenroos et al., 2022). It is seen "as an essential condition to ensure a sustainable future" (Neves & Marques, 2022, p.1). By increasing circularity, industrial companies are forced to redesign their business models. Changing the way they produce products/services and changing their consumption and management of materials and natural resources methods. (Ranta et al., 2018).

In a circular economy, there is an implementation of new forms to reach sustainability at low or no material, energy, and environmental costs and implies the use of "renewable technologies and materials (wherever possible) as well as the adoption of suitable, clear and stable policies" (Ghisellini et al., 2016, p.11). This concept allows the simultaneous creation of environmental, economic, and social benefits (Ranta et al., 2020). The circular economy is based on regeneration, not only on materials or energy

but also on recovery and improvement of the entire economic model compared to the previous business paradigm (Ghisellini et al., 2016). The circular economy is a phenomenon driven by innovation. Different innovation forms allow an increase in value creation. Creating value is possible in some ways, such as closing resource loops by recycling or reusing discarded materials, reducing the resources needed for a given operation, and extending specific resources' lifecycle or usage period (Ranta et al., 2020).

There are two processes to reuse products: upcycling and downcycling. Upcycling transforms something at the end of its life cycle into something new, with value in which the material is used as it is (Moreira et al., 2015). According to Helbig and others (2022, p.1), downcycling is "the phenomenon of quality reduction of materials reprocessed from waste relative to their original quality." Geyer (quoted by Helbig et al., 2022, p.1168) argues that "recycling is sometimes called downcycling when the recycled material is of lower quality and functionality than the original material".

Other factors contributing to a circular economy are the responsible practices and sustainable activities inside supply chains and distribution channels between buyers and suppliers, consumers, and business buyers (Huang et al., 2022). Purchasing in a circular economy implies looking for goods or services that close the energy and material circle in the supply chain and minimize or eliminate waste. The buyer role has changed through the years, becoming more complex due to the increasing focus on environmental issues and the circular economy. Purchasing circularly and sustainably increases the complexity of buying. Purchasers should not worry only about the cost and quality of products/services but also about sustainability before starting the purchasing process. The circular purchaser is described as sustainability-minded and knowledgeable about the circular economy (Neessen et al., 2021). Governments and international agencies regulations are not enough to prevent more serious environmental problems. For this reason, economic agents have a crucial role in vigilance (Cardoso, 2018).

Some actions, such as the 3R's reduce, reuse, and recycle principles, lead to the circular economy. The reduction principle aims to minimize energy and raw materials waste through the improvement of efficiency in production (called eco-efficiency) and consumption processes (Ghisellini et al. 2016). The European Commission argues that

reusing can be defined as a strategy in that "products or components that are not waste are used again for the same purpose for which they were conceived." Reusing products require fewer resources, less energy, and less labor than producing new ones. Then, reuse has the potential to increase overall resource efficiency and create additional revenue (Ranta et al., 2018). The recycle principle refers to "any recovery operation by which waste materials are reprocessed into products, materials, or substances whether for the original or other purposes" according to the European Commission. However, when considering resource efficiency and the maintenance of materials value, recycling might be the least sustainable solution of the 3R principles (Ranta et al., 2018). Recycling offers the opportunity to take advantage of still usable resources and reduce waste, thus decreasing the related environmental impact, according to Cagno, Trucco, and Tardini (quoted by Ghisellini et al., 2016). Nevertheless, implementing the circular economy cannot be limited to reduction, reuse, and recycling. A circular economy should also aim to produce goods that are not turned into useless waste but can instead be turned into valuable products like nutrients for plants and animals or raw materials for new products in a new industrial cycle (Cardoso, 2018).

2.4. Business Networks

Relationships between companies have been largely ignored for a long time. However, the situation has changed radically since the beginning of this century (Snehota & Hakansson, 1995). Business networks can be "a form of inter-firm cooperation that allows companies, also located in different regions or countries, to collaborate based on common development objectives expressed in a cooperation agreement/contract. The companies decide to join their strengths, share information, and create synergies to become more innovative and competitive on the domestic and international markets while keeping their autonomy, not creating a separate legal entity," according to Spanikova, Birkman, and Besseling (2014, p.7). Network horizons, identity, context, and connectedness are the main differentiated factors in a business network. The possibilities and the restrictions of a company's actions depend on the network in which it is inserted (Santos, 2022).

A business network comprises direct and indirect connected companies, where

social and economic ties are two important topics to help understand these connections. Social relationships between firms and individuals are significant for successful relationships, primarily when the association deals with individuals involved in activities between competitors (Bengtsson et al., 2003). To be an effective competitor requires one to be a trusted cooperator, according to Morgan & Hunt (1994). A firm's dependence on a partner depends on its need to keep a relationship with the partner to achieve its goals (Ren et al., 2010).

The business network can be described as a starting point for developing new ideas that enable businesses to deal with the current constant innovative paradigm. Innovations are a particularly important factor in developing business networks (Oberg, 2019). The relationships' primary function regarding activities, resources, and actors is increasing efficiency through interlinking (Anderson et al., 1994).

Business networks are crucial in connecting companies' organisation and innovation to pursue sustainability all over the network. Reorganising the industry is a strategy that allows companies to compete more in the market. However, it requires systemic solutions by multiple and interconnected organisations. At the same time, it requires understanding the need for inter-organisation, which includes techniques like B2B marketing purchasing and supply chain management. Companies' interdependence is developed through business network connectedness, which is crucial to achieving sustainable networks and markets. Connectedness is central to understanding networks. It enables coordination and cooperation at the network level (Harrison et al., 2023). Companies are part of cooperative relationship networks that increase resource flow among them (Gnyawali & Madhavan, 2001).

Spanikova, Birkman, and Besseling (2014, p.12) suggest that "networks present interesting business opportunities and that through enhanced intra-community specialisation, business networks could also be an important factor contributing to innovation." Networks are defined chiefly by their participant's experiences, which can be extremely useful for business networks operating at the local or regional level but is a tough challenge for business networks operating at the continental or international level (Spanikova et al., 2014). Companies are not self-sufficient. They are increasingly made of tangible and intangible elements developed by other companies with

complementary competencies because it is tough to implement strategies or be competitive based only on one's own company's resources (Santos, 2022). Trust is an essential factor in networks; it appears when the interests of the participants are convergent, and it is generally considered the factor that variates the credibility and benevolence of exchanges with partners (Ren et al., 2010).

By linking the activities of a company with those of its partners, the company's and its partner's performance is affected. However, they also affect the whole network' productivity. A relationship between two companies does not depend only on the two parties involved in the relationship but on what is going on in other relationships. A change in a company's relationship with a supplier can positively or negatively affect a particular customer relationship (Snehota & Hakansson, 1995).

3. Research Methodology

The research uses an explanatory methodology to understand the relationship between innovation and circular economy from a business network perspective. The research strategy used was case study research, which "focuses on answering questions that ask how or why" (Yin, 2009, p.1) and focuses on a specific organization, individual, or specific context/phenomenon (Takahashi & Araújo, 2020). This company was intentionally selected due to its known commitment to sustainability and circular economy, namely regarding using returnable bottles.

This research is qualitative, as the study collects and analyzes qualitative data methods to understand a particular phenomenon (the relationship between circular economy and business network). The qualitative data method is used to understand "people's beliefs, experiences, attitudes, behavior, and interactions" (Pathak et al., 2013, p.192) and why people behave the way they do. Regarding time horizon, this research is a cross-section study focused on the moment of data collection. Therefore, there is no temporal dimension in a cross-sectional study, given that all data refers to the moment of data collection (Kesmodel, 2018). Data are mainly primary. Thus, primary data was collected wittingly for this specific research through a semi-structured

interview. The interviewer had a list of questions to address, but the order was not thoroughly followed. This type of interview gives the interviewer the autonomy to take place to pertinent ideas that may arise during the interview (Adeoye-Olatunde & Olenik, 2021).

The interview was conducted via video call (it could not be recorded by the company's imposition), and notes were taken during the interview. The interview took place on 11/08/2023 and lasted about 45 minutes. The interviewee works at the company since 2005. Specifically, she works in the research and development of packaging in a specific area of sustainability that aims to reduce the CO2 footprint and achieve 100% recyclable packaging. The interviewee also works in another strategic company area with concerns about social responsibility and sustainability. The company's names will be changed for confidentiality reasons.

4. Case Study

The chosen case study concerns the Portuguese largest refreshing drinks company, which sells beers, ciders, sangrias, bottled waters, soft drinks, wines, and malt production. Henceforth, our case will be treated as “BEER” due to anonymity and confidentiality issues, while other names will also address the suppliers.

BEER has been concerned with sustainability and circular economy for many years, but also with social responsibility. This concern with the social aspect began with a former administrator who revolutionized in his time, and he realized that people were going to work for the company with malnutrition problems and without access to any decent meals. The former administrator established the right to breakfast in the company, which continues until today.

BEER started with returnable tare. The bottles went to the market and returned to the factory. BEER collaborated only with returnable tare in bottles, barrels, and larger-capacity tanks for many years. However, in the nineties, the concept lost importance due to changes in consumption habits. New legislation and European directives are setting targets for reuse in beverage packaging and all sectors. The legislation sets targets to leverage the returnable tare further. The company is working on this, though

the entire value chain needs to contribute, and some clients are not very interested. For example, supermarkets are not interested in having returnable bottles.

Returnable packaging currently constitutes, for BEER, more than 85% of what is sold in bars, cafes, and restaurants. The bottles have over twenty “lives” and are cleaned and returned to the market. Barrels have an unlimited “life” if they are well handled, which allows the company not to use natural resources and avoid using virgin raw materials. These actions help reduce the footprint in the value chain in terms of water and energy consumption.

All “BEER” innovation projects must be aligned with the sustainability strategy and the KPIs they intend to achieve. To achieve these results, all innovation projects go through a filter that works with a template that gives a sustainability score (A, B, C, and D), considering several pillars:

- Is this new packaging more sustainable?
- Does it consume more water?
- Does it consume more energy?
- Does it consume more resources?
- Is the perception positive on the part of the consumer?

Subsequently, a score is given that will be presented to the executive committee, and this score helps to understand whether the organization intends to move forward with this project. However, maintaining these sustainable practices is quite expensive and requires a significant transformation of organizational and industrial processes, such as decarbonization. Maintaining these practices that increase sustainability also implies a major organizational change and, consequently, a brutal investment in the beverage production processes.

BEER's primary goals in terms of sustainability are the reduction of water and energy consumption. Two examples that represent the attempt to get closer to these goals are the installation of solar panels in the company and the fact that the entire fleet is now hybrid. Water is a very scarce resource used in more than 90% of the company's drinks, so significant and continuous investments are already being taken to reduce the amount of water in production through water treatment and reuse. Examples of sustainable actions involving large expenses at BEER are actions such as the reuse of water from

water treatment facilities, which requires investment in technology to purify the water so that it can be reused. It is always expensive to have sustainable practices. However, at BEER, the payback is always calculated. BEER was also a pioneer in introducing reusable cups at big events.

BEER joined a sustainability project called Re_Source by RECYCLE (a non-profit organization that treats waste), in which BEER, as a beverage packaging company, declared to RECYCLE the quantity and characterization of the various materials used (glass, metal, PET, plastic), then RECYCLE, depending on this quantity, charges them a fee for the waste treatment. BEER also joined two other sustainable projects, the lightweight and Bdrive projects. The lightweight project aimed to reduce the amount of PET in the packaging in partnership with PLAST and CAPS, plastic and capsule suppliers, respectively. Over the last twelve years, this project has saved more than ten thousand tons of virgin plastic, numbers that allow BEER to quantify its impact on the environment in terms of saving C02 and energy. The Bdrive project consisted of a large tank supplying the various sale points. In terms of innovation, BEER has also joined several projects regarding product development. The company seeks to have more varied (especially in beers) and healthier products, to offer beer without alcohol content, another with low calories, and another without gluten. There are also innovations associated with the social pillar. During the pandemic, the company provided alcohol gel by removing alcohol from non-alcoholic beer. BEER also developed a project using an extraction machine that uses solar energy to extract draft beer (it was launched at the company's summer festival).

Regarding the relationship with their suppliers, BEER, in partnership with GLASS, changed the image of the 0.33cl beer packaging, which was already “old fashioned,” changing the entire bottle and the beer cases. Plastic from old cases was reused to produce new ones. As it was necessary to build new bottles and cases, and GLASS only produced the bottles, BEER installed a beer case injection machine in the GLASS warehouse, and they were able to produce cases in the GLASS warehouse (which is not their core business), at the same time, they made the new bottle. And instead of pallets with bottles being delivered, cases with new bottles were immediately offered. The relationship with one of its suppliers was beneficial, in this case, GLASS.

For BEER, the circular economy can be seen in two ways: through returnable packaging or through the production of packaging, which aims to achieve 100% recyclable packaging. This second strategy seeks to ensure that 100% recyclable bottles enter the sorting and recyclability process and can give rise to or serve as raw materials for new packaging or new products. The big challenge in circularity is to continue to have 100% recyclable packaging. Currently, all packaging has components that are 100% recyclable. However, when they reach sorting, the goal is that a bottle becomes a bottle again. In this sense, creating packaging in which all components are 100% recyclable is necessary, allowing for new packaging. The company must ensure the end of life of the packaging, whether the packaging will return to being the same or whether it will be a pot, a jar, or anything else. In Portugal, despite the packaging being 100% recyclable, it is not possible to ensure that it is used in other packaging or other products from other activities because we do not have this 100% prepared system that allows us to close the cycle of all the materials that make up the packaging that circulates in this country. There are two processes: upcycling and downcycling. The first aims to take a package, send it to a sorting system, and guarantee the complete recycling process so that a product, after being recycled, can be used for the same application. This process is far behind in Portugal.

An example is that only one recycling bin takes all types of glass with various colors. In other countries, there are recycle bins for each color. BEER favors upcycling and ensures that the materials used are not contaminants in the recycling process to guarantee the purity and circularity of the upcycle. Downcycling means using waste resources in other applications, such as the production of vases, tables, chairs, or anything else. Which is a situation in which the material has a new life but not with the same application that gave it life. However, it is also necessary that recycling technology advances to keep up with the advancement of materials. The Re_Source project comes in this direction. It aims to answer the question: How can we evolve in technology to get the most out of products? In this circular economy model, BEER, as a distributor, goes to customers' spaces, and when delivering new packaging, they collect empty packaging or barrels. This back-and-forth process allows them to move around to maintain the circularity of the packaging.

Environmental concerns are increasingly an important topic nowadays, so sustainability financially impacts the company. This concern has contributed to changing consumer behavior, as they are much more attentive to today's products. Consumers increasingly demand sustainable packaging. This serves as pressure for BEER, as it will impact its sales. As sustainability is a vital topic nowadays, there are also raw materials whose prices are inflated. Another essential factor that has a financial impact on BEER is legislation, which is forcing organizations to take an increasingly sustainable path, either due to the reputation that is affected or through penalties and fees that will be charged if organizations do not follow the path of circularity, and this is not present in the development of your products.

Furthermore, there is a value chain that needs to be looked at. Non-financial reporting will be mandatory for all companies, and this report will impact the entire value chain. BEER will prioritize suppliers that meet the company's requirements regarding ESG (environment, social, governance).

BEER maintains relationships with several companies and favors nearby suppliers to mitigate the C02 footprint. Two of the oldest partners are GLASS and PLAST, which are close to BEER's facilities. In its relationships with other companies, BEER understands that if its business is doing well, that of its partners will be doing well, too, because they cannot exist without them as they are the ones who supply them. These relationships have mutual benefits because they often challenge suppliers or vice versa, which always results in process optimization and continuous improvement. A long-standing practice at the company is the creation of non-commercial relationships with suppliers and customers through partnerships such as the project for the new image of the 0.33cl beer. An example that demonstrates BEER's relationship with one of its partners is the change in the picture of the APPLE BEER bottle because glassmakers began to have a shortage of transparent glass due to the crisis and war situation we are experiencing today. They had to use amber glass, and given this situation, marketing launched the slogan, “We changed the skin, but the apple taste is the same.” BEER and one of its partners turned this situation around, and sales were unaffected.

5. Discussion

BEER follows an eco-innovation strategy, given that innovation projects must be aligned with the sustainability strategy and the KPIs they intend to achieve. Every company innovation project goes through a filter that gives a sustainability score (A, B, C, and D), considering several environmental factors (sustainable packaging; water, energy, resources consumed; consumer perception). According to Hermundsdottier and Aspelund (2021, p.3), eco-innovations are innovations where all sustainability dimensions, "including environmental, social, and economic, are considered during the whole innovation process", which is in accordance with BEER's strategy. BEER also developed a sustainable innovation project using an extraction machine that uses solar energy to extract draft beer, which proves what is said by Kemp and Pearson (2007, p.7) regarding sustainable innovations that can be summarized as "the production or exploitation of a product, production process or service that is novel to the firm and which results, throughout its life cycle, in a reduction pollution and other negative impacts of resources use". In this case, BEER's project represents an exploitation of a production process to decrease pollution, given that it uses solar energy.

However, maintaining these sustainable practices is quite expensive and requires a significant transformation of organizational and industrial processes. Keeping these practices that increase sustainability also implies a major organizational change. However, at BEER, the payback is always calculated. Examples of sustainable actions involving large expenses at BEER are decarbonization and the reuse of water from water treatment facilities, which requires investment in technology to purify the water so it can be reused. As Knight (2022) argues that circular networks can be perceived as more expensive at the beginning of the process because new materials may have higher production costs due to re-tooling of the productive components.

Returnable packaging currently constitutes, for BEER, more than 85% of what is sold in bars, cafes, and restaurants. The bottles have over twenty "lives" and are cleaned and returned to the market, and the barrels have an unlimited "life" if they are well handled. BEER was also a pioneer in introducing reusable cups at big events. Zulkiffli (2022) argued that besides decreasing environmental pollution, eco-

innovations like returnable packaging or reusable cups could also be a way to reach new market opportunities that stand as a competitive advantage because sustainability is crucial to companies' development.

The company stated that new legislation and European directives were setting targets for reuse in beverage packaging and leveraging the returnable task further. Legislation financially impacts BEER, forcing the organization to take an increasingly sustainable path due to the affected reputation or through penalties and fees. Such as Sezen and Çankaia (2013) argued that companies' business strategies have been pressured to become more sustainable due to natural resource depletion. This pressure is related to the implementation of environmental regulations by the governments.

BEER is working to improve circularity in their packaging, though the entire value chain needs to contribute, and some clients, like the supermarkets, are not very interested. Many companies were convinced "that the more environment-friendly they become, the more the effort will erode their competitiveness" (Nidumolu et al., 2009, p.56). Companies also believed sustainability required high initial investments and had a long payback time (Hermundsdottier & Aspelund, 2021).

According to Spanikova, Birkman, and Besseling (2014, p.15), to benefit from business networks, “companies decide to join their strengths, share information, and create synergies to become more innovative and competitive on the domestic and international markets while keeping their autonomy, not creating a separate legal entity,". BEER, in partnership with GLASS, changed the image of the 0.33cl beer packaging, which was already “old fashioned,” changing the entire bottle and the beer cases. As it was necessary to build new bottles and cases, and GLASS only produced the bottles, BEER installed a beer case injection machine in the GLASS warehouse, and they were able to produce cases in the GLASS warehouse (which is not their core business), at the same time, they made the new bottle. BEER, creating a synergy with glass, joined their strengths and benefited from it.

BEER maintains relationships with several companies and favors nearby suppliers to mitigate the C02 footprint. BEER, in partnership with one of its partners, changed the picture of APPLE BEER bottles because glassmakers began to have a shortage of

transparent glass due to the crisis and war situation we are experiencing today. They had to use amber glass, and given this situation, marketing launched the slogan, “We changed the skin, but the apple taste is the same.” BEER and one of its partners turned this situation around, and sales were unaffected. As Oberg (2019) said, a business network can be described as a starting point for developing new ideas that enable businesses to deal with the current constant innovative paradigm. In this case, BEER and its partner took advantage of the opportunity (no transparent glass) to develop a new and innovative idea.

Environmental concerns are increasingly important, so sustainability financially impacts the company. This concern has contributed to changing consumer behavior, as they are much more attentive to today's products. Consumers increasingly demand sustainable packaging. This serves as pressure for BEER, as it will impact its sales. As a study from McKinsey and Company (2023, p.1) analyses, “more than 60 percent of respondents said they’d pay more for a product with sustainable packaging, " meaning that customers are pressing the companies to follow a more sustainable path. Bam Am and others representing views from McKinsey’s Consumer Packaged Goods Practice argue that consumers are indeed backing ESG (environment, social, governance) preferences with their purchasing behavior.

6. Conclusion

The research aims at understanding the relationship between innovation and circular economy from a business network perspective. In this case, in a Portuguese drinks company that follows a returnable bottles strategy. Regarding sustainable innovations, an excerpt from Kemp and Pearson's (2007, p.7) eco-innovations definition, “the production or exploitation of a production process that is novel to the firm and which results, throughout its life cycle, in reduction pollution,” proves something that happens in BEER. Who developed a sustainable innovation project using an extraction machine that uses solar energy to extract draft beer, benefitting from renewable energies and decreasing pollution. Based on Zulkiffli (2022), the circular economy can be perceived as more expensive at the beginning of the process due to the re-tooling of the productive components. This practice is costly to the company and requires

significant transformations of organizational and industrial processes. In terms of business networks, according to Spanikova, Birkman, and Besseling (2014), to benefit from business networks, companies join their strengths, share information, and create synergies to become more innovative and competitive. In BEER, this happened when the company partnered with GLASS to change the image of the 0,33cl beer packaging.

This study aimed to answer the following questions, whose were wholly answered:

1- How does the adoption of sustainable practices affect innovation processes?

Innovation projects need to be aligned with the sustainability strategy and with the KPIs they intend to achieve and to reach these results, all company innovation projects go through a filter that gives a sustainability score (A, B, C, and D), considering several environmental factors (sustainable packaging; water, energy, resources consume; consumer perception). However, maintaining these sustainable practices is quite expensive and requires a significant transformation of organizational and industrial processes, such as decarbonization. Keeping these practices that increase sustainability also implies a major organizational change and, consequently, a brutal investment in the beverage production processes.

2- How do innovation efforts relate to those in the circular economy?

The company started with an innovation, returnable tare. The bottles went to the market and returned to the factory. The company collaborated only with returnable tare in bottles, barrels, and larger capacity tanks for many years. However, in the nineties, the concept changed due to transformations in consumption habits. New legislation and European directives set targets for reuse in beverage packaging and all sectors. The legislation sets targets to leverage the returnable tare further. Returnable packaging currently constitutes, for the company, more than 85% of what is sold in bars, cafes, and restaurants. The bottles have over twenty “lives” and are cleaned and returned to the market. Barrels have an unlimited “life” if they are well handled, which allows the company not to use natural resources and avoid using virgin raw materials. This means that an innovation like returnable tare contributed to the circular economy, where the bottles go through the entire product life cycle.

3- How does a circular economy affect companies' reputations?

Environmental concerns are increasingly important, so sustainability and circular economy impact the company. Due to this concern, there are also raw materials whose prices are inflated. This ecological worry has contributed to changing consumer behavior, as they are much more attentive to today's products. Consumers increasingly demand sustainable packaging, which puts pressure on the company, as it will impact its sales and reputation. Another significant factor that has an impact on the company is the legislation, which is forcing organizations to take an increasingly sustainable path, either due to the reputation that is affected or through penalties and fees that will be charged if organizations do not follow the path of circularity, and this is not present in the development of your products.

4- Why are business networks pivotal for the companies' efforts in a circular economy?

BEER maintains relationships with several companies and favors nearby suppliers to mitigate the C02 footprint. In its relationships with other companies, BEER understands that if its business is doing well, that of its partners will be doing well, too, because they cannot exist without them as they are the ones who supply them. These relationships have mutual benefits because they often challenge suppliers or vice versa, which always results in process optimization and continuous improvement. A long-standing practice at the company is the creation of non-commercial relationships with suppliers and customers through partnerships such as the project for the new image of the 0.33cl beer. The company believes that business networks facilitate and benefit the circular economy for all these reasons.

By analyzing the results achieved, it is possible to note that to BEER, sustainability, innovation, circular economy, and business networks are essential to its operation, and good management of these four strategies is crucial to improve the company’s results.

This research has counted on the contribution of two BEER workers, who are part of the sustainability and social responsibility department. Nevertheless, there are several study limitations.

The first limitation regards the department of the intervieew professional occupation. As the intervieew works in the sustainability and social responsibility department, she could not answer and deepen questions outside her department,

namely circular economy, and relationships with other companies.

Another limitation was the interviewee was unable to answer specific questions because they dealt with more secret matters that could not be shared.

From this research, the topic of sustainable innovation within a circular economy is more explored. However, as shown from the literature, combining a model that promotes a circular economy based on innovative and sustainable practices but also benefits from business networks is complex. It can be better explored and be an object of future research.

References

Aarikka-Stenroos, L., Chiaroni, D., Kaipainen, J., & Urbinati, A. (2022). Companies' circular business models enabled by supply chain collaborations: An empirical-based framework, synthesis, and research agenda. *Industrial Marketing Management*, *105*, 322-339.

Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D., & Overy, P. (2016). Sustainability-oriented innovation: A systematic review. *International Journal of Management Reviews*, *18*(2), 180-205.

Adeoye-Olatunde, O. A., & Olenik, N. L. (2021). Research and scholarly methods: Semi-structured interviews. *Journal of the american college of clinical pharmacy*, *4*(10), 1358-1367.

Anderson, J. C., Håkansson, H., & Johanson, J. (1994). Dyadic business relationships within a business network context. *Journal of marketing*, *58*(4), 1-15.

Angelmar, R. (1990). Product innovation: A tool for competitive advantage. *European Journal of Operational Research*, *47*(2), 182-189.

Arundel, A., & Kemp, R. (2009). Measuring eco-innovation.

Bar Am, J., Doshi, V., Malik, A., Noble, S., & Frey, S. (2023). Consumers care about sustainability—and back it up with their wallets. *McKinsey & Company*.

Bengtsson, M., Hinttu, S., & Kock, S. (2003). Relationships of cooperation and competition between competitors. In *19th Annual IMP Conference, Lugano* (pp. 1-11).

Cardoso, J. L. (2018). The circular economy: historical grounds. *Changing societies: legacies and challenges. Vol. iii. The diverse worlds of sustainability*, 115-127.

Casidy, R., & Yan, L. (2022). The effects of supplier B2B sustainability positioning on buyer performance: The role of trust. *Industrial Marketing Management*, *102*, 311-323.

Chapman, R., & Magnusson, M. (2006). Continuous innovation, performance and knowledge management: an introduction.

Doğan, E. (2016). The effect of innovation on competitiveness. *Istanbul University Econometrics and Statistics e-Journal*, (24), 60-81.

Doran, J., & Ryan, G. (2014). Firms' skills as drivers of radical and incremental

innovation. *Economics Letters*, *125*(1), 107-109.

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business strategy and the environment*, *11*(2), 130-141.

European Comission. Definition of Recycling.

European Comission. Glossary: Reuse of Waste.

European Commision. (2015). Communication from the Commission to the European Parliament. *The Council, The European Economic and Social Committee and the Committee of the Regions, Closing the loop-An EU action plan for the Circular Economy, European Commission, Brussels*.

European Commission (2014), Directorate-General for Environment, *The circular economy – Connecting, creating and conserving value*. European Commission Publications Office.

European Commission. (2015). Circular economy package: questions & answers.

European Parliament. (2017). Circular economy: definition, importance and benefits.

Frone, S., & Constantinescu, A. (2014). Impact of technological innovation on the pillars of sustainable development. *Calitatea*, *15*(S1), 69.

Genis-Gruber, A., & Öğüt, H. (2014). Environmental factors affecting innovation strategies of companies: Customers and suppliers effect. *Procedia-Social and Behavioral Sciences*, *150*, 718-725.

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner production*, *114*, 11-32.

Gnyawali, D. R., & Madhavan, R. (2001). Cooperative networks and competitive dynamics: A structural embeddedness perspective. *Academy of Management review*, *26*(3), 431-445.

Harrison, D., Prenkert, F., Hasche, N., & Carlborg, P. (2023). Business networks and sustainability: Past, present and future. *Industrial Marketing Management*.

Helbig, C., Huether, J., Joachimsthaler, C., Lehmann, C., Raatz, S., Thorenz, A., ... & Tuma, A. (2022). A terminology for downcycling. *Journal of Industrial Ecology*, *26*(4), 1164-1174.

Hermundsdottir, F., & Aspelund, A. (2021). Sustainability innovations and firm

competitiveness: A review. *Journal of Cleaner Production*, *280*, 124715.

Huang, Y., Surface, D. L., & Zhang, C. (2022). Corporate social responsibility and sustainability practices in B2B markets: A review and research agenda. *Industrial Marketing Management*, *106*, 219-239.

Kemp, R., & Pearson, P. (2007). Final report MEI project about measuring eco-innovation. *UM Merit, Maastricht*, *10*(2), 1-120.

Keränen, O., Lehtimäki, T., Komulainen, H., & Ulkuniemi, P. (2023). Changing the market for a sustainable innovation. *Industrial Marketing Management*, *108*, 108-121.

Kesmodel, U. S. (2018). Cross-sectional studies–what are they good for?. *Acta obstetricia et gynecologica Scandinavica*, *97*(4), 388-393.

Knight, L., Tate, W., Carnovale, S., Di Mauro, C., Bals, L., Caniato, F., ... & Wagner, S. M. (2022). Future business and the role of purchasing and supply management: Opportunities for 'business-not-as-usual'PSM research. *Journal of purchasing and supply management*, *28*(1), 100753.

Laranja, Manuel (School Year 2021-2022). Responsible Innovation for Sustainability. Management Innovation class slides

MacArthur, E. (2013). Towards the circular economy. *Journal of Industrial Ecology*, *2*(1), 23-44.

Mckinsey & Company (2022). What is innovation? *Innovation is the systematic practice of developing and marketing breakthrough products and services for adoption by customers.*

Moreira, R. N., MARINHO, L. D. L., Barbosa, F. L. S., & Bizarria, F. P. D. A. (2015). O Modelo de Produção Sustentável Upcycling: o caso da empresa TerraCycle. *XVII ENGEMA-Encontro Internacional Sobre Gestão Empresarial e Meio Ambiente, Desafios da Sustentabilidade na Economia de Baixo Carbono*, *17*, 1-11.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of marketing*, *58*(3), 20-38.

Neessen, P. C., Caniëls, M. C., Vos, B., & de Jong, J. P. (2021). How and when do purchasers successfully contribute to the implementation of circular purchasing: A comparative case-study. *Journal of Purchasing and Supply Management*, *27*(3), 100669.

Neves, S. A., & Marques, A. C. (2022). Drivers and barriers in the transition from a linear economy to a circular economy. *Journal of Cleaner Production*, *341*, 130865.

Nidumolu, R., Prahalad, C. K., & Rangaswami, M. R. (2009). Why sustainability is now the key driver of innovation. *Harvard business review*, *87*(9), 56-64.

Öberg, C. (2019). The role of business networks for innovation. *Journal of Innovation & Knowledge*, *4*(2), 124-128.

OECD. Publishing. (2009). *Innovation in firms: A microeconomic perspective*. Organisation for Economic Co-operation and Development.

Pathak, V., Jena, B., & Kalra, S. (2013). Qualitative research. *Perspectives in clinical research*, *4*(3), 192.

Ranta, V., Aarikka-Stenroos, L., & Mäkinen, S. J. (2018). Creating value in the circular economy: A structured multiple-case analysis of business models. *Journal of cleaner production*, *201*, 988-1000.

Ranta, V., Keränen, J., & Aarikka-Stenroos, L. (2020). How B2B suppliers articulate customer value propositions in the circular economy: Four innovation-driven value creation logics. *Industrial Marketing Management*, *87*, 291-305.

Ren, X., Oh, S., & Noh, J. (2010). Managing supplier–retailer relationships: From institutional and task environment perspectives. *Industrial Marketing Management*, *39*(4), 593-604.

Santos, José (2022) (School Year 2021-2022). "Relationships and Networks." Industrial Marketing class slides

Seebode, D., Jeanrenaud, S., & Bessant, J. (2012). Managing innovation for sustainability. *R&d Management*, *42*(3), 195-206.

Sezen, B., & Cankaya, S. Y. (2013). Effects of green manufacturing and eco-innovation on sustainability performance. *Procedia-Social and Behavioral Sciences*, *99*, 154-163.

Snehota, I., & Hakansson, H. (1995). Developing relationships in business networks.

Spanikova, V., Birkman, L., & Besseling, C. (2014). Business Networks. Final report. *Rotterdam: Ecorys*.

Takahashi, A. R. W., & Araujo, L. (2020). Case study research: opening up research opportunities. *RAUSP Management Journal*, *55*, 100-111.

Tidd, J., & Bessant, J. R. (2020). *Managing innovation: integrating technological, market and organizational change*. John Wiley & Sons.

Tidd, Joe & Pavitt, Keith. (2011). Managing Innovation: Integrating Technological, Market And Organizational Change.

Toner, P. (2011). Workforce skills and innovation: An overview of major themes in the literature.

United Nations General Assembly. (1987). Report of the world commission on environment and development: Our common future. *Oslo, Norway: United Nations General Assembly, Development and International Co-Operation: Environment*.

Vildåsen, S. S., & Havenvid, M. I. (2018). The role of interaction for corporate sustainability. *IMP Journal*, *12*(1), 148-170.

Yin, R. K. (2009). *Case study research: Design and methods* (Vol. 5). sage.

Zastempowski, M., & Przybylska, N. (2016). Cooperation in creating innovation in Polish small and medium-sized enterprises in the light of empirical studies. *Journal of Competitiveness*, *8*(2).

Zulkiffli, S. N. A., Zaidi, N. F. Z., Padlee, S. F., & Sukri, N. K. A. (2022). Eco-Innovation Capabilities and Sustainable Business Performance during the COVID-19 Pandemic. *Sustainability*, *14*(13), 7525.

Appendices

Interview Guide

Master's Final Work- Dissertation

Master's Degree in Management and Industrial Strategy

Lisbon School of Economics & Management
Universidade de Lisboa

Interview Guide

O meu nome Miguel Carmo e frequento o Mestrado de Estratégia e Gestão Industrial no ISEG (Instituto Superior de Economia e Gestão) da Universidade de Lisboa. Quero agradecer desde já ter aceitado o meu pedido para realização de uma entrevista, que tem como objetivo compreender os relacionamentos empresariais no âmbito da economia circular, da inovação e da sustentabilidade.

- A entrevista terá a duração aproximada de 30 a 45 minutos.
- A informação recolhida nesta entrevista é confidencial e apenas utilizada para fins académicos.
- O trabalho realizado com a informação recolhida garante o anonimato do entrevistado e dos intervenientes por si referidos.
- Irei tomar notas no decorrer da entrevista.

A sua participação nesta entrevista é essencial para o trabalho final de mestrado que desenvolvo. Sendo a participação na entrevista voluntária, muito agradeço a sua participação.

Agradeço desde já a sua disponibilidade.

Sustentabilidade

1- As empresas são cada vez mais avaliadas pelas práticas sustentáveis. Qual a chave para procurarem, constantemente, ir ao encontro das necessidades dos *stakeholders* ao nível da inovação e da diferenciação e, simultaneamente, manterem práticas sustentáveis?

   a. Quais as vossas preocupações ao nível da redução do risco ambiental, poluição, e de impactos negativos? Pode dar-me exemplos de medidas para mitigar estes fatores?

2- Sentem que manter práticas sustentáveis é mais dispendioso?

   a. Se sim, de que forma é que estes gastos superiores possibilitam à empresa alcançar novas oportunidades de mercado?

   b. Foi difícil encontrar uma solução sustentável para os clientes fácil de "vender"?

Master's Final Work- Dissertation

Master's Degree in Management and Industrial Strategy

Lisbon School of Economics & Management
Universidade de Lisboa

Inovação

1- Existem ou existiram novos processos, ideias, productos ou tecnologias que tiveram ou têm impacto no negócio relacionado com a economia circular?

   a. Nova máquina que permitiu tornar a tara retornável mais eficiente?

   b. Nova máquina de higienização para as garrafas voltarem ao mercado de forma higiénica?

   c. Quais os principais desafios relacionados com a economia circular? Como surgiram as soluções?

2- Como funciona o projeto de inovação "Re_Source" ao qual se associaram?

   a. Que outras inovações contribuiram para o desenvolvimento da empresa e para alcançar vantagens competitivas em relação aos concorrentes?

3- A inovação afetou o portfolio de fornecedores?

   a. Positivamente ou negativamente?

   b. Se sim, quais? E porquê?

Economia Circular

1- Operam no fim de vida dos produtos?

   a. Se sim, como?

Master's Final Work- Dissertation

Master's Degree in Management and Industrial Strategy

Lisbon School of Economics & Management
Universidade de Lisboa

2- De que forma colaboram com outras empresas para otimizar o modelo de economia circular?

3- Que mudanças existiram nos materiais que permitiram a circularidade?

   a. Quais os problemas que surgem com esta circularidade?

4- Além da contribuição para a sustentabilidade, de que forma o modelo de economia circular contribui para o nível económico/financeiro?

   a. Através da criação de valor? Como?

5- Como é que o fornecedor contribui para a economia circular? É fácil envolver os fornecedores? Quais os maiores desafios? Como se ultrapassam?

6- Como é que o cliente contribui para a economia circular?

Redes de Negócio

1- Têm relacionamento com outras empresas? Tem alguns clientes e fornecedores desde o início?

2- A economia circular afeta os relacionamentos empresariais existentes?
   a. Como?

3- Os relacionamentos empresariais existentes afetam economia circular?
   a. Como?

4- Outras organizações que afetam a economia circular?

5- Tiram partido das forças de outras empresas para benefício próprio? Se sim, quais e para que é que são úteis?