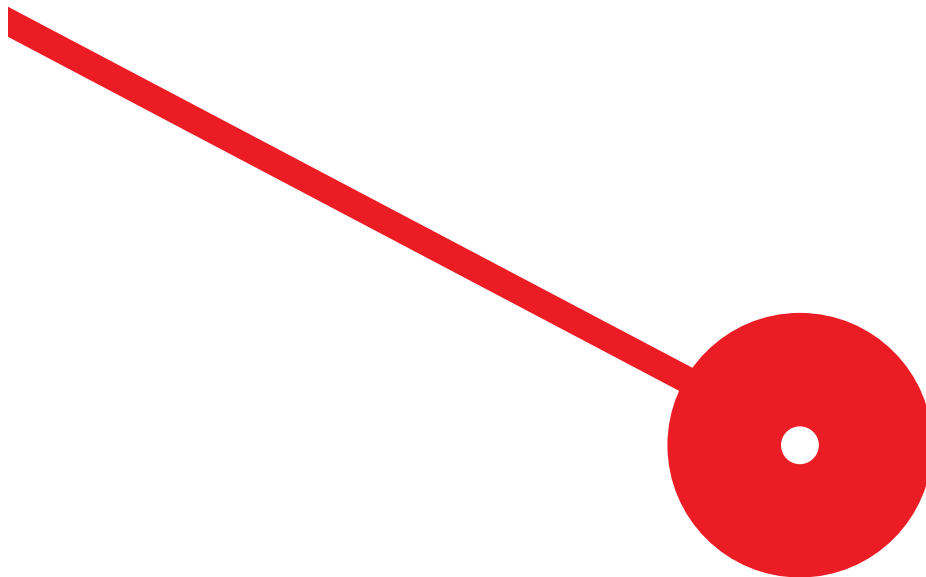




Case study: How to create a more sustainable culture at Colunex

Project work

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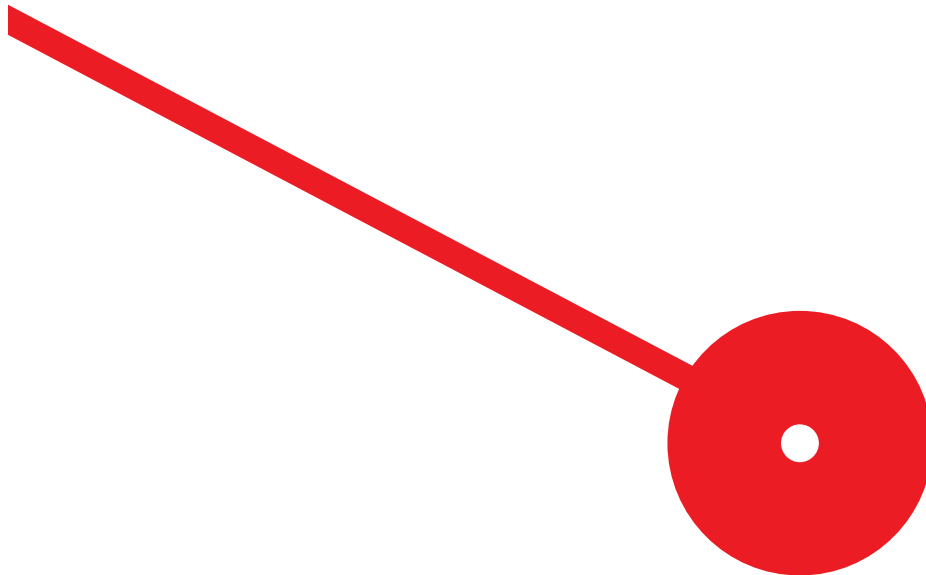




Case study: How to create a more sustainable culture at Colunex

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Presented to Instituto Superior de Contabilidade e Administração do Porto for the master's degree in Intercultural Studies for Business, under the supervision of Prof. Doutora Isabel Araújo.



Resumo:

A sustentabilidade é um tema cada vez mais importante uma vez que o planeta atravessa uma fase crítica com o aumento da poluição o que tem trazido consequências negativas como o aparecimento de doenças e desastres naturais, escassez de recursos naturais e matérias-primas e desaparecimento de algumas espécies de animais e plantas. Por estes motivos existe a necessidade de mudar o comportamento humano de forma a amenizar o impacto no meio ambiente e conseguir controlar as consequências negativas. Uma forma de amenizar o impacto no ambiente é atuando no mundo empresarial uma vez que este tem um grande impacto no meio ambiente. Em Portugal apesar do governo implementar leis para diminuir os níveis de poluição existe falta de conhecimento sobre sustentabilidade por parte dos líderes empresariais o que leva as empresas a terem receio de que medidas sustentáveis prejudiquem os lucros. Este projecto foi realizado com o intuito de diminuir o impacto ambiental da empresa Colunex através da implementação de uma cultura sustentável que aumentou a consciência ambiental dos seus líderes e funcionários e diminuiu o desperdício criado sem prejudicar os lucros da empresa.

Palavras chave: Sustentabilidade, consciência ambiental, cultura corporativa, cultura sustentável

Abstract:

Sustainability is an increasingly important topic especially now that the planet is going through a critical phase with the increase of pollution, which has brought negative consequences such as the emerge of diseases, natural disasters, shortage of natural resources and raw materials, and the extension of some animal species and plants. For these reasons there is a need to change human behaviour to lessen the impact on the environment and control control its negative consequences. One way of mitigating the impact on the environment is to act in the business world, once it has a great impact on the environment. In Portugal, despite the government implementing laws to reduce pollution levels, there is a lack of knowledge about sustainability on by th business leaders, which leads companies to fear that sustainable measures harm profits. This project was carried out with the aim of reducing the environmental impact of the company Colunex through the implementation of a sustainable culture that increased the environmental awareness of its leaders and employees and reduced the waste created without harming the company's profits.

Keywords: Sustainability, environmental awerness, organizational culture, sustainable culture

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List of Abbreviations

SMEs – Small and Medium Enterprises

CSR – Corporate Social Responsibilities

EMS – Environmental Management Systems

MDGs – Millennium Development Goals

UN – Member States of the United Nations

B2B – Business to Business

B2C – Business to consumers

INTRODUCTION

With the acceleration of pollution and scarcity of natural resources worldwide, sustainability has increasingly turned into a trend topic and has been present in businesses of various sectors. The lack of environmental awareness in companies has been criticized and there are many themes that are directly linked to the sustainability, such as reputation management, branding of a company, cost savings, among others.

It was possible to see big companies like Apple or Microsoft changing their growth cultures at all costs and creating a more sustainable culture by implementing environmentally friendly policies mostly because nowadays companies are judged by the way they treat workers, customers, communities, shareholders, and the environment.

There is a raise on the amount of available data that proves the increase in environmental awareness of large companies and there are also more reports on sustainability that allow analysing the level of pollution of companies, sectors, and regions of each country. These reports are public and often decisive for the reputation of brands. Combining this social concern on the subject and the environmental problems that have increased, we conclude that a change in attitude and an increase in environmental awareness is necessary to reduce pollution and the ecological footprint. For this to happen, a sustainable culture capable of changing attitudes, mentalities and reinforcing the sustainable awareness of companies must be created. To create this new organizational culture within a company, it is necessary to understand two main concepts: Organizational Culture and Sustainability. Clear and accurate information on these topics is important to start this project, as one of the major obstacles to creating sustainable cultures in business is the lack of information and knowledge on the topic, which prevents most managers from incorporating sustainability into their decisions.

Organizational culture is the set of beliefs, ideologies, processes, and attitudes of the people who constitute an organization. It can arise organically on its own and can be framed and influenced by internal business practices and policies. The culture of an organization is very important in a company as it is often responsible for guiding the decisions of its members, establishing, and reinforcing expectations about what is appreciated and how things should be done, providing a sense of identity to its

members. In this sense, a sustainable organizational culture is when a company shares a set of sustainable beliefs, ideologies, processes, and attitudes. Therefore, organizations with a strong culture of sustainability strive to support a healthy environment and improve lives, while continuing to operate successfully over the long term.

But how can companies balance financial, social, and environmental risks, as well as their long-term obligations and opportunities? The creation of this project aims to be able to answer these questions through the implementation of sustainability strategies capable of benefiting the environment and the company at the same time. The definition of a strategy with benefits for both parties must be the starting point for the implementation of a sustainable culture in the company where the project will be developed.

The rest of the project is organized as follows. Chapter I describes the literature review, an overview of the previously published works on sustainability culture, environmental awareness in small and medium-sized enterprises, corporate social responsibility, environmental and crises management, sustainable economy, green marketing and organizational culture. Chapter II describes the company where the project was applied. This chapter presents the Colunex's history, its values, visions and objectives, the team and its organizational structure, its products and services, headquarters, the business model canvas, and the company's corporate social responsibility. Chapter II also describes the company analysis which includes SWOT and PESTLE analysis and analysis of the main markets. Chapter III describes the project developed and explain it from its concept, creation, and development. Each task developed for the project is explained and the conclusions of each one is presented; this chapter also describes the tasks for the continuation of the project in the future. Chapter IV concludes the entire project.

CHAPTER I – LITERATURE REVIEW

1 Sustainable development

Sustainable development has become a new reality and an increasingly important issue not only in society but also in companies due, in large part, to a need imposed by the environment. When we debate this issue, three important topics emerge: economic growth, the needs of the poorest, and environmental limits (WCED, 1987). During the 1980s, social issues became more important, and these issues include rights, quality of life, and poverty (Murthy, 2012).

There are several similar definitions for the term sustainability even though some authors defend a similar concept. Sustainability is an economic state where the demands placed upon the environment by people and commerce can be met without reducing the capacity of the environment to produce for future generations. It can also be expressed as leaving the world better than you found it, taking no more than you need. Try not to harm life or the environment and make amends if you do (Robèrt, K. *et al.*, 2002).

The concepts of sustainable development and sustainability have expanded more and more and broadened their focus on attractive environments, social and environmental impact, and the so-called “triple bottom line” (Elkington, 1998). Although sustainable development has been a hotly debated topic, there is no consensus. According to Banerjee (2001), the term has become “too broad in its scope to be relevant to organizations”. The debates on the topic also served to underline opinions about the enlightened self-interest of companies in demanding a voice and vote on this issue. This is because the new realities related to sustainability make the anticipation and containment of the opportunity and threat of sustainable development increasingly costly for businesses. For example, broadly structured investments in poverty reduction do not fit neatly into corporate sustainability strategies (Boyle & Boguslaw, 2007).

The country and culture where the company, organization, or brand is inserted influence the opinion on sustainability and how sustainable strategies are seen, as they usually receive more political, economic, and media emphasis in developing countries compared to environmental issues (Schmidheiny, 2006). When a country and culture allowed it, sustainability became a normative concept in which ethical belief systems

converge to limit the “moral free space” of business (Donaldson & Dunfee, 1999; Gladwin *et al.*, 1995).

This creates a third reality for business and is a persistent notion of balance that is related to concepts of sustainability:

A relationship between dynamic human economic systems and larger-dynamic, but normally slower-changing ecological systems, in which: A. Human life can continue indefinitely; B. Human individuals can flourish. Human cultures can develop; but in which the effects of human activities remain within bounds, so as not to destroy the diversity, complexity, and function of the ecological life support system. (Costanza *et al.* 1991)

With definitions and discussions on sustainability, we realize that it implies maintaining the capacity of ecological systems to support social and economic systems, and this is a dynamic process that requires an adaptive capacity of societies to deal with change and is not just an end product (Berkes *et al.* 2003). For this dynamic process to be implemented effectively, good management is needed, as well as dealing with ecological issues that require finding a balance between economic success and ecological protection. To this end, the analysis of problems in the strategies of companies and eco-companies helps to clarify the ecological and economic relationships, guaranteeing the company a good performance in the various fields. These analyses allow strategic managers to assess the impact of company operations on Earth's resources, species, biophysical processes, and sociocultural systems (Garner, Stead & Stead, 2000). Green economy has both positive and negative characteristics, such as the positive creation of new green job opportunities, however, bureaucracy, market uncertainty, and the lack of monitoring systems in the implementation of green public policies are barriers to a green economy (Battaglia *et al.* 2018). According to Szopik-Depczyńska *et al.* (2018) the efficient management of shared natural resources and the way toxic and polluting waste are disposed of are important goals to achieve this purpose.

An environmental crisis created by natural disasters, pollution, or a pandemic directly influences people's quality of life and companies. Preventing these situations is a strategy to prepare the future. According to Szopik-Depczyńska *et al.* (2018) encouraging industries, businesses, and consumers to recycle and reduce waste is

equally important for a more sustainable world and society. Some data help to understand the urgency that exists and motivates sustainable development in companies. But what is the role of small and medium enterprises in sustainable development?

1.1 Environmental awareness in small and medium-sized enterprises

There are 90% of companies worldwide categorized as SMEs - Small and Medium Enterprises and they are responsible for 70% of global pollution (Tutterow, 2014). However, most studies on corporate sustainable development focus mainly on large companies, such as multinationals, while sustainability activities carried out by SMEs are less understood and documented (Rodgers, 2010). SMEs, individually, have by definition, more limited operations relative to large companies and institutions and so there is some belief that they have less potential to impact the environment to the same degree as large companies (Gadenne, Kennedy & McKeiver, 2009). Hillary (2000) reinforces this idea by stating that previous research on SMEs environmental practices portrayed SME' owner-managers as lacking conceptual knowledge and adequate tools to assess and deal with environmental impacts, assuming by default that sustainability actions add costs. When catastrophes occurred between the 1970s and 1980s such as Bhopal and Chernobyl, public opinion believed that the great part of the environmental problems was linked to the activities of companies, mainly multinationals operating in specific industrial sectors, such as chemicals, petrochemicals, and nuclear energy, at this time the role of SME was mostly ignored. And for some time after 1980, policy-making bodies responsible for environmental control paid more attention to larger companies than smaller ones. However, according to the report presented by PORDATA, in 2019, 99.9% [1,333,649] of companies in Portugal were SMEs and employed 3,344,792 workers. These figures reflect that together SMEs in Portugal represents most of the industry and therefore have a significant impact on the country, occupying an important position like other developed economies in countries such as Australia. Thus, the capacity, willingness, and interest of SME owners and managers to implement sustainable practices such as CSR - Corporate Social Responsibilities - measures is a relevant issue.

Hofmann *et al.* (2012) surveyed 294 small and medium business to explore the relationship between underlying capabilities and environmental management practices. The authors concluded that certain competencies allow SMEs to engage in sustainability

initiatives without loss. This includes having an environmental plan and providing environmental training for employees. They found that employee incentives for environmental suggestions, having a dedicated environmental manager, were among the least adopted strategies, presumably because such actions require financial resources, which are limited in many SMEs.

The KPMG report (2020) presents results from a study of sustainability reports from 5200 companies from 52 different countries and jurisdictions. They conclude that 80% of companies around the world already include the topic of sustainability in their reports, giving relevance to the topic, and there are two countries, Japan, and Mexico, with a rate of 100% of companies reporting on Sustainability. This data helps to conclude that third-party assurance of sustainability information in corporate reports is now a major business practice worldwide. North America has the highest regional sustainability reporting rate with 90% of companies. Latin American companies lead in reporting on biodiversity-related risk. 40% of companies from 52 countries worldwide now recognize the financial risks of climate change in their reports which is relevant data for increasing sustainable development and consequently most companies worldwide now have targets to reduce their carbon emissions. This report also concludes that sustainable development goals linked to economic growth, climate change and responsible consumption are the most prioritized by businesses, while sustainable development goals linked to the protection of biodiversity are the least prioritized by companies. In conclusion, the KPMG Sustainability Reporting Survey 2020 reveals many positive developments in sustainability reporting and assurance and an increase in social responsibility related to greater environmental awareness.

According to Werther & Chandler (2011) corporate social responsibility encompasses the relationship between corporations and the societies with which they interact. CSR also contains the responsibilities inherent to both sides of this relationship as it defines society in its broadest sense and at various levels, including all stakeholders and constituencies that maintain an ongoing interest in the organization's operations. The social responsibility of companies tends to be placed on the same basis as individual citizenship, since both presuppose that they have the same exercise of rights and fulfilment of duties guided by ethical values and not only by the imposition of legally enforceable rules. In this perspective, the implementation of social and environmental responsibility in companies can generate positive effects for both society

and companies, contributing to organizational, social, and even cultural changes (Srouf, 1998). The CSR and environmental awareness of companies have greatly increased thanks to the contribution of environmental movements in public and private institutions and in political power through the dissemination of information on sustainability. In general, enterprises are responsible for a considerable amount of environmental degradation that exists in the market where they operate. When a company increases its environmental awareness and decides to act in accordance with a certain social responsibility, it needs to change behaviour, which normally requires a fundamental change in the values and attitude of the company's managers (UNCED, 1992).

Social sanctions applied for example by laws or social activism can directly affect the strategic objectives of a company and therefore it is important that there is an effort by the company so that strategies are defined and applied in accordance with society's expectations. These strategies can be carried out in several ways, they can be more reactive or more preventive and the way they are implemented in response to society's expectations has an impact on society, whether more positive or negative. When the company's strategy tries to respond subjectively to society's moral expectations, the rational argument used is based on the avoidance of sanctions. In this way, the impact can be more positive for the economy, for example, by addressing issues voluntarily rather than waiting for a mandatory requirement based on government action. On the other hand, the company can take a more reactive approach and wait for the demands to be left to act. This reactive approach often allows companies to ignore their moral responsibilities until legally required and to focus on other business goals such as maximizing profits among other objectives (Werther & Chandler, 2011).

With increasing awareness of environmental issues, companies have adopted more prevention strategies, implementing environmentally friendly business practices. The implementation of practices and strategies with environmental awareness is sometimes very influenced by groups outside the company, but with an interest in sustainability, these groups are for example legislators, environmental groups, organizations, financial institutions, suppliers, or competitors. In addition to these external groups, a company's employees can also influence it to have more sustainable practices internally. However, according to Gadenne, Kennedy & McKeiver (2009) although business owners and managers also contribute to the practice of environmentally friendly measures, the level of implementation of ecological practices

is low. To increase the level of implementation of sustainable measures, some organizations and countries create measures to help or influence companies. In Portugal, the concern with SMEs' sustainability is heavily influenced by Portuguese and European legislation. Lately some measures have been taken with the aim of reducing environmental impact [for example, selling disposable bags instead of offering them]. On the other hand, the environmental concern can also come from competitors' pressure or from partners that have social responsibility policies related to sustainability and require some practices from their suppliers or customers. Environmental stewardship action may also result from concerns expressed by employees or customers, through the observation of benefits achieved by others through their environmental programs, or because of the personal preferences of the business owner/manager (Gadenne, Kennedy & McKeiver, 2009).

The pressure made by the government to companies increase their corporate social responsibility was more evident since 1992, when the European Commission has devoted special attention to CSR and environmental awareness in its Fifth Environment Programme, where it has focused on supporting SMEs and improving their environmental performance. The legal and promotional initiatives undertaken by the Commission in 2002 paved the way for greater environmental awareness and responsibility by SMEs. According to Biondi, Iraldo & Meredith (2002) research experiences and empirical applications of EC environmental policy instruments confirm that an improvement in the environmental impact of SMEs is essential to pursue a development model that is not only social but also more sustainable and economic. These authors also argue that innovation and environmental responsibility on the part of SMEs should be encouraged, favoured, and supported by policymakers. For SMEs to be effective and motivated to opt for more sustainable measures, policies, laws, and government support must allow SMEs to innovate in their products, processes, and internal activities to cause less environmental impact without reducing profits from the company. Many SMEs have been updating their production technologies due to tougher environmental legislation. Other companies are starting a general innovation program, involving technical, organizational, and managerial aspects, to implement an environmental management system. This system allows for better management of environmental performance and more organizational efficiency needed to carry out all activities that impact the environment. SMEs with more environmental measures

implemented properly and effectively can obtain public certification of the system they have implemented. These certificates are beneficial for the company as it is official proof that serves as a guarantee for stakeholders about the company's high environmental performance, and it is also a competitive advantage. Legal compliance is one of the main environmental goals of most SMEs. Legal limits on environmental impact have become increasingly stringent and therefore companies are under more pressure to ensure an increased level of environmentally responsible performance. The development of technology itself has evolved towards a more sustainable performance of companies and therefore there are more and more options for technological products or management strategies for more sustainable production.

Sustainable development in companies can be considered as a process of change where the exploitation of natural resources, investments, technological progress aligned with environmental responsibility and institutional changes result in an alignment of the needs of future generations. The circular economy of a company can be directly linked in a functional way with environmental responsibility and with the 3R theory [Reduce, Reuse and Recycle]. An economic system constructed or reconstructed in this way is concerned with preserving the value of resources, minimizing waste, and encouraging the permanence of products in the economy even after a product has reached the end of its use cycle. These products are used to create extended value to the company which can be beneficial to their economy (Banco de Portugal, 2020). So how can CSR help companies to accomplish sustainability and what strategies can be used to benefit the company and the environment?

According to the European Environment Agency, before Portugal joined the European Union in 1986, there was not much concern about the environment, and this was a low priority issue. However, the country's environmental awareness has increased since Portugal's application process to the European Union began. This increase in environmental concern is due to the requirements to translate European Union Environmental Directives and Regulations into national law. Environmental awareness in companies reflects the attitude of Portugal and until 1980 companies did not have much concern for sustainable measures or the environmental impact they had in their region. In addition, many SMEs did not have internal environmental skills or enough economic strength to allow them to comply with the requirements of the legislation in the short term. In this sense, before Portugal's presence in the European Union, there

was a general lack of compliance with the legislation and its approval was not enough to guarantee environmental compliance. However, with the entry into the European Union, interest in CSR increased, not only because of the legislation created, as we saw earlier, but also, by the growing of some social pressure for companies to perceive the negative impacts of their activities on the environment. This social pressure is also done through the increased demand for products with some environmental awareness, such as recyclable packaging, sustainable materials, or the use of recyclable materials. Social and environmental responsibility requires companies to change three sectors of the company: the economic, environmental, and social sectors. In the environmental field, CSR has increasingly involved the voluntary integration of environmental concerns into business strategy, through the implementation of EMS - Environmental Management Systems - and their certification in accordance with international ISO 14001 and/or European EMS standards, as well as for the preparation and dissemination of information on the performance, and environmental impacts of business activities (European Environment Information and Observation Network).

Following the Portuguese Central Bank's commitment to sustainability and sustainable finance, several initiatives were important to raise global awareness of sustainability among the Portuguese public and decision-makers. One such initiative began in September 2000 during the United Nations Millennium Summit with the launch of the MDGs - Millennium Development Goals - which were to be achieved by 2015. Targeting developing countries are focusing on a relatively small set of eight categories, the MDGs are generally considered a success story in the fight against poverty and have been implemented to a large extent. The Kyoto Protocol, adopted in December 1997, also within the scope of the United Nations, is another important reference in the field of environmental issues. This protocol was particularly relevant as the first significant convention to put climate change centre stage, setting targets to reduce greenhouse gas emissions. However, according to George (1992), the European economy will only be able to carry out its new task of contributing decisively to the reconstruction of the devastated environment if individual companies are prepared to adopt the principle of environmental management.

1.2 Environmental management

As we have seen before, companies are interested in increasingly moving towards more sustainable and environmentally friendly production, avoiding negative externalities on their economy. Technological evolution plays a fundamental role in making it possible for companies to guarantee quality and sustainable production and increases the options that companies have, for example in the choice of machines, as companies have more and more options either of production machines or sustainable machines capable of replacing unsustainable ones. These concerns and environmental responsibility that SME have creates a new problem. How can we reconcile sustainable production and management with healthy economic development for the company? How to work with a focus on profits without harming the environment?

Comparing or using concepts such as social marketing, social and ecological norms, and labels, putting them all together, is neither simple nor easy, as they all refer to a social/environmental cause, but their objectives/purposes are different. For example, social marketing makes the objective of stimulating the business very visible, through a positive image, while the norms and labels presuppose the vision of a company that consumes for its benefit [directly or indirectly] renewable or non-renewable natural resources, belonging to society, and in that sense, it incurs a debt to the community, becoming a compensation mechanism. When we talk about social and environmental responsibility, in terms of management, it involves the concern and reflection between environmental performance and economic performance. From a management perspective, the stronger the link between legal compliance and economic performance, the trend is towards a stronger commitment to environmental innovation. This link between innovation, economic performance, and sustainability is becoming more evident as SMEs used to mostly implement end-of-pipe technologies rather than integrated solutions.

According to Biondi, Iraldo & Meredith (2002) there are more SMEs trying to integrate management with innovative environmental measures in all their activities. These activities include areas such as product or communication design, design of raw materials, and this selection of raw materials are managed with environmental issues as one of the decision factors. This puts SMEs ahead of regulations, with all industrial activities able to address emerging environmental issues. The integration of innovative

and sustainable measures in the production process has important consequences for the company's motivation, as it can create cost savings or better production performance. For example, suppose that an SME in the chemical sector has to update the transport device within its production process because it is too noisy (and exceeds the limits set by law) when the managers of this SME plan to invest in a new technology that meets the standards set by law, they could choose a cleaner technology that would allow them to streamline the process and increase productivity. Management based on sustainability principles can also bring other economic benefits obtained by optimizing the use of resources (savings of raw materials, energy, water, or waste recycling). Several food processing SMEs operating in Europe have managed to reduce water consumption thanks to the implementation of cleaner technologies, resulting in lower water costs. Benefits also arise from implementing waste management systems. Many SMEs have found, thanks to technological innovations, several opportunities to reuse waste for fertilization or to produce pet food. Although it is verified in several sectors that the adoption of sustainable measures can bring economic benefits to companies, there are some sectors where these benefits are not so clear, so the economic benefits linked to environmental innovation are not emerging in all sectors and countries.

In Portugal, according to a study carried out by Fonseca and Ferro (2016) that aims to clarify the existence of valid positive relationships between the social performance of companies and the main business results, the adoption of socially responsible policies is consistent with competitiveness and the results confirm the importance of social responsibility for companies with long-term success. The study also concludes that it is beneficial to invest in measures and sustainable management even when the country's scenario is less favourable (e.g., during an economic crisis). This study reflects this positive link on SMEs in Portugal during a period of economic recession, where despite the period of crisis the positive relationship between social performance and main business results remained valid.

1.2.1 Crisis management with environmental awareness

A crisis [e.g., pandemic, war, or a natural disaster] can disrupt existing supply and demand networks, causing damage to well-being, health, infrastructure, and the economy. When such a crisis arises, it may be necessary to redirect pre-existing supply flows, align and cooperate with competing agencies and, when possible, shift production to meet new demands, often related to life-preserving resources. The

necessary resilience to deal and manage a company during a crisis implies establishing stock buffers through the acquisition of a stock of low-cost components, thus ensuring the availability of resources during the shortage of supply in the face of the crisis. Unlike the traditional single-source organizational centralization model designed to reduce costs, modern companies must find alternative sources whenever possible, keeping multiple options open and reducing the number of activities involved by conducting them in parallel rather than in series. This was traditionally considered expensive, but it is one of the key strategies for building resilience, decreasing vulnerabilities, and mitigating damage when a crisis arises (Obrenovic *et al.*, 2020).

When the pandemic generated by Covid 19 emerged, some companies were able to quickly analyse the risks and predict future crises. The quick reaction of the companies allowed them to be able to reorganize their business so that it was prepared for the new scenario. For example, several companies adopted strategies such as transferring their offline stores to online stores or increased investment in online stores while offline stores were closed. The crisis generated by Covid 19 accelerated the entry of many companies into the online world and this also had implications for sustainability and the environment. Companies that were able to react more positively to the crisis instead of slowing down or shutting activities, they kept investing in human resources and technology (Hermann, 1963). According to FitzGerald *et al.* (2020) companies with a virtual structure and a shorter and more diversified supply chain, flexible and adaptive culture, distributed leadership and workforce, advanced digitalization and internet technologies and contingency plan financial support can sustain their business during the crisis.

According to Obrenovic *et al.* (2020) the impact of the crisis generated by Covid-19 differs depending on the country and culture due to the measures and policies adopted by each country, such as population demographics or the quality of health service. However, there are management and organizational characteristics adopted by companies that also determine the degree and type of impact that the crisis has on each organization or company. The drastic drop in company revenues put their sustainability in question, as the state of many companies with the arrival of the pandemic was one of survival. Crisis management is essential for a company to remain sustainable and able to survive in the face of difficulties. Although companies cannot end the crisis, they can foresee it and prepare in advance for future events. An effective plan with effective

communication techniques during a crisis benefits shared mental models and improves performance even when unexpected events occur.

The emerging leadership responsible for coordinating the team must consider individual and team performance. The roles of individuals in the organization must not be rigid, but flexible, and a certain autonomy in decision-making must be present. In this way, one can step out of their usual activities and redirect their actions or take on the role of another employee to meet the emerging requirement. Companies organized with a networked structure, distributed leadership, flexible and direct guidelines, and less interdependence are more adaptable and can deal more effectively with catastrophic situations. The resource crisis that exists during a crisis is time-driven, and immediate implementation or immediate suspension of operations must quickly be decided (Anderson, 2000).

Currently, there are several events [such as Covid-19, the war in Ukraine or natural disasters] conducive to the creation of a new crisis, which is already being felt with stockouts, shortages of raw materials and rising prices, which also increases the cost of producing a product or service. Given current events and following the reasoning of previous authors, companies are currently going through a period that requires crisis management and the adoption of new strategies capable of responding to the current scenario. The challenge of sustainable development requires the ability to synthesize and implement new strategies not only from companies but also from organizations, government, and civil society (Murthey, 2012).

1.3 Strategies for implementing sustainable measures in SMEs

As we have seen before, SMEs are responsible for 70% of global pollution (Tutterow, 2014), and therefore have a significant impact on the environment, which for several factors has awakened in some SMEs an environmental awareness and interest in making companies more sustainable and eco-friendlier (KPMG, 2020).

Several authors advocated different strategies to help companies to implement green management and economy. According to Porter and Kramer (pp. 78 – 92, 2006), businesses “must integrate a social perspective into the core structures they already use to understand competition and guide their business strategy”. They argue that for companies to create opportunities that benefit society they must maintain a business-connected and well-embedded approach to sustainability. A fragmented approach to

sustainability such as overlapping themes like sustainable development, corporate citizenship, sustainable entrepreneurship, ethics, or social responsibility creates confusion in implementation and makes the strategy less competitive (Van Marrewijk, 2003). Therefore, there is a need to integrate sustainability issues into the business strategy in a fluid and non-fragmented way and use them as levers to create a sustainable competitive advantage. The starting point for this integrated strategy formulation is the creation of a sustainability framework for the business (Selznick, 1957).

The creation and implementation of sustainable strategies in a company can be challenging. Although some authors and managers do not believe in the economic capacity of SMEs to adopt ecological measures, there are different opinions. In this line, Gladwin (1992) or Kleiner (1991) defend that Companies need to cultivate a set of skills related to sustainability, such as waste minimization, green product design, and technological cooperation in the developing world, in order to enjoy a sustainable competitive advantage in the future. Furthermore, there are also some external factors, such as environmental regulations, standards set by governments, and pressures resulting from customer and community groups that provide useful business stimulations (Howard-Grenville, 2006). These factors signal the predictable change in the social, political, and macroeconomic context of companies (Christensen *et al.*, 1982).

The creation of a strategy must be adapted to each company, according to the culture and laws of the country in which it operates. It is also necessary to understand its main resources and capabilities and the sustainable competitive advantages that they can benefit from in the environment in which they are located. To better analyse all the factors and the environment where companies are inserted, Hart (1995) proposed a conceptual classification based on natural resources, where three strategic capacities of pollution prevention, product management and sustainable development were founded on three resources. The company's key is continuous improvement, stakeholder integration and shared vision. Each of these three strategic capabilities can create sustainable competitive advantages for the company. For example, pollution prevention, which aims to avoid waste and emissions, can provide a sustainable competitive advantage with lower overall costs. Sustainable product management can increase its durability and lifespan. Sustainable development, which reduces the environmental

burden and increases economic benefits for less developed markets, can offer a competitive advantage of future position.

Some authors defend a set of practices that they consider to be the best Environmental Management and Competitiveness Practices. Hart (1995) and Stead & Stead (1995) argue that the advantage cost can have as main result the adoption of best practices that focus on the companies' production processes. These process-focused practices include strategies such as redesigning production processes to be less polluting, recycling process by-products, and innovating fewer polluting processes. These splitting practices by various authors aim to reduce the cost of production by increasing the efficiency of production processes and reducing the costs of disposal of inputs and waste (Newman & Breeden, 1992; Smart, 1992; Hart, 1995; Shrivastava, 1994, 1995; Stead & Stead, 1995). Other environmental management approaches that assess the environmental impact of a company's operations throughout the entire lifecycle of the products they create, from product design through production, use and disposal, can also contribute to a cost advantage. These approaches include product management (Hart, 1995, 1997), ecocentric management (Shrivastava, 1994), and feature environmental practices that include full life cycle analysis of the products created (Shrivastava, 1994). In addition to the economic advantage in product production costs, these practices can also reduce other types of costs, such as potential liability costs, legal fees (Shrivastava, 1994) and potential product return costs. However, the cost advantages of implementing these best practices depend on government environmental regulations, which exist in each country.

1.3.1 External factors that influence the creation of the strategy

The sustainable strategies that a company must adopt as mentioned above must consider a series of external factors, including the country and its culture. There are differences between developing and developed countries. For example, companies can be negatively affected economically by precarious situations in the field of education, health or by existing criminality in the country. In the absence of sustainability-related capabilities as the basis of strategic competitive advantage, the environment in which companies operate can create constraints (Murthy, 2012). However, the presence of these strategic capabilities will help companies to simultaneously improve social and human well-being, reduce their ecological impact and effectively achieve organizational

goals (Sharma, 2003). Therefore, society can be a key factor in the creation of business strategy (Hall, 2007).

These external factors to companies also influence e-business and all online businesses. In online businesses, the market in which it is inserted can also be worldwide or specific and the customer, such as their behaviours, can also be standardized and studied. Customers have high demands on the quality and complexity of the services they receive. Entering such a competitive environment can further limit the problems with the location of SMEs and their competitive power in the global market. These difficulties require companies to respond quickly to changes in customer requirements and for that it is necessary to innovate with marketing tools, implement several other innovations, collect, and analyse the necessary data as in companies outside the online world. (Kucharčíková *et al.*, 2018).

1.3.2 Sustainable economy

According to Dyllick & Hockerts, (1999) sustainability is often equated with eco-efficiency, however these comparisons put aside some important topics for a company to become sustainable. For example, the perception that economic sustainability alone is not a sufficient condition for the overall sustainability of a company (Gladwin *et al.*, 1995). However, some argue that a single focus on economic sustainability can succeed in the short term; long-term sustainability requires that all three dimensions [Environmental, Economic and Social Sustainability] be satisfied simultaneously (Figure 1). These three dimensions are part of the “triple-bottom-line” concept and are interrelated, they influence each other in various ways (Elkington, 1997).

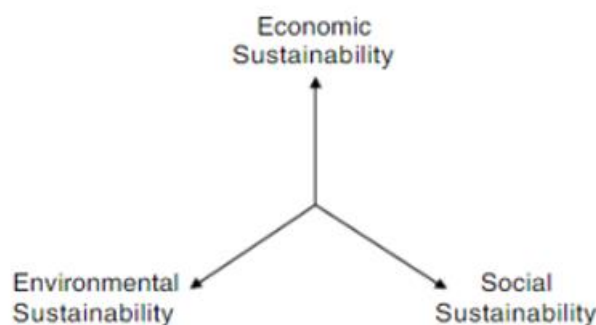


Figure 1: Three dimensions of sustainability

Source: John Wiley & Sons, Ltd and ERP Environment

According to Dyllick and Hockerts, (1999) companies driven by the stock market tended to overemphasize short-term gains, focusing more on quarterly results than based on long-term success. However, this interest in short-term profit is contrary to the concept of sustainability, which presupposes a response to future needs and not just current ones. To achieve long-term sustainability, companies will have to manage not only their economic capital, but also their natural capital and their social capital.

DeSimone & Popoff (1997) argue that to consider a company truly sustainable, it needs to have strategies and objectives that address more than two cases of sustainable development. For this, it is important that the company's management considers sustainability in its strategies and objectives and is not producing beyond its capacity to support the environment. Next, it is important to include social responsibility linked to sustainability in its strategy and culture. Socio-efficiency describes the relationship between a company's value and its social impact. CSR can have a positive impact on the company such as corporate donations, job creation or it can have a negative impact such as workplace accidents, employee bullying, human rights abuses. Depending on the type of impact, socio-efficiency implies minimizing negative social impacts or maximizing positive social impacts concerning added value (Hockerts, 1999; Figge & Hahn, 2001).

Although eco- and socio-efficiency are valuable tools, they only lead to relative improvements. Typical results would be increased energy or resource efficiency per value added. However, ecological sustainability is not only concerned with relative improvements due to the lack of awareness and sustainable measures in some companies and the fact that there are irreversible actions and attitudes, but also necessary to consider and value the absolute limits. For example, it is important whether an emission is released into a system that is still largely unpolluted or whether the receiving system is already so close to its carrying capacity that the extra emission will cause the whole system to break down.

1.3.3 Operations management and leadership

Society sometimes expects entrepreneurs to have experience or skills in the operations function, however, when there is a lack of training or skills in the operations area, the entire business is limited (Shepard *et al.*, 2000). A study of successful SMEs

by Barreira (2004) indicates that a minimum of five years is required to develop the operational and management skills necessary to be considered sustainable. Previous research on skills' production has had results indicating that the operation function has poor relationships with other functions and operations personnel are often poorly trained and lack higher-level qualifications (Barreira, 2004) revealed that the pressures of globalization and compressed cycle times have transformed the nature as well as the pressures of the operations function (Sohal *et al.*, 2000). Despite the lack of experience, training, and qualifications being a limitation for the sustainable development of a company (Shepard *et al.*, 2000) companies have insisted more on the implementation of sustainable strategies because of the pressure exerted by the ease with which the media manages to disclose the damage companies are doing to the environment (Epstein, 2008).

Other important external factors in the pressure placed on companies to become more sustainable are the targets set by governments and the laws implemented to meet them; economic instruments and those of environmental regulation; sanctions for environmental damage; environmental technical standards; and socio-environmental legislation (Almeida *et al.*, 2014). To encourage companies, some support and benefits have been created to help and motivate companies to seek new strategies. In 2015, the 193 UN - Member States of the United Nations - created the 2030 Agenda, which consists of a global action plan that brings together 17 sustainable development goals and 169 targets, created to eradicate poverty, and promote a decent life for all, without compromising the quality of life of the next generations. The implementation of the 2030 Agenda requires an operational approach that requires integration between agreed objectives and targets. The agenda presents a strategy to connect the various sectors closely linking goals to address social, economic, environmental, and health determinants and sustainable development outcomes over 15 years (Nunes *et al.*, 2016).

The combination of motivated leadership, incentives, and prompts from organizations together with collaborative innovation in a cooperative network can improve a company's sustainable performance (Zhang *et al.*, 2018). A survey of 236 companies in 53 cooperative supply chain networks reinforces this idea by concluding that:

- When leadership is integrative, the impact is positive on the innovation performance of business synergy in a supply company;
- The integration of knowledge and relationships in a network play partial mediating roles between integrative leadership and the performance of business synergy innovation;
- The integration of knowledge and relationships in a company plays a role in sequential mediation between integrative leadership and innovation performance of the company's synergy;
- The partial mediating role of the integration of knowledge and the rooting of the relationship in a company are not significantly different; however, their mediation roles are greater than the role of a sequenced mediator of knowledge integration and network relationship rooting (Zhang *et al.* 2018).

Environmental regulation, as we saw earlier, has been one of the main factors that drive companies to improve their performance. However, in addition to companies being increasingly forced to deal with environmental problems, the increase in pressure is also associated with the large group of stakeholders with an interest in sustainability and who are considered important to influence strategic environmental decisions and public opinion on sustainability. companies (Almeida *et al.*, 2014).

1.4 Green Consumers and their impact on SMEs

Implementing sustainability strategies has become a priority for many companies around the world. This change in the behaviour of companies is influenced by a new type of stakeholders (Paiva & Proença, 2011). This new group of Stakeholders arises from the number of concerns related to the environment and the environmental awareness that everyone has. Most consumers have realized that their purchasing behaviour has a direct impact on many environmental problems. As such, customers adapted their behaviour according to their conscience and adopted a new attitude as a customer. Now there is a new group of customers who are concerned about the environmental impact that products have and are therefore able to, for example, verify that the product is packaged in recycled material, and prefer to buy more sustainable products such as products with paints biodegradable, sprays, or glues without. One of the clearest evidences of the growth of environmental awareness in stakeholder

behaviour is the increasing number of individuals who are willing to pay more for environmentally friendly products (Figure 2).

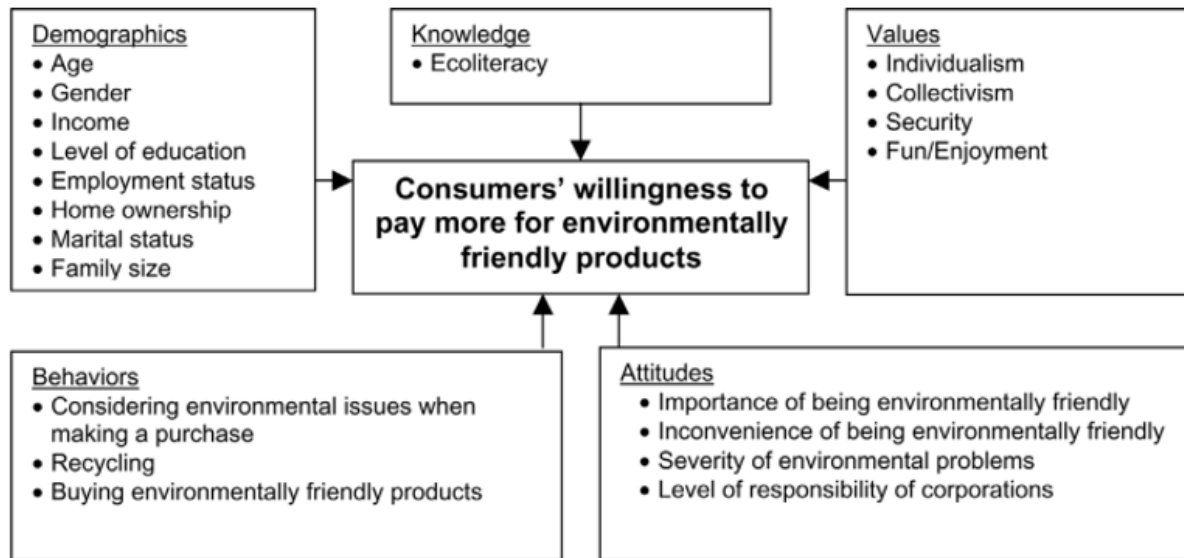


Figure 2: Conceptual framework

Source: Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001)

The behaviour of this new niche of stakeholders, the green consumers, has been studied and is not identical in all of them. Green consumers are stakeholders who want ecological and social responsibility built into the products they buy, are a complex and diverse consumer group that can vary in motives and motivations and have different levels of ecological commitment. Some green consumers are able to make great efforts such as paying more for more sustainable products; however, others do not have the financial capacity to do so and are ecologically sensitive consumers in their purchases only when it is convenient and at competitive prices. However, green consumers significantly influenced the introduction of new products, with new designs, new packaging, and new marketing strategies (Coddington, 1993).

According to Gilg *et al.* (2005) within the niche of green consumers, we can analyse the different profiles according to the degree of environmental awareness that exists among them and categorize them into four different consumer profiles:

- Committed environmentalists, who have greater environmental awareness and pro-environmental purchasing behaviour and recycling;
- Traditional environmentalists, who have some environmental awareness but are less likely to recycle;

- Occasional environmentalists, who rarely or never opt for sustainable purchases;
- Non-environmentalists, who do not exercise any environmentally responsible purchasing decision.

Green consumers usually have more purchasing power (Gilg, *et al.* 2005), and are highly educated, influential, and concerned about the environmental situation (Ottman, 2011). These green consumer niches significantly influenced the introduction of new green products, with a new design, new packaging, and new advertising approaches (Coddington, 1993).

1.4.1 Green Marketing

The increase in environmental movements and greater environmental awareness on the part of consumers creates a need for companies to adopt new advertising practices that communicate to the new market niche, green consumers (Marchand & Walker, 2008). Green marketing aims at maximizing the satisfaction of the expectations and needs of green consumers with the least possible impact on the environment (Polonsky, 2011), as well as maximizing the profit of organizations and their sustainable economic growth, thus benefiting all stakeholders. The target involved without compromising future generations (Rothenberg, 2007). The concept of green marketing was first debated in 1975 to analyse the impact of marketing and policies adopted by both companies and the government on the environment. Although its diffusion began in the 1960s, it was only in the early 1990s that a definition of green marketing was established (Boztepe, 2012).

This concept must include in its practices the inclusion of the 4 S's: consumer satisfaction; product and production safety; social acceptability of the organization's products, production, and exercise; sustainability of products (Peattie and Charter, 2003). For this new type of marketing to be possible, the collaboration and interests of companies are important, as they must create and facilitate the commercialization of any good or service with a green component and that integrate environmental issues in satisfying the requirements of individuals (Dalmoro *et al.*, 2009). An initial strategy to integrate environmental issues in companies is the implementation of measures according to the 4 R's: reduce; reuse, recycle and recover. In this way, the company's production processes become more environmentally responsible (Gosh, 2010).

Green marketing should not be limited to communication strategies, as there are other marketing strategies capable of having a positive impact on the environment, such as the creation of sustainable packaging, technological changes in an ecological aspect (Kaur, 2012), development of products that attract consumers through their ecological characteristics, with minimally affordable prices and that have the least negative impact on the environment (Boztepe, 2012).

Green Marketing, in addition to the environmental impact, is capable of positively or negatively impacting companies depending on the strategies used. It can positively affect the economy by creating new markets, providing employment opportunities, and enabling competitive advantage in changing consumer attitudes towards other brands (Yazdaniford & Mercy, 2011). Some difficulties that may arise in the implementation of new green marketing strategies include variations in consumer demand, the high cost of green products compared to conventional ones (Chen, and Chai, 2010), the difficulty in conveying trust, and credibility to consumers (Terres & Branchi, 2013), in achieving prominence in a globally more competitive market and in persuading consumers to make purchase decisions aimed at green products (Ulas 2015).

1.5 Organizational Culture

A company's culture is related to its CSR and influences the company's leadership and strategies as well as its internal and external image. Contemporary companies recognize their well-versed and networked scenario, which makes them more resilient in times of catastrophes as they are further away from the hierarchical and rigid structure, teams diverge more from notions such as precise roles, responsibilities, and job descriptions (Obrenovic *et al.* 2020). Organizational culture is defined as a set of beliefs, values and behaviour patterns that shape the behaviour of the organization's members and build the company's core identity (Tuan, 2012). The enterprise culture can have a negative or positive impact on its success. It can be significant on the company's productivity and the public's acceptance to join or associate with the company by purchasing the product or acquiring a service.

Cameron & Quinn (1999) presented organizational culture, divided into four types of culture: “Clan culture (consists of a consensual culture), Adhocracy culture (entrepreneurial culture), the market (competitive culture), and, finally, hierarchical culture (bureaucratic)” (see Figure 3).



*Figure 3: Organizational culture
Source: Cameron & Quinn (1999)*

According to Cameron & Quinn (1999) the definition of each of the four types of culture are:

- The Clan's culture is flexible, has internal orientation, this type of culture is very present in family organizations managed by interpersonal loyalty, trust, commitment, and tradition. Participation, teamwork and consensus among everyone's opinions are encouraged and taken into account;
- Companies with an Adhocracy culture are also flexible, but externally oriented, usually led by entrepreneurs capable of taking risks and innovating, being market leaders in innovation. These are typically dynamic, entrepreneurial organizations where employees are committed to innovation and testing experimentation. Individual initiative, freedom and continuous improvement are valued and considered key elements for the company to remain a leader in market results and always in constant growth;

- The market culture is less flexible and more controlled and externally oriented. This culture is present in competitive and tenacious organizations, where productive, competitive, and more aggressive employees are expected to achieve their goals;
- The hierarchical culture, also very controlled and regulated, is internally oriented. It is present in formalized and structured organizations in which they value stability, efficiency and good functioning.

One of the difficulties faced by green marketing is the difficulty in achieving prominence in a globally more competitive market and in persuading consumers to make purchase decisions aimed at green products (Ulas, 2015). However, the culture of a company can be a relevant factor for the company to achieve the necessary prominence and credible communication. Some surveys (for example, Wiggins & Ruefli, 2005) indicate that the average period in which companies can sustain themselves in very competitive environments has been decreasing. And a competitive advantage in hypercompetitive environments can only be enjoyed for a limited period. Few factors contribute more to business success than culture, as culture defines the work that is carried out within an organization. According to the graph presented by Deloitte University Press, almost 87% of the interviewees say that culture is essential, 54% consider culture crucial.

A dynamic company develops features that allow a faster response to environmental changes. For a company to be able to respond quickly to environmental changes, organizational culture is significant. Enterprises culture has often been treated as a predictor variable that is antecedent to a potential outcome. Bock *et al.* (2012) found a positive association between creative culture and strategic flexibility as such culture reduces resistance to change. So, for an enterprise to respond to the environmental changes in the behaviour of the stakeholders, culture should be flexible and adaptable.

1.5.1 Relationship between organizational culture and sustainability

According to Isensee et al. (2020) organizational culture and sustainability have a significant impact on the development of SMEs. The company's attitudes, norms or assumptions determine its behaviour and its general approaches to the organizational impact on the environment. Environmental sustainability includes a company's

strategies, processes, measures and initiatives to reduce negative impact and increase positive impact on the environment. According to Grayson et al. (2018) companies that have a more sustainable performance have a specific organizational culture. The author Schein (2010) argues that actions aimed at changing environmental behaviours need to target the underlying mental states and mindsets of leaders and employees. The formation of new mental states is related to external factors such as the regulatory, cognitive and normative institutional environment (Rezai et al., 2016). There are also other contributors that influence the mental states of business leaders such as the individual's past (education, culture, social environment that surrounds them) which consequently influence conscience, create beliefs, convictions and personal habits such as (self)education or questioning the consumerism and environmental impact (Isensee et al., 2020). The ideological relationship of leaders and employees must be aligned and the attitudes of those who manage influence and motivate other attitudes. For SMEs to create an organizational culture it is necessary to have pro-environmental behavior in decision making and for this to be possible there must be an open communication structure, delegate tasks related to sustainability and engage employees (Caputo et al., 2017).

Creating a company's organizational culture can include long-term proactive strategies with well-defined objectives and goals with positive impacts on the environment (Kiefer et al., 2019). For this to happen, it is necessary for leaders to educate themselves on the subject, as the lack of environmental awareness undermines sustainable development (Lewis et al., 2015). To avoid lack of information and environmental awareness, SMEs must improve their relevant internal capabilities through inter- and intra-organizational knowledge sharing (Ayuso & Navarrete-Báez, 2017), research and development, environmental education and external training (Johnson, 2017) .

A study by Fok et al., (2022) highlight the idea that the more employees are aware of companies' sustainable practices, the more likely they are to feel positive about the organization's sustainability performance. When employees are aware and educated about sustainable practices, there is an increase in voluntary, informal and unplanned individual initiatives in the workplace that can contribute positively to the environment. Citizens' environmental and organizational behaviors play an essential role in the effectiveness of the process of making the company more sustainable, especially

through the development of preventive approaches that require the voluntary commitment of employees to reduce pollution at source. This involvement depends on explicit job descriptions and formal reward systems in place in companies (Boiral, 2009).

CHAPTER II – THE HOST COMPANY

2 The host company

This chapter include a presentation and analysis of the institution chosen for the implementation of this project.

The first part of this chapter will be the company's presentation with information and relevant data to know the company in a deeper way and to understand mainly its culture, its revenues, and its organization. I will present the history, the mission and vision, the corporate culture, the products, services, headquarters, and the company's business model canvas that I developed for this project (see Appendix I).

The second part of this chapter is the analyses of the company that include a SWOT and PESTLE analysis that I made, and an analysis of the two major markets where Colunex operates.

2.1 Presentation of the company

Colunex is a 100% Portuguese SME with a focus on mattresses production. In addition to the production and sale of high-quality mattresses, the company also produces and sells pillows, headboards, bedside tables, table lamps, toppers, duvets, bed linen, and pillow protectors. The main objective of the brand is the sale of products that provide to the customer a complete sleep experience, capable of creating a dream bedroom.

2.1.1 Company history

Founded in 1986, Colunex was born from the use of mattress-making machines that the company's founders had received as collateral for a loan, which had not yet been paid off. With the curiosity of those who have entrepreneurship in their soul, the founders and their families produced the first mattresses, thus starting the company. Sometime later, Mr. Alexandrino Nunes, founder of the company, had a backache in Rio de Janeiro that left him lying in the middle of the boardwalk, without any chance of moving. He was fortunate enough to be helped to regain his movements by a Japanese shiatsu therapist. There, in a blunt way, he stated that what he was suffering was partly responsible for the mattresses on which he slept. Enthusiastic about the idea that the role of the mattress in people's lives can be decisive in their health, he decided to invite the said Japanese man to come with him to Portugal and help create a new mattress.

In the year 2000, Colunex also started to operate in the areas of hospitality, high decoration, and health, becoming a company with a Business-to-client and Business-to-business strategy at the same time. The most significant examples include participation in more than 50 congresses in the medical field, as the only home care rest systems company present. After years of research, the brand won its first hotel project: Sheraton Porto and SPA, in which it competed with the largest multinationals in the sector. At this stage, the management of the company and all its departments were centralized in a modern industrial complex of 10,000 m².

In 2005 Colunex obtained the revalidation of the Quality Management System Certification according to the NP ISO 9001: 2000 standard, and in that year, it started a partnership with Microsoft, with the aim of renewing all the management software and leveraging yet another turning point in the history of the company always linked to comfort and technology to guarantee high-quality products.

In 2007 Eugénio Santos, the company's current CEO and president assumed the total leadership of Colunex, which had been founded by his father-in-law Alexandrino Nunes. His leadership was marked by the beginning of the internationalization of the brand. It was in January 2008 that Eugénio Santos started the implementation of an internationalization strategy, for which the brand has been preparing itself for ten years. As a result of this careful preparation, in its first participation in the international furniture fair “Maison & Objet”, in Paris, Colunex won an important award. Also, in 2008, the brand participated in some of the most important fairs in Europe and the Middle East. This strategy of internationalization of the company was very important for the economic growth of the brand during the period of crisis that was lived in Portugal and that created a break in the company between 2008 and 2009. Due to this drop in production and billing, in 2010 the company started to focus its objectives on the foreign market, giving more focus to the internationalization strategy. Likewise, it revalidated, once again, the Certification of the Quality Management System in the light of the NP ISO 9001: 2008 standard.

From 2011 to 2014 Colunex consolidated its prominent position in the international market, regularly exporting to markets such as Angola and Paris. In 2015, the company's internationalization strategy continued to bear fruit with the entry into the well-known Harrods store in the United Kingdom market, at which time the company already had 110 employees and was considered an SME.

In 2015 the company's exports accounted for 50% of sales of 6.4 million and 70% of the company's total sales were mattresses.

Since 2015, the company has increased exports and managed to enter new markets such as Kuwait, Switzerland, Austria, Germany, China, among other countries. Colunex's strategy is divided between national and international market using different communications. The national market has also grown with the increase in the brand's stores and resellers, such as El Corte Inglés. The brand's notoriety is stronger in Portugal than in the international market, however the international reputation has increased due to the presence in reputable tradeshows and the presence in top stores.

2.1.2 Positioning

Colunex's main mission is to work daily to provide the best and most complete sleep experience. The brand designs and produces mattresses and pillows combining design and technology to ensure comfort and a correct posture of the spine and neck. Colunex believes that a good night's sleep is essential to living longer, better and that's why one of the main objectives of the brand is to continue to break the limits of bedroom furniture and be able to provide its customers with more restful sleep, in a luxurious, pleasant, and comfortable environment. For Colunex, each client has unique characteristics and, therefore, it is important to customize all their wishes, creating mattresses and pillows that take care of the health of their spine, as well as bed bases and headboards that stand out for their design and quality. That said, Colunex works every day with the aim of discovering new solutions for healthy sleep. Combining the know-how of its professionals, with state-of-the-art technology and equipment, Colunex can develop the best and most innovative products.

Colunex adopts a verticalization strategy, controlling all phases of the research, development, production, and distribution of products. In this way, it can guarantee a high level of quality and effective after-sales service.

2.1.3 Team and Corporate Culture

Colunex is a family business with a hierarchical and mechanical structure divided into departments and has many bureaucracies, emphasizing continuous professional development, is considered staff and customer friendly. External factors

often influence a company's corporate culture. Given Colunex's behaviour in the face of some of these factors, we can see its culture.

- Political factors: Colunex emphasis on political stability in all countries it operates.
- Economic Factors: The economic factors that affect Colunex are Taxation, Inflation, per capita income, and the unstable stock market.
- Sociocultural Factors: Colunex is affected by innovation, culture, language, religion, buying habits, economic power and lifestyle habits.
- Technological Factors: Colunex always try to possess modern and efficient technologies that distinguish it from its competitors, increase products quality and accelerate manufacture process.
- Environmental Factors: Colunex has some measures to guarantee that the intern and extern production do not use restricted substances.

2.1.4 Structure:

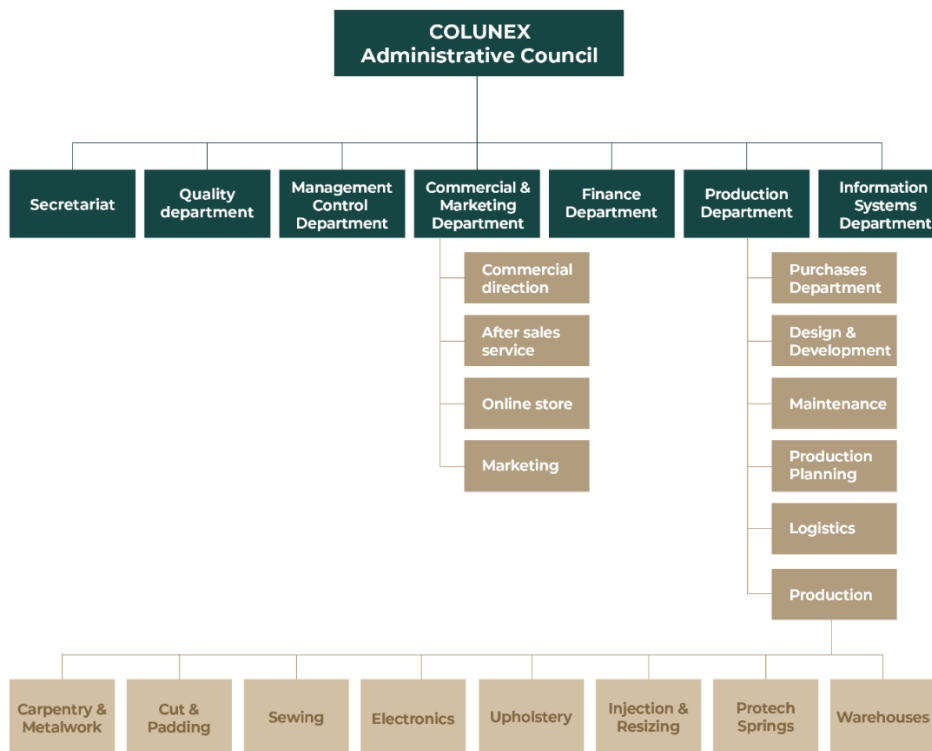


Figure 4: Colunex Structure

Source: Colunex

Systems: Colunex's day-to-day production is organized by production orders. These production orders are implemented to increase production efficiency, where the specifications of the production process of the requested product are detailed. In this way, when operators receive these documents, they know exactly all the steps to follow for the realization of the product. That said, it is necessary to initially define what will be produced to be able to issue that production order and the respective document. After this production has ended, it is necessary to register it, thus storing the production order and starting a new one.

Style: The entrepreneur delegate tasks with assertiveness since he can identify the individual capabilities of each of his workers, and thus leverage them in order to achieve the best results. The company's CEO presents new challenges and motivating ideas, thus creating a collaborative environment, as all workers have their opinion considered, which makes them motivated. That said, this style is favourable to the evolution of its professionals and makes everyone present in the company's activity work with common goals.

Skills:

- Sequential and personalized production process that requires a qualified workforce;
- Professional training of its salespeople and great support in customer service;
- Creation of lasting relationships with its customers;
- Extensive experience, as a result of its presence in the largest international fairs in the area, helping Colunex to always be one step ahead of new market demands and trends;
- Constant investment in the latest technologies;
- Strong commitment to communicating the added value present in all Colunex products.

Staff: Regarding the company's workers, it is imperative that they present the necessary qualifications for the required work. Since Colunex provides specialized training depending on the job they work for, workers can achieve the company's know-how and values, so that the company achieves its main objectives, both in terms of production and customer service. Only by connecting these two levels will it be possible to gain the trust of new consumers and maintain lasting relationships with existing ones.

However, the company finds it increasingly difficult to find people with the manual skills necessary to carry out the work, especially for handling machines and basic raw materials, i.e., carpenters, upholsterers, seamstresses.

Shared Values: The mutual help between departments, social responsibility, and high levels of ethics, present from the development to the delivery of the product to the final consumer, are the main ideas on which Colunex is based, always seeking the satisfaction of its customers. In this way, the ideals are the company's true *raison d'être*, with the ultimate objective being to provide the best response to market needs. This factor complicates Colunex's task as, offering customized products, it is often subject to developing specific manufacturing processes for a particular product.

2.1.5 Products and services

All Colunex products combine quality and comfort together with a contemporary design and the possibility of customization (dimensions, shape, fabric, and colours). Warranty periods are long and there is after-sales service. Colunex presents a diversified range of products:

- Mattresses and Toppers

Colunex® has equipment and know-how for the development of mattresses that incorporate 6 types of different and exclusive technologies: Xenuloc®, ProTech Springs™, Supernova Foams™ Memory, Supernova Foams™ Reflex, Nova Foams™, and Breeze Latex™, creating Polyurethane, Latex, Viscoelastic, and Spring mattresses. Colunex mattresses are designed and conceived with a specific purpose and to respond to certain needs. Therefore, some mattresses have compositions created for those who suffer from spinal or cervical problems, others for those looking for maximum comfort, etc.

The brand has a total of 38 mattresses: in the national market it sells only eighteen mattresses whereas in the international market it sells thirty-one mattresses. There are different mattress models between these two markets as some of them were created by the needs of a specific target audience that only existed in Portugal or abroad. Mattress models are adapted according to people's tastes, interests, and culture and that is why there are models sold in Portugal that do not make sense to be sold in markets such as the United Kingdom or France and there are models abroad that would not be

successful in stores in Portugal. To complement some of the mattresses the brand designed 3 toppers with the purpose of increase comfort.

- Pillows

Like the mattresses, the Colunex pillow collection was designed and created to respond to the different needs of each client. The pillows have different compositions, different formats, and dimensions so that each one fits better in a certain type of sleep. In total there are 7 pillows [Anatomic, Fresh Green, Feelfresh Mix, Hygiencell, Comfort, and Baby].

- Bedding

Colunex has created complementary products to ensure that the customer's sleep is more comfortable, hygienic, and of quality. These products are mattress and pillow protectors, sheets, and comforters for the different seasons.

- Bed bases

Colunex has a collection of eleven bed bases with different structures, compositions, and functionalities. The bed bases were designed to meet high quality standards and give the best support to the mattresses, as the brand defends that a bad bed base can impair the performance of the mattress. These bed bases include articulated beds, with and without lifting lid and different structures such as flexible rulers or pocket springs.

- Headboards

To complete the bed, the brand created a collection with more than 40 headboards with the possibility of customization. The headboards are functional, comfortable, and have different designs to suit different tastes, whether more classic, modern, or bold.

- Sofa beds, Bedside tables, Lamps, and Stools

To complete the bedroom in the best way and guarantee its customers the possibility of creating a dream bedroom with Colunex, the brand felt the need to create furniture that complements the bed. In this way and combining quality materials and a functional and modern design, the brand has a collection of table lamps, bedside tables, stools and benches, and also sofa beds.

- Armchairs

Due to the great demand and the existence of a gap in the offer of Armchairs in Portugal, Colunex only sells in the national market some reclining armchairs with and without massage.

Colunex presents a diversified range of services:

- Delivery and assembly of products;
- Repairs;
- Product customizations;
- Custom projects.

2.1.6 Headquarters and Offline Stores

In 2020, there was an increasing in the warehouse and logistics space. In 2021 a new photo and video studio was created with a great improvement in equipment and the offices have regular maintenance. There is a canteen and car park for all employees. All departments work regularly in this building except for shop assistants who work in stores in Porto and Lisbon and the Logistics department that travels regularly to make deliveries. Inside the premises there is a store, designed to receive B2C – Business to consumers - customers, a showroom with products and an environment dedicated to receiving B2B – Business to Business - customers and partners.

The architecture of the headquarters is modern, with straight lines, with the brand's logo in great prominence, and the main entrance in the centre. There is a large area next to the piers to receive and orders. Inside, the company has some rooms that include offices organized in open space, meeting rooms (for team meetings or meetings with suppliers). The headquarters are located in an industrial area with some factories and warehouses but few houses around. Access is limited as there are few transports to the place and the most used means of transport to reach the building is the car, there is a train line 20 minutes away on foot and the bus stops are also 20 minutes away.

2.1.7 Corporate Social Responsibility

Regarding corporate social responsibility, Colunex has been working on different sectors by implementing methodologies to have a good impact in the world.

The methodologies aim to positively impact themes like labour rights, inclusion, gender equality and is a smallest scale sustainability. However, the measures have not kept pace with the new needs and the company's growth and can be improved and intensified, especially in the field of sustainability.

Sustainability: Colunex seeks to use a medium proportion of eco-friendly materials, including recycled materials like cards and plastics and obtained a certificate of ENP ISO 9001:2015. The company also seeks to comply with all the rules and suggestions of the Sociedade Ponto Verde of which it is a part.

2.1.8 Business Model Canvas

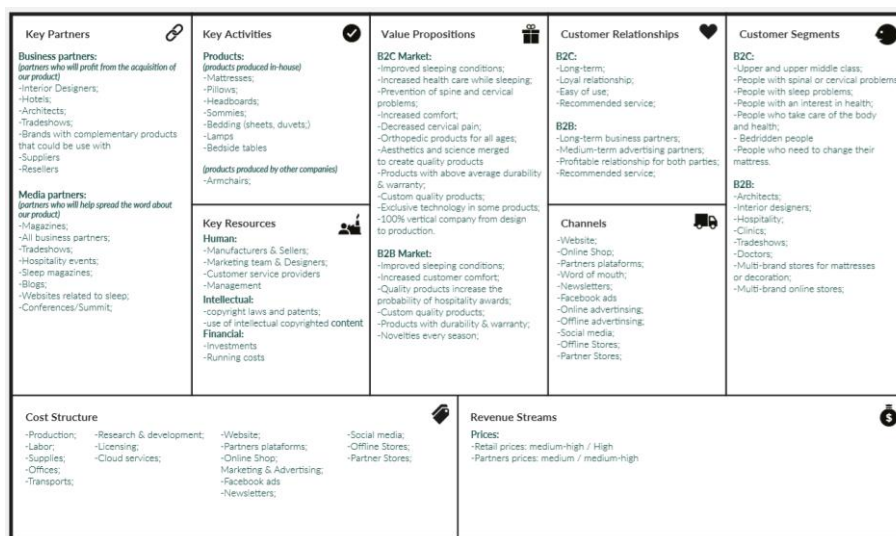


Figure 5: Colunex Business Model Canvas

Value propositions

Understanding Colunex's main mission and general objectives it is important to realize that the brand strategy has different objectives and communications for the two types of market, B2C [Business to consumer marketing] and B2B [Business to Business marketing]. Brand positioning is related to its ability to influence consumer perception. Therefore, B2C marketing refers to the tactics and strategies in which a company promotes its products and services to individual people, namely through the creation, advertising, and sale of products to final consumers who will use and enjoy the products purchased in their stores. Colunex®'s main B2C objectives are:

- Sale of Colunex products in order to create a complete sleep experience, from the most comfortable mattresses and pillows to modern and personalized beds, lamps and nightstands, which together result in a dream bedroom;
- Improved sleeping conditions;
- Increased health care while sleeping;
- Prevention of spine and cervical problems;
- Increased comfort;
- Decreased cervical pain;
- Orthopedic products for all ages;
- Aesthetics and science merged to create quality products;
- Products with above average durability & warranty;
- Custom quality products;
- Exclusive technology in some products;

The other market explored and with a specific strategy is B2B, a lead generation focused on building personal relationships that drive long-term business. This means that relationship building in B2B marketing, particularly during the buying cycle, is crucial. However, the priority of B2B strategies is lead generation, and because of the importance of repeat and referral business, developing these personal relationships can lead to the realization of a business. Colunex®'s main B2C objectives are:

- Improved sleeping conditions;
- Increased customer comfort;
- Quality products increase the probability of hospitality awards;
- Custom quality products;
- Products with durability & warranty;
- Novelties every season;
-

Customer Relationships

Concerning customer relationships, we must keep in mind that we have two main customers: the individuals and the business.

Related to B2B relationships Colunex expects to build a long-term trustworthy relationship with other businesses that would benefit from the brand products and services. The communication strategy tends to be transparent and clear when introducing their services and products. It is important for the company that other business can see not only the advantages but also understand the disadvantages to be fully aware of the capacities of the company. Colunex wants to find a strong base of businesses that would be loyal to and vice-versa, that would allow a creation of a long-term relationship. The communication strategy guarantees an easy access to contacts and information about the products and services, a specialized service and a team prepared to accompany the relationship in the long term. That being said, the team would focus on the interest in building relationships with the following businesses [exhaustive list]: Interior Designers; Hotels; Architects; Brands with complementary products that could be use with, Suppliers and Resellers.

As for B2C, Colunex wants to create a long-term relationship as well and guarantee the sale of Colunex products to its customers, to the family and friends of its customers and to be able to retain customers so that, even when exchanging products for new ones, they are always Colunex branded.

B2C communication differs from the national market to the international market, not only are the prices different but also the products and their presentation. To ensure an adequate positioning in each market, the brand adapts its image and language to each. Another factor that influences the difference in communication between the national and international markets is the methods of selling to the final public. In the national market, the brand has its stores in large cities, an online store, and resale in El Corte Ingles stores. On the other hand, in the international market, sales to the final public are made through partners, with Colunex products being resold by multi-brand stores such as Harrods, and Rested, among others.

The main difference between B2C and B2B communication is the products, prices, and services. As they are different, the same strategy cannot be used, and the speech must respond to the expectations and doubts of the target. When we

communicate for B2B we are talking about professionals, with technical knowledge at the outset and who is an intermediary to the final consumer. B2C customers are a common audience, with some social and cultural similarities but with more limited technical knowledge and different interests and doubts.

Customer segments

Colunex's target belongs to a niche market, it is a customer segment that really values its products and has the necessary resources to acquire them, it is essential to identify subgroups of customers with specific and differentiated characteristics. Therefore, it is crucial to segment the demand, so that the marketing strategy is as effective as possible and can reach the right customers.

In this way, we consider that Colunex segments its offer using two dimensions, and therefore presents a multiple segmentation:

Channels

Until 2015, Colunex products were present on three continents, and it was possible to find Colunex stores in Portugal, Brazil, and Angola. Exclusive Colunex products could also be found in professional customers, such as decorators and pharmacies and multi-brand retail stores, such as retail chains such as El Corte Inglés and Harrods or unique multi-brand stores, especially in France. Currently, the main channels for promoting the brand are the Internet, which includes social networks, online advertising, organic google search, dissemination of articles that talk about Colunex, presence on different websites in the national and international market and through the Colunex website and online store. Press is one of the channels, but it has lost some impact, especially physical press like magazines. The word of mouth of the brand's customers is also one of the channels with a significant impact, as is the presence in national and international events. However, the main channel continues to be the stores, both branded stores and resellers with Colunex products.

- **Demographic segmentation:**

In this type of segmentation, Colunex focuses essentially on the income variable, because Colunex's "client-type" is inserted in the middle and upper classes. In terms of age, and knowing that sleep is universal, our strategy also aims to make this dimension known, as we show that this product aims to reach all age groups.

- **Psychographic segmentation:**

This type of segmentation uses psychology and demographics to better understand and change markets and their respective mindset. As it is a product that adapts to the different lifestyles and health concerns of the customer, our main objective will be to change the mentality of the customers regarding value for money, that is, the quality-price relation, exposing the present added value. in the product.

As for targeting, Colunex specializes in a specific product and sells it to various market segments (private customers, retail chains, hotel chains). As it is a universal product for all ages, habits, needs and customs, it is important to emphasize the notion of “investment for life”, as the product does not change depending on the customer in question. That said, the company's focus is on product specialization, investing in cutting-edge technologies and thus in the most recent processes of innovation and product development.

Key Partners

Colunex partners are divided into three categories: Business Partners, Media partners and the upstream partners.

The upstream partners, that is, the suppliers of raw materials, components, parts and information to create a certain product or service, are the following:

- Matsushita Electric: fundamentally they supply machines that are predominant for the production process
- Flexitex: Fabric supplier, namely picquet, polyester and polypropylene
- Eurospuma: Foam supplier
- Flex 2000: Supplier of flexible polyurethane foams for the comfort industry
- YKK: Zippers
- Placosta: Supplier of raw materials for joinery and carpentry.

The Business partners include all the organizations or people that have a relationship of business with Colunex and will work together as a team. All business partners will profit from the acquisition of our product and they usually are Interior Designers; Hotels; Architects; Tradeshows; Brands with complementary products that

could be use with. Media partners will help spread the word about Colunex products and services. Media partners include magazines; tradeshow; hospitality events; sleep magazines; blogs; websites related to sleep; conferences and Summits.

Key Activities

Key Activities of a Business Model Canvas are any activities that a business is engaged in for the primary purpose of making a profit. These business activities include operations, marketing, production, problem-solving, and administration (Imke, 2019). The Key Activities of a business represent what the company must do to make the business model work and these activities can be producing a product or providing a service, or in Colunex's case a mix of both:

Products produced in-house: Mattresses; Pillows; Headboards; Bed bases; Bedding (sheets, duvets); Sofa beds; Table lamps; Bedside tables; Decorative pillows.

Products produced by other companies: Armchairs;

Services: Design of products; Customization of products; 3D projects; Delivery and assembly of products, repairs, custom projects.

Key Resources

Key resources allow the company to create and offer a Value Proposition, reach markets, maintain relationships with Customer Segments, and earn revenues and different Key Resources are needed depending on the type of business model and they can be physical, financial, intellectual, or human. Key resources can also be owned or leased by the company or acquired from key partners. Colunex uses key resources that are human, financial, physical, intellectual, and digital.

Human Resources are very important to Colunex's business model as they help to guarantee quality in the creation and production of products as well as in the adequate and clear communication that the brand needs to attract customers, create loyalty, and pass a clear message and increase the notoriety. Not only production and marketing depend a lot on human resources, but other departments as well, as it is necessary to maintain good relationships with partners and customers, create coherent and practical management, minimize logistics time, and create innovative and effective products.

Financial Resources are the financial resources and guarantees that the brand, lines of credit, capital investment, and government support such as 2020 support.

Physical Resources are Colunex's physical assets and include manufacturing facilities, headquarters, 8 branded stores, 2 warehouses [Porto and Lisbon], vehicles, machinery, point-of-sale systems, and distribution networks.

Intellectual Resources include proprietary knowledge, patents such as the Xenuloc® foam technology created by Colunex, partnerships with hotels, showrooms, fairs and events, and customer databases.

Digital Resources are increasingly important to ensure that the brand follows the needs of its stakeholders and manages to optimize all its processes, maximizing the brand's time, energy and results. These resources include electronic tools, systems, devices, and resources that generate, store, or process data. Well-known examples include social media, multimedia, communications, online stores, and software related to customer relationship management.

Revenue Streams

-Retail prices: medium-high / High

-Partners prices: medium / medium-high

The main source of brand revenue comes through some of the channels identified above. These channels include Colunex's target customers who are either B2B or B2C, and the impact of each one of them has changed in percentage terms. In 2015, the channel with the most impact was the stores with 70.9%, which was a big difference between this channel compared to all the others (Table 1). The stores are focused on the final customer and therefore the % of sales made for B2B did not have much impact. These numbers have now changed, and stores have an impact of 45% instead of 70%. Despite continuing to have a greater impact than all other channels, it shows that final consumer are still the brand's biggest source of revenue and therefore require greater attention. There is now a new channel, which is decoration, which shows that the strategies to reach the B2B market and target have worked and there is a greater volume of revenue. In 2021, the “others” channel increased considerably due to the e-commerce and website chat.

| 2015 | | 2021 | |
|-----------------------------|---------------------------|-----------------|---------------------------|
| Channel | Sales distribution volume | Channel | Sales distribution volume |
| Stores | 70.9% | Stores | 45.72% |
| El Corte Inglés & Colchonot | 7.66% | El Corte Inglés | 4.81% |
| Tradeshows | 11.5% | Tradeshows | 1.42% |
| Pharmacies | 2.51% | Pharmacies | 0.13% |
| Internet | 0.086% | Internet | 0.03% |
| Others | 7.35% | Decoration | 7.18% |
| | | Others | 40.72 |

Table 1: Distribution of sales volume by channel in 2015 vs 2021

Source: Colunex

Colunex's most profitable product is the Revolution mattress, and the most profitable category is mattresses followed by pillows, on the other hand the least profitable product category is sofa beds. Colunex's sales volume is divided between the national and international market, and the international market is also divided between the European Union and other markets that include all countries outside the European Union, such as Kuwait, China, among others (Table 2). The national market is the company's main market as it represents more than half of the sales volume, followed by the European Union market and finally the countries outside the European Union.

| 2019 | | 2020 | | 2021 | |
|----------------|--------------|----------------|--------------|----------------|--------------|
| Market | Sales volume | Market | Sales volume | Market | Sales volume |
| National | 58% | National | 67% | National | 58% |
| European Union | 31% | European Union | 24% | European Union | 29% |
| other markets | 11% | other markets | 9% | other markets | 13% |

Table 2: Distribution of sales volume by market in 2019, 2020 and 2021

Source: Colunex

2.2 Analysis of the company

Before starting the implementation of the project, I carried out an analysis of Colunex. I started with the SWOT (Figure 6) and PESTLE analysis, and then I analysed the two major markets where Colunex operates, the national and international market.

2.2.1 SWOT analysis

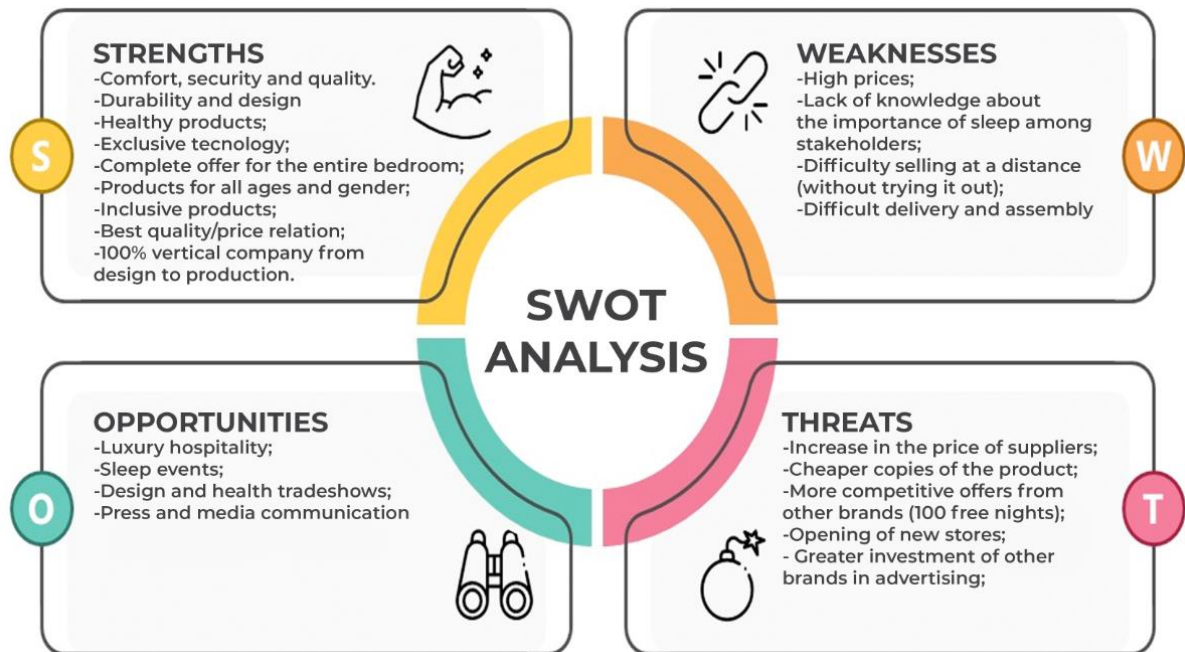


Figure 6: Colunex Swot Analysis

Colunex's greatest strengths are consistent with its mission: comfort, safety, and quality. The brand bets on a different and functional design and all its products are long lasting. The products promote and fit into a healthy lifestyle as they are designed and produced with products that do not harm the health of users and that allow the customer to properly take care of their body and sleep. In order to ensure these purposes, Colunex invests in recent and exclusive technologies, which is a differentiating point for the brand in the market. Another added value of Colunex is the complete offer for the construction of a quality bedroom, there are products for all genders, ages, bodies and for different daily habits. Despite the prices being medium/high, the price-quality ratio is quite good and fair. As it is a 100% vertical company from design to communication, it manages to guarantee a more effective, personalized, and close follow-up with the customer, this organization ensures that the brand values are present in all processes and departments. On the other hand, the brand has some weaknesses that it needs to compensate and improve. The high prices, despite being justified by the quality of the

product, reduces the number of people who can buy the products, making our target a smaller niche than a brand with lower prices. Another weakness is the lack of knowledge and interest in sleep products that exists in the brand's target market. There is a great demand and dependence on sleeping pills, which reinforces the idea that sleep is important, however there is no knowledge about the importance of a good mattress or a good pillow for the quality of our daily lives. Another difficulty is in the sale of products at a distance, so that Colunex follows the needs of the target, and the evolution of the market has joined the online sale and e-commerce, however selling mattresses and pillows at a distance is not as easy as selling a product merely aesthetic. Often a person cannot decide which mattress they prefer without trying it on. Finally, another difficulty that exists is in the transport and assembly of some large products, such as beds, mattresses or joints, this difficulty exists for example for international sales or for islands where delivery and assembly by the Colunex team is not possible.

The opportunities that the brand has are in all events, communications, or situations where the importance of sleep is well presented and valued and there is an interest in this topic. Luxury hospitality is a target with good opportunities as one of the main experiences is sleep, comfort and relaxation and therefore sleep and products that provide the best sleep experience are very important. Sleep events are good communication opportunities as they are attended by people with an interest in the topic. Design and health tradeshows are good opportunities to communicate products related to sleep not only in a technical and functional way but also have an aesthetic component, Colunex bets on a modern quality design that can differentiate itself from other brands and in this way can expand its target for people looking for luxury design products. Social communication and media are essential for the dissemination of the brand and its strengths in order to ensure that the brand's target knows the products and understands their quality and importance.

The biggest threats that the brand faces are the increase in prices from suppliers. Copies of Colunex products sold by other brands that devalue the product. Offers and added value presented by other very competitive brands on the market that Colunex is not yet ready to match, for example offer of 100 free nights of mattress experience with free return. The increase in competition increases the risk of selling to the brand's target. Finally, the big threat of the moment is the amount of advertising investment.

2.2.2 PESTLE analysis

PESTLE analysis is spoken of as the combination of the acronym PEST with environmental and legal factors. This model is a key tool to analyse how the factors surrounding a company can affect it.

Political factors are naturally linked to the way in which governments act on the economic activity of an industry or a sector of activity. This refers to intervention policies and the application and regulation of means available to executives to exert their influence on the activity. In Portugal, Colunex have some of these examples:

- Modern labour legislation documented in the Labour Code. At this point, the Government of Portugal and the Commission for Equality in Work and Employment join efforts to update it with some frequency;
- The moment of political stability that Portuguese society are currently experiencing, in contrast to the previous years;
- The interests of large economic groups. For example, the forest thinning lobby varies the price of wood, thus influencing the company's use of it. Wood is one of Colunex's main raw materials;
- The speech of some figures with more airtime and with greater weight in the State is a very powerful way to influence the masses. When a President of the Republic vehemently praises an industry, he alerts domestic consumers to the existence of quality national products and arouses the interest of foreign consumers and investors.
- The policies that several countries have applied to sanction Russia due to the war in Ukraine have generated an increase in raw materials and shipping prices, which greatly increased the cost of production of Colunex products and to avoid losses the company had to increase its price list to the public.

Economic factors are of great importance because they affect the way Colunex make decisions. Fluctuations in the value of exchange rates or the state of the economy where a company carries out its activity influence the value of exports and imports of goods, the levels of demand for a good, the general level of prices, the wage level, the

inflation rate, among others. Therefore, here are some examples that we were able to ascertain:

- The economic crisis mainly affected the middle class (one of the company's target) and this was naturally reflected in its results. Anyway, Colunex managed to get around the situation by creating a more economical line with guaranteed quality;
- The transaction of the same goods between Portugal and Asia countries it depends on the shipping date as the transaction value is variable. That is, the value of financial transfers is dependent on the constant variation of exchange rates.

Social factors can influence consumer's behaviours. Aspects such as culture, the evolution of age groups, geographic distribution or health concerns directly affect the demand for products produced by a company and, indirectly, the way in which it will operate. Thus, some examples resulting from the influence of this type of phenomenon on Colunex case are:

- The fact that the company faced a lack of workers with certain skills that meet what the company wants;
- The service factor matters a lot to the common consumer. In this sense, since Colunex favours a personalized service, it gains a certain comparative advantage in this aspect of the deal;
- Quality is the differentiating aspect for those who buy. The costs of companies increase as a result of an investment in technology and in the training of the workforce;
- The opinion of the media affects the activity of this firm. The attention that has been given, internally and externally, to its exhibitors at international fairs has facilitated the entrepreneur's work when it comes to promoting the product.

Technological factors refer to changes in technology that, of course, have a significant impact on the production process of any company. These include, for example, technological innovations, machinery improvements, rationalization of manufacturing processes and research and development, better known as R&D. As

Colunex is related to technological innovation, it is important to paid attention to this point. Thus, we defend that the different technological factors promote the use of software that allows to rationalize the information for the decision making, being able to test it before launching a product, the automation of the so-called routine tasks, a better customer service, the ability to anticipate problems and increase productivity and competitiveness. Some real examples of decisions taken by Colunex influenced by the technological factors that affect them:

- The company's investment in technology is not a substitute to work force. The machines allow cost and waste reduction, by making the production process more efficient.

Legal factors are related to the legal framework in which a company or industry is inserted. They mainly concern legal aspects such as consumer protection, the guarantor of fair competition and, of course, laws such as labour, consumer or competition law. In this sense, the conclusion of contracts and the existence of consumer protection associations are aspects that fall within this topic.

Environmental factors, as we see previously, affect the operation of companies as well as their decision-making process. When we talk about this type of factors, we are referring not only to the fact that companies have an obligation to be increasingly aware of the environmental impact resulting from their production activity, but also to factors external to companies that affect them unexpectedly, that is, climate change or natural disasters. So, any event that affects forest areas will necessarily lead to a decrease in the quantity and quality of one of Colunex's most important raw materials: wood. And, in Portugal the frequency with which this type of environment events happens is still significant.

2.2.3 Main markets

Colunex divides its objectives and strategies between two major markets, the national and international markets, and within the international market there is a division between the European Union and other markets. As we can see in Figure 7, the main market is the domestic one as it represents more than half of the sales volume, followed by the European Union market and then other markets. This difference in billing volume can be explained by the higher level of notoriety that the brand has in the national market compared to the international market. The national market has more

history, and the brand is better known and recognized than abroad, in addition to this, there is a greater investment in the national communication strategy than in the international one. However, the brand has been increasing its investment in the international market with new and more strategies and products. The communication strategies are quite different in the two markets, and this includes a different price list, a presentation of the products with a different look for example similar mattresses have different covering fabrics and the product line itself is not the same as there are mattresses that are only presented in the national market and others that can only be found in the international market.

2.2.3.1 Portuguese market: Main target, stakeholders and Best sellers

The Portuguese market has two main targets, final consumer, and professionals in the area of decoration and hospitality. The profile of final consumers fits men and women aged between 35 and 75 years, upper middle class or upper class. Stakeholders usually have an academic higher education; they are people with an interest in health and well-being. Due to the location of the physical stores, most stakeholders live in the metropolitan areas of Porto and Lisbon. In the Portuguese market, Colunex benefits from the fidelity of some old customers because they spread the qualities of Colunex products to their family members and consequently those family members buy Colunex products. This includes the main target, a couple with children or in the beginning of the formation of a family that is at a stage of life that prioritizes comfort and quality of life at home, unlike the adventurous couple who prioritize travel and a lifestyle away from home. This indicator was reinforced in 2020, when there was an increase in the sale of articulated beds due to the impediment of many couples to travel and for this reason they chose to invest in the comfort of the home.

Professional clients can be decorators, interior designers, architects, or the hotels themselves. As a rule, these customers have a lower age group than final customers, as it does not include the ages of retirees. Decorators and designers who opt for Colunex products have similar consumers profile to hotels with Colunex mattresses are mid-high and high-end, such as the Intercontinental, Savoy, Yetman, Vila Foz, Verride Palace, among others.

As we can see in Figure 7, the best-selling products in the last year of Colunex were Anatomical and Hygiencell pillows, mattress protectors, Fresh Green and

Feelfresh Mix pillows. the product that has the most expression in sales volume are mattresses due to value and profit margin. Colunex's main objective continues to be the sale of mattresses.

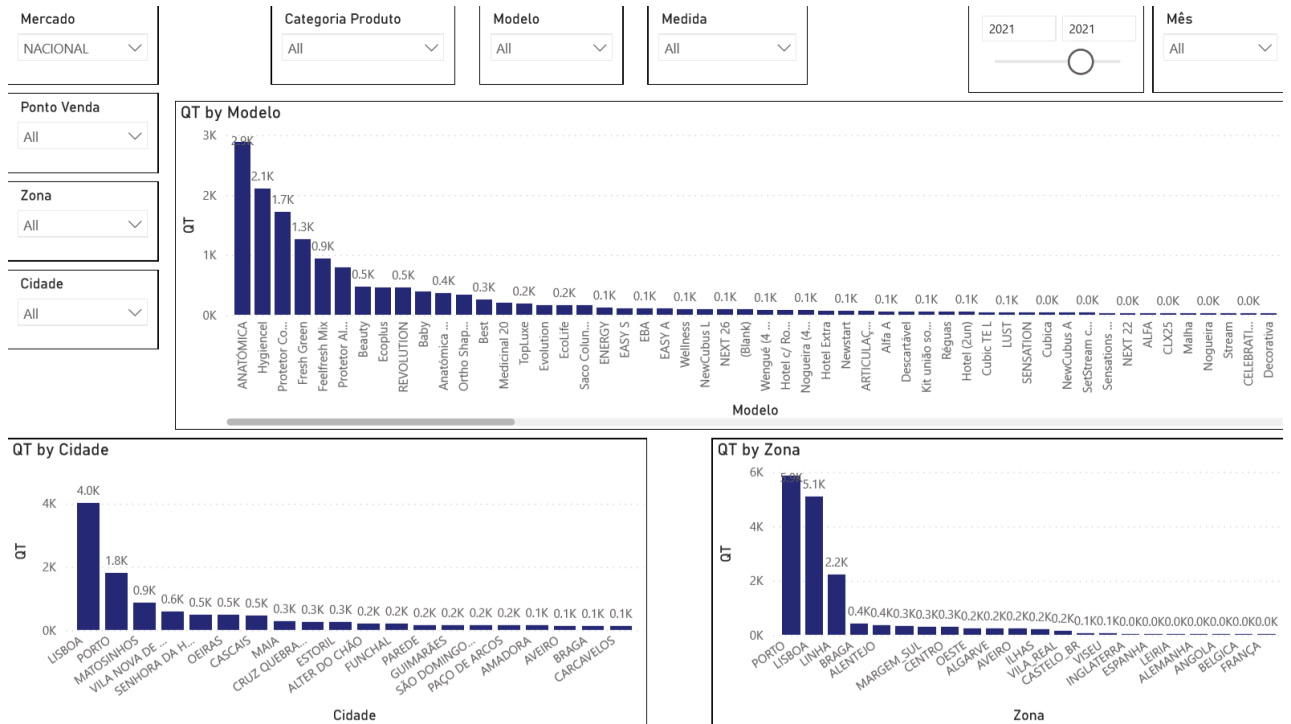


Figure 7: Colunex best sellers and main cities

Source: Colunex CRM

2.2.3.2 International markets: Main target, stakeholders and Best sellers

The international market has been growing since 2010, with a growth in billing values that from 2010 to 2021 has more than doubled. Currently, Colunex does not have its own stores abroad, however it has its products for sale at resellers. The main international markets where Colunex is present are France, England, Luxembourg, Switzerland, Germany, Austria, Kuwait, Vietnam, Saudi Arabia. Of these markets, the most relevant in terms of the company's turnover are France and England, followed by Switzerland, Germany, Austria, and Kuwait. Resellers in these markets also sell Colunex's main competitors in the international market in their stores.

The company's main ISIC¹ is “31030” which represents bedding manufacturing. In 2019 Mattresses and bedding accounted for 1.64% of the value of total Portugal's

¹ The ISIC is a classification of reference economic activities used to classify statistical data in the fields of population, production, employment, and other economic statistics. In Portugal, the Portuguese Classification of Economic Activities is called CAE.

exports (Figure 8). That same year, the international market accounted for 42% of Colunex's sales volume, becoming a stronger and more relevant market for the company as mentioned in Table 2. The countries where Colunex exports the most are also the main exporting countries in Portugal (textile sector). These countries are France, Germany, and the United Kingdom. Kuwait, despite being a market that has been growing, Colunex represents only 0.08% of textile exports in Portugal (Figure 9).

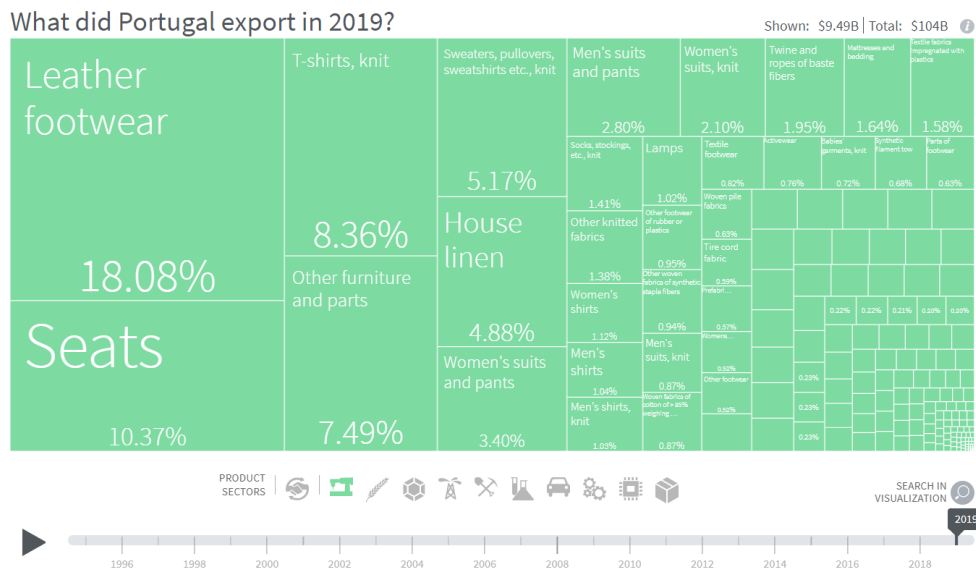


Figure 8: What did Portugal export in 2019?

Source: Harvard, The Atlas of economic complexity

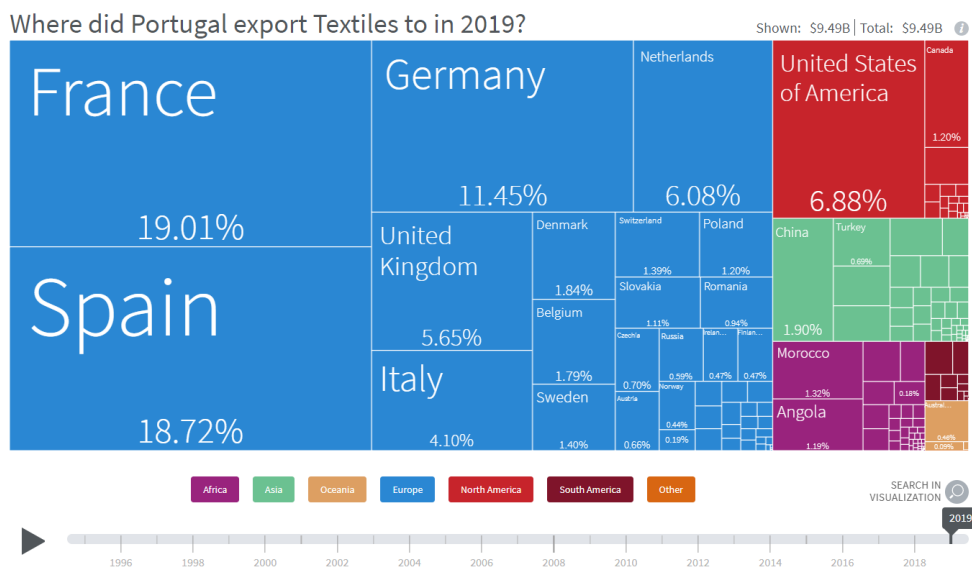


Figure 9: Where did Portugal export Textiles to in 2019?

Source: Harvard, The Atlas of economic complexity

The brand also works with the B2B market, and in the international market the decorators and interior designers are in the luxury design area with projects for the upper classes. Most B2B customers know the brand through international fairs such as Maison et Objet or Salone del Mobile, among other fairs. These events are mainly aimed at professionals in the field of luxury decoration.

In the international market the prices of Colunex products are higher, this difference covers costs that exist in the management of international sales and some bureaucracy. The higher price list for the international market helps to position the brand at the same level and with the same target as Colunex competitors because in the international markets indicated above the purchasing power is higher and the objective is to reach the middle class upper and upper class of these markets without lowering.

The best-selling products on the international market are mattresses, followed by headboards and bed bases and some pillows, but with little expression in revenue. The bestselling mattresses are Next, Best Plus, all Heritage collection, Chandon and Chandon Extra. These last three mattresses have several natural materials in their composition, which brings the brand closer to a more sustainable and natural communication.

CHAPTER III – THE PROJECT

3 The project

This project is part of the Masters of Intercultural Studies for Business from ISCAP – Instituto Superior de Contabilidade e Administração do Porto - and this being a Master's degree directed not only to culture but also to business, I found the creation of a project an added value, thus including a more practical and closer part of the real world of Business. This chapter aims to present the developed project and the entire process of implementation.

3.1 Theme and aims of the project

The process of choosing the topic was neither immediate nor quick and started in the second year of the master's degree in Intercultural Studies for Business at ISCAP. I knew from the beginning that I wanted to approach a topic that was of my interest and that was part of something that I liked and that would be useful for me professionally and with a good impact on society.

I started by brainstorming all the topics that interested me, but the wide choice of topics was not contributing to a bottleneck of ideas. I changed my line of thinking trying to understand what worried me and where I could contribute positively to my professional area. It was then that I managed to find the topic of sustainability. Environmental awareness has been one of my biggest concerns in recent years and I have implemented habits in my lifestyle that contribute to reducing pollution and waste. With this awareness and concern, I started to research more about the subject and understood its connection with culture. It was then that I realized that environmental awareness and the importance of sustainability differs a lot from culture to culture and within a country, we can also have many differences depending on the sector.

In my personal lifestyle I manage to control and change some habits that are not environmentally friendly, but there are many more practices that could be changed for the benefit of the environment in the company where I work. However, the change of a company's culture and of the people who work for it is not as simple as it is in our daily

lives and requires greater effort. This reflection made me realize that all the companies where I have worked or collaborated with have the same gap and none of them has a department or a special concern for sustainability. It was through this reflection that I had found the ideal link between a topic that interests me and my professional life. Thus, grew the idea of creating a project that would be applied as a case study in a company with the aim of making it more sustainable without harming the firm's profit.

With the main theme defined, I decide the three main concepts for this project, sustainability in Business, Corporate culture and company performance.

- **Sustainability in Business:** Sustainability and business are two different concepts that can be incorporated into one forming a new concept. Business sustainability is a concept related to more sustainable measures in companies, due to the social concern of companies to contribute positively to the reduction of pollution and the use of environmentally friendly measures. In addition to sustainability having a positive impact on the environment, it can also contribute positively to a company's economy.
- **Corporate Culture:** The corporate culture is built over the years and is instilled in different sectors and the way that company behaves towards society and its customers, partners, and employers. To get to know and understand a company's corporate culture well, it is necessary to understand the key points of its history that originated and created the company's culture and its values and mission. With this clear definition of the mission and values, the company's behaviour is based internally, and the values it highlights build its compliance code, rules, and organization. Nowadays, companies stand out not only for their products but also for the way they communicate and the values they follow and practice, and that is why it is essential to see how the company reacts and how its corporate culture adapts to new social issues that have been highlighted by society, such as sustainability. The company's corporate culture can have a great impact their success. In this project it is important to understand the corporate culture and their link to sustainability.
- **Company performance:** Most companies always look for their best performance. The performance of a company depends on internal factors such as economic factors, productivity, production capacity, material resources,

management, among others. But it also depends on some external factors that can condition its performance, such as climatic, political, economic factors, or even strategies used by the competition. To be able to assess the performance of a company, it is therefore important to analyse the internal and external factors and how the company is reacting and the results it is getting. When new strategies are implemented and when the company's culture is changed, the company's performance will also suffer consequences and new data must be found.

After the definition of the theme and the main concepts, I focus on the clarification of the main problem with the aim to provide possible solutions. It was through the reflection about sustainability in SME's that made me realize the gap's size in the environmental awareness of the companies where I worked and collaborate in the last ten years and also that the number of sustainable measures is usually a reactive attitude due to governmental pressure. Through this conclusion I started to do deeper research on the problem and understood its dimension and what could be the main reasons why companies still do not have sustainability departments or more sustainable measures. I understood that environmental responsibility has been a growing concern in European society, as has the search for sustainable products and the adoption of sustainable measures in everyday life. Part of this growing concern arises from increasing levels of pollution and the accelerated depletion of natural resources. But most of the managers and company's leaders have a lack of knowledge and information about sustainability and usually associate environmentally friendly policies to a decrease in the company's profits. Many of these leaders also focus on other topics such as maximizing profits and increasing sales volume.

After being aware of the lack of knowledge related to sustainability by the leaders and employees it was clear that this project could not harm the company and so I felt the need to understand in general what the possible solutions are and from there to build a plan capable of implementing the defined solutions in order to turn Colunex more sustainable and without harm the company's economy. Through the thorough research presented in the literary review, I realized that the intervention in the company must be in all departments and that to implement sustainable measures effectively it is necessary that the concern about the environment were present in all employees, which implies changing the company's culture so that it has a more sustainable and

environmentally conscious culture. With this in mind I defined the missions of this project, which are to instil a sustainable culture in the chosen company so that it can reduce its environmental impact, increase the environmental awareness of all employees, including leaders, managers and that the sustainable measures implemented do not harm the company's profits. With this project, I aim to use Colunex has a case study that makes it possible to create a future plan for the implementation of sustainable measures in other companies and thus reduce the environmental impact of SME's on a larger scale.

3.2 Project organization

This project started on February 7th, 2022, and was implemented at Colunex, a company where I have been employed since 2019 as a communication designer. My role as a communication designer remained active throughout the development of this project and so I had to pay more attention to the organization of my tasks to ensure that the execution of this project did not interfere with my responsibilities as a communication designer from Colunex. In order to balance my professional responsibilities with this project, I dedicated an average of two hours per week of my professional schedule to the development of this project and an average of seven extra hours per week. It was defined by the Colunex CEO that the Marketing Director Francisca Santos would be responsible for monitoring the project and would have the autonomy to approve the implementation of low investment measures (investments from 0 to 1000€), however all measures that require a medium (investments from 1000€ to 3000€) or high investment (invstments above 3000€) must be submitted to approval by the company's administration.

All the planning and execution of the project was done and implemented by me with the creation of weekly reports that were presented, as a rule, every Friday to Francisca Santos. These one-hour meetings aimed to present proposals for strategies to be implemented and the respective results. The meetings were dynamic and served to discuss implementation ideas, the approval of the measures and to find new solutions to the problems that arose.

The first meeting was the starting point for the implementation of the project and took place on the 7th of February and had as members the marketing director Francisca Santo and the CEO of Colunex Eugénio Santos. At the end of this meeting, the

organization of the project and the weekly working hours were defined, also the first three tasks of the project were proposed by the company's administration. These three tasks were the creation of a study on the notoriety of Colunex in the Portuguese market, a study on the level of sustainability of competing companies, and the creation of a sustainability department at Colunex.

3.3 First task: Notoriety Survey

The first task was proposed by the company with the aim to know the current reputation of Colunex in the Portuguese market. To discover what Colunex target think about the brand I carried out an online survey with 100 anonymous individuals (see Appendix II).

Most respondents [29%] are between 36 and 45 years old, which corresponds to the average age of the Colunex target audience in the national online and offline market. 23% are between 26 and 35 years old, 20% between 18 and 25 years old, 15% between 46 and 55 years old and only 9% between 56 and 65 years old. 67% correspond to females and 31% to males, which also meets the standards of the Colunex customer, who sells more to women than to men. Regarding the location of respondents, 34% live in Lisbon, 10% in Braga, 9% in Santarém, 7% in Setúbal and 7% in Coimbra.

Respondents were asked to write down two brands of mattresses they remembered. Of the total of 100 people 49 people wrote Emma, 35 Molaflex, 15 Pikolin, 11 Colunex and 11 Ikea. 72% of respondents who responded Colunex are over 36 years old.

Then I asked them to write down what brand of mattress they have at home. Of the total of 100 people only 25 people wrote Molaflex, 18 people Ikea, 10 Pikolin, 4 Colunex, 22 people did not know, and 21 people wrote other brands.

Then, a list of 8 brands was presented: Molaflex, Emma, Pikolin, Colunex, Koala, Lumia, Dagostino Home and Sleep8, and they were asked to mark which of these brands they knew. 100% of respondents know Molaflex, 84% know Emma, 73% Pikolin, 52% Colunex, 19% Koala, only 6% Lumia, 4% Dagostino Home and only 3% Sleep8.

Then I asked them to indicate which mattress brand they would choose if they had to buy a mattress at that moment. 47% responded Emma, 24% Molaflex, 11% Pikolin and 11% responded Colunex.

After understanding the choices and knowledge of the respondents, I tried to understand the reason for these choices. To do so, I asked if they had to buy a mattress which brand would they choose first and why. 47% responded Emma justifying it with the price-quality ratio; because of the DECO PROTEST² approval; because they are already customers and are satisfied; by advertising; like the way the products are presented. 24% answered Molaflex for the price-quality ratio; for the quality of the products; by the diversity of products; for being an old brand; for having a good reputation and for having good technical assistance. 11% answered Colunex justifying it with the brand's credibility; for already being customers of the brand; “Of all, it is the one that has a name that refers to the body” and for the quality of the products.

Relative to the brand knowledge 60% say they do not know about Colunex, people in this percentage are between 18 and 35 years old.³ 43% say they know the brand, and most are aged between 36 and more 65. I asked users who know the brand to describe it in one word, some words used were: Comfort; Quality; Reference.

As a conclusion of this survey, it was clear that Colunex is not one of the best-known brands and should work on relationship marketing with brand awareness. The low percentage of people who choose Colunex may be related to the fact that they know that it is a brand with high prices, however they recognize that its products are linked to the body and health. Those who know the brand belong to a higher age group, which corresponds to the target defined by the brand. Colunex is recognized for comfort, quality and as a reference brand but no one mentioned sustainability or the environment.

3.4 Second task: Sustainability at Colunex versus the competition

The second task proposed by the company was a study on the level of sustainability of competing companies compared to Colunex. The main objective of this task was to understand what the competitors are doing and the competitive advantage

²DECO PROTESTE was created in 1991 and is the largest consumer protection organization in Portugal. They are the only organization to test products and compare quality and present the results.

³ This indication that 60% of respondents did not know about Colunex may not be a bad result, as the age group represented here does not correspond to Colunex's target.

they had due to their sustainable policies, this study also intends to use other brands policies as examples to implement similar measures at Colunex.

To carry out this task, I started by researching and doing a more intensive study on Colunex's main competitors both in the national and international market, which includes general information about the brand, their target, the main market where they are inserted and what sustainable measures they apply. The Colunex main competitors are:

- **Molaflex**

Molaflex⁴ has been around for over 50 years and was founded in João da Madeira in the north of Portugal and is one of Colunex's main competitors in the Portuguese market. Perhaps because it has a similar sounding name, the brand is often confused with this competitor and there are those who believe they are from the same group. Despite being the main competitor, Molaflex does not have its own stores and sells only through resellers, being present together with Colunex at El Corte Inglés. Although the brand also exports to other markets, it is only considered a competitor in the national market. Molaflex products are on average from a lower range despite having a high range that is close to Colunex products and the same happens with the price list, the Molaflex average is lower and they have a high range that resembles at Colunex prices. Due to the price list and the products produced, Molaflex has a middle class and upper middle-class target.

Molaflex clearly and prominently communicates on its website about sustainability as the brand has being sustainable and shares some of the measures it implements that are part of a sustainable policy of social and environmental responsibility. The brand asserts itself as a non-polluting industry, 100% of the waste it creates during the production process is recycled, it is a member of Ponto Verde and more than 95% of the components it incorporates in its products are of national origin, avoiding long-distance transport.

- **Colmol**

Colmol⁵ is a Portuguese company, founded in 1972. The brand manufactures products in the same categories as Colunex, including mattresses, sommiers,

⁴ <https://www.molaflex.com/>

⁵ <https://colmol.pt/>

headboards, toppers and pillows. The brand like Molaflex also exports to other markets but is considered a competitor only in the national market. This brand has a smaller product line, communicating only three mattress models and all of them with a low-price range compared to Colunex. Despite the price list being much lower and its main target being the middle class, colunex's target of the upper middle class also places Colmol as an option of choice and therefore is a competitor.

Colmol communicates an icon on its website that indicates that the brand is sustainable and then just explores the theme a little more on the landing page about the brand. However, in the individual communication of the products this topic is not mentioned. The sustainable measures that Colmol practices are reduced compared to other brands and are based on minimizing the use of petrochemicals.

- **Pikolin**

Pikolin is a mattress brand founded in Spain in 1948. With over 70 years of history, this brand is well known in Portugal. The brand's main product is mattresses, but it also sells bedsteads, bed bases, pillows and textiles. Currently Pikolin is the second European group in the rest sector with a turnover of 440 million euros. Pikolin's prices are much lower and its target is the low and middle class, however, like Molaflex, part of the upper middle class and upper class people are not willing to pay more for a quality product that they do not value and for this a part of the Colunex target is in doubt between these two brands. Average prices for mattresses and pillows are less than half of Colunex prices and this is reflected in the quality of the products compared to Colunex.

Pikolin is the competitor in the national market that invests the most in sustainability⁶. The brand communicates its environmental awareness in a deeper and clear way and is associated with the “The Tree is Life” initiative of the Spanish Foundation for Madeira (FEM) and announced that ten million trees will be planted over the next four years. More recently, the brand implemented an environmental management system in accordance with ISO 14001 and subsequently obtained certification by AENOR, which represents the public commitment that the company acquires with the environment, given that the implementation of an EMS and its subsequent certification by a third party guarantees, vis-à-vis society, an

⁶ <https://www.pikolin.com/pt/corporativo/qualidade-e-meio-ambiente>

environmentally friendly behaviour in all those activities that may interact with it [consumption of natural resources, generation of waste, waste water discharges, atmospheric and lighting pollution, action plans in the face of environmental emergencies, adequate training of the organization's personnel, among others].

- **Tempur**

Tempur is a mattress brand founded in 1991. In 2001 the brand expanded to the North American market in addition to the Denmark base and was very successful. The brand is known for its mattresses based on synthetic foams. The brand's main product is mattresses, however, unlike other competitors and the Colunex brand itself, Tempur only has 2 models of mattresses, 2 pillows, some bedsteads and some accessories. The brand's prices are similar to the high prices of Colunex and its target is upper middle class and upper class, with similar ages and profiles. Unlike Colunex, Tempur does not have entry-level mattresses.

When analysing Tempur's online communication, I realized that there is a different communication between Portugal and the international market. In the Portuguese market, the brand makes no effort to communicate the sustainable measures it practices, however in the international market, mainly in the United Kingdom market, the brand has a very prominent concern for the environment throughout the website and shares the sustainable policies it applies, showing a sustainable culture⁷. The brand's sustainable policy has included landfill-free warehouse operations since 2019. The brand recently planted a meadow of local wildflowers at our production facility in Denmark to help provide vital habitats for the insect population. Wildflowers provide food sources for bees and butterflies that are vital for pollinating food crops. Since then, Tempur received messages of thanks from local beekeepers. TEMPUR® UK Headquarters is making electricity 100% from renewable sources. Emissions from European factories were reduced by the equivalent of the energy needed to power 1,242 homes in 2020 and more than 28 million gallons of water saved through waste management efforts at wholly owned U.S. manufacturing facilities in 2020.

⁷ https://uk.tempur.com/sustainability_page.html

- **Savoir Beds**

Savoir Beds is one of Colunex's competitors in the international market, both brands have a similar target, participate in some common events and are sold in common places in the same sector such as Harrods. The brand was founded in 1905 in United Kingdom and the first beds were created for the Savoy Hotel which was frequented by important personalities such as Sir Winston Churchill, Giacomo Puccini and Marilyn Monroe. Due to the brand's connection to great personalities, including the Queen of England, Savoir gained great notoriety not only in the United Kingdom but also in other European countries. Although the brand has a target audience similar to that of Colunex, as it practices higher prices, its target is upper class with great economic power and therefore excludes the middle-class target, unlike Colunex. The brand is also known for using good natural materials and craftsmanship. Each mattress is made by a craftsman for a specific customer, tailored to their needs.

Savoir is the brand that has the most prominent communication on sustainability on the Website⁸, as it has just launched a 100% plant Based mattress. Through a conversation with the brand representatives at Harrods in London, it was possible to perceive that the brand is betting on more sustainable communication to be able to include in its target a new market niche with a greater environmental awareness. The social pressure that exists in the UK for brands to be environmentally conscious was also one of the factors that influenced the brand to make its culture more sustainable and to launch a fully vegan product for the first time. The brand is very transparent in the process of becoming sustainable and admits that it can evolve by investing more in a sustainable policy. One of the future goals is to continue to invest in this theme and increasingly increase measures that help the environment.

- **Vispring**

Vispring is an English brand created in 1901 and aimed at an upper-middle-class and upper-class population as it presents prices and products in the luxury category. The brand manufactures and sells products in the same category as Colunex including mattresses, bed bases, folding beds, headboards, toppers and pillows. Brand communication promotes excellence in product manufacturing, highlighting the use of

⁸ <https://www.savoirbeds.com/sustainability/>

natural materials and manual production. Vispring is Colunex's main competitor at Harrods.

Despite communicating on the website, the theme of sustainability, is reduced and has incomplete communication, mostly talking about the use of natural materials and responsible production avoiding the waste of materials. The brand communicates the theme on the website's homepage⁹, which demonstrates knowledge of the importance that the theme has in the UK market, however it has not yet invested in a more sustainable culture.

- **Treca**

Treca¹⁰ is a French brand founded in 1918. With over 100 years of history, this brand has a lot of notoriety in the French market and produces luxury mattresses, bed bases and headboards with a reputation for quality. The prices of their products are similar to those of Colunex and the target audience is upper middle class and upper class. The brand sells online and is also one of the competing brands present at Colunex dealers.

Treca is the least sustainable brand and does not make any kind of communication on the subject, it only refers to the use of natural materials and manual and responsible production, avoiding mass production or unnatural materials.

- **Hastens**

The Hastens brand is one of the most luxurious mattress brands in the world. Hästens sell branded premium bedlinen, pillows, duvets and accessories. The company was founded in 1852 and is still a family-owned company. The brand has its own stores and sells them in some resellers such as Harrods. This brand, despite being a competitor of Colunex, has much higher prices that can go up to €300,000, which makes the brand exclusive to a high-class public with great purchasing power. The brand's main product is mattresses and bed bases despite other products. At Harrods, the brand does not compete as much with Colunex as for example Vispring because there is a niche market that looks for products with a higher price than only Hastens has. Great competition between Hastens and Colunex exists at tradeshow such as Maison et Objet or Salone

⁹ <https://www.vispring.com/en-eu/>

¹⁰ <https://treca.com/es/>

del Mobile. This brand also exists in Portugal with the presence of some physical stores, sponsor of horse-riding events and the brand even has a hotel in Coimbra.

The brand communicates a lot the durability of its products and all the natural materials that are used on the production of the mattresses, however do not focus the marketing or communication on sustainability which difficult the knowledge about the sustainable measures implemented by Hastens. There are articles¹¹ that refers the use of sustainable energy in some stores but didn't gave further information about the sustainable measures.¹²

- **André Renault**

Andre Renaul is a French brand specializing in luxury bedding and mattresses for over 60 years. The brand is recognized as a reference in quality and reliability in the French market and produces products manually, avoiding mass production. The brand's prices are similar to those of Colunex, thus reaching the upper middle class and the upper class.

The André Renault brand is the only brand analysed that includes all sustainability indicators. In 2009 the brand launched an ecodesign¹³ initiative with the support of ADEME. From this initiative, special attention was given to the selection of materials, composition of products, choice of suppliers, sustainability, management and recycling of used products. In 2011, Elasstorem was the first French mattress to obtain European Ecolabel certification. Fixed-base wood comes from sustainably managed forests. Soy, used in foams, is guaranteed GMO-free and does not challenge the food resource. In 2017 André Renault obtained the NF Environment certification. In 2019, 40 tons of recycled latex allowed the manufacture of 2,000 beds. 100% of plastic packaging is recycled in garbage bags or new eco-designed packaging. 100% of the edges are recycled into felt plates used in the manufacture of our mattresses and bedsteads. 98% of waste is recycled or converted to SFR [solid fuel recovery]. Daily, the brand uses green electricity with 100% renewable energy [hydroelectric, wind, solar, geothermal]. It progressively replaced cars with plus-in hybrid vehicles to limit CO2 emissions. Catalogues printed on paper is managed sustainably and POS printed on ecological screens. Bicycles were placed at the factory for all on-site trips.

¹¹ <https://www.fagerhult.com/innovator/hastens-a-feeling-of-home/>

¹² <https://www.fagerhult.com/innovator/hastens-a-feeling-of-home/>

¹³ <https://en.andre-renault.com/content/10-quality-and-eco-design>

- **Emma**

The Emma brand is not considered a direct competitor as the products are low-end unlike Colunex products. However, due to the success of the brand in Portugal and its great exposure, it is inevitable that Colunex's target audience will not compare the two brands. While not all Emma customers have the economic capability to purchase a Colunex product, all Colunex customers can choose to purchase Emma products. Emma is a German brand founded in 2015, currently exports its products to more than 25 countries on 3 continents. Emma was named one of the fastest growing companies in Europe. Its products are medium-low price.

At the end of the Competitor's Study I started an analysis to discover the level of environmental concern that exists at Colunex. Due to the practices and dynamics of some departments I could concluded that there is some environmental awareness in general but there are some departments that implement more sustainable measures than others. The departments with the most environmental awareness and concern are the marketing and cleaning department, the sewing section and the purchasing department. However, the department with the least awareness is the production. With this analysis I could understand that Colunex has a reactive approach and wait for the external demands to be left to act. According to Werther and Chandler (2011) this reactive approach often allows companies and, in this case, Colunex to ignore their environmental responsibilities until legally required and to focus on other business goals such as maximizing profits. Until this project the measures that Colunex practiced were the reuse of pallets since all the pallets that the brand receives and those it produces are reused; the participation in Sociedade Ponto Verde which implies compliance with all required standards, with care related to the use of chemicals, waste and do risk analysis; Colunex is also certified ENP ISO 9001:2015 European Norm; sale of plastic and card to regular entities and Colunex collect old products from customers to deliver to the appropriate place and whenever possible send for recycling; some foam waste is used to fill armchairs or decorative pillows; do a responsible stock management so that there is no excess material in the warehouse; do responsible production so that there is no excess of products or waste in the warehouse, large products are made to order and produce Long-lasting products.

After analysing all the measures that Colunex had implemented to date, I felt the need to investigate further about the level of environmental awareness of the Colunex employees. In order to obtain this information, I carried out a questionnaire with company employees from different departments (see Appendix III), with different ages and different responsibilities. All of them have fundamental positions for the creation of a sustainable culture, as some occupy leadership positions and others work directly with the production and marketing department, which are the two departments that will be closest to the defined strategies. The five interviewees were: Teresa Felix (responsible for the Purchasing department), Fatima Pereira (responsible for Cleaning department), Catarina Santos (responsible for the Production Department), Bruno (responsible for production) and Nuno Corte-Real (product designer). The questions asked in this questionnaire were intended to find out the level of sustainability of each interviewee and what their view on Colunex's level of sustainability was. I asked each interviewee what was their general opinion about the importance of sustainability, if they usually have sustainable practices in their daily lives, from 0 to 10 what they consider to be the level of sustainability of the department where they work, from 0 to 10 what they consider to be being the level of sustainability of Colunex, what sustainable measures have they applied so far in their work and lastly I asked if they had any suggestions of sustainable measures that could be applied.

After carrying out these questionnaires, it was possible to identify some inconsistency in the opinion on the degree of sustainability of the company. However, it was also possible to verify that although there is some environmental awareness at Colunex, it does not present the same degree in all departments and the people themselves have different levels of concern. On the other hand, it is possible to positively identify a general interest in helping the company to be more sustainable and there is a notion about the importance of the topic.

With the competitor's study and this questionnaire it was clear for me that there is social and governmental pressure for brands to become more sustainable, even if only a small market niche is willing to pay more for sustainable products there are already a condemnation and concern for the position and behaviour of brands related to the environment. Therefore, there has been a change in attitude and communication of some competing brands related to the theme and most already communicate the sustainable measures they have applied. In order to clarify the analyse made, I create a table that

compares Colunex with its competitors. One of the objectives is that at the end of the project it is possible to redo the same table and achieve better results. These measures that competitors are applying can also serve as an example and similar measures can be applied at Colunex.

| Brands | Communication on the Website | Sustainability awards or certificates | 100% Sustainable Product | Eco responsible actions on daily basis | Waste Management | Sustainable Culture |
|---------------|------------------------------|---------------------------------------|--------------------------|--|------------------|---------------------|
| Colunex | No | Yes | No | Some | Yes | No |
| Molaflex | Yes | Yes | No | Yes | Yes | No |
| Colmol | Yes | No | No | No | Yes | No |
| Pikolin | Yes | Yes | No | Yes | Yes | Yes |
| Tempur | Yes | No | No | Yes | Yes | Yes |
| Savoir | Yes | No | Yes | Yes | Yes | Yes |
| Vispring | Yes | No | No | Some | No | No |
| Treca | No | No | No | No | No | No |
| Hastens | No | Yes | No | Some | Some | Some |
| André Renault | Yes | Yes | Yes | Yes | Yes | Yes |

Table 3: Competitors' environmental responsibility

Through Table 3 it is possible to conclude that Colunex has approximately 41% of the necessary measures to become sustainable. The most sustainable brands are André Renault, Tempur and Savoir, which are competitors in the international market and in the national market the most sustainable brand is Pikolin. The questionnaire carried out to some Colunex employees was important to conclude that there is no sustainable culture at Colunex despite the company having some sustainable measures implemented.

3.5 Third task: Sustainability Department

The third task of this project was proposed by the company in order to guarantee greater internal organization and ensure that the company maintains a sustainable culture in the future. Colunex proposed the creation of a sustainability department composed by Francisca Santos and me as heads of the department.

Environmental problems are constantly evolving, as are science and technology, and therefore the most adequate solution today may not be life-threatening nor the most adequate tomorrow. This department has the aim of collaborate positively with the other departments, and designed, implemented, monitored sustainable measures and analysed the results in order to ensure that they were always positive. Without this department,

responsibility for these measures would most likely be forgotten. The culture of a company is not something easy to change and like any other culture it takes time for a new culture to be instilled or changed. The duration of this project is not long enough for it to be possible to analyse with certainty the implementation of sustainable values in the company's culture and therefore it is more immediate to create a department capable of continuing with this objective.

The department's main mission is to ensure a sustainable policy in the management and culture of the company and to monitor and analyse all policies implemented so that they bring benefits not only to the environment but also to the company.

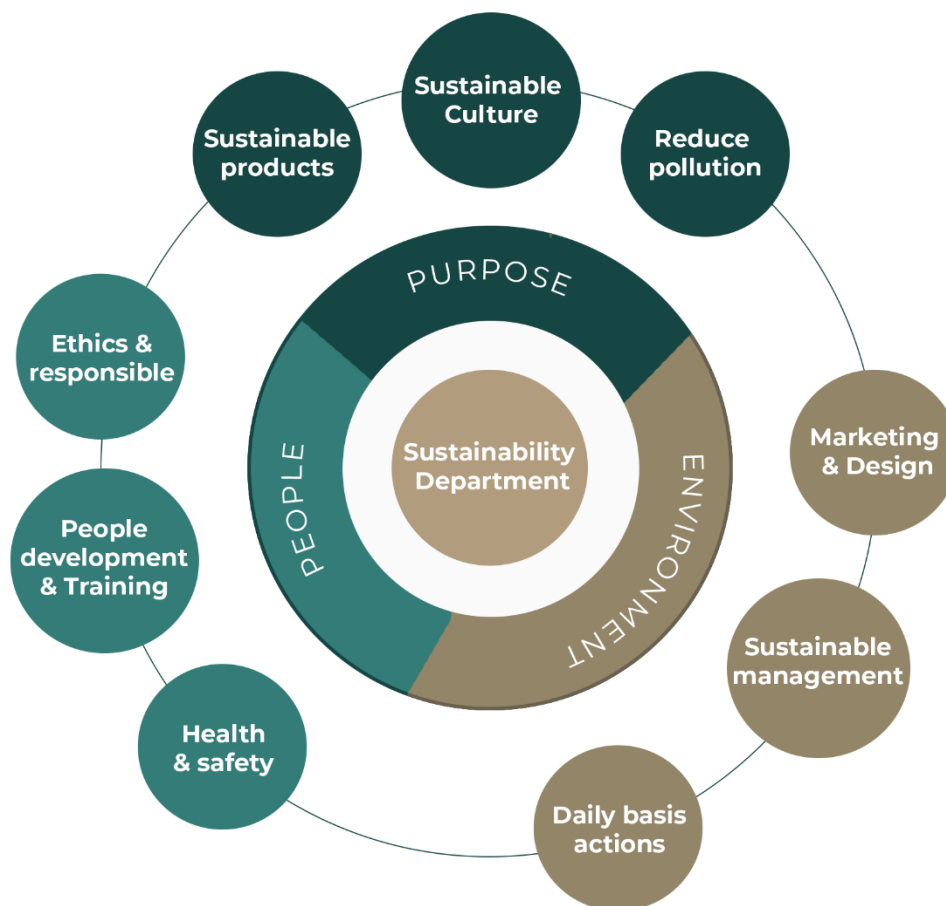


Figure 10: Sustainable department structure

In order to clarify the mission and internal structure of the sustainable department I developed an infographic (Figure 10). The structure includes the main purposes that must be clear to all employees. The department's purpose is to maintain a

sustainable culture throughout the company, reduce the pollution emitted by the company as much as possible and make the products produced more sustainable.

Regarding people, the department is responsible for ensuring that all measures implemented guarantee a healthy and safe environment for the company's employees and for customers and partners. It should also guarantee knowledge and specialized training on sustainability in order to ensure that all employees are trained and educated on the subject to be able to contribute more positively by executing more effectively as well as being able to solve future problems, also the department must ensure that all new measures are accountable to the rest of the company's values and respect professional ethics.

My main responsibilities and functions in this department are the creation of sustainable measures in the company in several departments, monitoring these measures in order to ensure that they are being properly applied and make corrections whenever necessary, continuous analysis of the results obtained, ensure that the company does not lose income due to these measures, build and maintain sustainability present in the company's culture and collaborate and work as a team with all other departments of the company.

As soon as the creation of this department was completed, as well as all the tasks proposed by the company, I started to perform my duties within the sustainability department by creating the first strategic plan to make Colunex more sustainable.

3.6 Fourth task: Increase environmental awareness within the company

After the creation of the sustainability department, I performed the first task that I proposed. This task aims to increase environmental awareness within the company in order to ensure that all employees including the company's leaders and management will collaborate throughout this project. The help of the department leaders as well as the approval of the company's managers is crucial for an effective implementation of the strategies, and so this task aims to keep the entire company sensitive and properly informed about sustainability.

With the previous analysis of the sustainable culture level of the Colunex's employees, it was possible to conclude that there is a gap in individual knowledge and environmental awareness. Although this level of awareness is different from department

to department, I found necessary to inform all employees and company leaders on the subject.

When carrying out the questionnaires to different members of the company, I noticed that there is a greater environmental awareness among younger employees and that older employees are more resistant to accepting new measures. However, there is some general awareness by the company's management about environmental problems and there is openness to the implementation of sustainable measures as long as the company's economy is not notoriously harmed.

With this analysis, I defined six strategies to increase environmental awareness in all members of Colunex. To organize the strategies and submit to approval I create a table with all the strategies, the difficulty level that can be identified as low, medium or high; the duration period that can be permanent, short-term or long-term; which departments would be involved and the investment necessary for the implementation of the strategy that was categorized as low, medium or high.

| GOAL: Increase environmental awareness within the company | | | | |
|--|------------------|-----------------|-------------------------|------------------------|
| Strategies | Difficulty Level | Duration Period | Departments Involved | Associated Investments |
| Present to Colunex administration the benefits of sustainable strategies for the company | Low | Permanent | Sustainable & Marketing | Low |
| Share informative content about sustainability | Low | Permanent | Sustainable & Marketing | Low |
| Training on sustainability | Medium | Long-term | All departments | Medium |
| Days dedicated to environmental philanthropy | Medium | Long-term | All departments | Medium |
| New sustainable targets for all departments | Medium | Long-term | All departments | Low |
| Promote recycling among employees | Low | Permanent | All departments | Low |

Table 4: Strategies defined to increase environmental awareness

After the presentation of this table to Francisca Santos during a meeting she evaluate the difficult level and the investment needed and approve three of the six strategies, then I started implementing the approved ones (Table 4).

3.6.1 The benefits of sustainable strategies for the company

The first strategy implemented had the aim to present the benefits of sustainable strategies for the company. At the beginning of the project, the company did not have a sustainable culture and the sustainable measures it applied were in reaction to legislation

so it was necessary to instil a sustainable awareness to change the company's attitude to a more proactive one. This measure is permanent because there are always new information's and evolutions about the environment, so it makes the difference to be always aware of the current environmental situation, plus it is important that the theme is not forgotten.

The problem was that the management of the company didn't have a sustainable culture and prioritized other themes in the management of the company, such as maximizing profits and product quality.

As the company has a hierarchical organization, employees respond to hierarchies and the example and leadership comes from above in a vertical organization. In this sense, it was necessary to intervene first in the administration so that they collaborate and contribute to the implementation of a sustainable culture throughout the company. All strategies defined must be approved by the administration in order to be implemented and that is why it is important that they value the theme and collaborate with the sustainability department.

The investment in this strategy was low as we use internal resources such as the internet, computers and the knowledge of the marketing team to carry out presentations, research and hold brief meetings.

In order to present the benefits of sustainability, I made a presentation with the directors of the company Eugénio Santos, President & CEO and Carla Moura member of Colunex's administrative board. In this presentation I have included an analysis of the main Colunex competitors which contained the comparison table that shows all Colunex's sustainable strategies versus those of the competitors.

After presenting this table, I asked if they knew why competing brands are investing in sustainability. The answer was positive, and I realized that the administration members were aware of the current environmental problems. However, they were reticent about the topic as they did not know how sustainable measures can benefit Colunex profit.

In this sense, I proceeded with the last phase of the presentation, where I presented some studies that show how it is possible to implement measures without

harming the company's economy, and on the other hand, how we can implement measures that benefit the company.

I presented some measures that the competition is implementing and the beneficial results they are bringing to the economy, such as the use of renewable energies. I also presented a new niche target that fits the Colunex audience segment. A niche with purchasing power that is willing to pay more for a sustainable product.

Finally, I presented the problems that may arise if Colunex does not give in to social pressure to increase its environmental awareness. Some of these problems are the loss of a market niche to another brand, negative feedback on social media and internet reviews, increase in production cost due to lack of proper management by not avoiding waste, unnecessary spending on energy and printing or fuel.

At the end of the meeting, the administrators' feedback was positive, and they agree that the company must have a sustainable culture and that Colunex could benefit from it. Despite the positive feedback, there is still some resistance in moving forward with measures that required a high investment.

3.6.2 Share informative content about sustainability

After the positive feedback on the previous strategy, it was necessary to inform all company members about the importance of sustainability, ensuring that they are always informed with the latest news and general information in order to make sustainability a day-to-day theme for all the company's employees and leaders.

In order to guarantee this interest and curiosity, I started to share of dynamic articles for quick reading, giving preference to videos for being more dynamic or small advertising banners that have simple information. The investment on this strategy was low because we have internally all the necessary tools. This strategy is permanent to ensure that interest is not lost, and the topic is not forgotten. In this sense, it sets the objective of one sharing per week in order to create a routine. For the information to be shared more easily, I essentially used Whatsapp to share and took advantage of some marketing department meetings to introduce the topic by putting pressure on them to see the content.

Initially the feedback from sharing was positive and I managed to get several responses and even create a small exchange of ideas, however at the end of the first

month there was a slight lack of interest in the articles as they became a banal action. Then I did not share for two weeks and when I re-shared, I got more feedback. In this way, it was possible to conclude that the ideal is a more spaced sharing so as not to trivialize the information. I also noticed a greater interest in video content. Through these conclusions I redefined the strategy to share only two times a month and preferably in video format with a maximum of one minute. I also decided to produce, with the help of the marketing department, a video capable of informing, educating and arousing curiosity on the subject. This video had one minute long and include educational information, simple and striking images, and clear text. The topics of the video were a presentation of the new sustainability department, the main objectives, and main benefits. As the video was made in-house and the images used were from a free image bank, the investment was low.

The video was shared by WhatsApp and the email but had low feedback and did not change the behaviour of the employees, so I realized that it is necessary to choose another way to spread the information more effectively.

3.6.3 Promote recycling among employees

There is a lack of interest about recycling and sustainability by most employees, which increases the difficulty in capturing the attention of the majority to content related to this theme so I defined a strategy with the main objective of increase sustainable culture in all company employees. In order to capture attention and share information about the importance of sustainability, it was necessary to adapt the discourse to each department. In the office departments such as the purchasing department, commercial department, export, marketing, accounting, IT and administration, I used a speech focusing on the positive economic goals that can be achieved through the implementation of sustainable measures such as cost reduction, as well included in the speech the increase in the health-related quality of life that a sustainable company can bring and I shared information on the impact of ecological footprints. In these departments I used channels such as email and whatsapp to spread the content and I also wrote articles on the Colunex blog which is read by some of the employees of these departments.

In departments with more practical functions such as production or logistics, I kept the same strategy but focused more on a more dynamic approach through word of

mouth. In order to better implement this strategy, I had the help of the person responsible for cleaning the factory, who communicated daily with all departments to ensure that they carried out small sustainable actions and shared information on the subject.

Throughout the implementation of this strategy, I was able to understand which departments are more and less sustainable. The cleaning, marketing and purchasing department were the most sustainable and the production department was the least. With this conclusion, it became clear that there is a need for greater intervention in the production department, reinforcing measures to increase environmental awareness. Since the beginning of this strategy, the increase in environmental awareness has increased by an average of 10%, which is a very low value considering the 4 months of implementation. In this way, it was necessary to reinforce the sharing of information and that is why I decided to place a TV next to the entrance with more dynamic content on sustainability came about.

As we concluded in the previous points that the information given from videos is more effective than in other formats, so I suggested the solution of being able to create a video to communicate the new department and the first measures that each one can start to implement such as recycling. As online sharing is more easily ignored, the idea was to place a large TV near the entrance to the factory, which is also the area where there are breaks for snacks and coffee and is close to the bathrooms. This is a strategic location as it is the area where all collaborators pass by and it is a leisure area which increases the probability of watching the video and generating conversation about the subject.

3.7 Fifth task: Increase eco responsible actions on daily basis

After applying strategies to increase the company's environmental awareness, I started the fifth task defined for this project. This task aims to turn the company more sustainable, and to do that it is important to implement sustainable measures that interfere with daily routines. As this task involves all departments and implies some investment, there are measures that are easy to implement, but many others require high investment, and changes in dynamics or processes. For these reasons, after defining all the eco responsible actions that could be implemented at Colunex, I created a table similar to the previous task (Table 5).

| GOAL: Increase eco responsible actions on daily basis | | | | |
|---|------------------|--------------------|-----------------------------------|------------------------|
| Strategies | Difficulty Level | Duration Period | Departments Involved | Associated Investments |
| Transition to energy-saving LED lighting | Low | Short-term | Sustainable & Eletronic | Low |
| Make 100% of the electricity used through renewable sources | High | Long-term | Sustainable & Production | High |
| Installation of energy-efficient equipment capable of reducing the facility's electricity consumption | High | Long-term | Sustainable & Production | High |
| Recycle at least 80% of all waste | Medium | Medium-term | All departments | Low |
| Landfill waste reduction | High | Long-term | Sustainable & Production | Medium |
| Hybrid vehicle fleet | High | Long-term | Sustainable & Logistics | Hight |
| Avoid sending products by plane | Low | Short-term | Sust.; Makt. & Logistics | Low |
| Use of sustainable textiles and leathers | Low | Short-term | Sust.; Makt. & Design & Purchase. | Medium |
| Recycle used mattresses and new channels for end-of-life materials | Medium | Long-term | Sust.; Makt. & Design | Medium |
| Suppliers with sustainable policies | Medium | Medium-term | Sust.; Makt. & Purchase | Medium |
| Eco-travel packages | Medium | Medium-term | Sust.; Makt. & Design | Medium |
| Use recyclable materials on a daily basis | Low | Medium-term | All departments | Low |
| Decrease the grammage of cardboard packages | Low | Medium-term | Sustainable & Purchase | Low |
| Monetize production waste | Medium | Constantly lasting | Sustainable & Purchase | Low |
| External waste management consultant | High | Constantly lasting | Sustainable | High |

Table 5: Strategies defined to implementation of Eco responsible actions

In this task there are more measures with a high degree of difficulty and investment compared to the previous one. Due to the complexity of some actions and the degree of investment required, the Colunex administration only approved the measures with low investment and low and medium difficult level. The remaining measures, despite not having been approved, were also not rejected, and during the meeting these measures were put on standby until the complete implementation of the approved ones.

Therefore, the actions approved were the transition to energy-saving LED lighting, avoid sending products by plane, use of sustainable textiles and leathers, work with Suppliers with sustainable policies, create eco-travel packages, use recyclable materials on a daily basis, decrease the use of cardboard packages, and monetize production waste. After the approval of these actions, I started their implementations.

3.7.1 Transition to energy-saving LED lighting

The main objective was to swap all the company's light bulbs for LED, including stores and all warehouses. To implement this action, I worked in collaboration with the purchase department and with the electronics section. For the implementation of this measure there was an initial investment for the purchase of LED bulbs, however, after

comparing the values spent on electricity and the durability of the lamps, we concluded that this investment will be recovered in less than two years.

Colunex managed to replace 90% of the lighting to LED bulbs and by the end of the 2022 the lamps corresponding to the remaining 10% will be installed. These 10% represent the Lisbon warehouse and some stores that will go into construction and to optimize work the replacement will be made during the construction.

3.7.2 Avoid sending products by plane

Other action implemented had the objective of reduce the level of pollution caused by the transport used. Due to timings, often the only shipping solution capable of meeting deadlines is by plane, and in order to reduce the air shipping I decided to implement two new measures. One consists of internal organization in order to guarantee production dates capable of having a longer shipment and to extend delivery times to be able to send in a more ecologic transport like boats or trains. Another action is to increase the value of shipping by plane by including an extra fee in order to persuade customers to choose alternative shipping methods.

The investment in this measure is low as shipping costs by plane are usually higher than other transports and for this reason there are economic advantages in choosing other ways of shipping. The extra shipping fee by plane will be borne by the customer and for this reason Colunex can still benefit from this extra payment.

The implementation of this measure brought economic benefits to the company as it reduced the amount spent on fast shipping. However, often the application of an extra fee does not represent an impediment for the final customer and therefore the shipment is made by air anyway.

3.7.3 Use of sustainable textiles and leathers

Colunex produce a lot of furniture for bedrooms that are upholstered with fabrics, and most of the used fabrics were not sustainable. So, the main objective of this measure is using more sustainable textiles without losing profit margins and increasing the number of sales by expanding the Colunex target, including customers from a new market niche, the green consumers.

During this task I faced some difficulties in finding fabrics at affordable prices, especially in vegan leathers. Currently, there are already brands with sustainable fabrics,

however it is difficult to find quality vegan leather at prices similar to the natural leather currently used by Colunex. 100% natural linens are usually priced slightly higher than the more commonly used fabric categories. I also had some difficulties in finding sustainable fabrics to replace some of the most chosen fabrics in the collection, such as velvets. Another problem faced was getting customers to choose sustainable fabrics over others and keeping the cost of producing the products.

The first part of implementing this measure was to find quality fabrics capable of being used to upholster products such as headboards, lamps, or bedside tables. Jointly with Teresa Felix [responsible for the purchase department] we found several brands, tested the fabrics for quality and narrowed down the initial fabric selection. We chose two fabric brands, Liveco which has a 100% natural linen line and Fabraa which has a sustainable line with recycled fabrics made from various materials including plastic bottles.

The second part was negotiating prices and ordering the products with suppliers. Since some suppliers required minimum orders in quantity, we chose only the fabrics with the most consensual colours to present to Colunex customers. As some fabrics chosen were priced a little higher than most of the non-sustainable fabrics, we created a new price category for products with these fabrics. For example, a headboard could have different prices depending on the fabric chosen. In this way, natural linen fabrics have a higher price category. Fabraa's recycled fabrics, as they have an identical price to other fabrics already used, does not imply a price increase. After setting prices and purchasing fabric samples to present to customers, it was necessary to entice and convince customers to choose sustainable fabrics over the others. For this reason, I created a new communication strategy together with the marketing and design department. This strategy consists of presenting the fabrics in a prominent way at one of the most prestigious design fairs, Salone del Mobile, which will take place from the 7th to the 12th of June in Milan (see Appendix IV).

To be able to present the benefits of fabrics and show how it is possible to maintain a pleasant aesthetic without compromising quality, we created two prominent areas in the stand with beds upholstered with sustainable textiles. One will be a bed covered in natural linen and the other will be covered in recycled fabric made from plastic bottles. The mattresses together with these beds will be models that include natural materials, and without glues with CFC's. To intensify the speech, we will

accompany this event with an online communication that promotes sustainability. Although Colunex have already included these fabrics in their collection, I am still looking for more fabrics in order to expand the options of sustainable choices for the customers and that is why me and Teresa have continued the contact with more suppliers.

As this strategy required the acquisition of new textiles that were not in stock, there was an initial investment to purchase the necessary fabrics to cover the beds presented at the fair. However, there is a forecast of total return on investment with the sale of the beds during the fair, and through sales achieved over online communication. As Fabraa fabrics do not have a higher cost compared to other fabrics in the collection and a new price category was created for linen coated products, the brand will not lose a profit margin on the sale of design products.

Through the search for sustainable textiles, it was possible to identify that there is an increase in supply from suppliers compared to previous years. There are textile brands that are including sustainable collections due to the increased demand for sustainable textiles by Portuguese companies in the furniture sector. However, there is still a limitation in the variety of fabrics and a difficulty in having prices identical to unsustainable fabrics. Vegan leather is still a product with a very high price and that requires an order of large quantities of fabric which would create excess stock and therefore would not be a sustainable purchase, for this reason I exclude this option from the collection until I find better conditions for order. In terms of production, there were no difficulties in producing the product and the sales department is working on an adequate speech to promote this collection of fabrics. Although the implementation of this strategy is under development, I will only be able to draw final conclusions through the reaction obtained to these textiles in their presentation during the fair in June.

3.7.4 Work with Suppliers with sustainable policies

This measure has the objective to ensure that Colunex choose suppliers with sustainable policies and responsible production. The suppliers with the best offers do not always have sustainable policies and there are suppliers with which the brand already has an old relationship and therefore has many benefits, however they have not yet implemented sustainable measures and Colunex management is still not willing to give up some suppliers for new ones with sustainable measures.

In order to find suppliers with sustainable policies, it was necessary to increase the research done when looking for a new supplier and bring the topic to the negotiations. As the company cannot jeopardize production costs in favour of new sustainable suppliers, I decided to put pressure on old suppliers to implement sustainable measures. In this way Colunex would be able to keep the suppliers and make them more ecological.

This strategy required further research, which allowed me to see that there are areas that are more advanced than others in terms of sustainability. This demand for more in-depth research allowed new companies to be found, which even benefited from the supplier database, giving the purchasing department more flexibility and choice. I managed to include new suppliers of more sustainable textiles, however there is a difficulty in finding print shops with ecological materials and environmentally friendly inks. Although these difficulties I found some suppliers that are implementing sustainable management measures and together we defined methodologies to reduce the waste. The purchasing department has also pressured some suppliers to have recycled materials such as tape, paper, film tape, among others, which is already starting to have positive responses saying that they are working in this area.

3.7.5 Creation of eco-travel packages

Packaging is usually a source of plastic and card waste, but this could be different if the brand use reusable packaging and avoid disposable and plastic packaging.

In order not to waste existing packaging, I started by analysing the stock of all packaged products and started by working on new packaging for products with less stock. In this sense, I started by changing the packaging of textiles, which includes duvets, sheets and pillow covers. Until the implementation of this measure, packaging was made of non-recycled plastic with labels made of non-recycled printed cardboard.

The first step was to develop a packaging design that could reduce the use of plastic and was reusable. Then I came with the idea of making packaging with fabrics, and a zipper opening so that customers could reuse the packaging to store the product purchased with the packaging or store other products they have at home. I went ahead

with a bag-shaped design for all textiles, with a zipper opening and just a small plastic area to allow customers to see the product without opening the package. Although the packaging design has plastic, it remains sustainable as it is not disposable. After the packaging design, I start by asking for quotes for different fabrics, resistant and capable of protecting the textiles and that is within the budget.

The prototypes were approved, and it was possible to maintain the price of packaging production. After the approval, the purchasing department proceeded with the first order and as soon as all the stock of old packaging was sold out, the brand started using the new, more sustainable packaging (see Appendix V).

The investment in this measure was reduced as it only includes the payment of prototypes at an early stage, but which was diluted in the value of the order. As the packaging production cost was the same, this strategy does not imply any economic loss for the company and still adds commercial value to the product.

Currently all Colunex textiles already use sustainable packaging and had positive feedback by the customers. No lost sales figures due to the new packaging were presented. The commercial impact was low as there was no increase or loss in. For these reasons, the impact of this measure was mainly environmental, reducing the use of disposable raw materials.

3.7.6 Use recyclable materials on a daily basis

Another measure implemented was the use of recycled materials daily and avoid disposable materials. I started by looking for new options from suppliers to be able to replace some disposable materials with identical, but recycled materials. After a search, I closed a list of materials that could be replaced by recycled materials, which includes Stretch film, adhesive tape, printing paper, packaging cardboard, packaging plastics, lines with recyclable packaging; paints; fabrics; plastic and felt bags. After defining the list, several suppliers were contacted to look for recyclable solutions. So far, I have managed to replace the stretch film, adhesive tape, cards and felt made from recycled material, even managing to reduce the purchase value of these products. Every product substituted were obtained at a lower price.

With the implementation of this strategy, I was able to understand the gap that exists in the production of sustainable materials with affordable prices in some materials such as paints or sewing threads.

3.7.7 Decrease the use of cardboard packages

The main purpose of this measure was to decrease the use of cardboard packaging in Colunex everyday life and in the packaging of products. The biggest barrier was maintaining the production cost of cardboard packaging when using other materials and the Difficulty in finding materials with the quality needed.

After the creation of the new eco travel packages, I waited for the stock of cardboard packaging to decrease so that I could intervene to make them more sustainable. Colunex use cardboard to package the mattresses, the pillows and for shipping products. I started by redesign the mattresses packaging.

- **Mattresses Packaging**

I started by designed some packaging made by alternative materials like wood or fabrics and after some proposals and failed attempts, I was unable to find an alternative material that is easy to pack in production and guarantees the same quality and protection when shipping the products. Wood packaging was excluded due to the weight and energy spent on packaging and exclude fabric packaging as they do not protect the product. I concluded that it is necessary to keep the cardboard packaging. As I could not find any recyclable cardboard with enough quality to send a product of large dimensions and with a price within the budget, I chose to slightly reduce the grammage of the card used. This reduction does not compromise the quality of the packaging, it reduces the cost of production and reduces the volume of cardboard sent to the garbage by kilos. As the packaging is of quality it is possible to reuse packaging. All mattresses on the national market are shipped and assembled by a Colunex team and for this reason all packaging and materials used are collected back to the factory. Whenever possible, packaging in good condition is reused for packaging and transporting products internally, for example sending products to stores, fairs or events.

- **Commercial Pillow Packaging:**

When I requested quotes for fabric cushion packaging, I received very high quotes that were not approved. As the legislation requires that these, for reasons of hygiene, be sold sealed, we also must keep a first plastic packaging that must leave the

factory sealed. The packaging in TNT similar to textiles did not present an aesthetic appealing enough for Colunex's target audience and therefore they were also not approved by the company's management. It was then that I decided to keep the external cardboard packaging with an internal plastic packaging, but I used recycled materials. The plastic packaging of the pillows is now recycled plastic as well as the cardboard packaging. The design of the pillow packaging (see Appendix VI) was also thought to reduce the waste of cardboard by making only three measurements and using straight lines to avoid increasing the waste of paper generated by rounded layouts. We also reduced the number of different packages, making the same package trilingual, which allows it to be used in the national and international market and consequently help a sustainable stock management.

- Shipping packaging:

To send products by external carriers throughout the country or to the international market, it is necessary to place the products in cardboard packaging capable of protecting the product throughout the journey. Not being able to use any other material to make these packaging, I opted to exchange for recycled double cardboard without kraft. After contacting several suppliers and evaluating the quality of the cards alongside with Teresa Felix I managed to get approval from the administration. The new recycled cardboard packaging also had a price reduction of 40% compared to previous packaging.

This strategy implied only an investment in the realization of prototypes. The implementation of sustainable packaging in the company brought several added values to the company. This packaging added value in textiles by including reusable packaging in the sale, reduced the production cost in shipping packages by 40% which increased the company's profit, the use of recycled cardboard and plastic benefits the environment and allowed the use of the recycling symbol, enable to improve the visual image of commercial packaging to seduce customers with a more modern and target-appropriate language and optimize pillow packaging processes by reducing the number of packaging models, using the same model for different markets.

3.7.8 Monetize production waste

The last measure of this task was creating a monitoring method of waste and reports with updated information. The first barrier founded was some lack of control in

waste management because there are no measurements, neither reports that allow comparing the waste produced at different times. This lack of monetization increased the risk of waste and rigor in the use of materials.

Each section and department manager must have updated monthly reports where they record all the waste produced in the month in question. The waste produced must always be quantified in the same way in order to be able to make a rigorous comparison, for example, always quantify it by weight or by volume and never vary. This process requires the change of department's dynamics, which requires greater initial management. For this reason, there are departments that have not yet started to make this assessment, as is the case of the production department that is working on a new dynamic of human resources to guarantee this monetization and define the reports for each sector. The marketing department and the purchasing department have already started with this monetization.

Throughout the implementation of this strategy, I realized that there are different degrees of difficulties in monetizing waste and that it is very important that employees understand the importance of this measure so that they comply with it rigorously. There has been a lot of resistance on the part of production to implement this measure as it will imply changes in the work methodology of employees and there will be greater control which leaves production elements apprehensive. On the other hand, the marketing and purchasing department have already started the implementation and managed to find immediate advantages such as a greater control of the existing stock and it was possible to perceive some patterns of behaviour related to events and campaigns.

3.8 Sixth task: Green Marketing and Design

After the implementation of eco responsible actions on the daily basis, Francisca Santos proposed a new task together with the company's management. This task consists of creating green marketing and design in order to make Colunex's marketing department more sustainable and able to help the company take advantage of the sustainable measures implemented so far.

To accomplish this objective, I create a table with the same layout used for the previous tasks that evaluate the degree of difficulty of each measure and the duration period (Table 6).

| GOAL: Green Marketing & Design | | | | |
|--|------------------|-----------------|-------------------------------|------------------------|
| Strategies | Difficulty Level | Duration Period | Departments Involved | Associated Investments |
| Sustainable design of products | High | Long-term | Sust./Design & Production | Medium - high |
| Marketing digitization efforts to reduce paper usage | Medium | Medium-term | Sustainable & Marketing | Low |
| Merchandising made from waste | Medium | Medium-term | Sustainable & Marketing | Low |
| Print materials: Avoid material waste | Medium | Medium-term | Sustainable & Marketing | Low |
| Highlight the communication of sustainable products | Low | Medium-term | Sustainable & Marketing | Low |
| Creation of a sub-brand with 100% recyclable materials | High | Long-term | Sust./Production Mkt & Design | High |

Table 6: Strategies defined to implementation of Green Marketing & Design

In this task there is only one measure of low difficulty, and most are of medium difficulty. For this reason, I started with the implementation of low and medium difficulty measures and leave the high difficulty ones for a future implementation.

Therefore, the actions approved were the marketing digitization efforts to reduce paper usage, create merchandising made from waste, avoid material waste on print materials and highlight the communication of sustainable products.

3.8.1 Marketing digitization efforts to reduce paper usage

The main objective of this measure was to reduce the amount of printed material. Colunex used outdated processes with excessive use of printed materials such as catalogues, price lists, quotes, invoices, sales and office material, and in order to reduce the amount of printed material, I start by make the invoicing process digital, where as a rule the invoice is sent by email and only when the customer requests it is delivered in printed format. This process was simple to implement as the invoice was always generated digitally and is now only sent to email instead of selecting the print option. Then I tried to do something similar to the quotes avoiding the use of budget books with triplicate sheets, making exceptions only at the request of the customer. To carry out this strategy, I created with the marketing department an online form that generate budgets automatically, however the measure has not yet been approved by the administration and budgets continue to be made in the books with triplicate sheets.

As a communication designer at Colunex I noticed the exaggerate amount of paper used to print the pricelists and catalogues, so I created a new and more user-friendly digital version of each print catalogue.

To finish the implementation of this measure I suggested the use of tablets in stores and at events in order to present catalogues and price lists in digital format and reduce the number of prints. Whenever there are changes in the technical sheets or there are new products in production, it is necessary to print new catalogues, which generates waste of materials. To prevent this from happening, I created a digital version of all printed materials in an interactive and responsive format to ensure a good presentation of the content. The commercial department has used these materials in digital format to carry out sales at a distance, however store salespeople are still resistant to this measure and prefer to present the products in printed materials. I am trying implement the use of tablets at fairs starting in June at the Salone del Mobile.

The investment in this measure was low as no printed materials were wasted and new materials were only printed when the old ones were out of stock. The digitization of material was done internally by the marketing department.

Me and the marketing department were able to implement this measure in a way that reduced costs for the company and brought benefits to other departments by creating more user-friendly materials. There is a clear notion of the importance of technologies and the added value they can bring. Initially there was some time spent in the creation of new formats and layouts in order to make all materials user friendly, however as the thinking and reasoning were worked to reduce the number of printed paper, a growing environmental awareness within the marketing department was evident because after the implementation of this measure, all the materials produced followed a sustainable line of thought and were designed to use as little paper as possible.

The only investment that exists was in the purchase of tablets, however this investment will be recovered in less than a year with the savings generated by the reduction in the printing materials.

Whereas the creation of digital methodologies was quick, there has been a resistance on the part of older employees to be willing to change their work methodology and include new work methods. There are many doubts and obstacles presented by store and office salespeople in reducing the amount of printed materials they use. Unlike the marketing department, these departments have progressed more slowly in implementing these measures.

3.8.2 Merchandising made from waste

This measure aims to take advantage of waste or materials that would otherwise go to garbage. Through the waste we can create merchandising and promote the brand. In this way this measure will reduce the volume of waste and reduce the cost spent on merchandising.

To give waste a second life, I started by analysing all the waste that exists in production and made a list of materials that can be reused in a safe and hygienic way. I noticed that there is a large amount of fabrics scraps left over. These fabric scraps come in different sizes, but none are large enough to be reused in the upholstery section. In this sense, I collected fabrics with good quality and made prototypes of possible materials that can be offered to customers in stores, fairs and events in order to communicate the brand. This gesture creates a charming action with customers and publicize the brand name whenever they are used. After some tests I arrived at two final products. The first product is a bag in small size that can serve as a cover for a notepad, store documents or other materials (see Appendix VII). This product was designed by me and the marketing department and was produced in the sewing section of Colunex. With the larger pieces of fabric, I created large reusable bags that can be carried over the shoulder and can carry several materials. These materials have been tested in some events at Harrods, B2B meetings in the Portuguese and international markets. The feedback was positive as customers responded positively to this material. Salespeople also use the small bags to line the notebooks they use at meetings. By sharing these products on instagram Colunex received positive feedback from the target audience asking for it and even some resellers who asked to Colunex send some quantities.

In addition to the fabrics, there is also a large amount of waste of natural materials used inside the mattresses that are not large enough to be reused. In this way, I collected some quantities and designed a new decoration for the store windows using these materials. I made some prototypes and managed to create a lamp in the shape of a cloud that can be used to decorate shop windows. After approval of the prototype, I proceeded with the implementation of a new design in the windows of Colunex (see Appendix VIII).

As this strategy uses material waste, there are almost no investment because Colunex are reducing the cost of producing merchandising that could be produced with new materials and would have a higher price.

The creation of materials made from waste was easy to implement and had 100% positive feedback. It requires few resources and three batches of bags have already been produced. This is undoubtedly a strategy to maintain and I have already designed more materials for new prototypes.

3.8.3 Avoid material waste on print materials

Catalogues, flyers, pricelists, brochures or even business cards are often designed with layouts that create waste of paper in the production. For example, printing a catalogue in a non-standard size implies that it is printed on standard paper and then cut off the excess paper that goes directly to the trash. At Colunex, most printed materials do not respect the standard printing dimensions. To solve this problem, it was necessary to adapt all printed materials in non-standard dimensions to others that have a better use of paper in their printing. All materials with rounded cuts and measurements were given a new format. So that the materials in stock were not wasted, new prints were only made as soon as the stock ran out. As the paper used for printing was the same and there was an effort not to increase the number of pages, the cost of producing the materials was maintained and we just made better use of the material.

As a communication designer at Colunex I also noticed the amount of paper used to print the pricelists because the prices were presented in catalogue format. To change this, I created a pricelist with fewer pages and a separate catalogue. In order to reduce the number of printed sheets, I created a pricelist model without images and putting the information in tables. The pricelist went from 106 pages to 36 pages. These tables are already circulating and are used in print and digital format.

After completing the intervention on the pricelists, I started by creating bilingual catalogues to decrease the number of prints needed (see Appendix IX). As Colunex works with different markets, all catalogues were printed in three versions, English, Portuguese and French. To facilitate stock management, I reduced the number of versions of the catalogues for two, having one version in Portuguese and a second version in English and French. As the information and products are different between

the national and international market, it was not possible to include the three languages in the same catalogues. The reduction of pricelist pages reduced spending in 64% and bilingual catalogues in 40%.

The execution of this strategy took some time as it required all materials to be redone in a new dimension and layout which required some technical expertise rather than creativity. At the end of this strategy, I was able to perceive that there was not an aesthetic or functional difference marked enough to require a non-standard size, this choice had only been an aesthetic option and therefore It was created a new rule defining that, except for reasons of functionality, all prints must be in standard measurements and the designers must avoid unnecessary pages on the catalogues.

3.8.4 Highlight the communication of sustainable products

This measure intends highlight the communication of the most sustainable products and options available at Colunex in order to increase the number of sales of these products and manage to reach a new market niche, the green consumers.

Often the customers choose the products that are more communicated and highlighted because marketing and communication design can seduce the consumer to have certain behaviours and make certain choices. Much of the success of a product depends on how it is communicated and presented and if the most sustainable products are not communicated in the best way, there is a risk that they will not be purchased by the consumer.

To be able to highlight sustainable products, it was necessary to work on communication on three points: Educate consumers about sustainability so that they have enough information to understand the added value of sustainability. Use clear, simple and highly visible communication about the sustainable products in both online and offline channels and highlight the most sustainable products from the rest of the collection.

To educate consumers about sustainability, I have defined a communication strategy that aims to disseminate information on the subject. In this way I started by conducting articles on the brand's blog (see Appendix X) related to sustainability and including a new tab 100% dedicated to sustainability in the blog. This measure brought some results as some of the articles with the most views talk about sustainable

measures. Then I shared content about sustainability on Colunex's social networks. After this focus on social media and on the blog, I create a section on the website within the About page that talks about the company's sustainable culture. This section is not online yet as the final approval of the texts is lacking.

In order to achieve clear communication about the sustainable products used by Colunex, I have created a materials and technologies page (see Appendix XI) where the brand talks about natural materials and include a section of all sustainable materials. I also have made some changes to the layout of the product pages to highlight which materials are sustainable.

To highlight the most sustainable products from the rest of the collection, I have used visual communication that highlights the more sustainable. These products have more visual prominence in the catalogue, have more shares on social media, are strategically positioned on the website and the marketing team have made more online advertising related to these products instead of using non-sustainable products. In addition to these strategies already implemented, me and the marketing team are preparing the stand for the Salone del Mobile fair with two areas highlighting natural products in which the positions of the stand with more visibility were chosen, and the products will be presented together with a wall covered with natural materials and a video about the subject.

The investment in this strategy was the highest as it was used 50% of the budget for online advertising to promote the featured products, the marketing department occupied the two most prominent areas of the stand with sustainable products and ordered natural and recycled fabrics to cover the beds that will be presented. Currently, the investment has not yet been recovered but it is expected to return by the end of June.

These measures implemented have already brought a positive return as the articles on sustainability generated visits to the website and increased blog traffic, with one of the most read articles being about design made from recycled materials. This means that we have managed to bring to the website a new and more sustainable target niche. The remaining measures have not yet been fully implemented to be able to assess the final results, however it has been notorious that there is a greater volume of sales of mattresses with natural materials in the international market than in the national market and the two main factors are: because the international market has more choice of

products with natural materials than the national market. The second factor is the price, as these products are of the highest range and are priced higher than most other mattresses. As the economic power in the international market is superior to the national one, there is a target with more capacity to buy these products than in Portugal.

3.9 Seventh task: Future Steps

One of the main objectives of this project is the implementation of a sustainable culture at Colunex and for this to be possible the project must remain permanently active. So, it is important to continue with the strategies that have been initiated, evaluate those that have been implemented, and implement the strategies of medium and high difficulty that have been outlined.

This task intends to define the next steps and strategies implemented by the sustainable department. These strategies should start being implemented at the beginning of the second half of 2022 and due to the great difficulty of implementation and the financial effort necessary to implement some strategies, the conclusion of these measures will only be scheduled for 2023, and these dates must be reassessed throughout the year.

The main objective is to have the largest number of strategies successfully implemented and to maximize the company's profit and instill a sustainable culture in all departments.

I defined a table with the organization of all the strategies planned for this period and the expected dates for the conclusion of each one of them. All these strategies are in approval process with the Colunex's administration, and I have already started to collect budgets to present (Table 7).

| FUTURE STEPS | | | | |
|---|------------------|--------------------|----------------------|----------------------|
| Strategies | Difficulty Level | Duration Period | Implementation Month | Conclusion Date |
| Specialized training, in order to learn more about the sustainability | Medium | Constantly lasting | September | In constant progress |
| Semestral targets for all departments to achieve goals | Medium | Constantly lasting | September | In constant progress |
| Make 10% of the electricity used through renewable sources | High | Long-term | November | 2023 |
| Installation of energy-efficient equipment capable of reducing the facility's electricity consumption | High | Long-term | November | 2023 |
| Recycle at least 80% of all waste | High | Long-term | July | December |
| Landfill waste reduction | High | Long-term | November | 2023 |
| Hybrid vehicle fleet | High | Long-term | 2023 | 2023 |
| External waste management consultant | High | Constantly lasting | October | In constant progress |
| Creation of a sub-brand with 100% recyclable materials | High | Constantly lasting | October | In constant progress |

Table 7: Future steps

Environmental issues and environmental awareness are increasingly addressed topics and there is a growing concern about the environment and the scarcity of natural resources. Tragic events such as the case of Chernobyl have increased the population's environmental concern, and currently due to the pandemic and the war in Ukraine, the population has had a similar reaction in relation to the increase in environmental awareness. However, there is a big gap in Portuguese SMEs in adopting a more sustainable culture. Colunex is a Portuguese SME that at the beginning of this project had a reactive attitude towards sustainability, fulfilling only what was required by law and implementing some environmentally friendly measures with the objective of maximizing profit and not so much for environmental awareness. When studying the brand's main competitors, it was clear to notice that there is a discrepancy between the Portuguese market and the international market, which leads us to believe that the social pressure in the international market, mainly in the UK and in the French market, is much greater than in Portugal. The Portuguese competitors, despite having communication and implementing sustainable measures, do not present the same effort as the international market. For example, the Tempur brand, which is a competitor of both markets, does not have a green strategy nor does it communicate its sustainable policy in Portugal, however it has a very strong sustainable communication in the UK market. Through table three we can see that non-Portuguese brands have a more sustainable culture than Portuguese brands, however the introduction of a Portuguese brand with a sustainable culture can encourage other Portuguese brands to adopt similar measures to be up to the competition and not lose customers or notoriety. With this project, the objective was to implement a sustainable culture in a Portuguese SME, Colunex. But how does Colunex manage to have the ideal balance between the financial, social and environmental risks controlled at the same time as the obligations and opportunities in the long term?

It was through external studies and competitive analysis that I was able to successfully implement the sustainability department at Colunex. The implementation of this department does not indicate that the company has a 100% sustainable culture, but it is a good indication for a company with sustainable values. The acceptance of a department with a focus on the environment within the company's structure means that a new value has been instilled in the company, an environmental awareness that alerts the company to the risks of its actions and therefore is willing to change some behaviours

related to the environment without harming the company. These values are implicit in the methodology created by the new department, which managed to implement a series of sustainable strategies capable of benefiting the environment and the company simultaneously. These implemented strategies preserve more the environment and help the company to produce its products without compromising the resources and production of future generations.

The high concern with costs and investments in the implementation of all strategies is due to the fact that the company, despite having a greater environmental conscience, continues to prioritize profits and therefore only with beneficial measures for both parties is the Colunex administration willing to approve their implementations.

Colunex's sustainability department managed to increase the sustainable culture in the company by focusing and implementing the first strategies with the aim of instilling environmental awareness and introducing more ecological values in the company's leadership. These measures have so far been successful. Sharing information and presenting the measures implemented by the competition was important to arouse the attention and interest of the administration on the subject. One of the most interesting reactions to these shares was the sharing of the annual letter that Larry Fink CEO of one of the largest investment management corporations, BlackRock wrote. Fink has been speaking out about the importance of sustainability and in 2019 invited the company's leaders to take a more active leadership role in dealing with social issues. He also warned CEOs about how profits are closely tied to purpose and that companies need to find and communicate their purpose to successfully engage with the new generation of green consumers.

Although the creation of the sustainable department was one of the firsts achievements of this project, it is not possible to measure its impact to 100% as 5 months is not enough time to be able to assess the department's total performance since some of the strategies are not yet completed and the process of creating a new culture in the company is also not complete. However, this department has been responsible for Colunex's advances to become more sustainable and has already managed to increase the brand's ability to compete with some initially more sustainable brands. As in the study by Hofmann et al. (2012) who conclude that employee incentives for environmental suggestions, having a dedicated environmental manager, were among the least adopted environmental strategies because such actions required financial

resources, Colunex started by investing in this department, providing time and human resources for its creation and presentation of a sustainable plan capable of making the company more environmentally friendly and making it profit from these measures.

The department managed to implement 18 of the 27 strategies defined in less than half a year and although some were not yet fully completed, all had positive results and required little financial investment. The implementation of these measures made Colunex a proactive company rather than a reactive company. Currently Colunex not only reacts to the demands made by the government but implements extra measures that contribute to the reduction of the company's environmental impact.

As Gladwin (1992) and Kleiner (1991) defend, Colunex cultivated a series of skills that allowed the implementation of measures related to sustainability that reduced the company's waste, created green packaging and is working towards the creation of a green product. Some of these measures are allowing Colunex to have a greater competitive advantage being able to use a more complete speech with customers. The preparation of the Salone del Mobile fair is even taking advantage of this new speech by including recycled materials and natural products on the stand and in its communication.

The strategies implemented also focused on the production process by implementing measures that create less polluting, improve the recycling process by-products, and innovate fewer polluting processes. All these measures required a low investment, always with a return forecast. These practices also reduce other types of costs, such as liability costs, legal fees (Shrivastava, 1994) and potential product return costs. However, this focus on profitable measures, some authors argue that a single focus on economic sustainability can succeed in the short term; long-term sustainability requires that all three dimensions [Environmental, Economic and Social Sustainability] be satisfied simultaneously (see Figure 1). Bearing this conclusion in mind, all strategies implemented have these three dimensions included in the line of thinking and are defined to bring benefits to the company in the long term.

So far, the sustainability department has managed to put into practice 18 of the 30 measures defined to make Colunex a company with a sustainable culture, as some of these measures are not yet completed, the percentage of implementation of all strategies is 59%, which means that so far Colunex has increased its environmental awareness by

more than 50% and therefore sustainability can now be considered a theme of the company's culture and one of its values. As we can see in Table 8, there is a significant increase in Colunex's environmental awareness between February and June 2022.

| Brands | Communication on the Website | Sustainability awards or certificates | 100% Sustainable Product | Eco responsible actions on daily basis | Waste Management | Sustainable Culture |
|-------------------|------------------------------|---------------------------------------|--------------------------|--|------------------|---------------------|
| Colunex - 02/2022 | No | Yes | No | Some | Yes | No |
| Colunex - 06/2022 | Yes | Yes | No | Yes | Yes | Yes |

Table 8: Comparison of Colunex's sustainable culture at the beginning

Based on the argument defended by DeSimone & Popoff (1997) that it considers a company truly sustainable, if the company has strategies and objectives that address more than two cases of sustainable development, and as Colunex is addressing more than two cases it is possible to conclude that at the end of this project Colunex has a sustainable culture implemented. Colunex sustainable strategies had been Socio-efficiency with a relationship between a company's value and its social impact. CSR can have a positive impact on the company, or it can have a negative impact such as workplace accidents, employee bullying, human rights abuses. During the implementation of the project it was not registered any of these negative impacts.

However, another study of successful SMEs by Barreira (2004) indicates that a minimum of five years is required to develop the operational and management skills necessary to be considered sustainable, and in this sense we cannot consider Colunex a company with a sustainable culture until 2025. Considering the main objectives defined, I can draw individual conclusions about each of them.

1. Make the chosen company more sustainable:

As we can see in the table eight, this objective was successfully completed as the company managed to implement 18 new sustainable measures and defined an implementation plan for more high impact strategies.

2. Not to harm the company's profits:

None of the strategies implemented so far have had negative consequences for the company's profit. On the other hand, through the reduction of waste, the company was able to maximize the use of materials by reducing the cost of production. Solutions were also found to prevent the increase in the production cost of some products due to

recycled textiles, which makes the production of the product with the same production cost. Purchases from green consumers have not yet been registered, however the communication strategy only foresees reaching this new target after the Salone del Mobile fair which starts on the 9th of June.

3. Making the company's culture sustainable and thus ensuring that the impact of this project is long-term and not the implementation of temporary measures.

The implementation of the sustainability department aims to ensure that this project has a long-term continuity and that the monitoring of the measures implemented is continuous, as well as the monitoring of environmental needs, ensuring that Colunex has an evolutionary strategy capable of following the evolution of the environment. The first defined plan includes short- and long-term strategies that have been planned and defined with dates, this plan implies that the company continues to invest in sustainability and keep the culture active.

4. Creation of a structural plan capable of implementing similar projects in other companies.

The creation of the sustainability department and the initial research as well as the definition of the strategies necessary for a company to become more sustainable is easily adaptable to other areas. However, it is not possible to create a 100% generic plan as each company must be evaluated on the level of sustainability it has, what measures it already applies and it is necessary to know the different products produced.

During the implementation of the project, some difficulties were encountered, such as the difficulty in instilling new values in all employees, the management's resistance to accepting the initial investment, the difficulty of leaders in believing in this new market niche that are green consumers, the difficulty in implementing new methodologies and monitoring tasks in production. However, these problems were selected with alternative measures and adjustments in the implementation of the strategy. The measures 100% implemented had positive results and although it was not possible to complete the first phase, the results presented are already beneficial for the company. So far, the risk for the company is quite low and the company has already managed to reduce 10% of the amount spent on waste.

I hope that the sustainability department continues the implementation of the next steps of the project and that the results remain positive, making the company more ecological, sustainable and with a better performance due to better management of material resources, waste reduction, monetary savings when using energy, sustainable products and by expanding the target to a new market niche. I also hope that Colunex will be recognized by society for its culture and its line of sustainable products.

In general, I also hope that the adoption of a sustainable culture by Colunex will be the reason for other companies to awaken interest in the subject and increase their environmental awareness, taking advantage of this project to implement their own strategy through the creation of a department of internal sustainability or outsourcing.

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Colunex Business Model Canvas

| | | | | |
|--|--|---|--|--|
| <p>Key Partners </p> <p>Business partners: <i>(partners who will profit from the acquisition of our product)</i></p> <ul style="list-style-type: none"> -Interior Designers; -Hotels; -Architects; -Tradeshows; -Brands with complementary products that could be use with -Suppliers -Resellers <p>Media partners: <i>(partners who will help spread the word about our product)</i></p> <ul style="list-style-type: none"> -Magazines; -All business partners; -Tradeshows; -Hospitality events; -Sleep magazines; -Blogs; -Websites related to sleep; -Conferences/Summit; | <p>Key Activities </p> <p>Products: <i>(products produced in-house)</i></p> <ul style="list-style-type: none"> -Mattresses; -Pillows; -Headboards; -Sommies; -Bedding (sheets, duvets); -Lamps -Bedside tables <p><i>(products produced by other companies)</i></p> <ul style="list-style-type: none"> -Armchairs; <p>Key Resources </p> <p>Human:</p> <ul style="list-style-type: none"> -Manufacturers & Sellers; -Marketing team & Designers; -Customer service providers -Management <p>Intellectual:</p> <ul style="list-style-type: none"> -copyright, laws and patents; -use of intellectual copyrighted content <p>Financial:</p> <ul style="list-style-type: none"> -Investments -Running costs | <p>Value Propositions </p> <p>B2C Market:</p> <ul style="list-style-type: none"> -Improved sleeping conditions; -Increased health care while sleeping; -Prevention of spine and cervical problems; -Increased comfort; -Decreased cervical pain; -Orthopedic products for all ages; -Aesthetics and science merged to create quality products -Products with above average durability & warranty; -Custom quality products; -Exclusive technology in some products; -100% vertical company from design to production. <p>B2B Market:</p> <ul style="list-style-type: none"> -Improved sleeping conditions; -Increased customer comfort; -Quality products increase the probability of hospitality awards; -Custom quality products; -Products with durability & warranty; -Novelties every season; | <p>Customer Relationships </p> <p>B2C:</p> <ul style="list-style-type: none"> -Long term; -Loyal relationship; -Easy of use; -Recommended service; <p>B2B:</p> <ul style="list-style-type: none"> -Long term business partners; -Medium-term advertising partners; -Profitable relationship for both parties; -Recommended service; <p>Channels </p> <ul style="list-style-type: none"> -Website; -Online Shop; -Partners plataforms; -Word of mouth; -Newsletters; -Facebook ads -Online advertising; -Offline advertising; -Social media; -Offline Stores; -Partner Stores; | <p>Customer Segments </p> <p>B2C:</p> <ul style="list-style-type: none"> -Upper and upper middle class; -People with spinal or cervical problems; -People with sleep problems; -People with an interest in health; -People who take care of the body and health; -Bedricien people -People who need to change their mattress. <p>B2B:</p> <ul style="list-style-type: none"> -Architects; -Interior designers; -Hospitality; -Clinics; -Tradeshows; -Doctors; -Multi-brand stores for mattresses or decoration; -Multi-brand online stores; |
| <p>Cost Structure </p> <ul style="list-style-type: none"> -Production; -Labor; -Supplies; -Offices; -Transports; -Research & development; -Licensing; -Cloud services; -Website; -Partners plataforms; -Online Shop; -Marketing & Advertising; -Facebook ads -Newsletters; -Social media; -Offline Stores; -Partner Stores; | | <p>Revenue Streams </p> <p>Prices:</p> <ul style="list-style-type: none"> -Retail prices: medium high / High -Partners prices: medium / medium-high | | |

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| <p>Key Partners </p> <p>Business partners: <i>(partners who will profit from the acquisition of our product)</i></p> <ul style="list-style-type: none"> -Interior Designers; -Hotels; -Architects; -Tradeshows; -Brands with complementary products that could be use with -Suppliers -Resellers <p>Media partners: <i>(partners who will help spread the word about our product)</i></p> <ul style="list-style-type: none"> -Magazines; -All business partners; -Tradeshows; -Hospitality events; -Sleep magazines; -Blogs; -Websites related to sleep; -Conferences/Summit; | <p>Key Activities </p> <p>Products: <i>(products produced in-house)</i></p> <ul style="list-style-type: none"> -Mattresses; -Pillows; -Headboards; -Sommies; -Bedding (sheets, duvets); -Lamps -Bedside tables <p><i>(products produced by other companies)</i></p> <ul style="list-style-type: none"> -Armchairs; <p>Key Resources </p> <p>Human:</p> <ul style="list-style-type: none"> -Manufacturers & Sellers; -Marketing team & Designers; -Customer service providers -Management <p>Intellectual:</p> <ul style="list-style-type: none"> -copyright laws and patents; -use of intellectual copyrighted content <p>Financial:</p> <ul style="list-style-type: none"> -Investments -Running costs |
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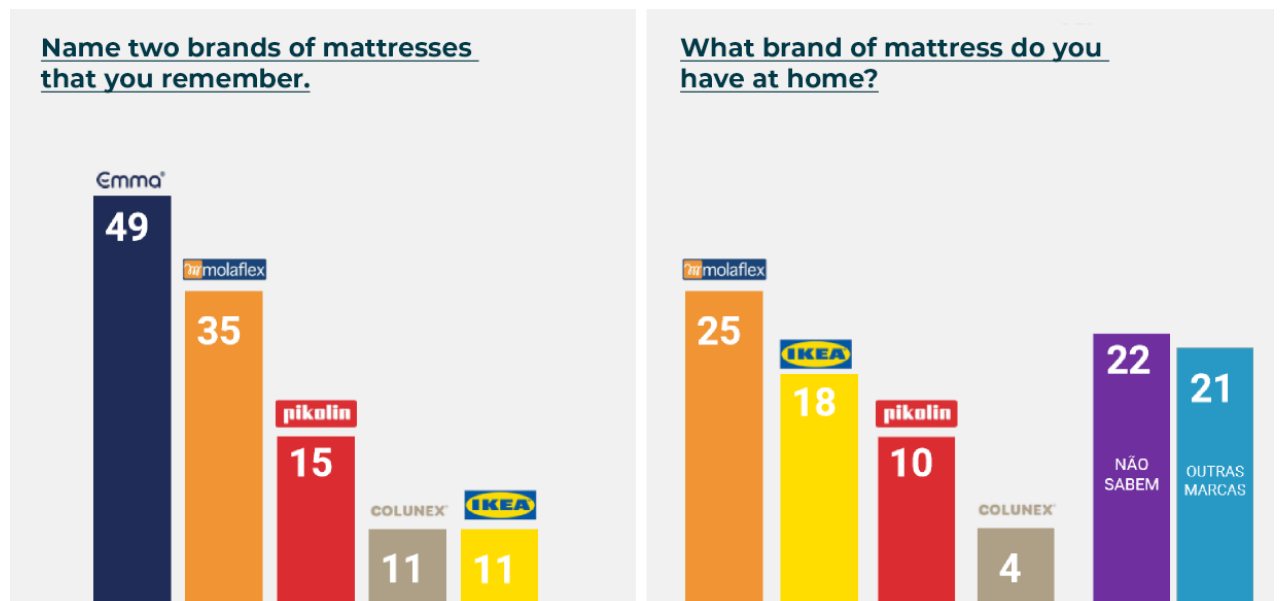
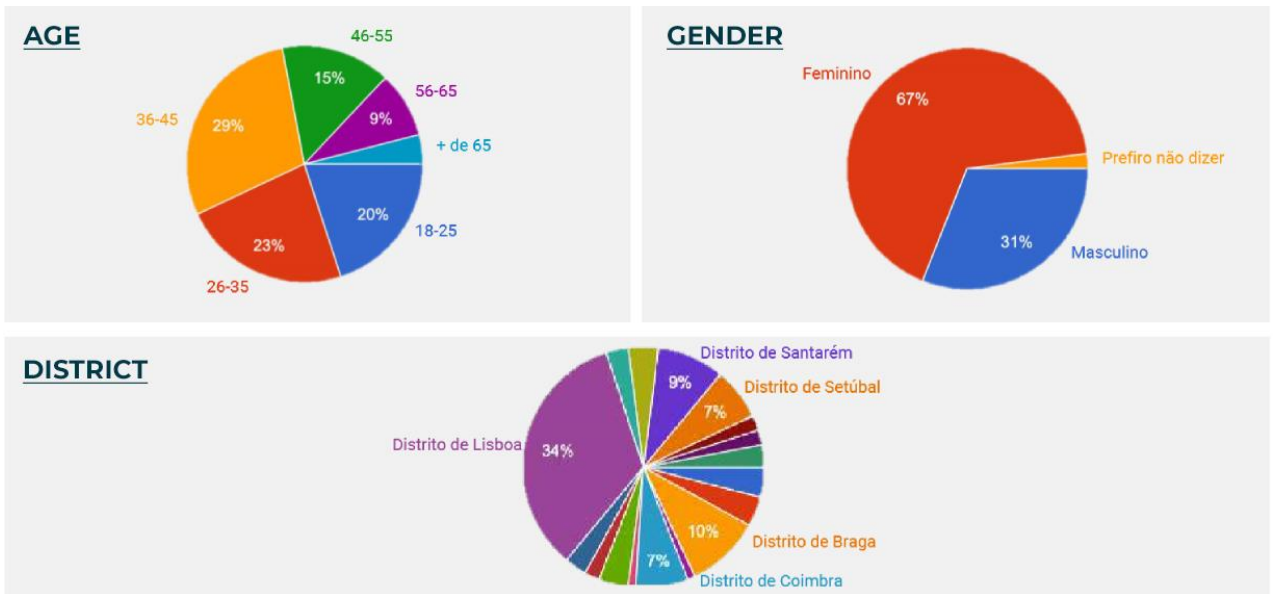
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| <p>Value Propositions </p> <p>B2C Market:</p> <ul style="list-style-type: none"> -Improved sleeping conditions; -Increased health care while sleeping; -Prevention of spine and cervical problems; -Increased comfort; -Decreased cervical pain; -Orthopedic products for all ages; -Aesthetics and science merged to create quality products -Products with above average durability & warranty; -Custom quality products; -Exclusive technology in some products; -100% vertical company from design to production. <p>B2B Market:</p> <ul style="list-style-type: none"> -Improved sleeping conditions; -Increased customer comfort; -Quality products increase the probability of hospitality awards; -Custom quality products; -Products with durability & warranty; -Novelties every season; | <p>Customer Relationships </p> <p>B2C:</p> <ul style="list-style-type: none"> -Long-term; -Loyal relationship; -Easy of use; -Recommended service; <p>B2B:</p> <ul style="list-style-type: none"> -Long-term business partners; -Medium-term advertising partners; -Profitable relationship for both parties; -Recommended service; <p>Channels </p> <ul style="list-style-type: none"> -Website; -Online Shop; -Partners platforms; -Word of mouth; -Newsletters; -Facebook ads -Online advertising; -Offline advertising; -Social media; -Offline Stores; -Partner Stores; | <p>Customer Segments </p> <p>B2C:</p> <ul style="list-style-type: none"> -Upper and upper middle class; -People with spinal or cervical problems; -People with sleep problems; -People with an interest in health; -People who take care of the body and health; - Bedridden people -People who need to change their mattress. <p>B2B:</p> <ul style="list-style-type: none"> -Architects; -Interior designers; -Hospitality; -Clinics; -Tradeshows; -Doctors; -Multi-brand stores for mattresses or decoration; -Multi-brand online stores; |
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| <p>Cost Structure </p> <ul style="list-style-type: none"> -Production; -Labor; -Supplies; -Offices; -Transports; -Research & development; -Licensing; -Cloud services; -Website; -Partners platforms; -Online Shop; Marketing & Advertising; -Facebook ads -Newsletters; -Social media; -Offline Stores; -Partner Stores; |
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| <p>Revenue Streams </p> <p>Prices:</p> <ul style="list-style-type: none"> -Retail prices: medium-high / High -Partners prices: medium / medium-high |
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Appendix II - Notoriety Survey

Profile of correspondent

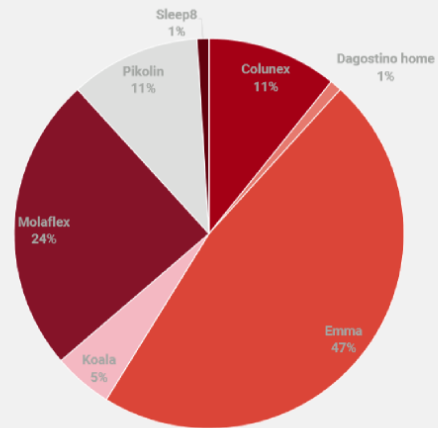


Which of these mattress brands do you know?

100%
 selecionou Molaflex
84%
 selecionou Emma
73%
 selecionou Pikolin
52%
 selecionou Colunex

19% selecionou Koala / 6% selecionou Lumia / 4% Dagostino Home / 3% selecionou Sleep8

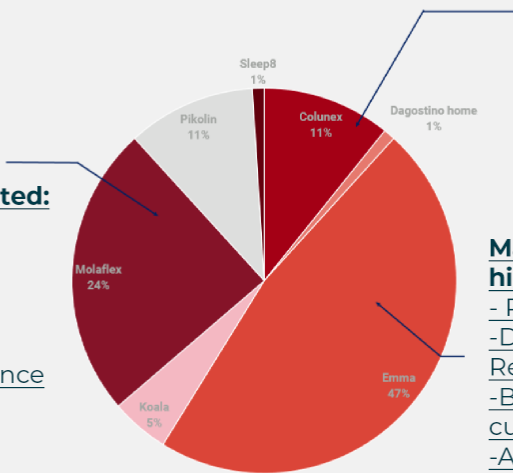
If you had to buy a mattress which brand would you choose first?



If you had to buy a mattress which brand would you choose first?

Main reasons highlighted:

- Price-quality ratio;
- Quality of products;
- Diversity of products;
- Being an old brand;
- Good reputation;
- Good technical assistance



Main reasons highlighted:

- Brand credibility;
- Already a customer of the brand;
- Refers to the body;
- Product quality

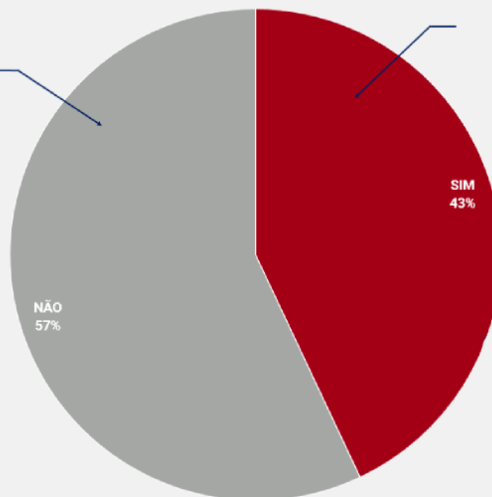
Main reasons highlighted:

- Price-quality ratio;
- DECO Protest Recommendation ;
- Because they are already customers;
- Advertising;
- Appreciation for the presentation of products

Did you Know Colunex?

60% are aged between 18 and 35 years

The remaining 40% are over 35 years old



79% are aged between 68 and + 65

The remaining 21% are over 35 years old

What is the perception of the Colunex brand taking into account the following points? (scale from 1 to 7)

| | | | |
|----------------------------|---------------------------|--------------------------|---------------------------|
| Quality 5 | Price 3,73 | Comfort 4,91 | Durability 5,13 |
| Reliability 5,05 | Durability 4,29 | Modernity 4,31 | Technology 3,34 |

What reasons lead you to change mattress?

The mattress is old?

Back Pain

Bad nights of sleep

Appendix III - Interviews

1. Teresa Félix - Responsible for the Purchasing department

Teresa Félix is currently responsible for Colunex's purchasing department. She has worked in the company for 24 years where she has worked in several departments such as the commercial department, product management or production.

Author: Teresa, first of all, thank you very much for your willingness to participate in this project. The main objective of this interview is to discover the level of environmental awareness that exists at Colunex and in this way be able to intervene in a more appropriate way to increase the level of sustainable culture that exists in the company. To this end, I would like to start by asking what is your opinion on the importance of sustainability?

Teresa Félix: I consider sustainability to be very important, but it always depends on the point of view and the specific theme. If you asked me yesterday I would give a politically correct answer, but after a report I saw on SIC about the purpose of most of the clothes we donate I changed my opinion. Social class is very important, the sustainability of the rich is the garbage of the poor. This reality shocked me and is very present in the textile world. Nowadays a lot of people think about recycling but clothing donation containers are a business. We in Portugal donate, there is a company that collects and separates and then the pieces are sold in third world countries such as African countries. The biggest exporters of maritime containers with these clothes are the United States and Canada and after they separate the clothes, they divide and the good is sold by street vendors, for example in Ghana, and what is garbage goes to a landfill that can have up to 600m I was shocked and it made me reflect on the matter. However, although I think that the subject has more than what can be said, I always try to have a responsible management of my work and buy only what is necessary, keeping a conscious stock, not only for environmental reasons but also financial, in general even thinking in sustainability I think there is some misinformation and people confuse sustainability with ecology. For example is buying fur sustainable? There are several points of view and I know that the answer is not consensual. For me it is sustainable because we are making the most of the animal and making use of something that could be thrown away.

Author: Bearing in mind this reflection and this approach to what sustainability is, do you usually have sustainable practices in your daily life outside the professional environment?

Teresa Félix: Yes and no. If I managed my house the way I do my job at Colunex she would be perfect, but I don't. On a personal level, I make my purchases on impulse and don't think too much about sustainability. However I look for a balance between what I buy and what I spend, I always try to buy things that last a long time, for example clothes that last more than a generation. In my reality, prices greatly influence the amount of sustainable actions I practice. There are many things that I buy that are not sustainable because of a budget. However, sometimes this tighter budget helps to have more sustainable attitudes such as using public transport whenever possible, or sharing rides to work, reducing the number of cars that go to Colunex. If I had the opportunity to go to work by public transport, it would be ideal for me.

Author: From 0 to 10 what do you consider to be the level of sustainability of the department where you operate?

Teresa Félix: I would say a 6. Bearing in mind the production company's policy as the customer orders, there is a great awareness in the purchasing department to buy only what is necessary and to control the stock a lot to avoid waste. We could have more sustainable awareness, however there is a lack of information and reflection on the subject. However, I think that now, together with the marketing department, which has a team with a lot of environmental awareness and concern, I think it will be easier to evolve to a higher level. But regardless of the attitudes that we will have as a company, the receptivity of the final customer will be decisive for a greater reflection or not on the subject. But for now I consider that the purchasing department is at level 6 because there is a great concern with waste. Every Monday I make a purchase plan and compare it with a physical count of the raw materials with the greatest impact on production. I also try to have a great sense of space and the management of materials in physical space. However, this type of management implies an increased risk of stock out. You have to rely on commercial sensitivity. The current situation of pandemic and war has increased this risk and we have had some more complicated moments which require even more rigorous and well-planned management. There are, however, things that we are still behind when it comes to sustainable processes, such as the use of paper to record all this management.

Author: From 0 to 10 What do you consider to be the degree of environmental awareness of your colleagues at Colunex?

Teresa Félix: I consider it to be a 4 or 5. There is still no policy and culture in the company, there is already a great effort in waste but there are some obstacles that delay certain measures. There is already an attempt and we even started to have bottles for the foams, recycling the spring irons and some other materials but we are not at all sustainable in terms of packaging, we continue to export with good pallets and we do not charge anything for it, we use plastics and good cards with a thick weight which increases the weight of the cards that we throw away.

Author: Which do you consider to be the most and least sustainable department?

Teresa Félix: The least sustainable thing is production, people don't think at all about the culture of sustainability. The most sustainable is the cleaning department and the marketing, I believe, due to the age and education that each one had.

Author: In general, what are the main sustainable measures that you apply in your work?

Teresa Félix: I have sustainable management, I believe that Colunex's stock is sustainable and thus allows for greater turnover and efficiency in purchases and sales. I buy in a planned way, always with negotiation and attention to quantities and values and I always look for sustainable materials at affordable and more advantageous prices.

Author: What are the sustainable measures that Colunex does not yet practice and do you think could be implemented?

Teresa Félix: I think more sustainable products could be publicized, we should charge for the pallets we send with our products to avoid wasting them or recover all the pallets used to send materials, for example many suppliers have reusable pallets. We should improve the dialogue between marketing and production to inform more about sustainability and educate workers.

2. Fatima Pereira responsible for Cleaning department

Fátima Pereira is responsible for the cleaning department, is 59 years old and has been working for the company for 12 years.

Author: Thank you very much Fátima for your availability and interest in participating in this project. Would you like to start by knowing your opinion on the importance of sustainability?

Fátima Pereira: My opinion is that everyone should have the responsibility to do their part, recycle and pay attention to the attitudes they have whenever they are harmful to health and the environment.

Author: And do you usually have sustainable practices in your day to day, both inside and outside the company?

Fátima Pereira: Yes, yes, I have it every day.

Author: From 0 to 10 what do you consider your department's level of sustainability to be?

Fátima Pereira: My department is the best; I can't do more. It's 10.

Author: And from 0 to 10 what do you consider Colunex's overall sustainability level to be?

Fátima Pereira: Oh, it's more difficult to say, but it should be more. The following is what I can do, I do, my sustainability is high in what depends on me. I recycle everything I can and separate everything I can. But at the general level of the company, including production, the sustainability level of the company is a bit weak.

Author: What about your colleagues, what do you consider their level of sustainability and environmental awareness to be?

Fátima Pereira: It's weak, it's much smaller than mine.

Author: And what are the main sustainable measures that you apply in your professional day-to-day?

Fátima Pereira: I recycle plastics, various types of paper, organic waste, everything that can be separated, I separate it in detail, and I pay attention to material stock management.

Author: What steps do you think Colunex could take to become more sustainable?

Fátima Pereira: I don't know, I think there should be more containers, instead of just having one garbage container, there should be more recycling containers and bins

scattered around the company so that people aren't too lazy to walk to recycle instead of throwing everything away. in general garbage.

3. Nuno Corte-Real product designer at Marketing department

Nuno is the product designer of Colunex for 6 years, he is responsible for the creation of new design products like headboards, bed bases, bedside tables or table lamps. He also designs the interior design of all the stores and stands and create special projects for clients who want customized products.

Author: What is in your opinion the importance of sustainability?

Nuno Corte-Real: I think it's important because if it's not sustainable, it's because it's going to end.

Author: Do you usually have sustainable practices in your personal daily life?

Nuno Corte-Real: I would say yes, I recycle, I'm not much of a consumerist, I consume thoughtfully, I'm Vegan.

Author: From 0 to 10 what do you consider to be the level of sustainability of the marketing department that is the department where you are inserted?

Nuno Corte-Real: The marketing department itself doesn't consume a lot of resources, just computers, pens and some paper, but then the decisions we make here, and I myself, have implications for production that can be more or less sustainable. For example, the materials used in production are decided by me, and this has a great impact on the company's sustainability. But that's not just my impact, because they are often consequences of the demands of customers who choose certain products and we can't waste so many materials, we can try to promote more sustainable and recycled fabrics.

Author: From 0 to 10 what do you consider the company's sustainability level to be, do you think Colunex is environmentally conscious?

Nuno Corte-Real: I think it is not the brand's selling point, the Colunex mattress is not sold as sustainable and therefore awareness is not very high. What we probably do is what is required of us, recycling, but we have a lot of waste that is not sustainable because they are finite products that are not going to be reused. But then we also use

wood, which is a renewable resource, I think foams are not, so they are not sustainable. Some fabrics can be recycled, but then there is also the question of the end of life of the product that ends up with the customer, which is not our responsibility. And we also have packaging with cards and plastics that go to the trash, as for energy consumption, I'm not sure, but it's not green, which is not ideal for a company that wants to be more sustainable.

Author: Looking around you, what do you think is the degree of environmental awareness of your colleagues?

Nuno Corte-Real: I don't see great awareness or concerns, I believe that everyone does what they think is convenient, but on a day-to-day basis I don't see great concern. There is no need to be sustainable.

Author: What measures do you think the company could implement to be more sustainable?

Nuno Corte-Real: I think that in order to be more sustainable, first of all, it is necessary to list what enters the company, from energy, materials to everything the company spends, see what has the most impact and then start attacking from there.

4. Catarina Santos responsible for the Production Department

Catarina Santos is responsible for the entire production department, she has 50 years old and has worked for Colunex for 6 years, her main role is production management, meeting the capacity of the various sectors of the company and the needs of orders, managing resources and people management.

Author: What's your opinion on the importance of sustainability?

Catarina Santos: The earth has finite resources, if they end there will be no life, or if there is, it will be in a completely different way so it is important to be sustainable.

Author: Do you usually have sustainable practices in your daily life?

Catarina Santos: Yes, I recycle paper, cardboard, plastic, batteries, glass, used oils, I pay attention to food waste and water consumption and I use LED lights.

Author: From 0 to 10, what do you consider to be the level of sustainability of the department you manage?

Catarina Santos: I consider it to be a 6 because there is human error that almost always leads to waste.

Author: From 0 to 10 what do you consider Colunex's overall sustainability level to be?

Catarina Santos: I consider it to be a 6 too.

Author: What sustainable measures do you currently apply in your work?

Catarina Santos: Making use of paper and packaging that come from suppliers to make plastic bags for garbage, recycling paper, cardboard, plastics, wood and iron. I also pay attention to energy consumption and turn off the lights whenever they are not needed.

Author: Do you have any suggestions for sustainable measures that can be applied at Colunex?

Catarina Santos: Yes, total waste recycling and making people aware so that there is not so much waste.

5. Bruno André responsible for production

Bruno André is responsible for the production of Colunex, is 34 years old and has worked for the company for 11 years. The main functions performed are production management in the mattress sector.

Author: What's your opinion on the importance of sustainability?

Bruno André: I believe it represents a better future for us.

Author: Do you usually practice sustainable actions in your daily life?

Bruno André: Yes, I recycle, I pay attention to the consumption of water and electricity, I avoid food waste, I try to improve the technologies I use, and I have a hybrid car.

Author: From 0 to 10, what do you consider to be the sustainability level of the department where you are located (production department)?

Bruno André: I consider it to be a 6

Author: From 0 to 10 what do you consider Colunex's overall sustainability level to be?

Bruno André: I consider it to be 6.

Author: What sustainable measures do you currently apply in your work?

Bruno André: Savings and use of paper and light.

Author: Do you have any suggestions for sustainable measures that can be applied at Colunex?

Bruno André: Waste recycling, applying solar panels, exchanging current vehicles for at least hybrid vehicles, encouraging employees to adopt more sustainable practices.

Appendix IV – Colunex products with sustainable textiles





Appendix V – Eco-travel packages



Appendix VI – Commercial Pillow Packaging



Appendix VII – Merchandising made from waste: Leather bags



Appendix VIII – Merchandising made from waste: Cloud lamps



Appendix IX – Bilingual Catalogues



Mattresses | Matelas

Charm

AVAILABLE FIRMNESSES:
EXTRA SOFT, SOFT, MEDIUM, FIRM,
EXTRA FIRM

FERMETÉS DISPONIBLES:
EXTRA DOUX, DOUX, MOYEN, FERME,
EXTRA FERME

HEIGHT: 30CM
HAUTEUR: 30CM

REMOVABLE WASHABLE COVER: NO
HOUSSE AMOVIBLE ET LAVABLE: NON

COMPATIBLE WITH ADJUSTABLE
BEDS: NO
COMPATIBLE AVEC LITS
RELEVABLES: NON

HYPOALLERGENIC: YES
HYPOALLERGÉNIQUE: OUI

Bi-Comfort

No Flip
Non retournable

Without CPC'S
Sans CPC

Ventilated
Ventilé

10 YEARS WARRANTY

PROTECH-SPRINGS®
Pocket Coil Technology
Technologie de Ressorts Encastrés

Mattresses | Matelas

Charm Extra

AVAILABLE FIRMNESSES:
EXTRA SOFT, SOFT, MEDIUM, FIRM,
EXTRA FIRM

FERMETÉS DISPONIBLES:
EXTRA DOUX, DOUX, MOYEN, FERME,
EXTRA FERME

HEIGHT: 38CM
HAUTEUR: 38CM

REMOVABLE WASHABLE COVER: NO
HOUSSE AMOVIBLE ET LAVABLE: NON

COMPATIBLE WITH ADJUSTABLE
BEDS: NO
COMPATIBLE AVEC LITS RELEVABLES:
NON

HYPOALLERGENIC: YES
HYPOALLERGÉNIQUE: OUI

Bi-Comfort

No Flip
Non retournable

Without CPC'S
Sans CPC

Ventilated
Ventilé

10 YEARS WARRANTY

PROTECH-SPRINGS®
Pocket Coil Technology
Technologie de Ressorts Encastrés

| DIMENSIONS (CM) | 70 x 190 | 80 x 190 | 90 x 190 | 100 x 190 | 120 x 190 | 140 x 190 | 150 x 190 | 160 x 190 | 180 x 190 | 200 x 190 |
|-----------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 70 x 200 | 80 x 200 | 90 x 200 | 100 x 200 | 120 x 200 | 140 x 200 | 150 x 200 | 160 x 200 | 180 x 200 | 200 x 200 |

| DIMENSIONS (CM) | 70 x 190 | 80 x 190 | 90 x 190 | 100 x 190 | 120 x 190 | 140 x 190 | 150 x 190 | 160 x 190 | 180 x 190 | 200 x 190 |
|-----------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 70 x 200 | 80 x 200 | 90 x 200 | 100 x 200 | 120 x 200 | 140 x 200 | 150 x 200 | 160 x 200 | 180 x 200 | 200 x 200 |

Matresses | Matelas




Chandon Extra

*Sleep on the world's finest natural fibers.
Dormez sur les meilleures fibres naturelles du monde.*

| | | |
|--|---|--|
| <p>Hypoallergenic Fiber Fibre Hypoallergénique</p> <p>Silk / Soie</p> <p>Wool / Laine</p> <p>Merino wool / Laine Merino</p> <p>Supernova Foams™ SuperSoft</p> <p>Supernova Foams™ Soft</p> <p>Supernova Foams™ SuperSoft</p> <p>Xenuloc® Feel</p> <p>Supernova Foams™ Stylex 3.2</p> <p>Protech Springs™</p> | <p>AVAILABLE FIRMNESSES: SOFT, MEDIUM, FIRM, EXTRA FIRM</p> <p>FERMETÉS DISPONIBLES: DOUX, MOYEN, FERME, EXTRA FERME</p> <p>HEIGHT: 36CM HAUTEUR: 36CM</p> <p>REMOVABLE WASHABLE COVER: NO HOUSSE AMOVIBLE ET LAVABLE: NON</p> <p>COMPATIBLE WITH ADJUSTABLE BEDS: NO COMPATIBLE AVEC LITS RELEVABLES: NON</p> <p>HYPOALLERGENIC: YES HYPOALLERGENIQUE: OUI</p> | <p>Bi-Comfort</p> <p>No Flip Non retournable</p> <p>Without CFC'S Sans CFC</p> <p>Ventilated Ventilé</p> |
|--|---|--|

PROTECH-SPRINGS®
Pocket Coil Technology
Technologie de Ressorts Encastrés

10 Year Warranty

| | | | | | | | | | |
|--------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| DIMENSION ON | 70" x 100" | 80" x 100" | 90" x 100" | 100" x 100" | 120" x 100" | 140" x 100" | 160" x 100" | 180" x 100" | 200" x 100" |
| | 70" x 200" | 80" x 200" | 90" x 200" | 100" x 200" | 120" x 200" | 140" x 200" | 160" x 200" | 180" x 200" | 200" x 200" |

10





Appendix X – Sustainable Articles on Colunex Blog

<https://thesleepjourney.com/category/conscious/>

The Sleep Journey
From A to Z²

HEALTH | INSPIRATIONS | **CONSCIOUS** | DESTINATIONS | EVENTS | RANDOM CURIOSITIES

Q

How to choose the ideal mattress?

Health | September 2020

Did you know that we spend a third of our lives sleeping? For this reason, it is crucial to choose the ideal mattress for us. There is nothing worse than waking up with back pain and feeling like we had a bad night of sleep! ...

[READ MORE](#)


| | | | |
|--|--|--|--|
| <p>"My husband snores every night! What can I do?"</p> <p>Dreamer 92</p> | <p>Try tell him to sleep on the side.</p> <p>Blog Answer</p> | <p>"I love sleeping in the train"</p> <p>Anna 13</p> | <p>WOW! That's the best thing! We love too.</p> <p>Blog Answer</p> |
|--|--|--|--|

Sleepjourney HEALTH INSPIRATIONS CONSCIOUS DESTINATIONS EVENTS RANDOM CURIOSITIES

CONSCIOUS

Too Good to Go - No more wasting

POSTED ON 4 DECEMBER 2019 BY PISGARES




Although nearly 1 billion people suffer from hunger, we waste tons of food every day at home, at work and during the production and distribution processes. Too Good To Go's mission is to reduce food waste by giving a second life to unsold foods. On one hand, it allows food establishments to sell food that [...] [CONTINUE READING](#)

Posted in [Conscious](#) | [1 Comment](#)

CONSCIOUS

A friendly shampoo to your hair and the environment

POSTED ON 2 DE NOVEMBER 2019 BY PISGARES




Created in a way that respects the body and the environment, Mind the Switch is the first Zero Waste online store in Portugal. This article comes to tell you about the new collection of solid shampoos, developed by the founders of the website, Catarina and Christian, which aims to respect the gift of your [...] [CONTINUE READING](#)

Posted in [Conscious](#) | [Leave a comment](#)

CONSCIOUS

Best design products made with recycled materials

POSTED ON 23 DE OCTOBER 2019 BY PISGARES




Environment has become a controversial and extremely important theme. Knowing how to respect and honour the eco-system yet working with it, has led to the rise of a clear global trend: living an eco-friendly life. This behavioural shift is happening in everything that surrounds us. For instance, designers way of fighting for the health of [...] [CONTINUE READING](#)

Sleepjourney HEALTH INSPIRATIONS CONSCIOUS DESTINATIONS EVENTS RANDOM CURIOSITIES

CONSCIOUS

Sustainable Fashion: Tommy Hilfinger's collection made from recycled apple peel

POSTED ON 6 DE APRIL 2020 BY PISGARES




Sustainable Fashion: Tommy Hilfinger's collection from recycled apple [CONTINUE READING](#)

Posted in [Conscious](#) | [Leave a comment](#)

CONSCIOUS

The world of buying in bulk

POSTED ON 13 DE FEBRUARY 2020 BY PISGARES




Bulk selling, which has been present in old grocery stores for long, has reborn in an era of growing environmental awareness and the struggle for sustainable and responsible consumption, with the goal to reduce the waste that is constantly generated worldwide. In addition to being fair and sustainable, the world of buying in bulk also [...] [CONTINUE READING](#)

Posted in [Conscious](#) | [Leave a comment](#)

CONSCIOUS

Mind the Switch: "The way to a sustainable wardrobe!"

POSTED ON 2 DE FEBRUARY 2020 BY PISGARES



We are proud to share incredible initiatives on Mind the Switch that want to raise awareness about the impacts of excessive consumption. Mind the Switch event allows you to exchange items of our wardrobe that we no longer appreciate (or no longer fit us). For 'new' ones. The founder Joana Sternberg wants to spread the [...] [CONTINUE READING](#)

Appendix XI – Materials and technology page

<https://www.colunex.com/en/materials-and-technologies/>

COLUNEX ALL PRODUCTS HOSPITALITY INSPIRATIONS ABOUT US BLOG PRESS AREA

Mattresses
Toppers
Pillows
Protectors
Bedding
Bed bases
Headboards
Bedside tables
Lamps
Others
Soft beds
Materials & Technologies
Customization options

HOME / MATERIALS & TECHNOLOGIES


MATERIALS & TECHNOLOGIES

MATTRESS TECHNOLOGIES

PIELOW TECHNOLOGIES

NATURAL MATERIALS

MATTRESS TECHNOLOGIES





Merino Wool
 Merino wool is known for absorbing odor caused by bacteria, keeping them away and keeping them from building up.



Silk
 The moulting properties of silk help to keep the skin at an ideal temperature, providing not only comfort, but also the perfect environment for skin regeneration during sleep.



Linen
 Linen as a fiber, tends to be cool to the touch and extremely breathable.



Bamboo
 Bamboo is a hypoallergenic, eco-friendly fiber material that is soft to touch and has a natural breath. Its natural antibacterial and antifungal properties make it extremely hygienic, breathable and resistant to absorbing moisture.



Cotton
 Cotton combines great strength with a particularly soft and pleasant feel. 100% natural in origin, it is cool, fresh, hypoallergenic and long-lasting.



Aloe Vera
 Aloe Vera is a natural barrier against bacteria and allergens. The anti-bacterial properties of Aloe Vera provide exceptional hygiene and freshness to products.