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**Economia Circular: um estudo da implementação das práticas circulares sob a luz da Teoria  
Institucional no Garden Plaza Hotel Ltda**

**Circular Economy: A study of the implementation of circular practices under the Light of  
Institutional Theory at Garden Plaza Hotel Ltda**

**[TRADUÇÃO INGLESA]**

**JULIANA BISPO DE ALMEIDA**

**CASCADEL/PR**

**2023**

Juliana Bispo de Almeida

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Dissertation presented in partial fulfilment of the requirements for the degree of Master of Science in Administration in the Department of Administration, Western Paraná State University.

Dissertation Supervisor: Dra. Manoela Silveira dos Santos

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Orientadora: Dra. Manoela Silveira dos Santos

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CEP: 85819-110 - Cx. P.: 701  
Cascavel - PARANÁ



## **JULIANA BISPO DE ALMEIDA**

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Dissertação apresentada ao Programa de Pós-Graduação em Administração em cumprimento parcial aos requisitos para obtenção do título de Mestre em Administração, área de concentração Competitividade e Sustentabilidade, linha de pesquisa Sustentabilidade, APROVADO(A) pela seguinte banca examinadora:



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**MANOELA SILVEIRA DOS SANTOS**  
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**Orientador(a) - Manoela Silveira dos Santos**

**Universidade Estadual do Oeste do Paraná - Campus de Cascavel (UNIOESTE)**



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**Paola Schmitt Figueiró**

**Universidade Feevale**

  
**Samanta Gallo Cabral**

**Universidade Estadual do Oeste do Paraná - Campus de Foz do Iguaçu (UNIOESTE)**

**Cascavel, 20 de outubro de 2023**

## **DEDICATORY**

I dedicate the completion of this work first and foremost to God, the creator of all things, who, in his infinite goodness, has allowed me to follow the paths that have led me here; I dedicate it to my family, especially my mother and father, who, throughout their lives, have always been concerned with giving me the best they could; I also dedicate it, with immense love, to my eternal boyfriend, partner and friend, who has encouraged and supported me all the way to the conclusion of this stage in my life and who, throughout this journey, has remained by my side with a great deal of patience, love, respect and affection.

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## RESUMO

Almeida, J. B. (2023). Economia Circular: Um estudo da implementação das práticas circulares sob a Luz da Teoria Institucional no Garden Plaza Hotel Ltda. Dissertação de Mestrado, Universidade Estadual do Oeste do Paraná, Cascavel, PR, Brasil.

A economia circular atua como um modelo restaurativo e regenerativo por meio do design e busca gerar valor aos produtos, materiais e seus componentes ao mesmo tempo em que mantém sua utilidade. O crescimento do setor de turismo tem um impacto direto no consumo de recursos naturais e o impacto ao meio ambiente. A atividade é considerada uma das maiores geradoras de poluição ambiental, e os hotéis contribui com a maior parte dos agentes poluidores do setor, inclusive pelo alto consumo de energia necessária para manter as funções de uso múltiplas e operações ininterruptas. Atualmente os hotéis tendem a aplicar as práticas de economia circular para reduzir desperdícios e custos, ou devido a regulamentações impostas. Ao aplicar os princípios da EC, as empresas de hotelaria e turismo podem acelerar seus próprios negócios e avançar no pensamento e na ação para criar uma experiência mais sustentável para todas as partes interessadas envolvidas no setor de hotelaria e turismo. O estudo buscou analisar as práticas circulares adotadas no setor hoteleiro da cidade de Cascavel – PR, sob a luz da Teoria Institucional, suas barreiras e facilitadores, por ser uma atividade econômica na qual o patrimônio ambiental e cultural assume um papel importante para preservação e conservação da natureza. Esta pesquisa justifica-se pela importância de mitigar os impactos negativos ao meio ambiente e de tornar mais eficiente o ciclo de vida dos produtos, a fim de beneficiar os processos relacionados ao setor de hoteleira e garantir o máximo de eficiência energética para os estabelecimentos e a sociedade. Os hotéis em Cascavel, em sua maioria, ainda não adotaram integralmente práticas de economia circular, deparando-se com diversos obstáculos. Contudo, é inegável a importância da transição para a economia circular, não apenas para mitigar o impacto ambiental, mas também para otimizar a utilização de recursos e reduzir os custos operacionais. O estudo de caso no Hotel Plaza Garden mostrou que o estabelecimento adotou uma série de práticas circulares com o objetivo de promover a sustentabilidade e minimizar seu impacto ambiental. Essas práticas foram influenciadas, principalmente, por pressões institucionais normativas e, em alguns casos, miméticas e coercitivas, provenientes de normas de sustentabilidade, regulamentações legais e diretrizes de certificação. A combinação dessas práticas demonstrou um compromisso sólido do hotel com a sustentabilidade e a responsabilidade ambiental.

**Palavras-chave:** Economia circular. Turismo sustentável. Sustentabilidade. Setor hoteleiro. Hotelaria.

## ABSTRACT

Almeida, J. B. (2023). Circular Economy: A study of the implementation of circular practices under the light of Institutional Theory at Garden Plaza Hotel Ltda. Master's degree dissertation, Western Paraná State University, Cascavel, PR, Brazil.

The circular economy acts as a restorative and regenerative model through design and seeks to generate value for products, materials and their components while maintaining their usefulness. The growth of the tourism sector has a direct impact on the consumption of natural resources and the environment. The activity is one of the biggest generators of environmental pollution, and hotels contribute to most of the sector's polluting agents, not least because of the high energy consumption required to maintain multiple functions of uninterrupted use and operations. Currently, hotels tend to apply circular economy practices to reduce waste and costs or because of imposed regulations. By adopting CE principles, hospitality and tourism companies can accelerate their own business and advance thinking and action to create a more sustainable experience for all stakeholders involved in the hospitality and tourism sector. The study sought to analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, in the light of Institutional Theory, its barriers and facilitators, since it is an economic activity in which environmental and cultural heritage plays an important role in the preservation and conservation of nature. This research is justified by the importance of mitigating negative impacts on the environment and making the life cycle of products more efficient, in order to benefit processes related to the hotel sector and ensure maximum energy efficiency for establishments and society. Most hotels in Cascavel have not yet fully adopted circular economy practices and are faced with various obstacles. However, the importance of the transition to a circular economy is undeniable, not only to mitigate environmental impact, but also to optimize the use of resources and reduce operating costs. The case study at the Plaza Garden Hotel showed that the establishment applied a series of circular practices with the aims of promoting sustainability and minimizing its environmental impact. These practices were mainly influenced by normative and, in some cases, mimetic and coercive institutional pressures from sustainability standards, legal regulations and certification guidelines. The combination of these practices demonstrated the hotel's solid commitment to sustainability and environmental responsibility.

**Keywords:** Circular economy. Sustainable tourism. Sustainability. Hotel sector. Hotel industry.



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## **List of Abbreviations and Acronyms**

BR	Highway under the responsibility of the federal government
CNPJ	National Register of Legal Entities
CO <sub>2</sub>	Carbon dioxide
COMTUR	Cascavel Municipal Tourism Council
CONAMA	National Environment Council
CE	Circular Economy
LE	Linear Economics
EXPOTOLEDO	Toledo Agricultural and Industrial Fair Exhibition
EXPOVEL	Cascavel Agricultural and Industrial Fair Exhibition
FECOMERCIO PR	Paraná State Trade Federation
RES	Renewable Energy Sources
LPG	Liquefied Petroleum Gas
I&D	Innovation and Development
MERCOSUL	Southern Common Market
PERSE	Emergency Program for the Resumption of the Events Sector
PMEs	Small and medium-sized enterprises
RAIS	Annual Social Information Report
3Rs	Reduce, Reuse and Recycle
SLR	Systematic Literature Review
SEBRAE	Brazilian Micro and Small Business Support Service
SETU	Secretary of State for Tourism
IT	Institutional Theory

## SUMMARY

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## 1 INTRODUCTION

Tourism is a social, cultural and economic phenomenon that involves the redistribution of people to places outside their usual environment, whether for personal, professional or commercial reasons (Silva, Silva & Echeveste, 2021). The infrastructure created for tourism purposes contributes to local development, creating and maintaining jobs, which can help combat the decline of the industrial or rural sectors (Florido, Jacob & Payeras, 2019).

The tourism sector is one of the fastest growing segments in the world and is strongly linked to sustainability, although it is a highly sensitive sector, both from the point of view of resource use and waste generation (Pamfilie et al., 2018). There is growing concern about the negative impacts that human actions have on the environment, considering the planet's limited and non-regenerative resources. In this way, sustainable development becomes a way of thinking and acting for both the population and the business community, based on well-defined principles and actions to ensure the protection of the environment (Pamfilie et al., 2018).

Within the tourism sector, hospitality is considered the largest subsector (Rezaee & Choi, 2016; Arzoumanidis et al., 2021). The hotel sector interferes with the environment through the resources it consumes, the waste it produces, the permanent effects it has on the landscape through its infrastructure, the people it hires to work for it, the agricultural products it uses to prepare food for guests and the interaction of tourists with the local environment (Menegaki, 2018). However, the sector has the potential to play a key role in achieving sustainability in all the locations in which it operates (Togoh, 2020; Khodaiji & Christopoulou, 2020).

Sustainability has been a concern for the tourism sector for decades. Since the beginning of the 21st century, researchers have shown that the hospitality sector in particular has been adopting environmentally friendly practices (Rodreiguez-AntOhn & Alonso-Almeida, 2019; Florido, Jacob & Payeras, 2019; Julião, Gaspar & Alemão, 2020; Rodreiguez, Jacob & Florido, 2020), due to the negative impacts on the environment, such as the high use of resources such as water, energy and the widespread production of solid and water waste (Alonso-Almeida, 2012; Girard & Nocca, 2017; Rodreiguez-AntOhn & Alonso-Almeida, 2019). The applicability of CE and the 3Rs strategy (Reduce, Reuse and Recycle), in the context of the tourism and hospitality sector, can focus on the areas with the greatest environmental impact,

energy, water and waste efficiency, and can lead to a consequent reduction in their emissions and, therefore, an improvement in their environmental performance (Ioannidis et al., 2021).

In addition, tourism is responsible for approximately 5% of the CO<sub>2</sub> emitted worldwide, mainly due to transportation, followed by the increase in the number of trips per year (Manniche et al., 2017; Rodreiguez-AntOhn & Alonso-Almeida, 2019). Customers are also increasingly aware of environmental issues and have higher expectations of accommodation owners and operators (Gardetti & Torres, 2016; Arzoumanidis et al., 2021).

To cope with these impacts, the accommodation sector needs to change its practices, following the movement of many organizations that are acting outside the logic of the Linear Economy (LE). Intergovernmental organizations have been working to formulate sustainable consumption and production policies to encourage companies and the sector to switch from the EL approach, which is built on the premise of "take - make - consume and dispose" actions, to sustainable circular economy (CE) systems (Camilleri, 2017; EU, 2020; Camilleri, 2021).

CE aims, through a systemic change towards resilience, to restore and regenerate rather than harvest and discard (Menegaki, 2018); it has a regenerative characteristic, which aims to maintain products, components, materials at their highest level of usefulness and value at any given time, distinguishing between technical and biological cycles, as a continuous positive development cycle that preserves and improves natural capital, optimizes resource efficiency and minimizes system risks, managing finished stocks and renewable flows (Pamfilie et al., 2018).

## 1.1 RESEARCH PROBLEM

CE challenges the established economic model of linear production and consumption by proposing an economic system that restores natural and social capital, in which resources and materials circulate in regenerative cycles of production and consumption (Webster et al., 2013; Blomsma & Brennan, 2017; Sorin & Sivarajah, 2021). The hotel sector stands out for its association with negative effects on the environment, so it has attracted research and studies around the world, which have shown that effective hotel management can significantly reduce the negative impact that the sector causes. Research into CE should go beyond the factors that influence hotels to adopt green practices, to help them in the process and maintain the sustainability of the sector (Ouyang et al., 2019). However, some hotels remain hesitant to



invest in green practices because they are not convinced of the financial benefit (Kang et al., 2012).

Hotel operators are increasingly focused on developing and maintaining efficient operational processes and their competitive advantage (O'Neill & McGinley, 2014; Sorin & Sivarajah, 2021). Labor costs, utilities, waste management, food procurement, property upkeep, refurbishment and maintenance represent the main production and operating costs and vary according to the hotel product, its position in the market segment, location, climate, local infrastructure and regulatory environment (Sorin & Sivarajah, 2021). Competitive pressure and return expectations make the concern with reducing operating costs and efficiencies a key point, especially for small and medium-sized enterprises (SMEs) (Hodari, Balla, & Aroul, 2017; Sorin & Sivarajah, 2021).

The reformulation of the linear business model towards more circular practices in the tourism sector may, however, face structural barriers, as the sector is characterized by the high participation of SMEs (Manniche, Larsen & Broegaard, 2021). The implementation of CE is more widespread in large companies in the manufacturing sector that have the capacity to engage in business development strategies. In addition, little is known about whether SME investments in new circular technologies really pay off, and the potential contribution of SME business model innovation to social transformation processes remains understudied (Schaltegger et al., 2016; Manniche, Larsen & Broegaard, 2021).

There is a growing number of case studies on CE implementation processes in the production of tangible goods, supply-side resource use, demand-side consumption patterns, consumer goods, construction, food and beverages (Kirchherr, Reike & Hekkert, 2017; Jones & Wynn, 2019; Sorin & Sivarajah, 2021), however there is a lack of academic research and practice in CE focused on tourism and hospitality (Álvarez-Gil, Burgos-Jimenez & Cespedes-Lorente, 2001; Julião, Gaspar & Alemão, 2020; Sorin & Sivarajah, 2021).

Almeida & Santos (2021) corroborate this assertion when they carried out a bibliometric analysis on the use of CE in sustainable tourism between 2011 and 2021; they found that studies on this subject are dispersed, with no specific group of researchers dominating. One of the factors behind this result is the incipient nature of studies on CE in the tourism sector, so research in this field still lacks depth and consistency.

The state of Paraná is rich in natural beauty, offering visitors an exciting journey, whatever their profile. The state is divided into 15 tourist regions: Campos Gerais, Cataratas do Iguaçu and Caminhos ao Lago de Itaipu, Corredores das Águas, Ecoaventuras, Histórias e Sabores, Entre Matas, Morros e Rios, Lagos e Colinas, Litoral do Paraná, Norte do Paraná,

Norte Pioneiro, Riquezas do Oeste, Rotas do Pinhão, Sul do Paraná, Terra dos Pinheirais, Vale do Ivaí and Vales do Iguaçu (Paraná Turismo, 2022).

Paraná's cultural and geographical diversity makes it a much-visited state and places it in a highly sought-after position by Brazilians and foreigners, with each region presenting special charms and surprises that lead all visitors on unforgettable journeys (Paraná Turismo, 2022). The strength and wealth of the western region is highlighted by the development of agribusiness, with the greatest expression on the Cascavel-Toledo axis, where events such as the Rural Show, EXPOTOLEDO - Toledo Agricultural and Industrial Fair Exhibition - and EXPOVEL - Cascavel Agricultural and Industrial Fair Exhibition - make technology and innovation a real show (Paraná Turismo, 2022), receiving many visitors from outside the region.

The city of Cascavel stands out in this circuit for being a young and promising city, with just over 300,000 inhabitants, which has consolidated its position as a regional economic hub and epicenter of the Southern Common Market (Mercosur). It is also a university hub and has great infrastructure in commerce, industry and services, including being a reference in agribusiness (Cascavel City Hall, 2022).

Regarding the hotel sector, according to data from the Annual Social Information Report (RAIS), at the end of 2020, the city had 66 accommodation establishments, generating 497 direct jobs (IPARDES, 2022). In addition to the number of establishments, the city receives tourists every year, motivated by business, with different standards and needs. Thus, with the high demand and turnover of tourists, hotel establishments in the city of Cascavel-PR need to reformulate their linear business model to more circular practices (Paraná Turismo, 2022). In this process, establishments face barriers that hinder or prevent the successful implementation of some activity (Sharma et al., 2011; Raspini, 2021), while they also have so-called facilitators, with motivational elements that drive companies to engage in certain activities (Andiç & Baltacıoğlu, 2012; Raspini, 2021). Knowledge of the main barriers and facilitators of CE, therefore, enables appropriate strategies to be planned for the adoption of circular practices (Oliveira & Campos, 2018; Raspini, 2021). Given this context, we believe it is important to analyze circular practices in the hotel sector in the city of Cascavel-PR, as well as their barriers and facilitators for implementation.

Practices, from the perspective of Institutional Theory (IT), are influenced by the arrangement of the organizational field, i.e. the way it is presented imposes a pattern of behavior on the part of the organizations within it. External and internal pressures on organizations are the main determinants of organizational structures (Brignall & Modell, 2000; Macadar, Freitas & Moreira, 2015). Barriers and facilitators are the result of this field, which imbues

organizations with behaviours based on institutional pressures, since they not only adapt to technical pressures, but also to what they believe is expected of them. Institutional theory establishes that organizations face pressure both from technical aspects and at the initial level (Greening and Gray, 1994; Zeng et al., 2015). Organizational institutional environments not only shape and strengthen an organization's guiding principles, but also make the organization comply with external rules, norms and values (Oliver, 1991; Suchman, 1995; Zeng et al., 2015).

Regarding IT and CE, Widmer and Prior (2019) state that institutional pressures are the IT construct most frequently used in CE research. Ranta et al. (2018) used institutional analysis to identify institutional facilitators and barriers in different geographical markets (Scott, 2005; Widmer & Prior, 2019). In this sense, IT is suitable as a basis for understanding the circular practices adopted by the hotel sector, as well as their barriers and facilitators, since it allows us to understand the institutional pressures that give rise to them and why organizations choose to adopt certain practices.

The research question is therefore: How do the institutional pressures exerted on the hotel sector in the municipality of Cascavel-PR impact on the circular practices adopted by the hotel sector, their barriers and facilitators?

## 1.2 OBJECTIVES

### 12.1 General

To analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, in the light of Institutional Theory, their barriers and facilitators.

#### 1.2.2 Specific

- a) To identify in the literature which circular practices are most common in the hotel sector;
- b) Identify in the literature the barriers and facilitators to implementing circular practices in the hotel sector;

- c) To verify which circular practices, together with the barriers and facilitators, are being applied in the hotel system in the city of Cascavel-PR;
- d) Analyze the institutional pressures exerted on the process of adopting circular practices in the hotel system.

### 1.3 JUSTIFICATION AND CONTRIBUTION

CE is increasingly mentioned in research as a toolkit for implementing sustainable development strategies under a systems thinking approach (Jones & Wynn, 2019; UNWTO, 2019; Sorin & Sivarajah, 2021). The existing research review highlights the contemporary and heuristic nature of CE. It also shows academic, business and regulatory circles focusing on mitigating the use of primary resources, waste management and digitization of physical activities or products (Sorin & Sivarajah, 2021). However, research focusing on factors that can drive or inhibit the progress of circular business is incipient and has predominantly focused on a single category, such as financial and economic indicators (Di Maio et al., 2017; Tornese, Elia & Gnoni, 2017; Tura et al., 2018).

In view of this, the study seeks to analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, under the light of Institutional Theory, their barriers and facilitators and is justified by the importance of mitigating negative impacts on the environment and making the life cycle of products more efficient, in order to benefit the processes related to the hotel sector in the city of Cascavel-PR and guarantee maximum energy efficiency for establishments and society.

### 1.4 STRUCTURE OF THE REPORT

The work is structured in five chapters, number 1 of which deals with the introduction, research problem, objectives and justifications for the study; chapter 2 deals with the theoretical and practical background to the object of study; chapter 3 details the methodology adopted to carry out the study; chapter 4 deals with the presentation and discussions of the results found; and chapter 5 deals with the final considerations.

## 2 THEORETICAL FRAMEWORK

### 2.1 CIRCULAR ECONOMY

The concept of CE has evolved from the semantics of industrial ecology, terminology formulated by Ayres and Kneese (1969), to integrate the proposition of closing consumption cycles (Pearce & Turner, 1990; Sorin & Sivarajah, 2021). CE is a new approach to concern for aspects related to society and its environment, it is an economic model based on the compartmentalization, rental, rehabilitation, repair, refurbishment and recycling of significant products, components and materials at all times of their useful life (Bourguignon, 2018; Bartl, 2018; Sehnem, Pandolfi, & Gomes, 2019; Silva, Silva & Echeveste, 2021).

Circular logic goes beyond the idea of "extract - transform - discard" by incorporating a restorative logic into the production system, which is designed to recover the product of its activities in a circular way (EMF, 2013). In this sense, CE proposes that materials are used in such a way as to maximize their value, reducing waste generation and generating economic benefits alongside environmental benefits (Costa et al., 2020).

The implementation of CE is a process that goes beyond waste management and recycling in its various stages; in general, it broadens its scope, dealing with the redesign of processes, products and creating business models that maximize the use of resources, promoting the circularity of goods in a way that translates into the development of new viable and ecologically efficient products and services, idealizing infinite cycles of reconversion before and after. It strives to implement new business systems in which efficiency is maximized with as little resource extraction as possible and reuse is optimized (Allen, 2018; Decnop, 2021).

Figure 1 explains CE as a restorative and regenerative model through design that seeks to generate value for the product, materials and their components while maintaining their usefulness, initially using the 3Rs as a strategy (Ghisellini, Cialani & Ulgiati, 2015; Allen, 2018; Costa et al., 2020). The principle of the 3Rs as part of the circular economy is described as a means of energy to protect the environment, bring about sustainable development and improve the efficiency of resource use (Ioannidis et al., 2021). Over the years, these strategies have been extended to 6Rs, including redesign, remanufacturing and recovery (Ghisellini, Cialani & Ulgiati, 2015; Vargas-Sumanez, 2018; Rodreuguez-AntOhn & Alonso-Almeida, 2019).



**Figure 1:** Circular economy

Source: Allen, 2018.

CE has the function of extending the life cycle of products by combating the production of waste and the programmed and early obsolescence of what is produced for human consumption, as well as being concerned with the reuse of items and their correct disposal (SEBRAE, 2018; Rodreuguez-AntOhn & Alonso-Almeida, 2019). Table 1 shows concepts from different authors, and even though they are different, they all describe CE as a model that optimizes the flow of goods, maximizing the use of natural resources and minimizing the production of waste, allowing the economic value of each product to be maximized.

**Chart 1.** Circular Economy concepts

Concept of CE	Author
CE follows the concept of a cyclical/closed system	Murray, Skene, & Haynes, 2017; Silva, Silva & Echeveste, 2021; Rodreuguez, Jacob & Florido, 2020
CE is an economic model based on compartmentalization, rehabilitation, repair, refurbishment and recycling, which gives utility and generates value to significant products, components and materials at all times	Bourguignon, 2018; Bartl, 2018; Sehnem, Pandolfi, & Gomes, 2019; Silva, Silva & Echeveste, 2021

CE is a way for society to increase prosperity and reduce dependence on natural resources and energy	Julião, Gaspar & Alemão, 2020
CE is a regenerative economy, which aims to maintain products, components and materials at their highest level of usefulness and value at all times, making a distinction between technical and biological cycles.	Van Rheede, 2012; Pamfilie et al., 2018; Julião, Gaspar & Alemão, 2020
CE is an industrial economy that is restorative or regenerative by intention and design	Webster et al., 2013; Jones & Wynn, 2019; Julião, Gaspar & Alemão, 2020; Rodreiguez, Jacob & Florido, 2020;
CE is a regenerative system in which the input and waste of resources, the emission and leakage of energy are minimized by slowing down, closing and narrowing material and energy cycles	Geissdoerfer et al., 2017; Julião, Gaspar & Alemão, 2020; Stombelli, 2020; Camilleri, 2021
CE is an economic model in which planning, resources, procurement, production and reprocessing are designed and managed, as process and output, to maximize ecosystem functioning and human well-being	Murray, Skene, & Haynes, 2017; Julião, Gaspar & Alemão, 2020
CE aims to achieve human well-being and social equity	Saidani et al., 2019; Julião, Gaspar & Alemão, 2020
CE is an economic model of production and consumption at a system level, operating within planetary boundaries and aimed at regenerating natural and social capital	Blomsma & Brennan, 2017; Manniche et al., 2017; Sorin & Sivarajah, 2021
CE is a systemic transformation involving the transformation of production, services and consumption, both in global value chains and in different value chains, closing resource loops across the whole range of economic activities	Hislop & Hill, 2011; Florido, Jacob & Payeras, 2019
CE aims to improve operational efficiency and reduce waste in production processes and during the useful life of products.	Jurgilevich, 2016; Brown, Bocken & Balkenende, 2019; Camilleri, 2021
CE is an economic system, based on business models that replace the end-of-life concept with the reduction, alternatively reuse, recycling and recovery of materials in production, distribution and consumption, thus operating at the micro level, meso level and macro level, with the aim of achieving sustainable development, which implies creating environmental quality, economic prosperity and social equity for the benefit of current and future generations.	Kirchherr, Reike & Hekkert, 2017; Manniche et al., 2017
CE aims at the reuse of products, components and materials, remanufacturing, refurbishment, repair, cascading and upgrading as well as the potential of sustainable energy sources such as solar, wind, biomass and waste - utilization of derived energy throughout the product value chain using a cradle-to-grave life cycle approach	Korhonen, Honkasalo & Seppälä, 2018; Khodaiji & Christopoulou, 2020

Source: Research data, 2022.

## 2.2 THE CIRCULAR ECONOMY IN THE HOSPITALITY SECTOR

For the implementation of CE, consumer demand for reused and remanufactured products is important, hence the importance of designing durable products for multiple cycles, combined with incentives for companies to choose business models based on returned or remanufactured products (Prendeville, O'Connor & Palmer, 2014; Ghisellini, Cialani & Ulgiati, 2015; Florido, Jacob & Payeras, 2019). Therefore, in the transition to a circular economy, it is essential to innovate in business models, designing a circular business model. Thus, if the linear business model based on "basic resources-product-end consumer" includes sectors and segments of the intermediate value chain such as suppliers and customers, the boundaries of the company and sector are being extended, considering the opportunities offered by the

environment and looking for new and more dynamic business opportunities, as in the case of the hospitality sector (Florida, Jacob & Payeras, 2019).

The tourism sector has an alternative in CE to become more sustainable. The sector is one of the largest socio-economic activities generating environmental pollution (Chengcai et al., 2017; Julião, Gaspar & Alemão, 2020). However, governments have been pressuring the hotel sector with new regulations, the adoption of new strategies to reduce environmental impact, as well as consumers, who are increasingly aware of pollution and waste issues and are looking for hotels that adopt green practices (Manaktola & Jauhari, 2007; Julião, Gaspar & Alemão, 2020).

The growth of the tourism sector has a direct impact on the consumption of natural resources and the environment (Wu & Teng, 2011; Julião, Gaspar & Alemão, 2020). The activity is considered one of the biggest generators of environmental pollution (Chengcai et al., 2007; Julião, Gaspar & Alemão, 2020), and hotels contribute to most of the sector's polluting agents, including the high energy consumption required to maintain multiple functions of uninterrupted use and operations (Han et al., 2011; Huang et al., 2012; Julião, Gaspar & Alemão, 2020). Another preponderant factor for the increase in the sector is given by the growth in consumer purchasing power, increasing the consumption of water, energy, non-recyclable goods and natural resources, directly or indirectly damaging the environment (Han et al., 2011; Julião, Gaspar & Alemão, 2020).

Zhang and Dong (2015) carried out a study in Sichuan province, China, and identified several problems in the quest to develop a CE model for the Mount Emei scenic area. There, the problems included a lack of understanding of the concept of CE in tourism, excessive tourist pressure on specific sites within the scenic area, and low rates of resource recycling and staff quality. In seeking to solve these problems, the authors devised a tourism CE model built around greater government involvement in the tourism economy, encouraging accommodation and catering companies to develop green purchasing of raw materials, waste management, energy-saving initiatives and designing tourist routes using environmentally friendly vehicles.

Silva, Silva and Echeveste (2021) analyzed scientific production on CE in tourism and hospitality and showed that studies in this area are still unsatisfactory, with a greater number of publications from 2019 onwards. The greatest concentration of studies is in the European region, and the publications are still theoretical, with only peculiar searches that only address the benefits of CE and the economic, social and environmental aspects.

Pamfilie et al. (2018) conducted a study to identify the influence of implementing integrated quality-environment-safety systems on the economic performance of hotel



establishments in Romania, from the perspective of hotel managers. They concluded that the hotel sector in this country is not yet sufficiently prepared to adopt the principles of CE, and has not adopted an integrated management system that influences the performance of operators in the field.

Currently, hotels tend to apply CE practices mainly to reduce waste and costs or because of the regulations imposed (Julião, Gaspar & Alemão, 2020). By applying the principles of CE, hospitality and tourism companies can accelerate their own business and advance thinking and action to create a more sustainable experience for all stakeholders involved in the hospitality and tourism sector (Van Rheede, 2012; Jones & Wynn, 2019).

## 2.3 ENVIRONMENTAL MANAGEMENT TOOLS

In Brazil, the terms sustainability, sustainable tourism and sustainable requirements for lodging facilities are discussed on a daily basis, as they are directly linked to global ecological preservation (Beni, 2004; Teixeira, 2014). From an environmental point of view, therefore, tourism must be planned in such a way that its development does not generate serious adverse environmental and socio-cultural impacts, that the environmental quality of the area is maintained or improved as a whole, that the benefits of tourism are widely disseminated in society and that tourist satisfaction levels are sustained (IDESP, 2012).

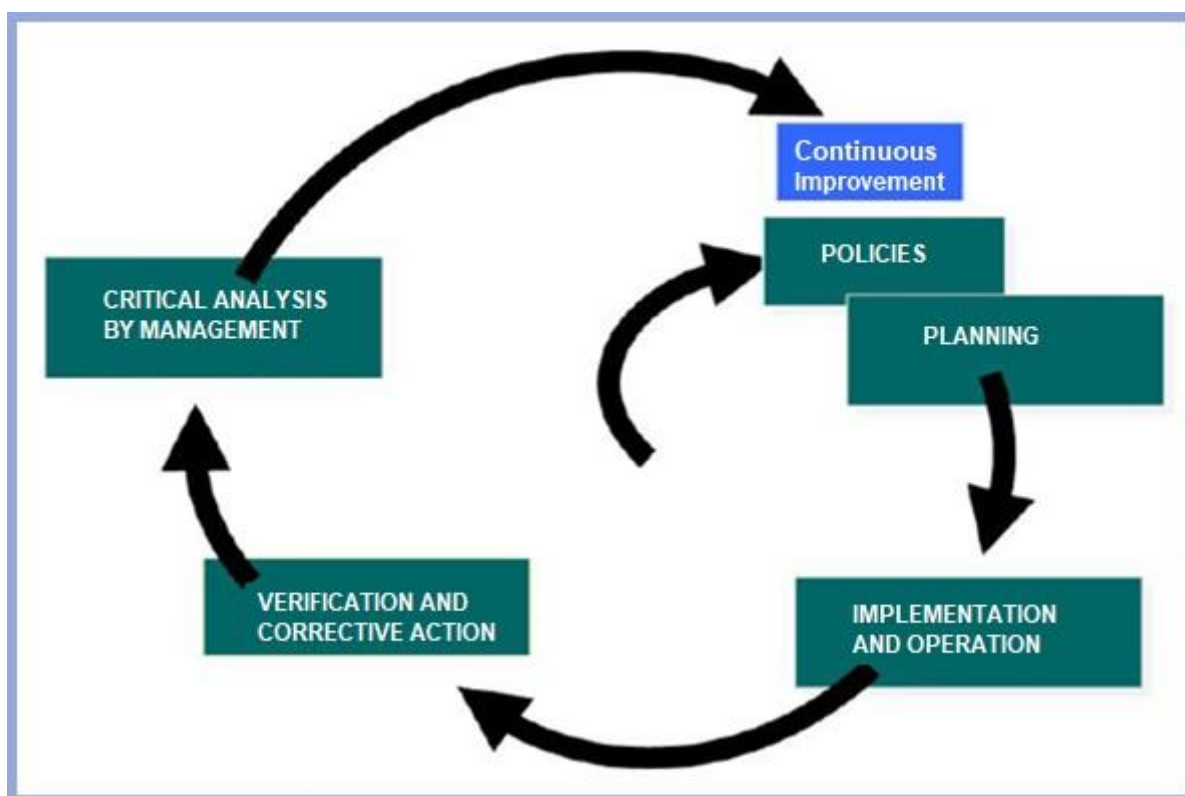
The implementation of the circular economy in lodging establishments is a constant search for sustainable practices that benefit not only hotel enterprises, but also the environment and society. In this context, standards play a fundamental role, providing guidelines and standards that guide these establishments in adopting measures that promote the responsible use of natural resources, social justice and economic viability.

One of the essential standards in this scenario is ABNT NBR 15.401, from 2006, drawn up by the Brazilian Association of Technical Standards (ABNT), in the Brazilian Tourism Committee (ABNT/CB-54), by the Sustainable Tourism Study Commission, which establishes the requirements for the Sustainability Management System in lodging facilities. This standard, a pioneer in Brazil, defines objective and verifiable parameters related to the sustainability of hotels and guesthouses, addressing fundamental issues such as the efficient use of resources, environmental responsibility, social justice and economic viability. It offers a solid guide for

the sustainable management of these enterprises, contributing to the conservation of natural resources and the minimization of environmental impact (ABNT NBR 15401, 2006).

The sustainability management system is in addition to the other established management system models, among which the main references are NBR ISO 9.001 (quality management system) and NBR ISO 14.001 (environmental management system). From this perspective, the basic reference is the PDCA cycle (Plan - Do - Check - Act), which is briefly described by the following stages and illustrated in Figure 2:

- ✓ **Plan:** establish the objectives and processes needed to deliver the results in accordance with the enterprise's policy (in this case, sustainability policy).
- ✓ **Do:** implement the processes.
- ✓ **Check:** monitor and measure the outcome of the processes in relation to the policy, objectives and targets and report the results.
- ✓ **Act:** act to continuously improve the performance of the management system.



**Figure 2** - Diagram of the PDCA cycle

Source: ABNT NBR 15.401, 2006.

The PDCA cycle scheme is about standardizing the aspects of the enterprise's management system that are key factors in sustainability. Not only controlling environmental

impacts on the natural environment, but also seeking the results that will enable the enterprise to actively contribute to the conservation, revitalization and recovery of natural resources, seek economic results with ethics, contributing to social justice and valuing local cultures, seek political legitimacy in terms of participation and transparency in decision-making processes and community representation, interact with members of the tourism production chain in order to build the operational conditions for implementing tourism sustainability management systems with sectoral and geographical coverage (ABNT NBR 15401, 2006).

To meet sustainability standards, it is recommended that lodging establishments use renewable energy sources, according to their specific characteristics and available technologies, considering aspects of economic and environmental viability. These include the use of solar technology or other technologies with a lower environmental impact (ABNT NBR 15401, 2006) and should include the use of fuels with lower environmental impacts, such as natural gas, Liquefied Petroleum Gas (LPG) or others, when possible (ABNT NBR 15401, 2006). The enterprise must plan and implement measures to minimize energy consumption, particularly from non-renewable sources. Procurement procedures for energy-consuming equipment and supplies (such as light bulbs, refrigeration equipment, fridges and freezers, stoves, heaters, washing machines) must include, as criteria, their energy efficiency and the possibility of using alternative energy sources (ABNT NBR 15401, 2006). The establishment must have implemented a procedure to ensure that lights and electrical equipment remain on only when necessary (ABNT NBR 15401, 2006).

With regard to water, the resort must use water-saving devices (such as taps and consumption-reducing valves in bathrooms, toilets, showers and flushing toilets), a specific program that includes the non-daily change of bed linen and towels, it must control the quality of the water used and ensure the potability of that used for human consumption, in addition to informing customers of their commitment to saving water and encouraging their involvement through water-saving campaigns aimed at guests and workers (ABNT NBR 15401, 2006). Regarding cleaning products, the resort must use biodegradable products (ABNT NBR 15401, 2006).

The food services provided by the enterprise must adopt good food safety practices; preferably use fresh produce; when possible and economically viable, use organically produced inputs; include the offer of regional cuisine, respecting the seasonal availability of ingredients, so as not to threaten flora and fauna (ABNT NBR 15401, 2006).

The enterprise must take measures to ensure the proper final disposal of unused waste (ABNT NBR 15401, 2006), and its management must be carried out in accordance with good technique using suitable containers for collection (ABNT NBR 15401, 2006).

In the pursuit of sustainability, the enterprise should determine the competencies required for the enterprise's workforce, provide training or take other actions to meet the competency needs and ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to achieving sustainability objectives, the potential consequences of failing to comply with specified operating procedures and the significant actual or potential environmental, socio-cultural or economic impacts of their activities and the benefits resulting from improving their personal performance (ABNT NBR 15401, 2006). In addition to employing, to the greatest extent feasible, workers (employees, subcontractors or self-employed) from local or regional communities. At least 50% of the workforce involved in the project's operations must come from local communities (ABNT NBR 15401, 2006).

The relevance of ABNT NBR 15.401 is clear, because in an increasingly competitive tourism market, tourists are becoming more demanding in terms of the sustainability of destinations. The standard helps accommodation establishments stand out by adopting responsible practices in line with the expectations of a society concerned with preserving the environment. In addition, by strengthening the tourism sector, the standard contributes to the competitiveness of destinations, boosting economic and social development.

ABNT NBR 15.401 is more than a technical standard; it represents a commitment to sustainability and social responsibility. By following the guidelines established by this standard, lodging establishments not only meet regulatory demands, but also position themselves as agents of change towards more sustainable tourism. In this way, the standards play a crucial role in the implementation of the circular economy in accommodation establishments, guiding them towards a greener, fairer and more prosperous future.

## 2.4 INSTITUTIONAL THEORY

In the 1950s, Institutional Theory (IT) emerged, with the development of studies related to the structure of organizations, covering environmental, cultural, political and social factors, opposing the idea that organizations are based on the rationalist bureaucratic understanding and are structured exclusively for competition and efficiency (Fonseca, 2003; Polleto, Allebrandt

& Brizolla, 2023). IT posits that organizations are not independent entities, but are shaped by norms, constraints, shared cognitions, structures and social expectations of relevant parties (DiMaggio & Powell, 2005; Scott, 2005; Arranz & Arroyabe, 2023). The institutional pressures in which organizations are inserted force them to acquire shared conceptions and procedures (DiMaggio & Powell, 2005; North, 2010; Scott, 2005; Arranz & Arroyabe, 2023).

The IT aims to elucidate the reasons that lead to the emergence and transformations that make an organization stable and the way in which action and culture are structured (Tolbert & Zucker, 1999; Polleto, Allebrandt & Brizolla, 2023). The process of aligning the strategy and behaviour of organizations with the expectations of institutions has been defined as institutional isomorphism (Scott, 2005; Arranz & Arroyabe, 2023). Institutional isomorphism explains the process by which organizations become more homogenous to each other when faced with apparently similar contextual conditions (DiMaggio & Powell, 2005; Zepeda & Rabadán, 2014). This process is based on the premise that organizations, by incorporating organizational elements that are supposedly legitimized externally and that define the value of structural elements, promote the success and survival of the organization and reduce uncertainty and the chances of failure (Montaño Hirose, 2010; Zepeda & Rabadán, 2014).

Organizations are increasingly challenged by public opinion and run the risk of being scrutinized, as technology enables more transparent supply chains, and misconduct can go viral with one click. A central tenet of IT is that organizations not only adapt to technical pressures, but also to what they believe society expects of them (Boxenbaum & Jonsson, 2017; Widmer & Prior, 2019). Organizations believe in rationalized myths about what constitutes a proper organization, the less they question these myths, the more they become institutionalized and subsequently isomorphic (DiMaggio & Powell, 2005; Widmer & Prior, 2019; Cerqueira-Streit et al., 2022).

#### 2.4.1 Pillars of the institutional approach

The search for explanations about the influence of environmental factors on decision-making can be understood through the institutional approach (Scott, 2014; Macadar, Freitas & Moreira, 2015). The institutional approach recognizes that organizations are embedded in a broad cultural and political context that influences their actions (Macadar, Freitas & Moreira, 2015).

Institutionalization is made up of three analytical elements that make up institutions, which are supported by three pillars of research (Scott, 2005; Santos, 2009). Scott (2014), when looking at the institutional approach, establishes what he calls the basic formulation of institutions - they are made up of regulatory, normative and cognitive cultural elements, which, together with associated activities and resources, provide stability and meaning to social life.

The regulatory element, the first pillar, derives from the force of laws, rules and sanctions, and therefore has coercive force, absolute and obligatory in the case of a legal norm, or relative, as it is not a function of law, but also covered by the force of coercion (Macadar, Freitas & Moreira, 2015). Coercion allows this pillar to be supported in three ways: the first is the existence of an actor with more power than the others, imposing their will through sanction, and another way is the induction of obedience. In other words, governments use this technique by creating programs in which organizations are not obliged to participate, but through specific incentives, they are induced to do so, or by using authority, which is coercive power legitimized by a regulatory framework, in which the government creates and sanctions laws and regulations (Santos, 2009).

The normative pillar is essentially based on morality and relies on social obligation, where the emphasis is on the rule that introduces the dimensions of value and obligation into social life. Normative systems include values and norms (Scott, 2014). The normative emphasis indicates an essentially moral basis, and organizational legitimacy is defined in terms of its adherence to norms defined as standards of behaviour (Scott, 2005; Carvalho, Vieira & Goulart, 2005; Macadar, Freitas & Moreira, 2015). According to the normative approach, isomorphism is a function of social homologation, because if legitimacy derives from adherence to socially established standards, the acceptance of organizations depends on fitting into the socially determined format, generating similarity and isomorphism (Macadar, Freitas & Moreira, 2015).

The cognitive pillar uses mimicry as the mechanism par excellence and therefore seeks to adopt the structural arrangements of organizations, their institutional strategies and action models as parameters (Macadar, Freitas & Moreira, 2015). Cognition as a basis for legitimacy is related to the definition of the common situation in which social actors find themselves and the adoption of a frame of reference that guides organizational action (Carvalho, Vieira & Goulart, 2005). The cognitive emphasis considers individuals and organizations to be socially constructed realities, with different capacities and means for action and objectives that vary according to their institutional context (Carvalho, Vieira & Lopes, 1999; Macadar, Freitas & Moreira, 2015).

### 2.4.2 Institutional pressures

The institutional pressures that organizations experience have been delineated as coercive, mimetic and normative that originate from different sources (DiMaggio & Powell, 2005; Widmer & Prior, 2019). Institutional pressures are the most frequently used IT construct employed in CE research (Ranta et al., 2018; Scott, 2005; Widmer & Prior, 2019); they force organizations to acquire shared conceptions and procedures. The institutional context in which an organization is embedded limits its operations and influences its strategic responses (North, 2010; Widmer & Prior, 2019).

The process of aligning the strategy and behaviour of organizations with the expectations of institutions has been defined as institutional isomorphism (Scott, 2005; Arranz & Arroyabe, 2023). Regulatory factors focus on the establishment of policies, supervision and the reward system. Normative factors include values and norms. Values refer to the concepts or needs that different actors prefer and the various criteria used to compare and evaluate structures or behaviors (Scott, 2005; Arranz & Arroyabe, 2023).

Coercive isomorphism is the result of pressures coming from the same legal, economic, political or state context. These pressures are linked to an organization that has dominance, influence or authority over the others belonging to the same organizational field, and can be both formal and informal (Fonseca, 2003; DiMaggio & Powell, 2005; Santos, 2009). The authority relationship between a focal company and another member of the chain is usually coercive in nature, since the latter defines the policies and standards that must be followed (Fonseca, 2003; DiMaggio & Powell, 2005; Santos, 2009). Coercive pressures result from power relations such as rules, laws and sanctions (Scott, 2005; Widmer & Prior, 2019).

Mimetic isomorphism can be observed in situations where one organization imitates the strategies or arrangements of another, in search of good practices and results. It is usually found in environments of symbolic uncertainty, which is why organizations seek out the actions of others that have worked as a model to be followed, to continue belonging to the field (Fonseca, 2003; DiMaggio & Powell, 2005; Santos, 2009). Mimetic pressures arise predominantly from uncertainty, as organizations, under conditions of uncertainty, often imitate their successful or influential peers who they believe have authority in the field (Scott, 2005; Widmer & Prior, 2019).

Normative isomorphism is associated with professionalization and occurs when there is constant specialization of members who share a set of norms and routines for activities, reflecting on the attitudes of organizations (Fonseca, 2003; DiMaggio & Powell, 2005; Santos,

2009). Normative pressures relate to what is thought to be the right thing and is often related to professions and accredited through certification (Scott, 2005; Widmer & Prior, 2019).

### **3 RESEARCH METHODS AND TECHNIQUES FOR TECHNICAL PRODUCTION**

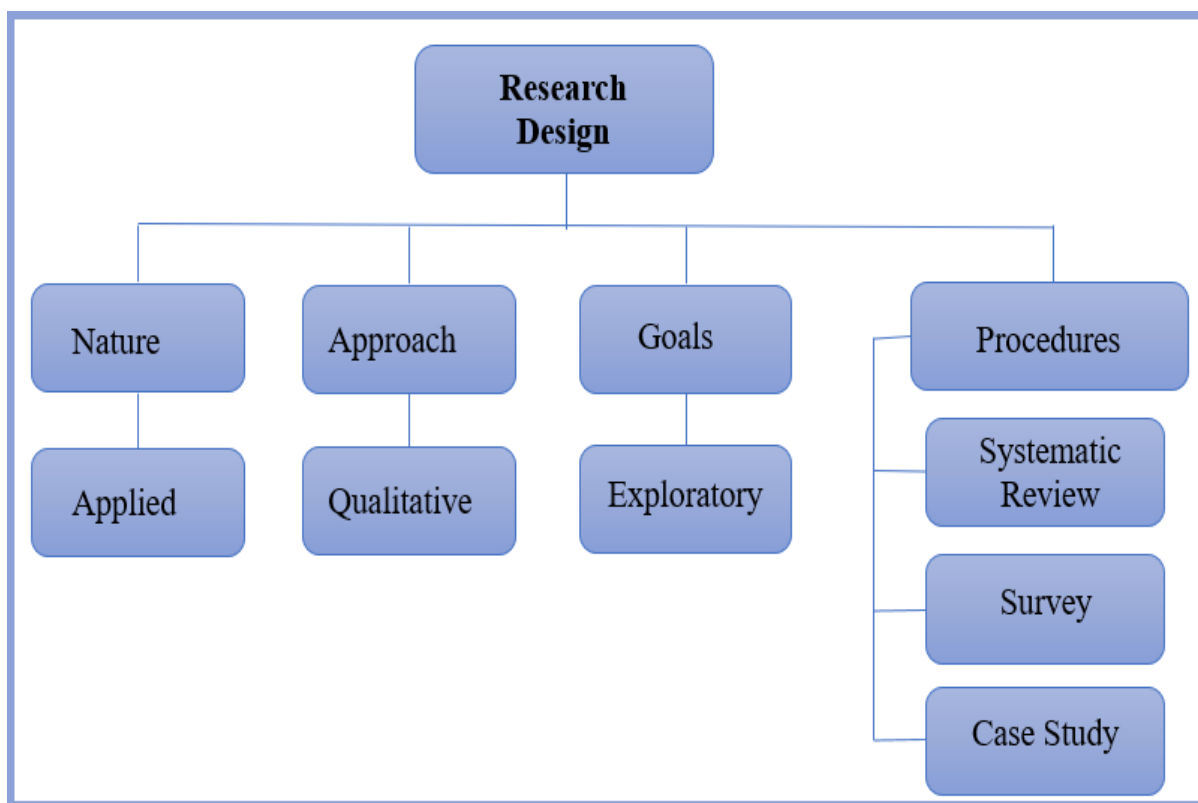
#### **3.1 RESEARCH DESIGN**

The study was designed according to the objectives, procedures and approach to the problem (Andrade, 2004). Figure 3 shows the design of this research in terms of nature, approach, objectives and procedures. Thus, in terms of nature, the research is characterized as applied, as it seeks to solve concrete, practical and operational problems (Zanella, 2009), by proposing an analysis of the circular practices adopted in the hotel sector in the city of Cascavel-PR, their barriers and facilitators in the light of Institutional Theory.

As for the approach, the research is qualitative, which has characteristics related to the analysis of a phenomenon that occurs in a unique setting, where the researcher immerses himself and seeks more detail, involving himself with real experiences related to what is being studied, to achieve the objectives proposed in the work (Creswell, 2010). The qualitative approach is applied to interpret concrete cases in their time and place, taking as a premise the real activities within that specific context to be analyzed (Flick, 2009; Yin, 2017).

Regarding its objectives, this research is classified as exploratory, which is characterized by providing greater familiarity with the subject studied, seeking to make it more explicit (Gil, 2002; Runeson & Höst, 2009; Yin, 2017). In addition, it provides a better definition and delineation of the subject under study as well as a better definition of the objectives (Prodanov & Freitas, 2013), since the study is interested in analyzing the barriers and facilitators in the process of implementing CE practices in the hotel sector.



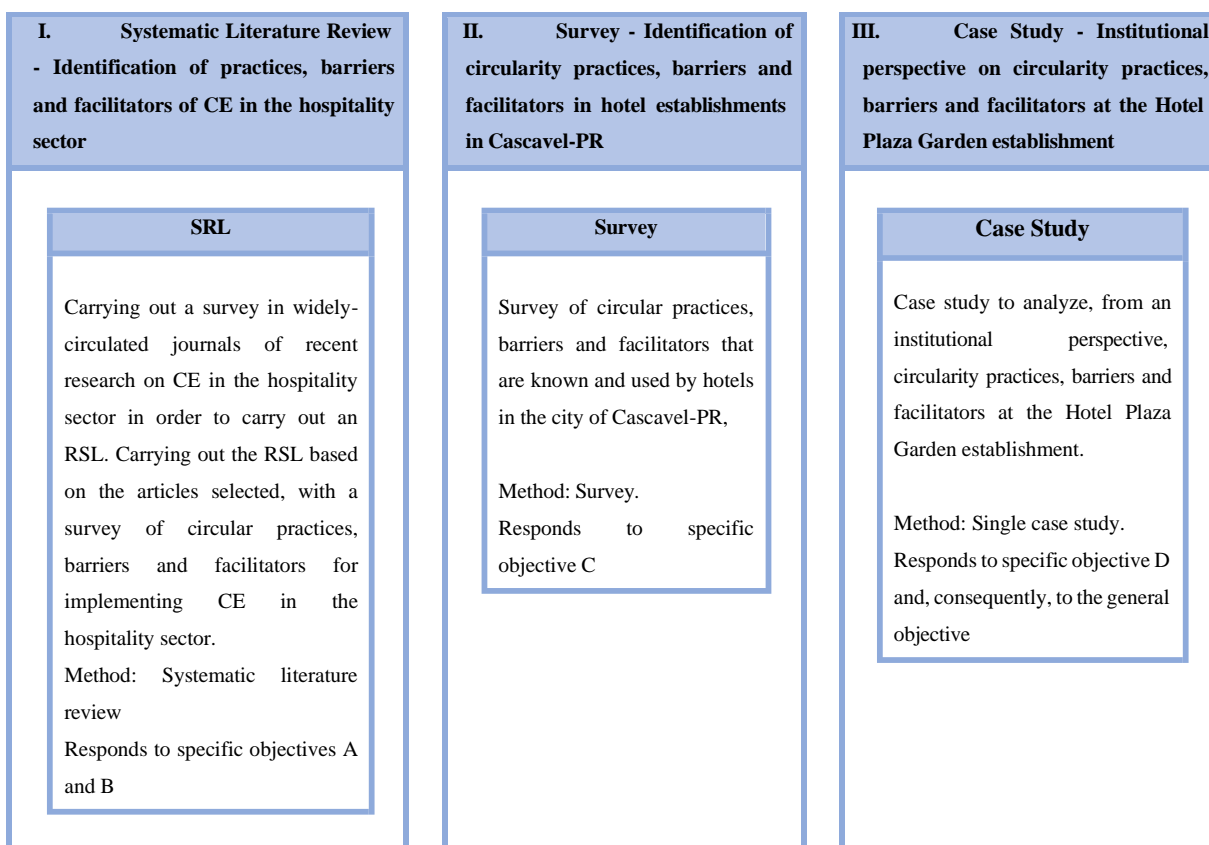


**Figure 3:** Research design

Source: Prepared by the author, 2023

In order to achieve the proposed objectives, the study sought to analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, in the light of Institutional Theory, its barriers and facilitators and it was decided to divide it into four stages: (I) Systematic Literature Review - Identification of practices, barriers and facilitators of CE in the hospitality sector; (II) Survey - Survey of circularity practices, barriers and facilitators in hotel establishments in Cascavel-PR; III) Case Study - Institutional perspective of circularity practices, barriers and facilitators in the Hotel Plaza Garden establishment.

Figure 4 shows, in simplified form, the stages established for carrying out the study.



**Figure 4:** Stages of the study  
Source: Prepared by the author, 2023.

The effective implementation of CE requires a holistic approach that encompasses a series of fundamental practices. These practices aim not only to optimize operational processes, but also to contribute significantly to environmental and social sustainability. To optimize data analysis, the practices were classified into interest groups according to their variables: use of sustainable energy sources, optimization of drinking water and electricity consumption, promotion of sustainable food and reduction of food waste, optimization of resource use, waste management, operational procedures and certifications, and contributions to the community, in order to highlight commitment to environmental and social values. Table 2 shows the categorization carried out to facilitate data analysis and presentation of the results.

However, when embarking on this path towards CE, organizations often face several barriers that can compromise the effectiveness of their initiatives. Cultural, financial, social, environmental and legal barriers can arise, requiring strategic approaches to overcome them. Resolving these barriers becomes more feasible with the presence of specific facilitators. Cultural, financial, social, environmental and legal elements can act as catalysts for the successful implementation of CE.

At the theoretical level, Institutional Theory offers insights into the dynamics involved in adopting sustainable practices. Institutional pressures play a crucial role in this context and are categorized as normative, coercive and mimetic. Compliance with norms, coercion from regulations and imitation of successful practices are central aspects that influence the trajectory and acceptance of SE in a broader context.

**Chart 2.** Categories of data analysis

Dimensions	Category of Analysis	Variables
Circular Economy	Practices	Use of sustainable energy sources
		Optimizing consumption of drinking water and electricity
		Sustainable food and reducing food waste
		Optimizing the use of resources
		Waste management
		Operational procedures
		Certifications and contributions to the community
	Barriers	Cultural
		Financial
		Social
		Environmental
		Legal
	Facilitators	Cultural
		Financial
		Social
		Environmental
		Legal
Institutional Theory	Institutional pressures	Normative
		Coercive
		Mimetic

Source: Prepared by the author, 2023.

Thus, the journey towards CE transcends the simple implementation of sustainable practices; it requires an in-depth understanding of the barriers, facilitators and institutional dynamics that shape this process, to effectively contribute to a more sustainable and resilient future.

### 3.1.1 Stage I - Systematic Literature Review - Identification of Circular Economy practices, barriers and facilitators in the hospitality sector

A systematic literature review (SLR) was carried out to answer specific objectives A - to survey the literature on which circular practices are most common in the hotel sector - and B - to identify in the literature the barriers and facilitators to implementing circular practices in the hotel sector. A SLR gives the researcher the opportunity to carry out a sequence of broader, more focused and defined investigations into a particular subject, bringing together facts that are relevant to what is intended to be studied (Galvão & Pereira, 2014; Corrêa, 2021). RSL also demands effort and time in the search and classification of works that are essential to the study (Kitchenham et al., 2010; Corrêa, 2021).

The questions that guided the RSL were: What are the most common circular practices in the hotel sector? What are the barriers to implementing the Circular Economy? What are the barriers to implementing the Circular Economy? Its objectives were to identify the most common circular practices in the hotel sector and to identify the barriers and facilitators to implementing these practices. Chart 3 shows the protocol for carrying out the RSL, from the definition of the problem to the inclusion and exclusion criteria.

**Chart 3.** Systematic Literature Review Protocol

<b>Identification of research problem</b>	Problem 1	What are the most common circular practices in the hotel sector?
	Problem 2	What are the barriers to implementing the Circular Economy?
	Problem 3	What are the facilitators for implementing the Circular Economy?
<b>SRL objectives</b>	Objective 1	To identify the most common circular practices in the hotel sector
	Objective 2	To identify the barriers and facilitators to the implementation of these practices
<b>Key words</b>	Circular Economy	Circular Business
		Sustainable reuse
	Hotel	Hospitality
		Acommodation
		Hotel management
<b>Primary search sources</b>	Database 1	Web of Science (Thomson Reuters)
	Database 2	Scopus (Elsevier)
	Database 3	SciELO (Scientific Eletronic Library Online)
<b>Search strings in Portuguese</b>	1	Circular economy and Hospitality
	2	Circular economy and Hotel
	3	Circular economy and Accommodation
	4	Circular economy and Hotel management

	5	Circular business and Hospitality
	6	Circular business and Hotel
	7	Circular business and Accommodation
	8	Circular business and Hotel management
	9	Sustainable reuse and Hospitality
	10	Sustainable reuse and Hotel
	11	Sustainable reuse and Accommodation
	12	Sustainable reuse and Hotel management
<b>Search strings in English</b>	1	Circular economy and Hospitality
	2	Circular economy and Hotel
	3	Circular economy and Accommodation
	4	Circular business and Hospitality
	5	Circular business and Hotel
	6	Circular business and Accommodation
	7	Sustainable reuse and Hospitality
	8	Sustainable reuse and Hotel
	9	Sustainable reuse and Accommodation
<b>Execution method or tool</b>	Software	Mendeley Desktop
		Excel
<b>Selection criteria</b>	Inclusion criteria	Articles directly related to Circular Economy and Hospitality
		Articles published in journals
		Publications between 2011 and 2021
	Exclusion Criteria	Repeated articles
		Articles not directly related to the topic
<b>Addition of external articles to the search, considered relevant to the study</b>	Raspini (2021)	Barriers and facilitators to implementing CE: strengthening rare earth magnet supply and value chains
	Tura et al. (2018)	Unlocking circular business: a framework of barriers and enablers
	Vatansever, Akarsu & Kazançoğlu (2021)	Assessing the Barriers to Transition to CE: A Case of the Tourism Sector.

Source: Prepared by the author, 2022

First, articles related to CE in the hospitality sector were selected. For this process, a research protocol was drawn up to guide and determine the research procedures, the methods of inclusion and exclusion of the articles selected to make up the study. The inclusion and exclusion criteria were determined by defining the keywords and their combinations. After conducting the searches, the first exclusion criterion was repeated articles; the second exclusion criterion was determined by reading the titles and abstracts and discarding articles not related to the topic; and the third criterion was to select articles published in journals, discarding book chapters and event proceedings.

The articles were searched in the Web of Science (Thomson Reuters), Scopus (Elsevier) and Scielo (Scientific Electronic Library Online) databases, using the keywords in Portuguese:

'Circular economy and Hospitality', 'Circular economy and Hotel', 'Circular economy and Lodging', 'Circular economy and Hospitality', 'Circular business and Hotel', 'Circular business and Lodging', 'Circular business and Hospitality', 'Sustainable reuse and Hospitality', 'Sustainable reuse and Hotel', 'Sustainable reuse and Lodging', 'Sustainable reuse and Hospitality', and, in English: 'Circular economy and Hospitality', 'Circular economy and Hotel', 'Circular economy and Accommodation', 'Circular business and Hospitality', 'Circular business and Hotel', 'Circular business and Accommodation', 'Sustainable reuse and Hospitality', 'Sustainable reuse and Hotel', 'Sustainable reuse and Accommodation'. The databases were searched from 2011 to 2021.

To help with the survey and selection of articles, a log was kept, consisting of an inventory of the results obtained from the searches of each database and the use of Mendeley Desktop software to catalog and select the articles of interest. The combination of keywords resulted in 63 searches in total, 21 searches per database; 99 articles in English were found in the Web of Science database, 75 articles in English were found in the Scopus database and no published articles were found in the Scielo database. The searches totaled 174 articles, of which 66 were repeated and, after selection, 108 articles remained. In the next stage, after reading the titles and abstracts, articles that were not directly related to the subject of the study and articles published in event proceedings and book chapters were discarded, resulting in 19 articles selected for the study.

To carry out the systematic review, three external studies were added to the search carried out using the protocol, which were considered relevant to the study. We included the studies carried out by Raspini (2021) entitled "Barriers and facilitators to the implementation of CE: strengthening the value and supply chains of rare earth magnets"; Tura et al. (2018), entitled "Unlocking circular business: a framework of barriers and drivers"; and Vatansever, Akarsu and Kazançoğlu (2021), entitled "Evaluation of the Barriers to Transition to CE: A Case of the tourism sector". The results of the Systematic Review are described in section 4.1 of this study.

### 3.1.2 Stage II - Survey - Identification of circularity practices, barriers and facilitators in hotel establishments in Cascavel-PR

To answer specific objective C - to check which circular practices, together with the barriers and facilitators, are being applied in the hotel system in the city of Cascavel-PR - a

survey will be carried out based on the circular practices, barriers and facilitators selected in the previous stage. A survey is a research technique that uses direct questioning of people whose behavior you want to know (Gil, 2008). Survey research involves collecting data on a number of units and usually at a single point in time, with a view to systematically collecting a set of quantifiable data on a number of variables which are then examined to discern patterns of associations (Bryman, 1989).

There are two data collection instruments associated with survey research, the self-administered questionnaire and the structured interview. Each of these instruments has advantages and disadvantages, so in relation to the structured interview, the self-administered questionnaire has the following advantages and disadvantages: Advantages: (a) it has a much lower financial cost, especially for many respondents; (b) it generally takes less time to administer; (c) it eliminates the various problems that may exist associated with the presence of the interviewer. Disadvantages: (a) it is highly essential that the questions are clear and unambiguous and that the format is easy to follow; (b) lack of certainty as to who answered the questionnaire; (c) impossibility of making observations or collecting additional documents when sent by post (Bryman, 1989; Babbie, 1999; Martins & Ferreira, 2011).

To collect the survey data, a self-administered questionnaire using a Likert scale was used. The Likert scale, used in surveys, is applied to ordinal variables to measure the respondent's attitude (Martins & Ferreira, 2011), and is made up of five response categories (e.g. not applied; not formal at all; not very formal; formal; totally formal), with coding respectively ranging from 1 to 5, representing the weight of each category (Babbie, 1999; Martins & Ferreira, 2011).

The instrument was constructed based on the Systematic Review which identified circular practices and the barriers and facilitators to implementing these practices. The questionnaire was made up of three blocks of questions: in the first block, the questions refer to the application of circular practices; in the second block, the questions are related to barriers; and in the third block, the questions are inherent to facilitators, all on a Likert scale, as shown in Appendix 1.

To determine the target population for the study, a request was made to the Municipal Finance Department of the Cascavel-PR City Hall, in the Permit sector, for a list of active registrations in the municipality of Cascavel for lodging and hotel establishments. A total of 49 establishments were returned, of which 22 were discarded, as they contained 12 motels, four boarding houses and dormitories, two restaurants and the like, two bars, one real estate agency and one social assistance service company without accommodation, leaving 27 establishments.

We then found that of the remaining 27 establishments, three CNPJs had been downloaded from the Brazilian Federal Revenue Service database, one CNPJ appeared as unfit and one establishment was listed on the internet and social networks as temporarily closed, leaving 22 establishments in operation and able to carry out the study.

A first contact was made with each establishment by telephone, when the study proposal was presented and an e-mail or WhatsApp address was requested to send the questionnaire, which was sent immediately afterwards; at this initial stage, no completed questionnaires were returned. Following this, visits were scheduled to the establishments to present the study and deliver the questionnaire in person for them to complete and then return to collect the completed questionnaires. Due to the low return of completed questionnaires (9 questionnaires), another attempt was made to contact the establishments and three more questionnaires were answered, totaling 54% of the population (12 establishments). Table 4 summarizes how the hotel establishments in the city of Cascavel were contacted, the period during which the survey took place and how the completed questionnaires were returned for use in this study.

According to the study schedule, in the first half of March 2023 the test questionnaire was administered to validate the instrument and sent to two establishments, which returned the questionnaires on time. In May 2023, the questionnaires were definitively applied. The first contact with the establishments was by telephone; an email address was requested to send the link to fill in the questionnaire online and the emails were sent. During this first contact, the completed questionnaires were not returned. Contact was made again by telephone, the link was sent again via email, WhatsApp and the possibility of scheduling a time to meet in person was suggested, but this attempt was unsuccessful.

**Chart 4.** Hotel establishments that answered the survey questionnaire

Establishment that answered the questionnaire	Contact attempts	Questionnaire return date	Means of returning the questionnaire
1	Telephone /WhatsApp	09/03/2023	Online
2	Telephone /WhatsApp	15/03/2023	Online
3	Printed questionnaire	31/07/2023	In person *
4	Printed questionnaire	31/07/2023	In person *
5	Printed questionnaire	07/08/2023	In person *
6	Printed questionnaire	07/08/2023	In person *
7	Printed questionnaire	08/08/2023	In person *
8	Telephone /WhatsApp	10/08/2023	Online
9	Telephone /WhatsApp	14/08/2023	Online
10	Printed questionnaire	21/09/2023	In person *



11	Printed questionnaire	21/09/2023	In person *
12	Printed questionnaire	21/09/2023	In person *

Note: \*The printed questionnaire was left at the reception of the establishment in the care of the person in charge and returned the next day to be picked up.

Source: Prepared by the author, 2023

At the beginning of July 2023, a letter of introduction with the questionnaire was left at the reception of the establishments for the managers, with the commitment to return the next day to collect the completed questionnaire. Another contact attempt was made in August 2023 and September 2023, when 54% of the population was reached. The data was analyzed using descriptive statistics and EXCEL software to tabulate and understand the data.

### 3.1.3 Stage III - Case Study - Institutional perspective on circularity practices, barriers and facilitators at the Hotel Plaza Garden establishment

To answer specific objective D - Analyze the institutional pressures exerted on the hotel system in the process of adopting circular practices - a case study was carried out. A case study is an in-depth investigation of a particular phenomenon in its context, considering that the boundaries between the phenomenon and its context are often not easily separated (Yin, 2017). The case study seeks to collect data that allows it to respond to problems related to groups, communities or institutions, with the aim of understanding the most different aspects of a given reality, and is most often used in the humanities and social sciences, using observational techniques and questionnaires to collect data (Marconi & Lakatos, 2005; Silva, 2004; Silva & Menezes, 2001).

The case study was seen as the appropriate research method for creating an in-depth and detailed understanding of the phenomenon in real-life contexts (Corbin & Strauss, 2015; Tura et al., 2018), with the aim of exploring the case in depth, using data from multiple sources of evidence, which can include direct observations, interviews and documentary analysis (Voss, Tsikriktsis & Frohlich, 2002; Martins, 2008). Based on the compilation and analysis of the data collected in the survey, the Hotel Plaza Garden establishment was chosen to carry out a single case study, when the motivation that led to the choice of the practices implemented and the reasons for not implementing the other circular practices surveyed were explored in depth.

The establishment chosen for the case study met the requirements of not belonging to a hotel chain, giving preference to analyzing local establishments that benefit the city's economy

and growth, presenting circular practices and being willing to cooperate with the study. The selected hotel has been operating in the city of Cascavel since 2022; being a new venture, it has several sustainable practices. The Plaza Garden Hotel is located at Avenida Jaime Duarte Leal, nº 79, Jardim Maria Luiza neighborhood, and data collection took place from 03/07/2023 to 27/09/2023.

Visits were made to the chosen establishment to observe and collect information pertinent to the study and a semi-structured interview was carried out with the manager, analyzing documents and legislation in force. The interview used a script divided into four parts: parts I and II consisted of general and historical questions about the establishment, which were used to describe the case. Part III explained the implementation of circular practices, and part IV, the barriers and facilitators to the implementation of circular practices (Appendix 2).

The data collected was recorded, transcribed and catalogued using Transkriptor software, which helped analyze textual data. Data triangulation was carried out through observation, interviews and comparison with studies already carried out and catalogued for this research, through bibliometric analysis and RSL.

To analyze the interview, we tried to correlate the interviewee's statements with existing literature, observations made at the establishment, current laws and applicable standards. This process falls under the content analysis method, which involves a systematic approach to thoroughly examining texts, interview transcripts or other types of verbal or textual content, with the aim of identifying relevant patterns, themes and categories (Bardin, 2011). To carry out this content analysis, the following steps were followed: analysis, coding, categorization, interpretation and reporting.

Categories of analysis can be initially derived from the theoretical construct, but can also be adjusted as the analysis progresses, especially if new themes or concepts emerge during the process. Content analysis is a valuable methodology for examining interviews and other types of qualitative content, allowing in-depth exploration of the connections between the interviewee's statements, observations, laws, norms and relevant theories.

## 4 PRESENTATION AND ANALYSIS OF RESULTS

### 4.1 SYSTEMATIC LITERATURE REVIEW: IDENTIFYING PRACTICES, BARRIERS AND FACILITATORS OF THE CIRCULAR ECONOMY IN THE HOSPITALITY SECTOR

The concept of sustainability and environmental issues have been the subject of study and research for a long time, having been used since the 1970s (Sneddon, Howarth & Norgaard, 2006; Julião, Gaspar & Alemão, 2020), and in 1992 the economic and socio-cultural dimensions were added to the notion of sustainability (Bradbury & Kirkby, 1996; Julião, Gaspar & Alemão, 2020). Since then, governments, individual companies and the hospitality sector have been encouraged to adopt codes of conduct, promoting sustainable green travel and tourism practices for the first time. Gradually, voluntary guidelines for green practices were established in business models, followed by the introduction of eco-labels and certification procedures (Sloan, Legrand & Chen, 2009; Julião, Gaspar & Alemão, 2020).

In this sense, this study sought to map publications in national and international journals to identify the most common circular practices in the hotel sector and to identify the barriers and facilitators to the implementation of these circular practices. Table 5 lists the articles resulting from this research, with titles, authors, journals and years of publication.

**Chart 5.** List of articles selected for the SLR

Article title	Authors	Magazine	Year of publication
Research into the construction of low-carbon hotels from a circular economy perspective	Qing Li; Li Li	Material Design, Processing and Applications	2013
The bioeconomy in Sicily: new green marketing strategies applied to the sustainable tourism sector	Elisa Maugeri; Enrica Gullo; Paula Romano; Federica Spedalieri; Alfio Licciardello	Sustainability (Switzerland)	2017
Circular economy - a new direction for sustainability in Romania's hotel sector?	R. Pamfilie; D. Firoiu; A. G. Croitoru; G. H. I. Ionescu	Anfiteatru Economic	2018
Economic aspects of cyclical implementation in Greek sustainable accommodation	Angeliki N. Menegaki	International Journal of Tourism Policy	2018
How to make the transition to a more circular tourism activity in the hotel sector. The role of innovation	Carmen Florido; Marta Jacob; Margarita Payeras	Journak of Administrative Sciences	2019
The hotel industry's circular economy strategy: a multi-case approach	José Miguel Rodreuguez-AntOhn; Marcçoeua del Mar Alonso Almeida	Sustainability (Switzerland)	2019
The circular economy, natural capital and resilience in tourism and accommodation	Peter Jpnes; Martin George Wynn	International Journal of Contemporary Hospitality Management	2019
Circular economy and adaptive reuse of historic buildings: an analysis of the dynamics between real estate and lodging in the city of Naples (Italy)	Silvia Iodice; Pasquale de Touro; Martina Bosone	Aestimum	2020

Consumer perceptions of the circular economy in hospitality: evidence from Portugal	Jorge Julião; Marcelo Gaspar; Clarisse Alemão	International Journal of Integrated Supply Management	2020
Corporate social responsibility in hospitality: are sustainability initiatives really sustainable?	Virgínia Maria Stombelli	Worldwide Hospitality and Tourism Themes	2020
Socio-economic profile of tourists with a higher attitude and circular behavior in hotels in a sun and beach district	Carlos Rodreuguez; Marta Jacob; Carmen Florido	International Journal of Environmental Research and Public Health	2020
Sustainable development and circular economy in Greece: case examples from Costa Navarino and Grecotel	Justin Darayus Khodaiji; Dimitra Christopoulou	Worldwide Hospitality and Tourism Themes	2020
Applying the reduce, reuse and recycle principle in the hospitality sector: its background and performance implications	Alexis Ioannidis; Konstantinos J. Chalvatzis; Leonidas C. Leonidou; ZhiTeng Feng	Business Strategy and the Environment	2021
Circular economy in tourism and hospitality: analysis of scientific production on the subject	Paula Maines da Silva; Luciana Maines de Solva; Simone Soares Echeveste	European Journal of Tourism Hospitality and Recreation	2021
Exploring the circular economy in the hotel sector: empirical evidence from Scandinavian hotel operators	Fabrice Sorin; Uthayasankar Sivarajah	Scandinavian Journal of Hospitality and Tourism	2021
Leadership roles for sustainable development: the case of a Malaysian green hotel	Minhaz Farid Ahmed; Mazlin Bin Mokhtar; Chen Kin Lim; Antony Wong Kim Hoo; Khai Ern Lee	Sustainability (Switzerland)	2021
Life cycle-based sustainability and circularity indicators for the tourism sector: a literature review	Ioannis Arzoumanidis; Anna M. Walker; Luigia Petti; Andrea Raggi	Sustainability (Switzerland)	2021
Sustainable food production and consumption. Mise-en-Place circular economy policies and waste management practices in tourist cities	Mark Anthony Camilleri	Sustainability (Switzerland)	2021
The circular economy in tourism: transition perspectives for business and research	Jeper Manniche; Karin Topsoe; Rikke Brandt Broegaard	Scandinavian Journal of Hospitality and Tourism	2021

Source: Research data, 2022.

The journals that stand out in terms of impact factor give the scientific articles published in them greater relevance in the academic world due to the number of citations they receive; of the 19 articles selected, five were published in high-impact journals. In the research period, the year with the highest incidence of published studies was 2021, with seven publications, showing a growing interest in the subject on the part of researchers, regarding sustainability in the hospitality sector.

#### 4.1.1 Circular practices applied to the hospitality sector

Since the end of the last century, the hotel industry has introduced various environmental innovations and practices to save natural resources (Teng & Chang, 2014; Florido, Jacob & Payeras, 2019). Today, awareness and the ability to respond to environmental issues are indeed imperative for hotel companies (Marçoeunez-Marteunez, Cegarra-Navarro & GarceuaPérez,

2019; Florido, Jacob & Payeras, 2019). Introducing eco-innovative practices in hospitality is an important step towards more circular business models, but it is not enough. CE goes further, it can become a central part of the host-guest relationship by including and involving the latter not only from an environmental point of view, but also by making them participants in their actions to contribute to sustainability. In this way, tourism presents itself as a unique opportunity to reconfigure the way people live, even if only for a short time (Manniche et al., 2017; Florido, Jacob & Payeras, 2019; Rodreuguez, Jacob & Florido, 2020).

Hospitality companies are expected to follow responsible practices and engage in sustainable production and consumption behaviors to promote conscious consumption, reduce waste and waste production (Sirakaya-Turk & Baloglu, 2014; Camilleri, 2021). Circular practices cover various areas such as respecting the limitations of the destination, supporting the local economy, carrying out environmentally sustainable activities and actively contributing to the conservation of nature and culture (Florido, Jacob & Payeras, 2019). Table 6 highlights the selection of the most common circular practices to be implemented in the hospitality sector, based on a survey of the most recent publications in widely circulated journals.

**Chart 6.** Circular practices applicable to the hospitality sector

Nº	PRACTICE	AUTHORS
P1	Use of solar energy with energy capture and reserve systems for long-term use	Menegaki, 2018; Iodice et al., 2020; Li & Li, 2013; Ahmed et al., 2021; Florido, Jacob & Payeras, 2019; Rodreuguez, Jacob & Florido, 2020
P2	Installation of energy-saving light bulbs	Li & Li, 2013; Ahmed et al., 2021
P3	Corrugated plastic roofs for maximum use of sunlight to reduce energy consumption	Ahmed et al., 2021
P4	Self-sufficiency in terms of sustainable energy	Florido, Jacob & Payeras, 2019
P5	Automatic induction valve to control energy consumption	Li & Li, 2013;
P6	Efficient use of drinking water to avoid waste	Ahmed et al., 2021
P7	Use solutions with water flow control in the bathroom	Julião, Gaspar & Alemão, 2020
P8	Use only local, seasonal food of controlled origin	Menegaki, 2018; Julião, Gaspar & Alemão, 2020; Rodreuguez, Jacob & Florido, 2020
P9	Use organic food produced on the hotel premises	Menegaki, 2018; Ahmed et al., 2021
P10	Serve organic drinks to guests	Ahmed et al., 2021
P11	Design sustainable menus to eliminate waste	Florido, Jacob & Payeras, 2019; Julião, Gaspar & Alemão, 2020; Rodreuguez, Jacob & Florido, 2020; Camilleri, 2021; Ahmed et al., 2021; Li & Li, 2013; Silva, Silva & Echeveste, 2021
P12	Reduce portions	Rodreuguez, Jacob & Florido, 2020; Camilleri, 2021
P13	Donate surplus food to charities and food banks	Rodreuguez, Jacob & Florido, 2020; Camilleri, 2021
P14	Using leftover food to feed animals	Rodreuguez, Jacob & Florido, 2020; Camilleri, 2021
P15	Buying products whose packaging can be reused	Menegaki, 2018; Florido, Jacob & Payeras, 2019

P16	Use towels and bed linen for more than one day	Rodreiguez, Jacob & Florido, 2020; Julião, Gaspar & Alemão, 2020; Ahmed et al., 2021
P17	Have towels and bed linen made only from environmentally friendly materials	Julião, Gaspar & Alemão, 2020
P18	Only use cleaning products with a low environmental impact	Julião, Gaspar & Alemão, 2020
P19	Reuse fabrics	Florido, Jacob & Payeras, 2019; Silva, Silva & Echeveste, 2021
P20	Reuse cups	Florido, Jacob & Payeras, 2019; Silva, Silva & Echeveste, 2021
P21	Reduce consumption of coal or oil	Li & Li, 2013
P22	Recycle the steam condensate produced in the laundry and turn it into boiler water	Li & Li, 2013
P23	Methanation process from organic waste	Rodreiguez, Jacob & Florido, 2020; Camilleri, 2021; Li & Li, 2013; Silva, Silva & Echeveste, 2021
P24	Wastewater treatment for reuse	Ahmed et al., 2021
P25	Organic composting of food waste	Ahmed et al., 2021; Rodreiguez, Jacob & Florido, 2020; Menegaki, 2018, Silva, Silva & Echeveste, 2021
P26	Making soap from used cooking oil	Ahmed et al., 2021
P27	Use the computer in energy-saving mode	Ahmed et al., 2021
P28	Implementing the paperless office using the network system	Ahmed et al., 2021; Julião, Gaspar & Alemão, 2020
P29	Printing double-sided	Li & Li, 2013; Ahmed et al., 2021
P30	Provide adequate training on green initiatives and practices for staff and relevant stakeholders	Ahmed et al., 2021; Ioannidis et al., 2021
P31	Staff receive incentives and other benefits from the hotel owner based on their performance of green practices.	Ahmed et al., 2021
P32	Having a digital concierge at night	Julião, Gaspar & Alemão, 2020
P33	Having a guide using a personalized app instead of a human guide to add value to your stay.	Julião, Gaspar & Alemão, 2020
P34	Having local workers in the hotel	Julião, Gaspar & Alemão, 2020
P35	Reducing the room cleaning schedule	Julião, Gaspar & Alemão, 2020
P36	Having fewer appliances in the room	Julião, Gaspar & Alemão, 2020
P37	Have recycled and locally made furniture in the rooms	Julião, Gaspar & Alemão, 2020; Silva, Silva & Echeveste, 2021
P38	Look for alternatives to reduce transportation costs	Julião, Gaspar & Alemão, 2020
P39	Green certificates	Florido, Jacob & Payeras, 2019; Julião, Gaspar & Alemão, 2020
P40	Prefer local suppliers to promote CE	Julião, Gaspar & Alemão, 2020
P41	Implementing circular farming practices involving local farmers	Florido, Jacob & Payeras, 2019

Source: Research data, 2022.

Although sustainable and eco-friendly practices are often dictated by government regulations, often, they also make significant business sense, not only in reducing operating costs, but also by allowing higher prices to be charged for hotel rooms. For example, more than 30% of global tourists were willing to pay US\$5 more per night for an eco-friendly hotel (Menegaki, 2018; Julião, Gaspar & Alemão, 2020; Statista, 2021). In March 2014, 12.7% of respondents said they were willing to pay an additional US\$10-25 per night to stay in a hotel that claimed to be environmentally friendly (Menegaki, 2018; Julião, Gaspar & Alemão, 2020; Statista, 2021). However, there is evidence that the adoption of CE practices is complex and

requires overcoming barriers that tourist destinations and hotel companies encounter in the process of implementing actions aimed at future development (Sorensen, Bærenholdt & Greve, 2019; Silva, Silva & Echeveste, 2021).

#### 4.1.2 Barriers to implementing the Circular Economy

The transition from EL to CE is a complex process and requires a comprehensive redesign of the existing system (Vargas-Sumanech, 2018; Vatansever, Akarsu & Kazançoğlu, 2021). In the hotel sector, this process is not easy, as it needs to face and overcome a wide range of barriers and challenges in its transition processes (Govindan et al., 2014; Vatansever, Akarsu & Kazançoğlu, 2021).

Barriers to the implementation of CE practices is an important topic in the field. Govindan et al. (2014) grouped the barriers to implementing CE as outsourcing barriers, technological barriers, knowledge barriers, financial barriers and involvement and support barriers and then classified them according to their importance. Farooque et al. (2019) listed barriers to CE as lack of financial resources, limited knowledge, technology and information, organizational culture and management, uncertainty about benefits, lack of economies of scale, weak environmental regulations and enforcement, lack of market preference or pressure, and lack of collaboration/support from supply chain actors.

Goyal et al. (2018) examined CE practices in India in the aspects of reduce, recycle and reuse concepts in their research that was conducted to understand the implementation of the CE business model in developing countries. According to the results of their study, the main challenges in implementing CE can be categorized into four main groups: barriers and challenges at the infrastructure level, such as inefficiency of recycling processes, incompatible infrastructure, lack of skills at the sector level; technological barriers and challenges such as lack of awareness about technologies for collection; decoupling and extraction of metals from waste, ineffective policies; and social barriers and challenges such as lack of social perception and government focus on the sector.

There are several types of barriers that make the implementation of CE a difficult task, such as financial barriers, structural barriers, operational barriers and barriers linked to behavioral aspects (Ritzén & Sandström, 2017). Vatansever, Akarsu and Kazançoğlu (2021) surveyed the barriers to CE transition in tourism establishments through a literature review and

expert opinions. Table 7 shows the main barriers selected by the authors to be studied to minimize the problems faced by hospitality establishments in implementing CE.

**Chart 7.** Barriers to implementing CE in the hospitality sector

Nº	Barriers	Authors
B1	Lack of organizational structure/infrastructure	Jesus e Mendonça, 2018; De Angelis et al., 2018; Govindan et al., 2014; Rizos et al., 2016; Farooque et al., 2019; Vatansever, Akarsu & Kazançoğlu, 2021
B2	Complexity of CE-compatible product designs	Govindan et al., 2014; Ritzen & Sandstrom, 2017; Vatansever, Akarsu & Kazançoğlu, 2021
B3	Additional human resource requirements	Govindan et al., 2014; Rizos et al., 2016; Farooque et al., 2019; Vatansever, Akarsu & Kazançoğlu, 2021
B4	High investment costs and/or low returns	Agyemang et al., 2019; Farooque et al., 2019; Govindan et al., 2014; Kirchherr, Reike & Hekkert, 2017; Masi et al., 2018; Vatansever, Akarsu & Kazançoğlu, 2021
B5	Lack of consumer awareness/preference/pressure	Govindan & Hasanagic, 2018; Ritzen & Sandstrom, 2017; Lieder e Rashid, 2016; Rizos et al., 2016; Vatansever, Akarsu & Kazançoğlu, 2021
B6	Lack of new technologies, materials and processes	Govindan & Hasanagic, 2018; Ritzen & Sandstrom, 2017; Vatansever, Akarsu & Kazançoğlu, 2021
B7	Cost of environmentally friendly packaging	Ritzen & Sandstrom, 2017; Vatansever, Akarsu & Kazançoğlu, 2021
B8	Lack of government support	Govindan et al., 2014; Vatansever, Akarsu & Kazançoğlu, 2021
B9	Lack of knowledge and training opportunities	Govindan et al., 2014; Vatansever, Akarsu & Kazançoğlu, 2021
B10	Lack of corporate social responsibility	Lindgreen e Swaen, 2010; Vargas-Sumanchez, 2018; Vatansever, Akarsu & Kazançoğlu, 2021

Source: Research data, 2022.

The tourism sector, specifically the hospitality sector, must overcome obstacles to take advantage of the potential gains of CE applications and thrive in the new era (Vargas-Sumanchez, 2018). The tourism sector is growing fast, creating value and helping countries to develop their economies, but it is damaging the environment and producing large amounts of waste and pollution (Girard & Nocca, 2017; Pamfilie et al., 2018).

#### 4.1.3 Facilitators for the implementation of the Circular Economy

CE is an economic system that represents a paradigm shift in the way human society is interrelated with nature, with the objectives of preventing resource depletion, closing energy and material gaps and facilitating sustainable development through its implementation at the micro, meso and macro levels, which requires cyclical and regenerative environmental innovations in the way society legislates, produces and consumes (Prieto-Sandoval, Jaca &



Ormazabal, 2018; Raspini, 2021). In recent years, various frameworks have been developed to facilitate the implementation of circular products and processes by organizations (Jabbour et al., 2019).

There is uncertainty about the best practices for implementing CE in global supply chains (Galvão et al., 2018). In emerging economies, the adoption of a CE is even more critical (Jabbour et al., 2019). It is therefore necessary to understand the enablers of CE specific to each sector (Raspini, 2021). Table 8 presents the main facilitators for implementing CE in the hotel sector, extracted from the literature review.

**Chart 8.** Facilitators for implementing CE

Nº	Facilitators	Authors
F1	The company's environmental culture	Rizos et al., 2016; Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F2	Networking	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F3	Demand network support	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F4	Being financially attractive	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F5	Recognition	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F6	Personal knowledge	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F7	Financial support from the public sphere	Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F8	Local or regional support network with other SMEs	Rizos et al., 2016; Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F9	Improved corporate image	Rizos et al., 2016; Vatansever, Akarsu & Kazançoğlu, 2021; Raspini, 2021
F10	Blockchain	Raspini, 2021
F11	Digital intelligence	Moreno et al., 2019; Raspini, 2021
F12	Collaboration between stakeholders	Milshra et al., 2019; Raspini, 2021

Source: Research data, 2022.

Facilitators are factors that enable and encourage the transition from EL to a CE model, providing a favorable environment for new business models (Rizos et al., 2016; Jesus & Mendonça, 2018; Raspini, 2021). Recognizing and understanding the potential of facilitators is beneficial in formulating strategies to mitigate the effect of barriers (Raspini, 2021).

## 4.2 SURVEY OF CIRCULARITY PRACTICES, BARRIERS AND FACILITATORS IN HOTEL ESTABLISHMENTS IN CASCABEL-PR

The hospitality sector is increasingly adopting sustainable and circular practices, promoting ecological and responsible behavior. It is essential to focus on practices that encourage conscious consumption, reducing waste and minimizing waste production. The survey sought to better understand the process of implementing circular practices by hotel establishments in the city of Cascavel-PR.

Table 1 shows the responses regarding the implementation of circular economy practices in the hotels surveyed in Cascavel. This ranges from the implementation of solar energy systems with reserves for long-term use to the reduction of coal and oil consumption. Saving energy using low-energy light bulbs, the efficient use of drinking water and the responsible choice of food, whether local, organic or seasonal, are crucial points. In addition, the correlation between the adoption of these sustainable practices and the barriers and facilitators to implementing them is highlighted.

**Table 1.** Results of the survey on the use of sustainable energy sources in participating establishments

Nº	Questions	Qty of answers *				
		1	2	3	4	5
1	It uses solar energy with an energy capture and reserve system for long-term use.	8	-	-	1	2
2	Uses energy-saving light bulbs.	-	-	3	-	9
3	It has plastic roofs for maximum use of sunlight.	11	-	-	1	-
4	It is self-sufficient in terms of sustainable energy.	10	-	-	-	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Questions 1 to 4 (Table 1) relate to the use of sustainable energy sources. Analysis of the results reveals that the adoption of practices related to solar energy is still in its early stages. Of the 12 hotels surveyed, only three reported using solar energy with systems to capture and reserve energy for long-term use, indicating total or almost total adoption of the practice. In addition, only two hotels claimed to have achieved self-sufficiency in terms of solar energy, representing complete adoption of the practices.

Some progress can be seen in using energy-saving light bulbs, with nine of the establishments surveyed fully adopting this practice. However, there is room for improvement in this respect. On the other hand, the use of plastic roofs to maximize sunlight is still an

uncommon practice, with 11 of the participating hotels indicating the absence of these initiatives in their establishments. The results show that, in general, with regard to questions 1 to 4, the hotels surveyed still have a long way to go in adopting Circular Economy practices related to the use of sustainable energies.

**Table 2.** Results of the survey on the optimization of drinking water and electricity consumption in the participating establishments.

Nº	Questions	Qty of answers *				
		1	2	3	4	5
5	It has an automatic induction valve to control energy consumption.	8	-	-	2	2
6	It has a system for efficient use of drinking water to avoid waste.	3	1	3	2	3
7	It has a water flow control system in the bathroom.	2	-	1	3	6

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Questions 5 to 7 (Table 2) deal with circular economy practices related to optimizing drinking water and electricity consumption. Most of the establishments surveyed have not yet adopted automatic induction valves to control electricity consumption, which indicates a lack of attention to energy efficiency.

Regarding drinking water consumption, of the 12 hotels that responded to the forms, three have not yet adopted any practices for efficient use of this natural resource, which is worrying, especially considering the importance of water conservation. Only three of the hotels surveyed have fully adopted some measure to use water efficiently, which indicates that the total adoption of water efficiency practices is still insufficient. This shows that there is great potential for improvement in water management in the hotels surveyed, since half of the establishments partially apply some measures to ensure greater efficiency in the use of drinking water.

In addition, two hotels have not yet implemented water flow control systems in the bathrooms, and four partially practice measures, despite it being a relatively simple and effective practice for saving water. However, the fact that six of the 12 establishments surveyed are fully adopting water flow control practices indicates a significant commitment to conserving water resources.

The results highlight the need for a more concentrated effort to adopt Circular Economy practices related to energy efficiency and the efficient use of drinking water. Although some hotels are demonstrating a commitment to these practices, the majority are still in the early stages of adoption or have not applied them to any significant degree. This indicates significant

potential for improvements in the management of natural resources, especially regarding water, which is a fundamental and increasingly scarce resource.

**Table 3.** Results of the survey on sustainable eating and reducing food waste in the participating establishments.

Nº	Questions	Qty of answers *				
		1	2	3	4	5
8	It uses local, seasonal food of controlled origin.	1	-	2	3	6
9	It uses organic food produced on the hotel premises.	7	-	3	-	2
10	It serves organic drinks to guests.	7	1	2	-	2
11	It designs sustainable menus to eliminate waste.	2	1	4	1	4
12	It offers reduced food portions to minimize waste.	3	2	5	-	2
13	It donates surplus food to charities and food banks.	12	-	-	-	-
14	It uses leftover food to feed animals.	10	-	-	-	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Questions 8 to 14 (Table 3) address Circular Economy practices related to sustainable food and reducing food waste. When analyzing the overall results, it was possible to identify that although some practices related to sustainable food and reducing food waste are being increasingly adopted, such as the use of local food (fully adopted by half of the participating hotels) and the design of sustainable menus (fully adopted by 4 of the 12 hotels surveyed), there are significant areas of opportunity.

For example, the reuse of surplus food is not adopted by most hotels surveyed. The practices of donating food and using leftovers to feed animals are areas where awareness and adoption are still limited among the hotels surveyed. Only two of the hotels surveyed apply the practice of using leftover food to feed animals; the rest do not adopt either of the two food reuse practices. This presents opportunities for hotels to consider implementing these practices as part of their efforts to reduce food waste and promote sustainability. Awareness and education about the benefits of these practices can be important to increase their use in the sector and benefit the entire community.

Questions 15 to 21 (Table 4) address Circular Economy practices related to optimizing the use of resources. It was observed that most participants, nine of the 12 hotels surveyed, indicated that they did not purchase products with reusable packaging, suggesting that the reuse of packaging is not common in most companies. However, the other establishments are already partially or almost fully adopting this practice, which suggests potential for improvement.

Table 4: Results of the survey on optimizing the use of resources in participating establishments

Nº	Questions	Qty of answers *				
		1	2	3	4	5
15	It buys products whose packaging can be reused.	9	-	1	2	-
16	It uses towels and bed linen for more than one day.	4	-	4	3	1
17	It offers towels and bed linen made only from environmentally friendly materials.	12	-	-	-	-
18	It uses cleaning products with a low environmental impact.	-	-	3	3	6
19	It reuses fabrics.	9	-	1	-	2
20	It reuses cups.	-	-	3	2	7
21	It has reduced or eliminated the consumption of coal or oil in the establishment.	9	-	-	-	3

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Regarding the bed linen used in the establishments, four of the 12 participating hotels indicated that they do not practice the prolonged use of towels and bed linen. Most participants (9 of the 12 hotels surveyed) do not reuse fabrics and do not take measures to reduce coal or oil consumption. In addition, all the establishments replied that they do not use towels and bed linen made from environmentally friendly materials. The responses to these practices reveal a critical aspect of sustainability that seems to be largely neglected in the hotel sector in the city of Cascavel.

However, all the participants responded that they practiced, in some way, the use of cleaning products with a low environmental impact (3 partially practiced, 3 almost totally practiced and 6 fully practiced) and the reuse of cups (3 partially practiced, 2 almost totally practiced and 7 fully practiced). This is a positive result and indicates a commitment to reducing the environmental impact of cleaning operations and the production of single-use plastic waste.

The results for resource optimization practices indicate that there are significant opportunities for improvement in the establishments studied. Although some are already adopting sustainable practices, such as using cleaning products with a low environmental impact and reusing cups, there are areas, such as offering products made from ecological materials and reducing the consumption of coal or oil, where adoption is limited.

Questions 22 to 26 (Table 5) deal with Circular Economy practices related to waste management. It was these practices that showed the worst adoption results in the establishments studied. There was unanimity in the answers indicating the lack of implementation of the practices of recycling steam condensate, producing methane from organic waste and treating wastewater for reuse. Therefore, the hotels surveyed are not taking advantage of the opportunity to reuse laundry steam condensate, which could save water and reduce water consumption

costs. In addition, they are failing to exploit the opportunity to reuse treated wastewater, which could save them water and reduce environmental impacts. They are also not exploring the production of biogas from organic waste, which could be a sustainable way of generating energy from waste.

**Table 5:** Results of the survey on waste management in the participating establishments

Nº	Questions	Qty of answers*				
		1	2	3	4	5
22	It has a system for recycling the steam condensate produced in the laundry and turning it into boiler water.	12	-	-	-	-
23	It has a system for producing methane from organic waste.	12	-	-	-	-
24	It treats wastewater for reuse.	12	-	-	-	-
25	It composts organic food waste.	10	-	1	1	-
26	It produces soap from used cooking oil.	10	-	-	-	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Although some establishments practice organic composting of food waste and the production of soap from used cooking oil, both practices showed low uptake. Thus, the results suggest that there is great room for improvement in the adoption of Circular Economy practices in waste management in the establishments surveyed. Not only can this be beneficial for the environment, but it can also lead to resource savings and cost reductions. Hotels should consider implementing strategies to increase the adoption of more sustainable practices, such as recycling steam condensate, producing biogas and treating wastewater for reuse, as well as expanding successful practices such as producing soap from used cooking oil.

Questions 27 to 38 (Table 6) deal with Circular Economy practices related to the operating procedures of the establishments surveyed. From the answers, it was possible to see that, regarding the use of green technology, the majority of hotels (8 of the 12 hotels surveyed) fully use computers in energy-saving mode. Half of the hotels have fully implemented a paperless office policy, while four of the establishments have done so almost fully; and double-sided printing is practiced fully in seven hotels and almost fully in four of the establishments surveyed. However, the option of personalized apps instead of human guides is not adopted by a significant portion of the hotels (10 of the 12 participating hotels), indicating a lack of adherence to the trend towards a more digital guest experience.

**Table 6.** Results of the survey on operating procedures in participating establishments

Nº	Questions	Qty of answers*				
		1	2	3	4	5
27	It uses computers in energy-saving mode.	-	-	3	1	8
28	It has a paperless office policy using the network system.	1	-	1	4	6
29	It prints double-sided.	-	-	1	4	7
30	It provides adequate training on green initiatives and practices for staff and stakeholders.	3	1	4	-	4
31	Staff receive incentives and other benefits from the establishment based on their performance in green practices.	3	2	4	2	1
32	I has a digital doorman at night.	10	-	-	-	2
33	It provides a guide via personalized apps instead of a human guide to add value to your stay.	10	-	1	-	1
34	There are local workers at the hotel.	-	-	-	1	11
35	It reduced room cleaning hours.	1	1	4	3	3
36	Fewer appliances in the rooms.	1	2	4	3	2
37	It recycled and locally made furniture in the rooms.	6	-	3	1	2
38	It has alternatives to reduce transportation costs.	8	-	3	-	1

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

As for the offer of training in green practices, it was distributed among the participating hotels, with three not practicing it at all; one, very little; one, partially; and four, fully. Few establishments promote staff incentives based on green practices, only one of the 12 participating hotels does so in full.

Practices related to operational efficiency and resource reduction, such as reducing room cleaning times, are fully adopted by three of the 12 hotels surveyed, which can save them resources such as water and cleaning products. Reducing the number of household appliances in the rooms is present in almost all the hotels, with two practicing little, four partially, three almost completely and two completely, contributing to saving energy and resources. However, the presence of recycled and locally made furniture is not practiced by half of the establishments. Offering alternatives to reduce transportation costs is not adopted at all by more than half, eight, of the 12 establishments surveyed, which shows little concern for sustainable mobility.

In general, the results suggest that hotels are adopting Circular Economy practices, especially regarding the use of green technology, operational efficiency and resource reduction. However, there is room for improvement in areas such as training and incentives for staff as well as the expansion of Circular Economy practices, such as reducing transportation costs.

**Table 7.** Results of the survey on certifications and contributions to the community at participating establishments

Nº	Questions	Qty of answers*				
		1	2	3	4	5
39	It has a Green Certificate.	10	1	-	1	-
40	It prefers local suppliers to promote the Circular Economy.	-	-	1	3	8
41	Implementation of circular agricultural practices involving local farmers.	10	-	-	-	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practices.

Source: Survey data, 2023.

Finally, questions 39 to 41 (Table 7) deal with Circular Economy practices related to certifications and contributions to the community. The results show that most respondents, ten of the 12 establishments, do not have a Green Certificate. This suggests that the hotels participating in the survey have not yet adopted circular economy practices that lead to obtaining this type of certification, or simply have no interest in pursuing certifications. On the other hand, it was noted that two of the participating establishments are already seeking a Green Certification, which is a good indication of future improvements in this respect.

As for contributions to the community, the majority (eight establishments fully and three almost fully) prefer local suppliers, indicating a strong connection between fully adopting Circular Economy practices and stimulating the local economy. However, it is interesting to note that only two of the 12 participating hotels are involved in circular farming practices that involve local farmers.

Looking at the participants' responses relating to the Circular Economy in the establishments surveyed reveals a mixed picture of the adoption of sustainable practices. While some areas, such as the use of energy-saving light bulbs and low environmental impact cleaning products, demonstrate significant commitment to sustainability, other areas, such as waste management and involvement with local farmers, lag substantially behind.

The study highlights that most establishments are still in the early stages of adoption or have not significantly adopted Circular Economy practices. This highlights the need for a concentrated effort to implement more sustainable measures, not only to reduce environmental impact, but also to save resources and reduce operating costs. In addition, it is essential to recognize the significant potential for improvements in the management of natural resources, especially regarding water, an increasingly scarce essential resource. As awareness and education about sustainable practices grows, it is hoped that more companies in the hotel sector in the city of Cascavel will consider adopting Circular Economy measures as a fundamental



part of their efforts to promote sustainability and contribute to the well-being of the community and the environment.

When the companies were asked if they had adopted any practices to help preserve the environment that were not mentioned in the list presented, two responses were obtained: one company promotes water saving, using it to clean floors only once a week and using soap produced in the hotel itself; the other company reuses water from washing machines to clean outside areas.

Based on the survey, it was found that none of the establishments questioned had adopted the practices (Table 6) related to CE regarding (i) donating surplus food to charities and food banks; (ii) offering towels and bed linen made exclusively from ecological materials; (iii) the absence of a system for recycling the steam condensate generated in the laundry, transforming it into water for the boiler; (iv) the lack of a system for producing methane from organic waste; and (v) treating waste water for reuse.

Also, with regard to the circularity practices not or not very practiced by the establishments surveyed, it is worth noting that only one establishment uses plastic roofs to make the most of sunlight and only two establishments show self-sufficiency in terms of sustainable energy, use food waste to feed animals, compost food waste organically, have a digital concierge at night, implement circular farming practices involving local farmers, have a Green Certificate and provide a guide via personalized apps instead of a human guide to add value to your stay (Table 1). Only three responded that they buy products whose packaging can be reused, reuse fabrics and have reduced or eliminated the consumption of coal or oil in the establishment.

It was found that the hotel establishments in the city of Cascavel that took part in the survey implement circular practices, either partially or fully. The common practices are to have a system for efficient use of drinking water to avoid waste; to have a system for controlling the flow of water in the bathroom; to use local, seasonal food of controlled origin; to use towels and bed linen for more than one day; to use cleaning products with a low environmental impact; to reuse cups; to use computers in energy-saving mode; have a paperless office policy using the network system; print double-sided; provide adequate training on green initiatives and practices for staff and stakeholders; offer staff incentives and other benefits from the establishment based on their performance of green practices; have local workers in the hotel; have fewer appliances in the rooms; and prefer local suppliers to promote the Circular Economy.

When it comes to the barriers encountered in implementing Circular Economy Practices in the Cascavel hotels surveyed, the perception among the hotels is not homogeneous, as can be seen in Table 8.

The implementation of Circular Economy Practices in Cascavel hotels presents several significant challenges, as evidenced by the survey results in Table 8. Among these challenges, some stand out as particularly relevant. Firstly, the lack of governmental support is pointed out by nine of the 12 hotels surveyed as the most significant barrier. This reflects the absence of government support, including the lack of policies, tax incentives and regulations favorable to the Circular Economy. This lack of government support presents hotels with considerable difficulties in implementing sustainable practices.

**Table 8.** Results of barriers to implementing CE practices

Nº	Questions	–	Qty of answers*				
			1	2	3	4	5
1	Lack of organizational structure or infrastructure.	1	1	-	1	5	5
2	Complexity in adapting products that are compatible with the logic of the Circular Economy.	1	1	-	2	7	2
3	Additional human resource requirements.	1	1	1	1	5	4
4	High investment costs and low return.	3	3	1	3	2	3
5	Lack of consumer awareness, preference or pressure.	4	4	-	2	3	3
6	Lack of new technologies, materials and processes.	3	3	4	2	2	1
7	High cost of using environmentally friendly packaging.	2	2	1	4	4	1
8	Lack of government support.	1	1	-	-	2	9
9	Lack of knowledge and training opportunities.	-	-	1	2	6	3
10	Lack of corporate social responsibility.	1	1	2	2	5	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates not much and 5 represents a lot.

Source: Survey data, 2023.

Right after the lack of government support, the responses from the establishments participating in the survey indicate that the lack of organizational structure or infrastructure is perceived as a substantial obstacle. In fact, ten of the 12 hotels surveyed rated this barrier between levels 4 and 5, revealing a significant lack of an adequate organizational basis for adopting circular practices. This implies the need for internal reorganization and a profound cultural change in the hotel sector in the city of Cascavel.

The complexity of adapting products compatible with the logic of the Circular Economy also emerges as a notable challenge, ranking as the third most prominent barrier. Many hotels face technical and operational difficulties in reformulating products and processes to align them

with circular principles, as evidenced by the responses of seven hotels at level 4 and two hotels at level 5.

Another considerable challenge is the perception of high investment costs and low returns. Most hotels see these costs as substantially high in relation to the perceived benefits, which raises serious questions about the financial viability of Circular Economy practices, discouraging the adoption of more sustainable practices. The lack of awareness, preference or pressure from consumers also raises concerns. Although this barrier is not predominant, half of the hotels surveyed classified it as a considerable challenge by concentrating their responses at levels 4 and 5.

It is important to note that some barriers, such as the need for additional human resources and the cost of environmentally friendly packaging, are perceived differently among the hotels surveyed. This indicates that the severity of these challenges may depend on the specific circumstances of each organization.

Overall, the transition to the Circular Economy in Cascavel hotels faces multiple obstacles, with lack of government support, lack of organizational structure, complexity in adapting products and investment costs standing out as the most prominent. These results provide a valuable starting point for the development of customized strategies that address these barriers and promote the adoption of more sustainable practices in the hotel sector in the city of Cascavel.

Regarding the facilitators for the implementation of Circular Economy Practices in the Cascavel hotels surveyed (Table 9), it can be seen that they are perceived differently.

**Table 9.** Results of facilitators in the implementation of CE practices

N°	Questions	Percentage of Responses				
		1	2	3	4	5
1	The adoption of circular practices helps spread the environmental culture in the establishment.	1	2	5	3	1
2	The adoption of circular practices increases the establishment's networking (sharing of information and services between people, companies or business groups).	2	1	4	3	2
3	The adoption of circular practices promotes cooperation between the parties involved in the process according to demand.	2	2	5	-	3
4	The adoption of circular practices provides the establishment with a greater financial return.	1	1	4	5	1
5	The company that acts in accordance with circular practices has greater recognition and demand from consumers, who look for environmentally friendly establishments.	-	1	8	1	2
6	The adoption of circular practices promotes personal knowledge, both in employees, who experience environmental awareness, and in suppliers, who need to adapt to demands, as well as consumers, who take environmental awareness into their lives and the company itself, which acquires greater knowledge about itself.	2	1	4	2	3

7	The government provides incentives for the adoption of circular practices in hotels and tourist establishments, through credit lines and products for small businesses and support for investments in infrastructure and culture.	6	2	4	-	-
8	Companies can establish partnership agreements with local suppliers and form a local or regional support network to guarantee products and services in line with circular economy practices.	2	2	4	2	2
9	The company that adopts circular practices improves its corporate image.	-	-	2	8	2
10	The adoption of Blockchain technology (a distributed data network that allows information to be tracked in blocks) drives the adoption of circular practices.	3	2	3	2	2
11	The adoption of circular practices encourages the use of digital intelligence (the ability to use technological tools and digital media safely, responsibly and efficiently) in the establishment's processes.	1	4	3	3	1
12	The adoption of circular practices promotes collaboration between the stakeholders (all the interested parties in a company) of the establishment.	2	2	1	5	2

\* The answers were quantified based on the survey carried out using a Likert Scale from 1 to 5, where 1 indicates not much and 5 represents a lot.

Source: Survey data, 2023.

The study presented in Table 3 reveals important insights into the implementation of Circular Economy Practices and their impact on hotel establishments in the city of Cascavel. The results indicate that most respondents agree that the adoption of circular practices promotes the dissemination of environmental culture in establishments (Question 1), with nine of the 12 participating hotels concentrating their responses on levels 3 to 5. This suggests a shared understanding of the importance of environmental awareness in organizations. In addition, the survey reveals little conviction that circular practices lead to greater recognition and demand from consumers (Question 5), as most responses are concentrated at level 3.

The survey shows that most respondents agree that the adoption of circular practices promotes increased networking (Question 2), with responses concentrated between levels 3 and 5; and cooperation between the parties involved in the process (Question 3), with responses concentrated at levels 3 (5 establishments) and 5 (3 establishments). This positive perception underscores the importance of collaboration and the sharing of information and services between companies and business groups.

Although many believe that adopting circular practices can result in greater financial returns for companies (Question 4), Question 9, relating to improved corporate image, reveals some uncertainty. This suggests that companies see the financial potential of circular practices but may need more evidence on how these practices affect the public perception of their establishments.

The results indicate that most respondents agree, to varying degrees, that the adoption of technologies such as blockchain and digital intelligence can boost the adoption of circular practices (Questions 10 and 11). This highlights the intersection between technological innovation and the Circular Economy, with technologies enabling the tracking and efficient management of resources.

The survey also revealed that most respondents see value in collaborating with local suppliers and forming local or regional support networks (Question 8). However, Question 12, relating to collaboration between the establishment's stakeholders, reveals some intermediate responses, indicating that there may be opportunities to improve collaboration with all stakeholders involved in the company's operations.

The responses regarding the facilitators of implementing Circular Economy Practices reveal valuable insights for companies and organizations looking to adopt sustainable approaches in their business models. The results highlight the importance of environmental awareness, networking, cooperation, financial return, technology and collaboration with stakeholders. However, they also point to areas where understanding and communication can be improved to ensure the successful adoption of these practices in establishments. These findings provide a basis for future research and practical guidance in the field of the Circular Economy.

The comprehensive study on the implementation of circular economy practices in hotels in Cascavel-PR provides a detailed overview of current trends and challenges faced by the hospitality sector in relation to sustainability. The results highlight a growing interest in adopting sustainable practices, yet most hotels are still in the early stages of adoption or have not implemented them to any significant degree. This underlines the pressing need for a concentrated effort to implement more sustainable measures, with the aim not only of reducing environmental impact, but also of saving resources and cutting operating costs.

The enablers identified, such as environmental awareness, networking, cooperation, financial return and technology, offer valuable guidance for companies wishing to embrace the circular economy. However, it is also clear that communication and understanding can be improved to maximize the benefits of these practices. In addition, the study emphasizes the importance of collaboration with local suppliers and the creation of regional support networks, highlighting the connection between sustainability and strengthening the local economy.

The results indicate that the hospitality sector is in transition towards sustainability, but there is still a long way to go to achieve truly circular practices. As efficient water management emerges as one of the most critical areas for improvement, it is hoped that increased awareness and education about sustainable practices will lead more companies in the hotel sector in Cascavel to consider adopting Circular Economy measures as a key part of their efforts to promote sustainability and contribute to the well-being of the community and the environment. Therefore, the study not only provides an assessment of the current state of the circular economy

in the city's hotels, but also offers a guide for moving towards a more sustainable and responsible hospitality sector.

#### 4.3 CASE STUDY: INSTITUTIONAL PERSPECTIVE OF CIRCULARITY PRACTICES, BARRIERS AND FACILITATORS IN THE PLAZA GARDEN HOTEL ESTABLISHMENT

The city of Cascavel is known as the economic hub of the western region of Paraná; with 324,000 inhabitants, it is a planned city, with wide avenues and streets, in well-distributed neighborhoods, and has many green areas, encouraging the practice of sports and family outings, it has attractions in its rural area, especially hiking trails and waterfalls. For those who like to enjoy the city, Cascavel offers parks, bike paths, a lake, theaters, churches and a zoo (Paraná Turismo, 2023). The city has 22 active hotel registrations, 12 motels and four guesthouses and dormitories. The Plaza Garden Hotel, the subject of this study, is one of these establishments and was inaugurated on January 17, 2022, in the municipality of Cascavel; it is an enterprise of the Casagrande family, established in the municipality since 1970. The family has already owned another establishment, also in the hotel business, for over 40 years (which does not have a CNPJ link with the establishment under study) and has a tradition, passed down through generations, of working with hotels and lodging.

The manager and owner of the establishment has a degree in economics from UNIOESTE, an MBA in business strategies, and was president of the Convention Bureau at Visit Cascavel for three years. Today he is the coordinator of the Technical Chamber for Tourism of the Cascavel Development Council.

The idea of investing in the venture arose with the closure of the Santa Marcelina Boarding House, which closed in 2020 due to the Covid-19 pandemic; from then on, negotiations began to lease the building, followed by the renovation to install the hotel. No adaptations or new facilities have been made, the building continues with the original structure and facilities from the year it was built, in 2012, for the installation of the Santa Marcelina Boarding House, with 62 apartments. The boarding house was set up to cater for people on a long stay basis. The Plaza Garden Hotel is in a noble residential district of Cascavel-PR, with easy access to the BR 277 highway, which connects the region. The establishment has 62 apartments, which can be single, double, to accommodate one or two people, triple, which

houses up to three people or family, which can host up to four people. Figure 5 shows the accommodation.



**Figure 5:** Apartments provided by the establishment

Source: Hotel Plaza Garden, 2023.

The establishment offers four 12 m<sup>2</sup> single apartments with a single box bed, and the amenities include Wi-Fi, a work desk, TV and air conditioning. Twenty-eight double apartments of 15 m<sup>2</sup>, which have a double box bed, and amenities such as wireless, desk, TV, minibar and air conditioning. There are also 26 triple apartments, measuring 20 m<sup>2</sup>, which have a double bed and a single bed, and amenities include Wi-Fi, a desk, a TV, a minibar and air conditioning. There are also four family apartments, measuring 25 m<sup>2</sup>, which have a double box bed and two single box beds, as well as Wi-Fi, a desk, a TV, a minibar and air conditioning. Figure 6 shows part of the hotel's facilities and the services offered to guests.



**Figure 6.** Plaza Garden Hotel premises

Source: Hotel Plaza Garden, 2023.

The hotel offers 24-hour reception, private covered parking, high-speed wireless, small pets welcome, continental buffet breakfast included in the rate, shared kitchen for guests who prefer to prepare their own meals, restaurant, gym, fitness area, outdoor and relaxation area, space for team sports training, kids area, laundry, meeting room with a floor area of 27.93m<sup>2</sup>, coworking room with a floor area of 39.69m<sup>2</sup> and auditorium with a floor area of 127.65m<sup>2</sup>. The hotel is a haven for quiet moments, with security and comfort. The cul-de-sac ensures the silence of the nights for a well-deserved rest and, in the morning, you can hear the birds singing while breakfast is being served (Plaza Garden, 2023).

The establishment made an initial investment in refurbishing the structure, buying furniture, linen, decoration, utensils and accessories, and has seen a 100% return on this investment after a year and a half in operation. Despite its short time in operation, the establishment is concerned about the environment and is committed to sustainability, adopting various circularity practices, as shown by the questionnaire answered by the establishment in the third stage of the research, making it a suitable object for analyzing circularity from an institutional perspective.



### 4.3.1 Presentation and analysis of the results of the Plaza Garden hotel case study

#### 4.3.1.1 Presentation and analysis of the results of the case study on circular practices

Regarding circularity practices, the questionnaire answered by the business in stage III of the research showed that the Plaza Garden Hotel seeks to practice, partially or totally, an average of 22 circularity practices, 19 of which were mentioned in the studies of the theoretical framework (Chart 9) and three of which were added after the interview with the establishment. The practices added after the interview were the disposal of light bulbs and batteries in an appropriate place and the disposal of frying oil in its own container and by a specialized company.

**Chart 9.** Circular practices implemented by the Plaza Garden Hotel

Nº	Circular practice surveyed in the literature	Likert scale of level of adoption of the practice *				
		1	2	3	4	5
P1	It uses solar energy with an energy capture and reserve system for long-term use.					
P2	It uses energy-saving light bulbs.					
P6	It has a system for efficient use of drinking water to avoid waste.					
P7	It has a water flow control system in the bathroom.					
P8	It uses local, seasonal and source-controlled food.					
P16	It uses towels and bed linen for more than one day.					
P18	It uses cleaning products with a low environmental impact.					
P20	It reuses cups.					
P27	It uses computers in energy-saving mode.					
P28	It has a paperless office policy using the network system.					
P29	It prints double-sided.					
P30	It provides adequate training on green initiatives and practices for staff and stakeholders.					
P31	Staff receive incentives and other benefits from the establishment based on their performance in green practices.					
P33	It provides a guide via personalized apps instead of a human guide to add value to your stay.					
P34	It has local workers.					
P36	There are fewer appliances in the rooms.					
P37	It has recycled furniture in the rooms and locally made furniture.					
P39	It has a Green Certificate.					
P40	It prefers local suppliers to promote the Circular Economy.					
P42	It disposes of light bulbs in a suitable place.					
P43	It disposes of batteries in a suitable place.					
P44	It disposed of frying oil in a suitable container and with a specialized company.					

\* Likert scale from 1 to 5, where 1 indicates no practice and 5 represents full adoption of the practice.

Source: Survey data, 2023.

Considering the circularity practices adopted, the interviewee was asked which of them was the most difficult to implement or presented the greatest resistance in the implementation

process, and he pointed out that he did not consider the practices to be complicated to implement and said: "[...]it takes work, it takes work. It's time-consuming[...] It depends on the employees adapting[...] The procedure is easy. You have to offer training, then it depends on people having the aptitude and desire to start doing it" (Excerpt from the interview).

With regard to the use of solar energy with systems for capturing and reserving energy for long-term use, the interviewee explained that, today, the establishment does not have photovoltaic panels that produce solar energy but has a water heating system using hoses installed on the roof (Figure 7), which capture heat and store water for guests to use in taps and showers. As this system does not meet the needs of the guests, it is necessary to use the gas boiler for all the services - "[...] heating the water using the sun, through the tubes helps a lot, it's not 100%, we still need to use gas heating, but it's much less [...]" (Excerpt from the interview).



**Figure 7.** Heat collection and water storage system

Source: Hotel Plaza Garden, 2023.

Solar heating helps to save gas, which is already considered a fuel with a lower environmental impact, and is in line with NBR 15.401 (ABNT, 2006), which states that the development should use fuels with lower environmental impacts, such as natural gas, LPG or others, when possible. The standard recommends that the enterprise use renewable energy sources, to the extent and in accordance with its specific characteristics and available

technologies, considering aspects of economic and environmental viability. Among these, the use of solar technology or other technologies with a lower environmental impact should be considered.

The use of renewable energies is a viable and sustainable alternative for minimizing the effects on the environment and saving finite resources (Menegaki, 2018; Iodice et al., 2020; Li & Li, 2013; Ahmed et al., 2021; Florido, Jacob & Payeras, 2019; Rodreuguez, Jacob & Florido, 2020). Menegaki (2018) points out in his study (Table 10) that there are at least nine main energy consumption functions in the hotel industry (left column). In the right-hand column, you can see the energy conservation or efficiency solution, according to which the environmental footprint of energy consumption can be minimized or eliminated. Renewable energy sources (RES) include photovoltaic panels, wind energy, wave energy and geothermal energy installations. The penetration of RES in the energy matrix used in hospitality contributes to avoiding pollution from greenhouse gas emissions as well as preserving fossil fuels that are not sacrificed for energy production.

**Table 10.** Hotel functions that consume energy and ways to contribute to the implementation of the Circular Economy

Energy and environmental conservation or intelligent efficiency technological solution that favors the Circular Economy		
1	Lighting	LED bulbs, renewable energy sources (RES), automatic shutdown, cogeneration, bioclimatic architecture, light monitoring via a tablet
2	Heating	RES, automatic shutdown, cogeneration, bioclimatic architecture, wall and roof insulation, double glazing and heat-resistant frames
3	Cooling	RES, automatic switch-off, variable refrigerant volume (VRV) technologies, cogeneration, bioclimatic architecture, wall and roof insulation, proper air conditioning maintenance, double glazing and heat-proof frames, shading, planted walls and roofs
4	Electronic devices	RES, cogeneration, appliance upgrades
5	Laundry	RES, cogeneration, modernization of household appliances, towel and linen reuse program
6	Desalination of seawater	RES, cogeneration
7	Sustainable transportation	The hotel can encourage the use of bicycles in nearby destinations and adopt hybrid cars and the use of biofuels
8	Cooking	RES, cogeneration, modernization of household appliances, composting, donation of redundant food to charity, preference for local ingredients
9	Leisure	RES

Source: Menegaki, 2018.

The interviewee said that the hotel is negotiating with the owners of the building to install photovoltaic panels to generate solar energy and, based on the project carried out, this new installation will generate enough energy for the entire hotel's consumption. The project and budget have been defined, the only details missing are changes to the lease agreement, which are being negotiated to obtain the go-ahead. Thus, considering the suggestions proposed

by Menegaki (2018), when asked if he uses energy-saving light bulbs, the interviewee explained that the cost of changing all the bulbs to LEDs at once would be too high, so he proposed to replace them as they burn out or become defective, so 100% of the new bulbs are LED, but there are still a few bulbs made of other materials, which will soon be 100% LED - "[...]I didn't go in and change them all to LEDs. So today it's not one hundred percent. The change is being made gradually as I replace the burnt-out ones with new ones [...]" (Excerpt from the interview).

Studies have shown that establishments with environmentally friendly characteristics install energy-saving light bulbs (Li & Li, 2013; Ahmed et al., 2021). NBR 15.401 (ABNT, 2006) stipulates that procedures for purchasing energy-consuming equipment and supplies, such as light bulbs, must include energy efficiency and the possibility of using alternative energy sources as criteria.

When comparing the Circular Economy practices mentioned in the responses with the use of solar energy in hotels, it can be seen that while the use of solar energy is a specific form of renewable energy generation, many of the other measures listed have the objectives of improving energy efficiency and managing resources more effectively within hotel facilities. The adoption of LED bulbs, RES and other energy efficiency actions as well as the automatic switching off of lighting and the encouragement of cycling to nearby destinations are all practices in line with the principles of the Circular Economy. However, it is important to note that some practices, such as cogeneration, can complement the adoption of solar energy to maximize energy efficiency. However, while the use of solar energy is a specific renewable energy generation practice, the other measures aim to promote more sustainable practices in hotels, contributing to a holistic Circular Economy approach in the hospitality sector.

Regarding having a system for efficient use of drinking water to avoid waste and having a system to control the flow of water in the bathroom, the interviewee stated that (Figure 8) "[...]the taps have a timer system, the flushes have two types of water flow, with double actuation[...]" (Excerpt from the interview). In addition to the water-saving devices, the hotel also has an artesian well.



**Figure 8.** Evidence in the bathrooms of taps with timers and double-acting flushes.

Source: Hotel. Plaza Garden, 2023.

These practices at the hotel in question are in line with the environmentally friendly characteristics pointed out by the studies by Ahmed et al. (2021) and Menegaki (2018), which showed that establishments with environmentally friendly practices have water-saving toilets, reusable towels and linen changes only on demand. Plaza Garden is also aligned with the guidelines of NBR 15.401 (ABNT, 2006), which states that the development must plan and implement measures to ensure that water collection and consumption do not compromise its availability to local communities, flora and fauna, the flow of water bodies and the level and protection of water sources, preserving the balance of ecosystems. Measures include the use of water-saving devices (such as taps and consumption-reducing valves in bathrooms, toilets, showers and flushing toilets); specific programs, such as changing bed linen and towels on a non-daily basis; and periodic inspection and maintenance programs for pipes, with a view to minimizing water leaks (ABNT NBR 15401, 2006).

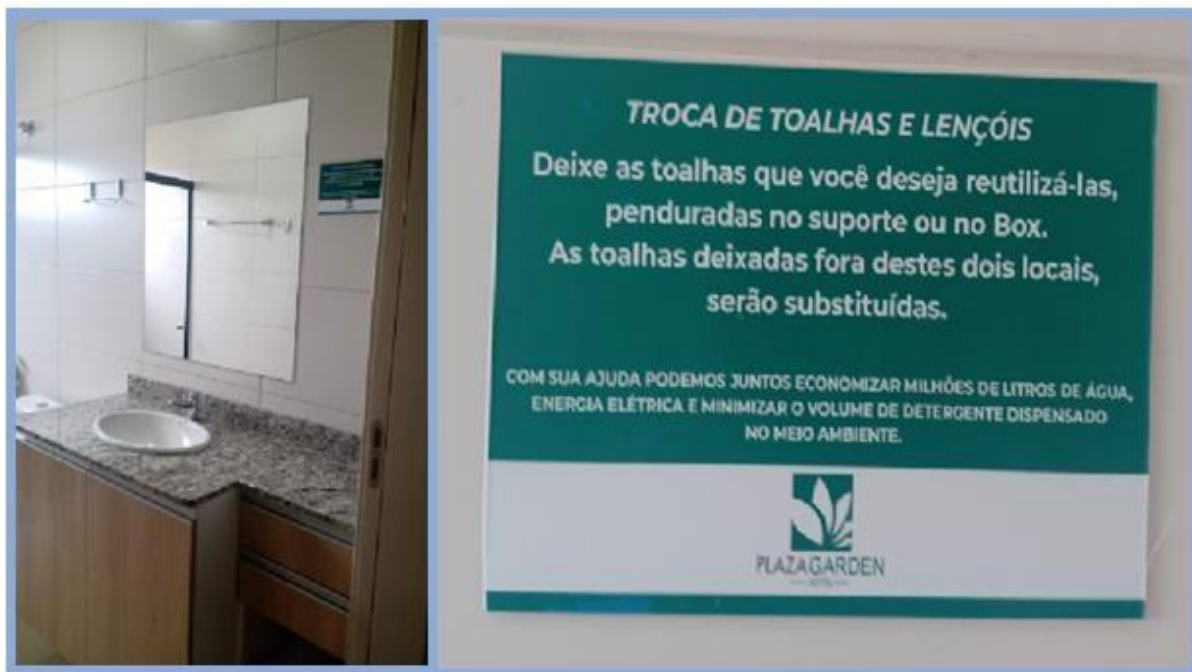
Based on what has been shown, the Plaza Garden Hotel demonstrates a solid commitment to responsible water management, evidenced by measures such as taps with timers and dual-flow flushes, as well as being in line with environmentally friendly practices highlighted in recent studies. These actions are in line with ABNT standard 15.401 of 2006, which emphasizes the preservation of water resources. The hotel not only contributes to

environmental conservation, but also strengthens its image and social responsibility, standing out as an example of sustainable leadership in the hotel sector.

When asked about the use of local, seasonal food of controlled origin, the manager of the Plaza Garden Hotel showed that the hotel's practice is in line with the standards by preferring local and certified suppliers, as evidenced in the following excerpt from the interview: "[...] Our egg supplier is Top Eggs, it's a local company [...] the fruit comes from the wholesale of Maçã Verde [...]" (Excerpt from the interview). Recent studies (Menegaki, 2018; Julião, Gaspar & Alemão, 2020; Rodreiguez, Jacob & Florido, 2020) have pointed to the use of local, seasonal food of controlled origin as a sustainable practice that boosts the local economy, small producers and encourages the circular economy. Along these lines, NBR 15.401 (ABNT, 2006) establishes that the food services provided by the enterprise must adopt good food safety practices; preferably use fresh products; when possible and economically viable, use organically produced inputs; include the offer of food and beverages from regional cuisine, respecting the seasonal availability of ingredients, so as not to threaten flora and fauna.

Hotel Plaza Garden's strategy of prioritizing local, seasonal and certified food, as mentioned by the manager in the interview, reflects its commitment to sustainability and socio-environmental responsibility. This practice is in line with recent studies and the 2006 ABNT 15.401 standard, stimulating the local economy, small producers and sustainable practices. The preference for regional suppliers and fresh produce as well as the inclusion of local cuisine respecting seasonality not only supports the community, but also contributes to the preservation of natural resources and the promotion of a Circular Economy.

With regard to the practice of changing towels and bed linen every two days, the interviewee pointed out that it is the hotel's practice unless the guest asks to change them daily, and that there are signs in the bathrooms (Figure 9) advising the use of towels more than once: "[...] it is common to change them every two days, unless the guest asks to change them daily [...]" (Excerpt from the interview). NBR 15.401 (ABNT, 2006), when establishing water-saving measures, includes the non-daily change of bed linen and towels in the program.



**Figure 9.** Bathroom sign for reusing towels

Source: Hotel Plaza Garden, 2023.

The interviewee mentioned that the hotel has a practice of not changing towels and bed linen every day, unless guests request it, and that there are signs in the bathrooms encouraging the reuse of towels. This approach is in line with the 2006 NBR 15.401 standard, which recommends not changing these items every day to save water. As well as complying with environmental guidelines, the hotel's strategy also reflects a commitment to sustainability by reducing the consumption of natural resources and can attract guests who are concerned about preserving the environment.

Regarding the use of cleaning products with a low environmental impact, the interviewee showed concern about complying with this standard when he said that his supplier of hygiene and cleaning products distributes products with one of the best cleaning certifications in the world.

Cost isn't always the deciding factor, I pay more, but I have a quality product that strives for sustainability, it has international certifications[...]. The supplier is Dall Clean Hygiene and cleaning, which distributes Diversey products, which is a multinational company that serves the whole world and is one of the best certified cleaners in the world[...] (Excerpt from the interview).

The study conducted by Julião, Gaspar and Alemão (2020) on consumer satisfaction during their stay in hotels that promote sustainability pointed out that having only low-impact cleaning products was one of the items listed by consumers in a ranking of preferences for items that affect their personal experience. This practice is also in line with NBR 15.401 (ABNT, 2006), which stipulates that hotels must use biodegradable cleaning products.

The study revealed the interviewee's concern about using cleaning products with a low environmental impact in his hotel. He highlights the partnership with a supplier that offers products certified internationally as harmless to the environment, emphasizing that quality and sustainability are priorities, even if this means higher costs. This demonstrates a clear commitment to environmental preservation and guest satisfaction, which is in line with the study by Julião, Gaspar and Alemão (2020), which identified consumer preference for hotels that adopt sustainable practices. In addition, the mention of the 2006 NBR 15.401 standard, which recommends the use of biodegradable cleaning products, highlights the hotel's commitment to compliance with environmental guidelines and the pursuit of sustainability in its operation. The text therefore highlights the importance of consciously choosing cleaning products as part of sustainable practices in the hotel sector.

Based on the 3Rs that characterize CE, reusing is better than recycling in most cases, as recycling means destroying, while reusing preserves the material in its original form and uses the item repeatedly for the same or different purposes. The practice of reusing cups in the hotel sector was also highlighted by Florido, Jacob and Payeras (2019) and Silva, Silva and Echeveste (2021), when referring to the different circular practices via reuse that could be implemented in the sector.

The interviewee emphasizes the adoption of glass reuse in his hotel, with glass cups being made available for use in the establishment's facilities and Styrofoam cups when guests wish to take drinks on the go. This approach is in line with the principles of the 3Rs of CE (reduce, reuse and recycle), highlighting reuse as a more sustainable option compared to recycling, as it keeps the material in its original form and extends its useful life. This practice is mentioned as one of the circular strategies in the hotel sector, corroborating previous studies conducted by Florido, Jacob and Payeras (2019) and Silva, Silva and Echeveste (2021), who also emphasized the importance of reusing resources as part of the transition to the Circular Economy.

The study therefore emphasizes the importance of reusing cups as a sustainable practice in the hotel sector, helping to reduce waste and make more efficient use of available resources.



When asked about the use of computers in energy-saving mode, the interviewee reported that the computers are programmed to go into standby mode when they are not being used and to work in energy-saving mode: "[...]they are programmed in standby and energy-saving mode[...]" (Excerpt from the interview). This is yet another practice that is in line with the guidelines of NBR 15.401 (ABNT, 2006), which stipulates the implementation of a procedure to ensure that lights and electrical equipment remain on only when necessary.

Regarding the practice of the paperless office policy using the network system, the interviewee reported that he uses the network system more and tries to print only what is necessary and prioritizes the use of the printer in the double-sided function: "[...]we use the network system more[...] the printers are already programmed for this function[...]" (Excerpt from the interview). Ahmed et al. (2021) carried out a study on leadership roles for sustainable development in a green hotel in Malaysia and found that the establishment promoted ecological practices, such as using the computer in energy-saving mode, printing only if necessary and double-sided.

The interviewee mentions that the computers in his establishment are configured to operate in energy-saving mode and go into standby mode when not in use, a practice that complies with the guidelines of NBR 15.401, of 2006, which advocates the adoption of measures to ensure that lights and electrical equipment remain on only when necessary, thus promoting energy efficiency. In addition, he highlights the paperless office policy, with a preference for using the network system over physical printing; when printing is necessary, the double-sided option is prioritized. These practices are in line with findings from a study conducted by Ahmed et al. (2021) at a sustainable hotel in Malaysia, where similar green practices were also identified, highlighting the hotel's commitment to sustainability and minimizing its environmental impact, in line with sustainable development trends in the hotel sector.

With regard to providing adequate training on green initiatives and practices for staff and stakeholders, the interviewee explained that they provide a manual of sustainability practices (Appendix 4), maintain social networks with up-to-date content, and provide training for reception and housekeeping staff, when the regulations and sustainability practices are covered, according to each role: "[...] there is training for reception and housekeeping staff, where the regulations are covered with the sustainability footprint [...]" (Excerpt from the interview). Training is also an item considered by ABNT NBR 15.401 (ABNT, 2006), which establishes that the enterprise must provide training or take other actions to meet competence needs and ensure that its staff are aware of the relevance and importance of their activities, how

they contribute to achieving sustainability objectives, the potential consequences of failing to comply with specified operating procedures and the significant actual or potential environmental, socio-cultural or economic impacts of their activities and the benefits resulting from improving their personal performance.

Providing customized training and guidance at all levels of an organizational hierarchy is key to creating long-term competitive advantage (Voss & Voss, 2008; Ioannidis et al., 2021). Khodaiji and Christoopoulou (2020) conducted a study on sustainable development and the circular economy in Greece and, when analyzing the 2018 sustainability reports of two hotels studied, found that extensive training was offered in an effort to further develop the learning and skills of their employees at all levels.

The interviewee demonstrates a strong commitment to sustainability in his hotel establishment, emphasizing the importance of training for his staff and stakeholders. As well as providing a manual of sustainability practices and maintaining up-to-date content on social media, it carries out specific training for the reception and chambermaid roles, addressing regulatory issues and sustainable practices related to each role. This approach is in line with the guidelines of ABNT NBR 15.401, of 2006, and reflects the understanding that training is fundamental to making staff aware of the relevance and impacts of activities in the context of sustainability. The practice of personalized training at all levels of the organizational hierarchy is seen as essential for creating long-term competitive advantage, in line with previous research highlighting the importance of education and training for sustainable development in the hotel sector.

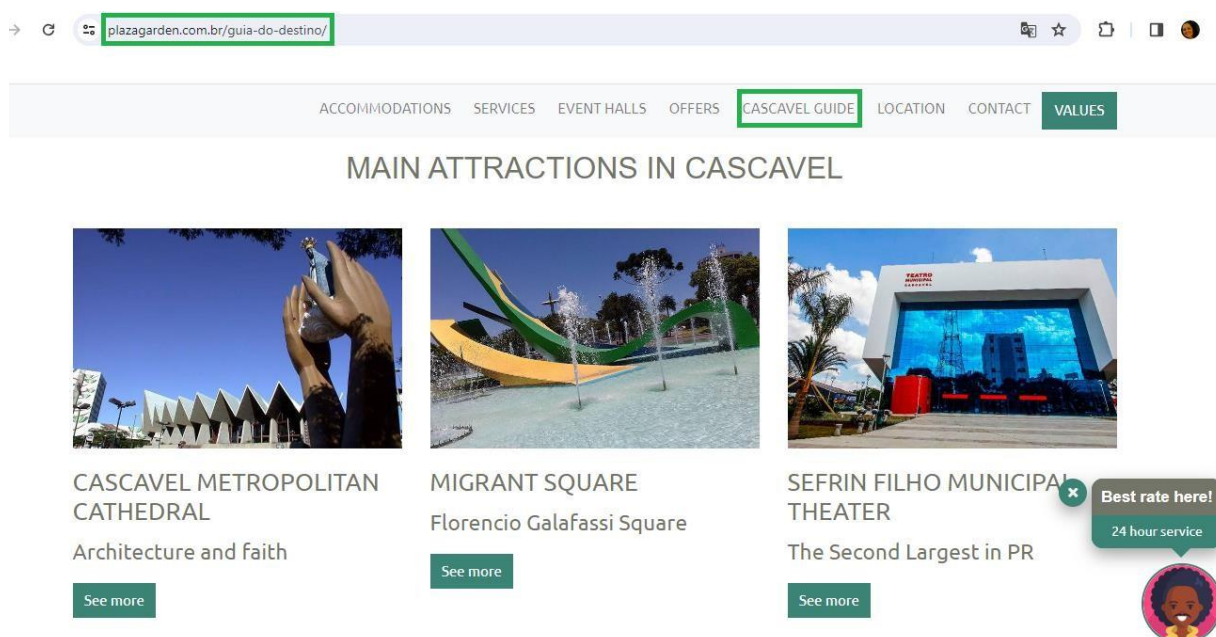
The interviewee pointed out that staff receive incentives and other benefits from the establishment based on their performance of green practices, and that they are offered and paid a monthly bonus based on the hotel's turnover, as long as the team complies with the practices established by the hotel: "[...] We have a bonus [...] based on the hotel's turnover, as long as the team complies with certain items [...]" (Excerpt from the interview).

The practice of incentives and benefits for staff is also highlighted by Ahmed et al. (2021) in a study carried out in a green hotel in Malaysia, which showed the incentives and other benefits received by employees because of their performance in green practices.

The practice of rewarding staff for adopting green practices not only motivates employees, but also contributes to an organizational culture that values sustainability and responsible performance. This approach can be effective in promoting adherence to sustainable initiatives and aligning employees' interests with the hotel's sustainability objectives.

Regarding the possibility of providing a guide through a personalized app instead of a human guide to add value to their stay, the interviewee reported that they provide a link on the establishment's website that gives access to the Cascavel guide, making it easier for guests to get around the city to tourist attractions, shops, restaurants and leisure spots: "[...] a link is sent to guests, where they have access to the Cascavel guide, which makes it easier for them to get around the city [...]". [...] a link is sent to guests on our website [...] where they have access to the Cascavel guide, making it easier for them to get around the city [...]" (Excerpt from the interview).

Figure 11 shows the Plaza Garden Hotel website, which has a tab designed to keep guests and tourists well-informed about the city's main attractions, nature experiences, tourist attractions, gastronomy, events, festivals, travel itineraries, leisure content, rural tourism and many more attractions that the city can offer.



**Figure 10.** Guide to Cascavel on the Plaza Garden Hotel website

Source: Hotel Plaza Garden, 2023.

By offering a digital guide, the hotel is meeting travelers' demand for convenience and information accessible online. In addition, the presence of informative content about the city's attractions on the hotel's website demonstrates a commitment to improving the guest experience by offering useful information about the destination and its entertainment options. This can contribute to attracting more visitors and improving overall guest satisfaction.

Regarding having local workers at the hotel, the interviewee explained that he currently employs 100% residents of the city of Cascavel-PR and claims that "[...] the workers are all residents of the city, but I would have no problem employing people from neighboring cities [...]" (Excerpt from the interview).

NBR 15.401 (ABNT, 2006) establishes that the enterprise must employ, to the greatest extent feasible, workers (employees, subcontractors or self-employed) from local or regional communities. At least 50% of the workforce involved in the project's operations must come from local communities. In the study carried out by Julião, Gaspar & Alemão (2020), the response records presented show that the respondents, as customers, were sensitive to the social aspects of sustainability related to local workers as an effective claim to increase awareness of social sustainability in the hotels of their choice. The practice adopted by the establishment not only contributes to the development of local communities, but also meets the demands of a clientele that is increasingly concerned about social and environmental issues.

The interviewee emphasized that the hotel currently employs only residents of the city of Cascavel, demonstrating a strong commitment to hiring local workers. This practice reflects compliance with the guidelines set out in NBR 15.401 of 2006, which encourages the hiring of labor from local or regional communities, with the goal of at least 50% of the workforce being made up of individuals from these localities. In addition, the aforementioned study emphasizes the importance of making customers aware of social sustainability in hotels, pointing out that guests value hiring local workers as a positive factor when choosing an establishment. This indicates that hiring local staff not only fulfills sustainability criteria but can also be perceived as a competitive advantage in attracting socially conscious customers.

As for having recycled furniture in the rooms and locally made furniture, the interviewee said he didn't know if the furniture came from recycled material, but that it was locally made. He made a point of choosing a local supplier, Móveis Riograndense, which has been a partner of the hotel and known to the family for several years, and which he chose because of its proximity, guarantee, service and ease of maintenance. When asked about recycled utensils, the interviewee explained that the plant pots and decorations were bought from Nutriplan, another local company, which manufactures its own recycled material.

With regard to the preference for local suppliers to promote CE, the interviewee has opted for local suppliers for various reasons - proximity, guarantee and service - but that he needs to have suppliers from other locations, as he has to buy trousseaus direct from the factory and in quantity and Cascavel and the region do not meet this need: "[...] I prefer the local supplier, for various reasons, proximity, guarantee, service [...]" (Excerpt from the interview).

When it comes to standards and procedures, the enterprise must identify and select products, services and inputs that can be supplied by local communities (ABNT NBR 15401, 2006). Julião, Gaspar & Alemão (2020) carried out a study in which guests were sensitive to the environmental aspects of sustainability related to the importance of hotels using recycled furniture in the rooms and locally made furniture to promote environmental sustainability.

The interviewee prioritized local manufacturing when choosing furniture for the hotel, although he is not sure if it is made from recycled materials. He established a long-standing partnership with a local supplier because of its proximity, quality of service and ease of maintenance. In addition, the hotel has purchased plant pots and decorative items from a local company that manufactures these products from recycled materials. Although it has a clear preference for local suppliers, it recognizes that, in some situations, it is necessary to resort to suppliers from other regions, especially when purchasing products in large quantities. These practices demonstrate the hotel's commitment to environmental sustainability and support for the local economy, reflecting guests' expectations of sustainable aspects in the hotel sector.

With regard to having any Green Certificates, the interviewee explained that he does not currently have any and that he is in the process of obtaining the Paraná Tourism Quality Seal: "[...] trying to get the SEBRAE quality seal [...] it's a way of comparing whether we're on the right track with regard to certain activities, certain procedures [...] all the requirements, including sustainability [...]" (Excerpt from the interview).

The seal is an initiative of SEBRAE in partnership with Fecomércio PR, which aims to stimulate continuous improvement in business management and the quality of services provided by companies in the tourism sector, through the adoption of good practices and procedures defined for their business with a set of elements to improve the competitiveness, effectiveness and flexibility of the company through planning, organization and understanding of each activity (Fecomércio PR, 2023). The project is aimed at companies in the areas of Accommodation, Gastronomy of Tourist Interest, Reception Agency, Tourist Transport, Car Rental and Event Organizer (SEBRAE, 2023).



**Figure 11.** Stages for obtaining the Paraná Tourism Quality Seal

Source: SEBRAE, 2023.

Figure 11 illustrates the stages of the certification process, which consists of five stages. Stage 3 of the diagnosis includes the Analysis Roadmap, which checks infrastructure, sustainability, service offer and innovation; Excellence in Management, which analyzes legal requirements and management itself; and the Hidden Tourist, which checks customer service and online reputation. To obtain the Paraná Tourism Quality Seal, the participating company must achieve a minimum score of 80 points, according to the score per item (SEBRAE, 2023).

Hotel Plaza Garden is seeking to obtain the Paraná Tourism Quality Seal and, in the process, has already gone through the application and hiring stages and is in the diagnostic phase, waiting to go through the Hidden Tourist process, in which the establishment will be analyzed by an external person who will stay at the hotel posing as a guest and will evaluate the various aspects and services offered by the establishment in order to draw up an improvement plan. This effort demonstrates the hotel's commitment to improving its quality standards and possibly incorporating more sustainable practices into its operations, in line with the seal's guidelines.

Regarding the correct disposal of light bulbs, the Plaza Garden Hotel has some practices in place. The interviewee reported that the proper disposal of light bulbs is a new practice for employees and that it is being well accepted and embedded in everyday life: "It doesn't take time to separate a light bulb that has burnt out into a box and then dispose of it properly [...]" The issue is people's resistance to doing it the right way [...]" (Excerpt from the interview).

The disposal of batteries in a suitable place is in the process of being adapted. The hotel has appropriate boxes on the premises for storing this waste (Figure 12). As well as physically having a place specifically earmarked for the disposal of these items, the hotel also works to raise awareness among its employees, guests and the general public by including information on the correct disposal of batteries in its sustainability manual (Appendix 4), available on the hotel's website (Figure 13).



**Figure 12.** Box for disposing of batteries

Source: Hotel Plaza Garden, 2023.

Once complete, the box containing the discarded batteries is delivered to the authorized supplier, who collects and properly disposes of the waste: "[...] separating the batteries was something we didn't do and it's easy to do [...] a battery, quickly, there's the little box and the light bulb the same thing [...]" (Excerpt from interview).

Law 12.305 (2010) stipulates that manufacturers, importers, distributors and traders of batteries, light bulbs, tires, lubricating oils, their waste and packaging, electronic products and components are obliged to implement a reverse logistics system by returning the products after use by the consumer.





**Figure 13.** Guidance on the correct disposal of batteries

Source: Plaza Garden website (2023).

The Plaza Garden Hotel is adopting practices for the correct disposal of light bulbs, batteries. The interviewee pointed out that although the proper disposal of light bulbs is a relatively new practice for employees, it is being well accepted and incorporated into the routine. In addition, the hotel provides appropriate boxes for storing used batteries, promoting awareness among employees, guests and the community in general. These initiatives are in line with Law No. 12.305 (2010), which determines the responsibility of manufacturers, importers and traders to implement reverse logistics systems for products such as batteries and light bulbs after they have been used by consumers. With this, the hotel is demonstrating its commitment to environmentally responsible practices and promoting awareness of proper waste disposal.

Resolution 362 (2005) of the National Environment Council (CONAMA) establishes that used cooking oil is a hazardous waste and must be disposed of in specific places to avoid damaging the environment, damage that is highlighted by Law 12.305 (2010), which states that improper disposal of waste is an environmental crime and can result in fines and other sanctions. In compliance with these regulations, the disposal of cooking oil used by the hotel, according to the interviewee, is as follows: "[...] we deposit the oil used in the kitchen in appropriate containers and a specialized company collects it and disposes of it properly [...]" (Excerpt from the interview).



By adopting a responsible approach, storing used cooking oil in appropriate containers and hiring a specialized company to collect and properly dispose of this waste, the hotel reflects a commitment to regulatory compliance and environmental preservation, demonstrating concern for sustainability and environmental responsibility in its operations.

When asked if the establishment had tried to implement any circular practices and had been unsuccessful, the interviewee explained that, for the time being, the issue of recycling is the most difficult, especially in the rooms, as the waste is not separated inside the room. The difficulty lies in the fact that guests don't separate organic waste from recyclable waste, which is a difficult and time-consuming process for the chambermaid to carry out, as well as the fact that employees in this role don't want to do it.

When asked which practice was the most accepted in this implementation process by employees and guests, the interviewee pointed out that perhaps the most accepted practice, the one that is already well embedded in everyday life, is the separation of light bulbs and batteries, which was something that wasn't done, but is easy to do, because it's a simple and quick process to change the battery or light bulb for the new one and put the old one in the box: "[...] that was easy [...]" (excerpt from the interview).

An analysis of the sustainable practices implemented by Hotel Plaza Garden reveals a solid commitment to social and environmental responsibility and a constant quest to incorporate the principles of the Circular Economy into its daily operations. On closer inspection of the various initiatives and policies adopted by the hotel, it becomes clear that it is committed to reducing its environmental impact and promoting the responsible use of natural resources. One of the most notable aspects of the hotel is its commitment to using renewable energy sources, exemplified by the ongoing project to install photovoltaic panels to generate solar energy, reflecting the hotel's determination to adopt more sustainable practices. In addition, the hotel demonstrates a firm focus on energy efficiency, promoting the use of LED light bulbs and careful energy management.

Responsible water management is also a priority for the hotel, evidenced by water-saving systems in bathrooms and taps with timers. These measures reflect the hotel's commitment to preserving water resources by reducing unnecessary consumption. The hotel's preference for local, seasonal and certified food is a practice that not only contributes to sustainability, but also strengthens the local economy and supports regional producers.

The decision not to change towels and bed linen daily, unless requested by guests, is fully in line with the guidelines of ABNT 15.401, 2006, and demonstrates the hotel's commitment to reducing water consumption and laundry chemicals, thus contributing to

reducing environmental impact. The choice of cleaning products with a low environmental impact and the training of staff in sustainable practices reflect the hotel's commitment to environmental preservation and to raising staff awareness of the importance of sustainability. The strategy of rewarding employees for adopting green practices can be an effective way of motivating staff and promoting an organizational culture geared towards sustainability.

Providing a digital guide for guests not only meets the needs of modern travelers, who search for information online in a convenient way, but can also attract more visitors who are concerned about the environment.

The survey showed that the Plaza Garden Hotel has implemented a series of sustainable practices that not only contribute to preserving the environment, but also strengthen its image as an establishment committed to social and environmental responsibility. These initiatives reflect the growing trend in the hotel sector to adopt circular economy measures to promote more sustainable and responsible tourism. Chart 10 shows the circularity practices observed at Plaza Garden.

**Chart 10.** Circular practices at the Plaza Garden Hotel

Nº	Circular practice surveyed in the literature	Practices applied at Plaza Garden Hotel
P1	It uses solar energy with an energy capture and reserve system for long-term use.	
P2	It uses energy-saving light bulbs.	
P3	It has plastic roofs for maximum use of sunlight.	
P4	It is self-sufficient in terms of sustainable energy.	
P5	It has an automatic induction valve to control energy consumption.	
P6	It has a system for efficient use of drinking water to avoid waste.	
P7	It has a water flow control system in the bathroom.	
P8	It uses local, seasonal and source-controlled food.	
P9	It uses organic food produced on the hotel premises.	
P10	It serves organic drinks to guests.	
P11	It designs sustainable menus to eliminate waste.	
P12	It offers reduced food portions to minimize waste.	
P13	It donates surplus food to charities and food banks.	
P14	It uses leftover food to feed animals.	
P15	It buys products whose packaging can be reused.	
P16	It uses towels and bed linen for more than one day.	
P17	It offers towels and bed linen made only from environmentally friendly materials.	
P18	It uses cleaning products with a low environmental impact.	
P19	It reuses fabrics.	
P20	It reuses cups.	
P21	It has reduced or eliminated the consumption of coal or oil in the establishment.	
P22	It has a system for recycling the steam condensate produced in the laundry and turning it into boiler water.	
P23	It has a system for producing methane from organic waste.	
P24	It treats wastewater for reuse.	
P25	Composts organic food waste.	
P26	It produces soap from used cooking oil.	

P27	It uses computers in energy-saving mode.	
P28	It has a paperless office policy using the network system.	
P29	It prints double-sided.	
P30	It provides adequate training on green initiatives and practices for staff and stakeholders.	
P31	Staff receive incentives and other benefits from the establishment based on their performance in green practices.	
P32	It has a digital concierge at night.	
P33	It provides a guide via personalized apps instead of a human guide to add value to your stay.	
P34	It has local workers in the hotel.	
P35	It reduced room cleaning hours.	
P36	Fewer appliances in the rooms.	
P37	It recycled and locally made furniture in the rooms.	
P38	It has alternatives to reduce transportation costs.	
P39	It has a Green Certificate.	
P40	It prefers local suppliers to promote the Circular Economy.	
P41	It implements circular farming practices involving local farmers.	
P42	It disposes of light bulbs in an appropriate place.	
P43	It disposes of batteries in an appropriate place	
P44	It disposes of frying oil in a suitable container and by a specialized company.	

Source: Research data, 2023.

#### 4.3.1.2 Presentation and analysis of the results obtained regarding the barriers and facilitators to the implementation of circular practices

Block IV of the interview script dealt with barriers and facilitators to the implementation of circular practices. When asked what the governmental spheres (federal, state and municipal) have done to support tourism to benefit establishments and expand circular practices, the interviewee pointed out that the federal government, due to the Covid-19 pandemic, implemented PERSE, a tax incentive for hotels, which will spend five years without paying some federal taxes, reducing the tax burden on the industry, due to the difficulties faced during the pandemic. PERSE is the Emergency Program for the Resumption of the Events Sector, created by law no. 14,148 (2021), to support the sectors that have been most affected by the Covid-19 pandemic, and the main measure adopted involves the reduction to zero of the IRPJ, CSLL, PIS and COFINS rates levied on revenues, for a period of five years, ending on March 17, 2027.

According to the interviewee, the state and municipal governments have done little financially. The municipal government has encouraged tourism more on the communication side, more on the cultural side, through COMTUR (Cascavel Municipal Tourism Council) and the Secretariat for Economic Development, but tourism is not yet a single department. As an advocate of tourism, the interviewee believes that tourism should have a specific secretariat.

The federal government, due to the pandemic, implemented Perse, which was very good for hotels, which will not pay any federal taxes for five years, reducing the tax burden on the industry [...] because the industry was one of the most affected in the economy, we spent two years going through a lot of difficulties in tourism [...] The state and municipal governments have done very little financially, the municipal government has encouraged tourism more in terms of communication, nothing financially, more in terms of culture [...] The state has promoted the instances they call them, we're in the Riquezas Oeste instance [...] and the municipal government has promoted Adetur [...] ] The state has promoted the instances they call them, we're in the Riquezas do Oeste instance [...] there's Adetur, which encourages rural tourism [. ] and in the municipality there's also the Secretariat for Tourism and COMTUR, which are linked to the Secretariat for Development [. ] It's still not a stand-alone department, as a tourism advocate I believe there should be a tourism secretariat [. ] (Excerpt from interview).

Municipal law no. 5. 615 (2010) created the Cascavel Municipal Tourism Council - COMTUR, in addition to the Cascavel Municipal Tourism Fund - FUMTUR; FUMTUR funds are used for professional training programs and projects in tourism services, aimed at members of the Municipal Tourism Council - COMTUR - and employees who provide services to the Events and Tourism Department in the Municipal Economic Development Secretariat; publicizing the municipality's tourism potential; developing and implementing tourism projects in the municipality; equipment and basic infrastructure to serve visitors to the municipality's tourist attractions; maintenance, acquisition of materials and equipment necessary for the services of the Department of Events and Tourism of the Municipal Secretariat for Economic Development; support for the promotion of events related to tourism; programs, projects and plans that COMTUR and the Department of Events and Tourism of the Municipal Secretariat for Economic Development consider to be of fundamental importance for the development of tourism in the municipality; and funding the actions of the regular exercise of the police power of the municipality of Cascavel over economic activities linked to tourism, such as hotels, restaurants, bars or similar and travel agencies.

The municipality of Cascavel, through municipal law n. 7.319 (2021). establishes the competencies of the Secretariat for Economic Development, among other duties, to encourage the development of event tourism in the municipality, including the holding of business meetings, congresses and other similar activities and to manage the Municipal Tourism Fund.

Paraná has 399 municipalities, and the State Department of Tourism provides technical information on the tourist region to which each municipality belongs, contact details for those responsible for tourism in the municipalities and the Regional Governance Bodies to which

they are linked (Paraná Turismo, 2023). Figure 14 shows on the map of Paraná, divided into tourist regions, called Regional Governance Bodies, that Cascavel is located in the Estância Riquezas do Oeste, a region with a predominance of ecotourism, rural tourism, business and events tourism and cultural tourism (Paraná Turismo, 2023).



**Figure 14.** Regional Governance Resorts

Source: Paraná Turismo, 2023.

Law no. 21. 352 (2023) provides for the basic administrative organization of the State Executive Branch, with the State Secretariat for Tourism - SETU - being responsible for formulating and implementing public policies for tourism in the state; planning, organizing and monitoring the implementation of the state government's policies and guidelines for tourism, with a view to improving the living conditions of the population and local development; disseminating and promoting the development of tourism; promoting and encouraging tourism as a factor for economic and social development, as well as for the conservation and enhancement of cultural and natural diversity, with a view to improving the quality of life of the population of Paraná; seeking incentives for the expansion, qualification and promotion of the state's tourism offer, available at national, state and municipal levels; encouraging the

carrying out of statistical studies and surveys, at governmental and non-governmental levels, which qualify and promote the competitiveness of state tourism; encouraging the professional qualification of service providers in the tourism sector.

Fees and taxes specified by governments act as a barrier to the implementation of CE (Raspini, 2021; Dieckmann et al., 2020; Agyemang et al., 2019; Kumar et al., 2019; Jesus & Mendonça, 2018; Bressanelli, Perona & Saccani, 2018; Rizos et al., 2016; Preston, 2012). Conversely, a government can offer financial support mechanisms, such as credits and loans (Raspini, 2021; Agyemang et al., 2019) in support of innovation and development (R&D) and fostering social awareness (Raspini, 2021; Jesus & Mendonça, 2018) as well as the development of circularity monitoring indicators (Raspini, 2021; Gue et al., 2020). Government support can be considered a facilitator of the implementation of circular initiatives (Raspini, 2021).

The interviewee highlights a series of initiatives and government support for the tourism sector, which aim to benefit tourist establishments and encourage more circular practices in this segment. He highlights the Emergency Program for the Resumption of the Events Sector (PERSE), implemented by the federal government in response to the Covid-19 pandemic, which exempts hotels from some federal taxes for five years. However, the interviewee states that the financial support offered by the state and municipal governments is limited, as they focus more on communication and cultural promotion of tourism. In addition, he discusses the role of the government in promoting the circular economy in tourism, highlighting the importance of reducing taxes and fees, providing credits for innovation and development and developing indicators to monitor circularity, as a means of boosting more sustainable practices in the sector.

With regard to how the community, employees and guests respond to the implementation of these practices, the interviewee pointed out that guests end up noticing and valuing things that locals don't appreciate about the city, for example, the fact that Cascavel has wide streets, making it easier to get around, as it is a flat and planned city, where you can make long journeys on foot, by bicycle; in addition to the cleanliness of the city, which is always highly praised, Cascavel has beautiful people.

The local community should value these little things too[...] Tourism classes should be included in schools, so that children and young people can be educated about the importance of tourism for the city, sustainability, the environment and how businesses benefit from receiving tourists [...] I think this is the great process for bringing in

more money and income, generating employment and development[...]  
(Excerpt from interview)

The interviewee highlights the difference in perspective between tourists, who value aspects of the city often ignored by local residents, and emphasizes the importance of tourism education in schools to promote understanding of the benefits of tourism and sustainability for the development of the city.

Furthermore, by establishing a connection between the 3Rs (Reduce, Reuse and Recycle) environmental strategy and business performance, emphasizing that sustainable companies can win over environmentally-conscious consumers, gaining competitive advantages such as higher prices and greater market share, it highlights the relevance of sustainability to both tourism and long-term business success.

Regarding the barriers to implementing circular practices in the hotel, the manager points out that the cultural issue is an element to be considered:

[...] the cultural and educational process of people realizing that they are part of the process and everyone has to do their part, becomes a barrier [...] I believe that the most difficult part of all of this is to get it into people's heads that they are part of the process, to empower them to do their part (Excerpt from interview)

Making employees and guests understand that they are part of the process and responsible for playing their part properly is a barrier. Tura et al. (2017) conducted a study in which they identified social factors as barriers to implementing CE, such as region-specific standards, local culture and conservatism in business practices. The lack of skills to change the mindset to long-term thinking, solving problems with the existing business culture, the absence of communication throughout the value chain and the lack of systemic thinking also present barriers to promoting CE businesses (Bechtel et al., 2013; Tura et al., 2017).

The key to minimizing environmental problems depends mainly on the number of people who want to change their consumption behaviour and participate in more sustainable or circular practices with the environment (Rodreuguez, Jacob & Florido, 2020). This evidence goes some way to understanding why NBR 15.401 (ABNT, 2006) stipulates that the enterprise must participate in socio-environmental programs with local communities, including environmental education, and must support the production of informative and indicative material by the local community, such as folders, maps and signs, aimed at publicizing the region or actions and programs with socio-cultural or environmental purposes, as well as

promoting training for employees. Education for sustainability thus appears to be a means, if not of promoting circular practices, at least of reducing the barriers to their implementation.

The last question asked referred to the main facilitators for implementing circular practices in the hotel sector. In response to the question, the interviewee explained that he tries not to get hung up on facilitators or anything like that and went on to say that Cascavel is a developing and growing city, with many options to be explored and all of this makes it easier for the hotel industry to work, you just have to know how to exploit the business niche and the type of tourists the city attracts.

I don't think I get too hung up on this, I find my own way of looking for things [...] but if I have to choose something, it's the conditions that the city offers us, it's a very good city, with development on the rise, with lots of options to explore, with lots of options to make our work easier, there are companies focused on countless branches of activity and this attracts tourists, being in a well-positioned city is already a great facilitator (Excerpt from Interview)

The interviewee highlights the importance of the favorable conditions offered by the city of Cascavel as a facilitator for implementing circular practices in the hotel sector. He emphasizes that the city's development and diverse options create an environment conducive to attracting tourists and improving the hotel industry's performance. This perspective is in line with the idea presented by Rizos et al. (2016) that facilitators, such as a sustainable business culture and support from local or regional networks, are essential for a successful transition to circular business models. Therefore, recognizing the city's favorable environment as a facilitator is a strategic approach to boosting the hotel sector's adoption of circular practices.

#### 4.3.2 The circular practices implemented in hotel establishments in Cascavel and those implemented by the Plaza Garden Hotel

Based on the survey of hotel establishments in the city of Cascavel and the case study carried out at the Plaza Garden Hotel, it was found that none of the establishments questioned, as shown in Chart 12, had adopted Circular Economy practices related to donating surplus food to charities and food banks, the supply of towels and bed linen made exclusively from environmentally friendly materials and the absence of a system to recycle the steam condensate generated in the laundry, transforming it into water for the boiler, a system to produce methane



from organic waste and the treatment of waste water for reuse. Only one establishment uses plastic roofs to make maximum use of sunlight.

Looking separately, only two of the respondents' establishments (Table 12) are self-sufficient in terms of sustainable energy, use food waste to feed animals, compost food waste organically, have a digital concierge at night, implement circular farming practices involving local farmers, have a Green Certificate and provide a guide via personalized apps instead of a human guide to add value to your stay. The establishment under study is in the process of obtaining a tourism quality certificate, which is not quite a Green Certificate, but is an important certification for the establishment, and offers the Rattlesnake guide linked to the establishment's website.

Of the responding establishments (Chart 11), three replied that they buy products whose packaging can be reused, reuse fabrics and reduce or eliminate the consumption of coal or oil in the establishment.

The hotel establishments in the city of Cascavel (Chart 12) that took part in the survey implement circular practices, either partially or fully, in common with the establishment that is the subject of the case study. The practices in common are having a system for efficient use of drinking water to avoid waste; having a system for controlling the flow of water in the bathroom; using local, seasonal food of controlled origin; using towels and bed linen for more than one day; using cleaning products with a low environmental impact; reusing glasses; using computers in energy-saving mode; have a paperless office policy using the network system; print double-sided; provide adequate training on green initiatives and practices for staff and stakeholders; offer staff incentives and other benefits from the establishment based on their performance of green practices; have local workers in the hotel; have fewer appliances in the rooms; and prefer local suppliers to promote the Circular Economy.

The establishment that is the subject of the case study stood out for its practice of disposing of light bulbs, batteries in a suitable place and frying oil in a suitable container and by a specialized company, but it is not possible to know whether the other establishments share the same practice, as these were not included in the instrument sent to the other establishments.

**Chart 11** – Circular practices implemented by establishments in the city of Cascavel-Pr compared to the Plaza Garden Hotel

Nº	Circular Practice surveyed in the literature	Practices applied in Cascavel establishments					Practices applied at the Plaza Garden Hotel
		1	2	3	4	5	
P1	It uses solar energy with an energy capture and reserve system for long-term use.	8	-	-	1	2	
P2	It uses energy-saving light bulbs.	-	-	3	-	9	
P3	It has plastic roofs for maximum use of sunlight.	11	-	-	1	-	
P4	It is self-sufficient in terms of sustainable energy.	10	-	-	-	2	
P5	It has an automatic induction valve to control energy consumption.	8	-	-	2	2	
P6	It has a system for efficient use of drinking water to avoid waste.	3	1	3	2	3	
P7	It has a water flow control system in the bathroom.	2	-	1	3	6	
P8	It uses local, seasonal food of controlled origin.	1	-	2	3	6	
P9	It uses organic food produced on the hotel premises.	7	-	3	-	2	
P10	It serves organic drinks to guests.	7	1	2	-	2	
P11	It designs sustainable menus to eliminate waste.	2	1	4	1	4	
P12	It offers reduced food portions to minimize waste.	3	2	5	-	2	
P13	It donates surplus food to charities and food banks.	12	-	-	-	-	
P14	It uses leftover food to feed animals.	10	-	-	-	2	
P15	It buys products whose packaging can be reused.	9	-	1	2	-	
P16	It uses towels and bed linen for more than one day.	4	-	4	3	1	
P17	It offers towels and bed linen made only from environmentally friendly materials.	12	-	-	-	-	
P18	It uses cleaning products with a low environmental impact.	-	-	3	3	6	
P19	It reuses fabrics.	9	-	1	-	2	
P20	It reuses cups.	-	-	3	2	7	
P21	It has reduced or eliminated the consumption of coal or oil in the establishment.	9	-	-	-	3	
P22	It has a system for recycling the steam condensate produced in the laundry and turning it into boiler water.	12	-	-	-	-	
P23	It has a system for producing methane from organic waste.	12	-	-	-	-	
P24	It treats wastewater for reuse.	12	-	-	-	-	
P25	It composts organic food waste.	10	-	1	1	-	
P26	It produces soap from used cooking oil.	10	-	-	-	2	
P27	It uses computers in energy-saving mode.	-	-	3	1	8	
P28	It has a paperless office policy using the network system.	1	-	1	4	6	
P29	It prints double-sided.	-	-	1	4	7	
P30	It provides adequate training on green initiatives and practices for staff and stakeholders.	3	1	4	-	4	
P31	Staff receive incentives and other benefits from the establishment based on their performance in green practices.	3	2	4	2	1	
P32	It has a digital doorman at night.	10	-	-	-	2	
P33	It provides a guide via personalized apps instead of a human guide to add value to your stay.	10	-	1	-	1	
P34	It has local workers in the hotel.	-	-	-	1	11	
P35	It reduces room cleaning hours.	1	1	4	3	3	
P36	There are fewer appliances in the rooms.	1	2	4	3	2	
P37	It has recycled furniture in the rooms and locally made furniture.	6	-	3	1	2	
P38	It has alternatives to reduce transportation costs.	8	-	3	-	1	
P39	It has a Green Certificate.	10	1	-	1	-	
P40	It prefers local suppliers to promote the Circular Economy.	-	-	1	3	8	
P41	It implements circular farming practices involving local farmers.	10	-	-	-	2	
P42	It disposes of light bulbs in an appropriate place.	-	-	-	-	-	
P43	It disposes of batteries in an appropriate place	-	-	-	-	-	
P44	It disposes of frying oil in a suitable container and by a specialized company	-	-	-	-	-	

Source: Survey data, 2023.

The survey of hotel establishments in the city of Cascavel shows a variety in the adoption of practices related to the Circular Economy, demonstrating varied awareness and differentiated implementation of sustainable practices, indicating opportunities for wider adoption of advanced circular practices in the local sector.

#### 4.3.3 Institutional pressures on the Plaza Garden Hotel's circular practices

Institutional Theory is a fundamental approach to the analysis of organizational behaviour, especially when it comes to understanding how organizations respond to the pressures of the institutional environment in which they operate. This theory postulates that organizations seek legitimacy and conformity within their social and regulatory context. Organizations face three main types of institutional pressure: coercive, mimetic and normative. Coercive pressure is exerted by regulations and laws, mimetic pressure leads organizations to imitate the practices of successful ones and normative pressure involves compliance with social and stakeholder expectations.

When applied to understanding circular practices in organizations, Institutional Theory proves crucial. It helps to contextualize how stricter environmental regulations, the successful adoption of circular practices by competitors and the growing expectations of stakeholders can influence organizations' decisions regarding the implementation of circular approaches. This theory provides support for analyzing how external influences shape organizations' adoption of sustainable and circular practices, highlighting the importance of considering not only internal factors, but also the dynamics of the institutional environment.

To meet its needs with the minimum environmental impact and remain competitive in the market, the Plaza Garden Hotel has sought to adopt a number of actions towards sustainability. In cooperation with this research, the Circular Economy practices that the hotel currently adopts were surveyed, among those adopted by the sector in other locations, and the institutional pressures on each practice adopted were analyzed. Observation and analysis of the literature point to the normative pressure exerted by sustainability standards, in particular ABNT NBR 15.401 (2006), on the practices adopted by the hotel establishment. The standards, which recommend the use of renewable energy sources such as solar energy and the minimization of non-renewable energy consumption, served as a reference and guideline for

the actions implemented. This demonstrates the importance of regulations in guiding more sustainable practices in the hotel sector.

The adoption of these practices is related to the search for compliance with standards and regulations, reflecting the need to meet the expectations of society and the market in relation to sustainability. The use of solar energy, for example, is a response to the pressure to adopt cleaner energy sources, while replacing light bulbs with LEDs and programming computers to save energy reflect the concern with energy efficiency and minimizing consumption.

The regulatory pressures exerted, especially by NBR 15.404, play a significant role in promoting sustainable practices in the hotel sector, encouraging the adoption of cleaner and more energy-efficient technologies in line with environmental and social expectations. The same kind of pressure is exerted regarding the adoption of practices aimed at the efficient use of water. ABNT NBR 15.401 (2006) acts as an essential guide and reference for the actions implemented regarding water management. Normative isomorphism manifests itself in the installation of water-saving devices, such as taps with timers and dual-flush toilets, as well as in the policy of changing bed linen and towels on a non-daily basis.

The establishment seeks to meet the expectations of society and the market with regard to the responsible management of water resources. In addition, the communication of this commitment, together with campaigns aimed at guests and employees, reveals the intention to raise awareness and involve all stakeholders in promoting water efficiency. It can be seen that the attempt to comply with regulations, together with motivations linked to sustainability, influences the adoption of more effective and responsible water management practices in a hotel context, contributing to a reduction in the waste of water resources.

With regard to the use of more economical light bulbs, the interviewee said that "We are always looking for savings, we look for everything that the market offers us in terms of financial savings and if we harm the environment as little as possible, I think it's combining the useful with the pleasant," showing that the use of more economical light bulbs is driven by mimetic pressures. Mimetic pressure, as described in Institutional Theory, refers to the tendency of organizations to imitate the practices of other organizations that are perceived as successful or legitimate. In this case, the interviewee mentions that they are constantly looking for financial savings and practices that minimize the impact on the environment.

The connection with mimetic pressure is evident when the interviewee mentions "combining the useful with the pleasant". This phrase suggests that the organization is seeking not only to save financial resources (the useful) by using more economical light bulbs, but also to address environmental concerns (the pleasant) by minimizing the impact on the environment.

This shows that the organization is aware of the sustainable practices adopted by other companies and is imitating these practices to align itself with industry expectations and standards.

The interviewee pointed out that, regarding the use of biodegradable cleaning products, the establishment chooses suppliers that meet strict quality and sustainability standards. The motivation behind these practices is linked to the commitment to follow regulatory guidelines and the concern to minimize environmental impact. This demonstrates the company's commitment to adopting responsible practices that reduce its impact on the environment. Therefore, this practice not only complies with ABNT NBR 15.401 (2006), but is also allied to the motivation to align itself with sustainable standards, contributing to reducing the environmental impact of its establishment.

The ABNT NBR 15.401 (2006) standard also influences the adoption of more sustainable and circular practices related to food services and the choice of furniture. The normative pressure exerted by these standards directly influences decisions, leading the establishment to adopt measures such as preferring local, seasonal food of controlled origin, as well as choosing recycled and locally made furniture. The motivation behind these practices is to align with sustainable standards, support local commerce, guarantee product quality and contribute to promoting the Circular Economy in the region.

In addition to the alignment of normative isomorphism in accordance with NBR 15.401, the analyses show the existence of mimetic pressures guiding decisions and adherence to practices that comply with the Paraná Tourism Quality Seal, linked to sustainability and responsible management in the hotel sector. The search for the quality seal not only reflects a commitment to continuous improvement in management and service quality, but also serves as a marketing strategy, showing customers the hotel's commitment to sustainable and responsible practices. It also indicates the hotel's willingness to adhere to good practices in the sector, responding positively to peer pressure, signaling a move towards mimetic isomorphism.

The practices adopted by the enterprise in relation to the proper disposal of waste, such as light bulbs and batteries, are shown to be a response not only to the coercive pressures exerted by legislation, represented by Law No. 12.305 (2010), which instituted the National Solid Waste Policy, but also by the normative pressures coming from technical standards, such as ABNT NBR 15.401 (2006).

Manufacturers, importers, distributors and traders of: I - Pesticides, their waste and packaging, as well as other products whose packaging,

after use, constitutes hazardous waste, in compliance with the hazardous waste management rules set out in law or regulation, in standards established by the Sisnama, SNVS and Suasa bodies, or in technical standards; II - Batteries; III - Tires; IV - Lubricating oils, their waste and packaging; V - Fluorescent, sodium and mercury vapor and mixed light bulbs; VI - Electrical and electronic products and their components. (Law n. 12.305, 2010)

The obligation to implement reverse logistics systems for this waste, established by law, acts as a coercive pressure, forcing the business to comply with legal requirements. The interviewees' motivations for adopting these practices include compliance with environmental legislation, minimizing legal risks and proper waste management, demonstrating the existence of coercive isomorphism. These practices reflect the establishment's commitment to complying with environmental regulations and contributing to responsible waste management, an important element in the introduction of the Circular Economy not only in the enterprise studied, but also when considering the chain in which it is inserted.

The analysis of the interview indicates that the practice of properly disposing of used cooking oil is also a response to coercive institutional pressures, showing the hotel's adoption of responsible waste management. The two regulations that guide this practice are CONAMA resolution 362 (2005), which classifies used cooking oil as hazardous waste, and law 12.305 (2010), which establishes legal consequences for improper waste disposal. Hiring a company specializing in the collection and proper disposal of cooking oil contributes to compliance with environmental legislation, avoiding possible fines and legal sanctions. In addition, this practice is also in line with the requirements of ABNT NBR 15.401 (2006) and its normative isomorphic pressure.

Another piece of evidence of the existence of regulatory pressures on the operation of the enterprise analyzed concerns the determination of the skills needed by the team and the subsequent provision of training to meet these demands, as recommended by ABNT NBR 15.401. In this regard, the company demonstrates its commitment to implementing these practices, recognizing the importance of making its staff aware of the relevance and pertinence of activities related to the Circular Economy and sustainability.

In addition, the organization motivates its employees through monthly bonuses linked to performance in sustainable practices, thus showing a firm commitment to promoting these practices. Investment in training and awareness-raising on environmentally friendly initiatives and practices is fully integrated into the company's strategy, showing genuine motivation to improve both personal and collective performance in sustainability.

Analysis of the data shows that the hotel ensures that all its employees are residents of the city, again in line with the guidelines of ABNT NBR 15.401 (2006), which suggests that a significant percentage of the workforce should be made up of individuals from local or regional communities. In addition to habitually hiring local employees, the interviewee shows a willingness to employ people from neighboring towns if necessary, which reflects an attitude of flexibility and commitment to promoting local and regional employment. By prioritizing the hiring of local workers, the company strengthens ties with the community, stimulates local economic growth and contributes to the sustainable development of the region. This shows that the company recognizes that sustainability is not just about environmental issues, but also encompasses support for and involvement with local communities.

Another element pointed out by the study, which demonstrates the resort's compliance with the regulatory pressures arising from ABNT NBR 15.401 (2006), is the provision of a city guide via a personalized app instead of a human guide. This choice is fully in line with the regulatory guidelines, as it offers an effective alternative to ensure the safety and convenience of tourists.

The company recognizes the importance of minimizing its consumption of natural resources, reducing waste and pollution and meeting the expectations of stakeholders such as customers and regulatory bodies. In addition, implementing these practices can result in long-term financial savings, as it reduces the costs associated with excessive use of paper and disposable cups. Regarding reducing the use of resources, which is aligned with the Circular Economy, it was observed that the hotel opts for the reuse of cups, a paperless office policy and the use of the network system with double-sided printing. These practices not only comply with the guidelines of NBR ISO 14.001 (ABNT, 2005), but also reveal the hotel's intention to be in line with the best practices in the market.

The data therefore shows that the enterprise receives different pressures from its institutional environment, be it from NBR ISO 14.001, regulations such as CONAMA resolution 362 (2005) and law 12.305 or the best practices adopted in the sector, represented by the Paraná Tourism Quality Seal, as shown in Chart 12.

**Chart 12.** Classification of CE practices according to institutional pressures

Nº	Circular Practice	ISOMORPHISM		
		Coercive	Mimetic	Normative
P1	It uses solar energy with energy capture and reserve systems for long-term use			
P2	It uses energy-saving light bulbs			
P6	It has a system for efficient use of drinking water to avoid waste			

P7	It has a water flow control system in the bathroom			
P8	It uses local, seasonal food from controlled sources			
P16	It uses towels and bed linen for more than one day			
P18	It uses cleaning products with a low environmental impact			
P20	It reuses cups			
P27	It uses the computer in energy-saving mode			
P28	Paperless office policy using the network system			
P29	It prints double-sided			
P30	It provides adequate training on green initiatives and practices for staff and stakeholders			
P31	Staff receive incentives and other benefits from the establishment based on their performance of green practices.			
P33	It provides a guide via a personalized app instead of a human guide to add value to your stay.			
P34	It has local workers in the hotel			
P36	Fewer appliances in the rooms			
P37	It recycled and locally made furniture in the rooms			
P39	It has a Green Certificate			
P40	It prefers local suppliers to promote the Circular Economy			
P42	It disposes of light bulbs in a suitable place			
P43	It disposes of batteries in a suitable place			
P44	It disposes of frying oil in a suitable container and by a specialized company			

Source: Prepared by the author (2023)

IT is an important theoretical approach that helps to understand the responses of organizations to the pressures of the institutional environment. In this study, Institutional Theory proved to be suitable for examining the origin of the pressures from the circular practices implemented by the Plaza Garden Hotel, providing an understanding of the institutional context of which the hotel is a part. The results indicate that the institutional environment in which the hotel operates is more strongly influenced by normative pressures, coming from consolidated practices in the sector and guided by the main certification standard, NBR 15.401.

Regarding coercive isomorphism, it was possible to observe that Hotel Plaza Garden has practices that comply with law no. 12.305 (2010), which established the National Solid Waste Policy, when it comes to the proper disposal of light bulbs, batteries, and CONAMA resolution no. 362 (2005), which classifies used cooking oil as hazardous waste. And, to a lesser extent, there are mimetic pressures, which stem from the tendency for companies to imitate the strategies and behaviors of others in various contexts, such as technological innovation, changes in consumer behavior and regulatory, media and public opinion influences. This imitation often results from the need to adapt in a dynamic business environment and reflects the importance of keeping up with market trends and best practices in the sector, which is evident in the manager's intention to join the Paraná Tourism Quality Seal.



The impact of normative, coercive and mimetic institutional pressures was verified, in order of greater to lesser incidence, on the practices adopted by the hotel in various areas, such as water management, the use of biodegradable cleaning products, hiring local workers, tourist safety, reducing the consumption of paper and disposable cups, and the disposal of batteries and light bulbs. The motivations behind these practices are closely linked to the search for compliance with standards and regulations, meeting stakeholder expectations, improving the customer experience and minimizing environmental impacts.

The establishment demonstrates a solid commitment to sustainability and responsible management, proactively aligning itself with institutional pressures, especially regulatory ones, to promote more sustainable practices in its sector. This engagement reflects not only compliance with regulations, but also the aspiration to stand out in the market, save resources and contribute to the sustainable development of local communities.

## **5 FINAL CONSIDERATIONS**

The general objective of this study was to analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, in the light of Institutional Theory, their barriers and facilitators, and to meet this objective, four specific objectives were defined. The data collection and analysis carried out made it possible to identify and understand circular practices, their barriers and facilitators in the hotel sector in the city of Cascavel.

Initially, a bibliometric analysis was carried out, the results of which were used to map national and international academic publications over the last ten years related to the subject and provide a basis for the study's problem. Although interest in the subject has grown significantly since 2019, indicating the importance of the topic, publications are still incipient and the co-authorship network reveals dispersion in this area of research. The results show that, despite the relevance of the topic, there is still much to be explored in this field and that the incorporation of sustainability in the tourism sector and CE are topics on the rise but lack in-depth studies and consistency.

With regard to specific objectives A (To survey the literature on which circular practices are most common in the hotel sector) and B (To identify in the literature the barriers and facilitators to the implementation of circular practices in the hotel sector), RSL highlighted the use of solar energy collection systems, low-energy light bulbs, efficient water management,

preference for local and organic food, the creation of sustainable menus, the reuse of fabrics and cups, among others, as sustainable practices.

It is worth noting that many tourists are willing to pay higher prices than usual for ecologically responsible accommodation. However, the adoption of CE strategies is not without its challenges, including obstacles such as the lack of a suitable organizational structure, high initial investments and resistance to change. On the other hand, the implementation of CE can be stimulated by facilitators, such as the creation of an environmental culture in the company, the building of networks, the support of demand and the financial backing provided by the public sector. Thus, the study identified circular practices and the factors that influence their adoption in the hotel sector, which contributed to the development of the research instruments for both the survey and the case study.

In response to specific objective C (Verifying which circular practices, along with barriers and facilitators, are being applied in the hotel system in the city of Cascavel -PR), it was found that the hotel sector in Cascavel faces significant challenges in adopting the circular economy but is also faced with opportunities and facilitating factors that can boost the implementation of these practices. Awareness-raising and education play crucial roles, and government support and cooperation between stakeholders are equally important for promoting sustainability in this sector. In addition, improved understanding and communication can contribute to the successful implementation of Circular Economy practices. These conclusions are valuable in guiding future actions and research in the field of sustainability in the hotel sector.

Regarding specific objective D (Analyze the institutional pressures exerted on the hotel system in the process of adopting circular practices), the case study at the Plaza Garden Hotel showed the impact of normative, coercive and mimetic pressures on the hotel's various areas of activity, such as water management, use of sustainable products, local hiring, tourism safety and waste reduction. The underlying motivations include compliance with regulations, stakeholder satisfaction, improving the customer experience and reducing environmental impacts. The establishment has demonstrated a commitment to sustainability and responds proactively to institutional pressures, seeking both compliance and differentiation in the market, saving resources and contributing to local sustainable development.

In response to the general objective (To analyze the circular practices adopted in the hotel sector in the city of Cascavel-PR, in the light of Institutional Theory, their barriers and facilitators), the results obtained indicate that, although there is some awareness of circular practices in the Cascavel hotel establishments participating in the survey, the implementation

of circular practices is still limited in many areas. The hotel, which is the subject of the case study, stood out as a positive example of commitment to sustainability, but there is room for improvement throughout the city's hotel sector, and additional measures should be taken to promote a more circular and sustainable economy in the local hospitality sector.

The Plaza Garden Hotel, the subject of the case study, has adopted a series of circular practices with the aims of promoting sustainability and minimizing its environmental impact. These practices have been influenced by normative, mimetic and coercive institutional pressures, which come from sustainability standards, legal regulations and certification guidelines. The combination of these practices demonstrated the hotel's solid commitment to sustainability and environmental responsibility.

Based on the analysis conducted, it can be inferred that the context of the hotel sector in Cascavel reveals important insights. The valuable lessons learned so far represent a solid starting point for future initiatives and research. These findings clearly demonstrate that the pursuit of sustainability and the adoption of circular practices in the hotel sector in Cascavel are not only achievable but are already examples to be followed.

As a suggestion for future work, it is important to consider developing customized strategies to overcome the specific obstacles faced by hotels in Cascavel in adopting the Circular Economy. This involves recognizing the individual needs and challenges of each hotel, considering factors such as size, location, infrastructure and target audience. By adapting strategies according to these elements, hotels are more likely to succeed in the transition to more sustainable practices.

In addition, it is important to explore the impact of education and awareness in the city's hotel sector. The promotion of sustainable practices can be boosted by educating hotel owners and managers as well as employees and guests. Raising awareness of the benefits of the circular economy, along with an understanding of the environmental and economic consequences of unsustainable practices, can motivate a change in behavior and culture within the local hotel sector.

Finally, it should be noted that local government plays a key role in promoting sustainability in the hotel sector. It is important to explore how policies and regulations can be developed and implemented to encourage more sustainable practices, such as recycling waste, reducing energy and water consumption and promoting local and organic products. Cooperation between local government and stakeholders, such as hotel associations and environmental organizations, can be key to creating an environment conducive to the Circular Economy.

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## Annex 1 - Data Survey Questionnaire

### Graduate Program in Administration

Master's student: Juliana Bispo de Almeida - Telephone 45 98804-3940 - e-mail: juliana.jbalmeida@hotmail.com

Advisor: Professor Manoela Silveira dos Santos

This questionnaire is part of the final work for the Master's Degree in Administration from the Postgraduate Program in Administration at the State University of Western Paraná and is entitled "CIRCULAR ECONOMY: An analysis of the barriers and facilitators in the implementation of circular practices in the hotel sector in the city of Cascavel-PR", with the aim of analyzing the barriers and facilitators for the implementation of circular practices in the hotel sector in the city of Cascavel-PR. The results obtained will be used for academic purposes only. The questionnaire is anonymous and cannot be identified. There are no right or wrong answers, so please answer all the questions spontaneously and honestly.

### IMPORTANT CONCEPTS

The Circular Economy is a regenerative economic model that aims to maintain products, components and materials at their highest level of usefulness and value by promoting the reuse of products, components and materials through remanufacturing, refurbishment, repair and upgrading.

**Practices** for implementing the **Circular Economy** are actions promoted by hotel establishments to enable conscious consumption and environmental preservation. Some examples of circular economy practices are the use of solar energy, rainwater for cleaning, wastewater treatment for reuse, the reuse of glasses and cutlery, the implementation of energy-saving systems, a reduction in food waste and the use of natural energy from the sun in common areas.

**Barriers** to the implementation of **Circular Economy** practices are the challenges or difficulties faced by establishments in the process of transitioning to the Circular Economy.

**Facilitators** for the implementation of **Circular Economy** practices are incentives received by the establishment to act in accordance with the Circular Economy.

### Block 1

#### Presentation of the establishment

1) Position held by the person responsible for answering the questionnaire?

( ☐ ) Chambermaid

( ☐ ) Chef

( ☐ ) Waiter

( ☐ ) Manager

( ☐ ) General manager

( ☐ ) Receptionist

( ☐ ) Other \_\_\_\_\_



2) What activities does the establishment carry out?

- ( ☐ ) Hotel  
 ( ☐ ) Farm Hotel  
 ( ☐ ) Historic Hotel  
 ( ☐ ) Hostel  
 ( ☐ ) Inn  
 ( ☐ ) Resort  
 ( ☐ ) Apart-hotel

3) How many employees does the establishment have?

4) How many years has the establishment been operating in the hotel business in the city of Cascavel-PR?

5) How many Stars does the establishment have?

- ( ) 1 Star ( ) 2 Stars ( ) 3 Stars ( ) 4 Stars ( ) 5 Stars

6) How many rooms does the establishment have?

6.1) How many beds does the establishment have?

7) Check the services offered by the establishment:

- |   |                             |
|---|-----------------------------|
| ( ) Accommodation   | ( ) Swimming pool           |
| ( ) Breakfast   | ( ) Availability of sockets |
| ( ) Daily cleaning  |                             |
| ( ) Minibar   | ( ) Free Wi-Fi              |
| ( ) Varieties in the minibar  | ( ) Online reservations     |
| ( ) Air-conditioned room  | ( ) Laundry room            |
| ( ) Restaurant  | ( ) Cable TV                |
| ( ) Early check-in and late check-out ( ) Full resource bathroom (offer all possible resources) |                             |
| ( ) Tourist advice  | ( ) Spa                     |
| ( ) Gym   | ( ) Other _____             |
| ( ) Games room  |                             |

7.1) Does the establishment have branches?

- ( ☐ ) Yes  
 ( ☐ ) No

7.2) If yes, how many?

## Block 2

### Circular Economy Practices

8) With regard to Circular Economy practices applied to the hotel sector, please indicate below, according to your perception, on a scale of 1 to 5, how the following practices are being used in the establishment's activities and management:

It uses solar energy with an energy capture and reserve system for long-term use.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Não prática</span> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> </div> <span>Prática totalmente</span> </div>
It uses energy-saving light bulbs.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Não prática</span> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> </div> <span>Prática totalmente</span> </div>
It has plastic roofs for maximum use of sunlight.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Não prática</span> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> </div> <span>Prática totalmente</span> </div>
It is self-sufficient in terms of sustainable energy.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Não prática</span> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> </div> <span>Prática totalmente</span> </div>
It has an automatic induction valve to control energy consumption.	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">1</div> <div style="text-align: center;">2</div> <div style="text-align: center;">3</div> <div style="text-align: center;">4</div> <div style="text-align: center;">5</div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Não prática</span> <div style="display: flex; justify-content: center; gap: 10px;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px;"></div> </div> <span>Prática totalmente</span> </div>

It has a system for efficient use of drinking water to avoid waste.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a water flow control system in the bathroom.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It uses local, seasonal food of controlled origin.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It uses organic food produced on the hotel premises.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It serves organic drinks to guests.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It designs sustainable menus to eliminate waste.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It offers reduced food portions to minimize waste.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It donates surplus food to charities and food banks	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It uses leftover food to feed animals.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It buys products whose packaging can be reused.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It uses towels and bed linen for more than one day.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It offers towels and bed linen made only from ecological materials.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It uses cleaning products with a low environmental impact.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It reuses fabrics.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It reuses cups.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has reduced or eliminated the consumption of coal or oil in the establishment.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a system for recycling the steam condensate produced in the laundry and turning it into boiler water.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a system for producing methane from organic waste.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It treats waste water for reuse.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Organic composting of food waste.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It produces soap from used cooking oil.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>

It uses computers in energy-saving mode.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a paperless office policy using the network system.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It prints double-sided.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It provides adequate training on green initiatives and practices for staff and stakeholders.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Staff receive incentives and other benefits from the establishment based on their performance in green practices.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a digital doorman at night.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It provides a guide via personalized apps instead of a human guide to add value to your stay.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Local workers in the hotel.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It reduced room cleaning hours.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Fewer appliances in the rooms.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Recycled and locally made furniture in the rooms.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Alternatives to reduce transportation costs.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It has a Green Certificate.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
It prefers local suppliers to promote the Circular Economy.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>
Implementation of circular agricultural practices involving local farmers.	<div>1 2 3 4 5</div> <div>Não prática <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Prática totalmente</div>

9) Does the establishment have any practices that help preserve the environment that were not mentioned in the previous question? If so, please describe them:

### Block 3

#### Barriers to implementing circular economy practices

10) With regard to the barriers to implementing Circular Economy practices, please indicate below, according to your perception, on a scale of 1 to 5, how much the establishment faces or has faced the challenges or difficulties listed below:

Lack of organizational structure/infrastructure	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Complexity of product designs compatible with the Circular Economy	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>

Additional human resource needs	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
High investment costs and low return	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Lack of consumer awareness, preference or pressure	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Lack of new technologies, materials and processes	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
High cost of using environmentally friendly packaging	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Lack of government support	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Lack of knowledge and training possibilities	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Lack of corporate social responsibility	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>

11) Does the establishment know of, experience or have experienced any barriers to implementing practices that help preserve the environment and which were not mentioned in the previous question? If so, please describe them:

#### Block 4

#### Facilitators for the implementation of Circular Economy practices

12) With regard to the facilitators for implementing Circular Economy practices, please indicate, according to your perception, on a scale of 1 to 5, how much each of the incentives listed below influences or has influenced the establishment in adopting CE practices.

The adoption of circular practices helps spread the environmental culture in the establishment.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of circular practices increases the establishment's networking (sharing of information and services between people, companies or business groups).	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of circular practices promotes cooperation between the parties involved in the process according to demand.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Adopting circular practices gives the establishment a greater financial return.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The company that acts in accordance with circular practices has greater recognition and demand from consumers, who look for environmentally friendly establishments.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of circular practices promotes personal knowledge, both in employees, who experience environmental awareness; suppliers, who need to adapt to demands; consumers, who take environmental awareness into their lives; and the company itself, which acquires greater knowledge about itself.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>

The government provides incentives for the adoption of circular practices in hotels and tourist establishments, through lines of credit and products for small businesses and support for investments in infrastructure and culture.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
Companies can establish partnership agreements with local suppliers and form a local or regional support network to guarantee products and services in line with Circular Economy practices.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The company that adopts circular practices improves its corporate image.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of Blockchain technology (a distributed data network that allows information to be tracked in blocks) drives the adoption of circular practices.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of circular practices provides for the use of digital intelligence (the ability to use technological tools and digital media safely, responsibly and efficiently) in the establishment's processes.	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>
The adoption of circular practices encourages collaboration between the establishment's stakeholders (all the interested parties in a company).	<div>1 2 3 4 5</div> <div>Pouco <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> Muito</div>

13) Does the establishment know, experience or have experienced any facilitators in implementing practices that help preserve the environment and which were not mentioned in the previous question? If so, please, describe them:

## Annex 2 - Interview script for the case study

### Part I: General questions

1. Name of interviewee
2. Interviewee's academic background
3. Position held in the company
4. Length of time working in the industry and in the company

### Part II: Company history

1. What is the name of the company?
2. How long has the company been in business?
3. Where is the company located?
4. How was the company set up (motivation for starting)?
5. The hotel has only been in operation for a short time; when it was at the design stage, what adjustments were made to the structure of the establishment to help preserve the environment?
6. Have these measures brought savings in the time it has been in operation?
7. What is the estimated return on the initial investment?

### Part III: The circular practices implemented

1. Of the practices adopted, which was the most complicated to implement or presented the most resistance in the implementation process?
2. What was the motivation for each circular practice adopted and how difficult was it to implement?

P1	It uses solar energy with an energy capture and reserve system for long-term use.	
P2	It uses energy-saving light bulbs.	
P6	It has a system for efficient use of drinking water to avoid waste.	
P7	It has a water flow control system in the bathroom.	
P8	It uses local, seasonal and source-controlled food.	
P16	It uses towels and bed linen for more than one day.	
P18	It uses cleaning products with a low environmental impact.	
P20	It reuses cups.	
P27	It uses computers in energy-saving mode.	

P28	It has a paperless office policy using the network system.	
P29	It prints double-sided.	
P30	It provides adequate training on green initiatives and practices for staff and stakeholders.	
P31	Staff receive incentives and other benefits from the establishment based on their performance of green practices.	
P33	It provides a guide via personalized apps instead of a human guide to add value to your stay.	
P34	It has local workers in the hotel.	
P36	It has fewer appliances in the rooms.	
P37	It recycled and locally made furniture in the rooms.	
P39	It has a Green Certificate.	
P40	It prefers local suppliers to promote the Circular Economy.	
P42	It disposes of light bulbs in a suitable place.	
P43	It disposes of batteries in a suitable place.	
P44	It disposes of frying oil in a suitable container and by a specialized company.	

1. Has the establishment tried to implement any circular practices and been unsuccessful? What was it?
2. Which practice was best accepted by employees and guests during the implementation process?
3. Does solar energy supply 100% of the hotel's needs or is it only for a few specific sectors?
4. Is the establishment in the process of obtaining the Paraná Tourism Quality Seal (SEBRAE)? What are the advantages of obtaining this seal?

#### Part IV: Facilitators and barriers to implementing circular practices

1. What has the government (federal, state and municipal) done to support tourism in order to benefit establishments and expand circular practices?
2. In practice, do hotel establishments receive any incentives or pressure to implement circular practices?
3. How do the community, employees and guests respond to the implementation of circular practices?
4. In your opinion, what have been the main barriers to the implementation of circular practices and what are the barriers facing the sector as a whole? Why?
5. In your opinion, what have been the main facilitators for the implementation of circular practices in this sector?

**Annex 3 - List of active registrations of lodging and hotel establishments in the Municipality of Cascavel**



Da Secretaria Municipal de Finanças

Protocolo: 159243/2022

Nome: JULIANA BISPO DE ALMEIDA

Assunto: SOLICITAÇÃO

A requerente, Juliana Bispo de Almeida, solicita, conforme requerimento exarado pela Professora Elizandra da Silva, a relação de cadastros ativos no município de Cascavel dos estabelecimentos de hospitalidade e hotelaria.

Considerando tratar-se de material a ser utilizado em trabalho acadêmico, deferimos a solicitação.

Segue em anexo relatório de hotéis, motéis e pensões/dormitórios cadastrados e ativos em nossa base de dados.

Sendo o que tínhamos,

Colocamo-nos à disposição para eventuais esclarecimentos.

  
Cleomara Nunes  
Encarregada Setor de Alvará







# MUNICÍPIO DE CASCAVEL

Gerenciamento do Sistema

Econômico

Bloco Igual Informações ISS / Item da Lista: Nenhum / Situação Igual Seleção... / Item da Lista: Nenhum / Filhos Igual Atividade / Número Atividade Igual Seleção... / Atividade Igual Seleção... / Endereço Igual Endereço Principal / Endereço Igual Domicílio Fiscal / Situação: 1 - Ativo / Origem REDESIM: Todos / Contribuinte - Tipo Pessoa: Todos / Opção do Simples Nac...

Pág. 2 / 3

Cadastro Contribuinte - Contribuinte - Cnpj/Cnpj		Domicílio Fiscal - Logradouro/Bairro - Descrição	Domicílio Fiscal - Número	Atividade Principal - Descrição
6016600	CRISTO REI HOTEL LTDA	CRISTO REI	0000000154	HOTEL
6084200	HOTEL I.E. PATRICCE LTDA	BRASIL	0000000362	HOTEL
6209600	V F BAHLS	ERECHIM	0000001926	HOTEL
6407700	J KUSS & CIA LTDA	DO ROSARIO SÃO PAULO	0000000372	HOTEL
6830800	LMPJ ADMINISTRADORA DE HOTEIS LTDA	13 DE MAIO	0000000710	HOTEL
6870400	VALDENIR FABRICIO BAHLS LTDA	RIO GRANDE DO SUL	0000000094	HOTEL
7737300	E.FREDERICO REBOUÇAS	RIO GRANDE DO SUL	0000000329	HOTEL
8449200	HABITAR MOVEIS LTDA - EPP	BRASIL	000000008819	IMOBILIARIAS
9285400	MAESTRO PREMIUM HOTEL EIRELI - EPP	MARECHIA CANDIDO RONDON	00000002102	HOTEL
9319500	D RAIZER DA SILVA & CIA LTDA - ME	JARUINGO JOAO GRANDO	00000000018	HOTEL
93005387	G.CRISTO RESTAURANTE ME	BR-467	0000000055	RESTAURANTE
930014239	CASA DE REPOUSO BETHANIA LTDA ME	RECIFE	00000001345	HOTEL
930014449	SANDRA REGINA MORAIS TIEBS	RIO GRANDE DO SUL	0000000329	HOTEL
930016050	HOSTEL BOTTON & GUBERT LTDA	ERICO VERESIM ALEGRE	00000001230	HOTEL



# MUNICÍPIO DE CASCAVEL

Gerenciamento do Sistema

Econômico

Bloco Igual Informações ISS / Item Igual Atividade Principal / Item da Lista: Nenhum / Situação Igual Seleção... / Item da Lista: Nenhum / Filhos Igual Atividade / Número  
Atividade Igual Seleção... / Atividade Igual Seleção... / Endereço Igual Endereço Principal / Endereço Igual Domicílio Fiscal / Situação: 1 - Ativo /  
Origem REDESIM: Todos / Contribuinte - Tipo Pessoa: Todos / Opante do Simples Nc...

Pág 2 / 3

Cadastrado	Contribuinte - Nome Razão	Contribuinte - Cnpj/Cnpj	Domicílio Fiscal - Logradouro - Número - Descrição	Domicílio Fiscal - Descrição	Atividade Principal - Descrição
6016600	CRISTO REI HOTEL LTDA	04.875.115/0001-80	CRISTO REI	CENTRO	0000000154 HOTEL
6034200	HOTEL LE PATRICIO LTDA	05.368.908/0001-87	BRASIL	CENTRO	00000003962 HOTEL
6209600	V F BAHLS	05.757.100/0001-80	ERECHIM	CENTRO	0000001926 HOTEL
6407700	J KUSS & CIA LTDA	06.940.608/0001-82	DO PARQUE ROSARIO SÃO PAULO	PARQUE	0000000372 HOTEL
6830800	LMP J ADMINISTRADORA DE HOTEIS LTDA	09.076.336/0001-02	13 DE MAIO	CENTRO	0000000710 HOTEL
6870400	VALDENIR FABRICIO BAHLS LTDA	09.109.144/0001-55	RIO GRANDE DO SUL	CENTRO	0000000294 HOTEL
7737300	E. FREDERICO REBOUCAS	13.393.701/0001-80	RIO GRANDE DO SUL	CENTRO	0000000329 HOTEL
8449200	HABITAR IMOVEIS LTDA - EPP	13.671.173/0001-50	BRASIL	COQUEIRA	00000006819 IMOBILIARIAS
9285400	MAESTRO PREMIUM HOTEL EIRELI - EPP	23.025.736/0001-50	MARECHAL CANDIDO RONDON	CENTRO	0000002102 HOTEL
9319500	D RAIZER DA SILVA & CIA LTDA - ME	21.455.079/0001-70	JARUNDO JOAO GRANDO	CENTRO	0000000018 HOTEL
63005387	G. CRISTO RESTAURANTE ME	08.148.038/0001-29	BR-467	DISTRITO - SEDE ALVORADA	00000005N RESTAURANTE
630014239	CASA DE REPOUSO BETHANIA LTDA ME	18.578.787/0001-39	RECIFE	CENTRO	0000001345 HOTEL
630014449	SANDRA REGINA MORAIS TIBES	31.898.303/0001-30	RIO GRANDE DO SUL	CENTRO	0000000329 HOTEL
630015050	HOSTEL BOTTON & GUBERT LTDA	35.304.728/0001-41	ERICO VERISSIM ALEGRE	ALTO	0000001230 HOTEL



## MUNICÍPIO DE CASCAVEL

Gerenciamento do Sistema

Económico

Bloco Igual Informações ISS / Item Igual Atividade Principal / Item da Lista: Nenhum / Sim/Não Igual Seleção.... / Item da Lista: Nenhum / Filtros Igual Atividade / Número

Atividade Igual Seleção... / Atividade Igual Seleção... / Atividade Igual Seleção... / Situação: 1 - Ativo /

Origem REDESIM: Todos / Contribuinte - Tipo Pessoa: Todos / Optante do Simples Nac...

Cadastro	Contribuinte - Nome Razão	Contribuinte - Cpf/Cnpj	Domicílio Fiscal - Logradouro - Bairro - Número - Descrição	Domicílio Fiscal - Bairro - Número - Descrição	Atividade Principal - Descrição
630020573	CONGREGAÇÃO DAS FRANCISCANAS DE INGOLSTADT - REGIÃO BRASILEIRA SANTA ELISABETH	30.568.725/0004-94	JARAGUA PERIOLLO	0000000215	Serviços de assistência social sem alojamento

Total de Registros: 30







## Annex 4 - Hotel Plaza Garden Sustainability Manual



### Garden Plaza Hotel LTDA

**GERENTE GERAL**  
Luis Felipe Casagrande

**DIRETORA**  
Lizandra Giordani Casagrande

**GERÊNCIA DE PROJETOS E AÇÕES AMBIENTAIS**  
Marco Antonio Lerner

**COLABORADORES**  
Paulo  
Wilson  
Ora

**PROJETO GRÁFICO E DIAGRAMAÇÃO**  
Wetzu comunicação e marketing  
João Vitor Giordani Casagrande

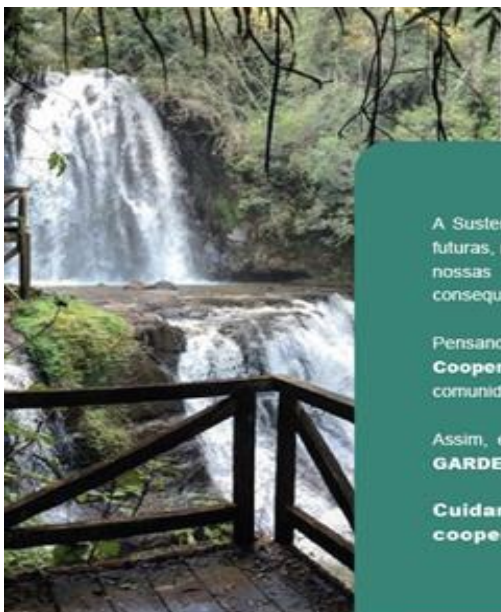


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- 10 Medicamentos
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- 12 Copo descartável
- 13 Papel
- 14 Energia







## Apresentação

A Sustentabilidade busca suprir as necessidades do presente sem afetar as gerações futuras, relacionando aspectos econômicos, sociais, culturais e ambientais. Sendo assim, nossas atividades do dia a dia estão diretamente ligadas à sustentabilidade e, consequentemente, ao futuro do planeta.

Pensando nisso, a Diretoria do **PLAZA GARDEN HOTEL** iniciou o **projeto Cooperação**, onde serão implantadas diversas ações ambientais voltadas para a comunidade de colaboradores, familiares e clientes.

Assim, este manual foi desenvolvido para auxiliar na gestão de resíduos do **PLAZA GARDEN HOTEL** e divulgar as ações desenvolvidas pela equipe.

**Cuidar do meio ambiente é uma responsabilidade de todos, coopere!**

## Os 5Rs



### Rejeitos no saco preto



#### Rejeitos (lixo)

- Comida
- Copo descartável
- Isopor
- Embalagem metalizada
- Guardanapo amassado
- Cigaro



### Resíduos recicláveis no saco azul



#### Resíduos recicláveis

- Papel, papéis
- Garrafas plásticas
- Latinhas
- Vidro
- Metal



## Coleta seletiva

No HOTEL PLAZA GARDEN, há dois tipos de coletores: um para rejeitos (lixo) e outro para resíduos recicláveis. Cada item deve ser colocado no saco específico: rejeitos no saco preto e resíduos recicláveis no saco azul. A separação por tipo de material é feita posteriormente.

**Coopere, coloque no saco correto.**

#### REJEITOS:

o que não tem mais possibilidade de reutilização e reciclagem.

#### RESÍDUOS RECICLÁVEIS:

tudo o que pode ser reutilizado e reciclado.





## Coleta seletiva

### GARDEN COOPERAÇÃO

O projeto Garden Cooperação, que teve como piloto a Recepção, contou com **visitas da equipe** nas demais salas e áreas comuns. Foram deixadas **caixas coletoras** para o descarte correto de materiais recicláveis. A proximidade do coletor incentiva a atitude.

Nas áreas comuns foram colocadas as **duplas de coletores**: saco preto para lixo não reciclável e saco azul para rejeitos recicláveis. O projeto deve implantar a ação em todos locais do Hotel.

## Cuidados

Retire os restos de líquido ou comida das embalagens recicláveis antes de descartá-las. Limpe potes, pratos, caixas e copos para não atrair insetos e evitar mau cheiro até o dia da coleta seletiva.

**Não jogue resto de comida no coletor de resíduos recicláveis**



## Óleo de fritura

O óleo de fritura não pode ter como destino pia, bueiro, ralo ou guia da calçada porque impacta negativamente o encanamento da sua casa e também polui a água, além de contribuir para a morte de plantas e animais. Esse óleo pode ser reciclado e virar sabão ou virar biodiesel, por exemplo. Pensando nisso, a equipe colocou coletores específicos para óleo de fritura no restaurante.

Para descartar corretamente o óleo de fritura, coloque-o em uma garrafa pet, feche bem e deposite no coletor.



O óleo depositado será destinado para uma empresa privada que fará produtos de limpeza com o mesmo, ajudando assim a preservar o meio ambiente. A renda obtida com a venda dos produtos será revertida ao Abrigo São Vicente de Paulo.

## Pilhas e baterias



Pilhas e baterias  
devem ser descartadas  
nos coletores específicos.

Pilhas e baterias devem ser coletadas separadamente e não descartadas com o lixo comum, pois em contato com o meio ambiente podem gerar contaminação do solo e água. Se possível, utilize pilhas recarregáveis.



O descarte incorreto de **LÂMPADAS** pode fazer com que as substâncias químicas contidas neles cheguem aos rios e córregos, podendo contaminar a água e assim causar efeitos adversos para a saúde humana e animal.

Por conterem mercúrio em sua composição, **as lâmpadas fluorescentes precisam ser descartadas em coletores especiais**. Por essas razões, seu descarte correto é obrigatório por lei e fabricantes, comerciantes e importadores devem implementar a logística reversa desse material.



## Copo descartável



No Brasil, menos de 20% dos copos descartáveis são reciclados, devido ao seu baixo valor de mercado. No Nordeste, até o momento, não há empresas que reciclem o produto.

Podemos reduzir o uso do copo descartável substituindo-o por um copo, caneca ou garrafa durável.

Se estiver sem copo, caneca ou garrafa durável, utilize o mesmo copo ao longo do dia.

Um copo descartável leva até  
450 anos para se decompor.  
Use com consciência. **Coopere.**

## Papel



## Energia



## Energia



### Práticas sustentáveis:

- Incentivar a redução de impressão, imprimindo apenas o que for necessário;
- Usar tecnologias disponíveis para evitar impressões desnecessárias (computador, email, scanner, etc);
- Utilizar impressão em frente e verso;
- Fazer reuso de papel, sempre que não for utilizado frente e verso. Exemplos: confecção de blocos de anotações, lembretes, utilização como rascunho, etc.
- Utilize papel reciclado.

A cada 1.000 quilos de papel,  
12 árvores são derrubadas.  
Economize papel. **Coopere.**

### Ações simples podem ajudar a reduzir o uso da energia:

- Desligar computadores, monitores e demais equipamentos que não estejam sendo utilizados;
- Desligar o monitor quando for deixá-lo inativo por mais de 15 minutos;
- Configurar o computador para economizar energia (regular o brilho da tela, configurar o tempo para o micro entrar em modo de espera ou em hibernação quando estiver ocioso);
- Se for o primeiro a chegar na sala, não ligar os outros computadores e se for o último, verificar se está tudo desligado.

Ao sair, desligue o monitor.  
Não desperdice energia. **Coopere.**

### Ações simples podem ajudar a reduzir o uso da energia:

- Ajustar o ar condicionado entre 22° e 24° (a variação de um grau pode elevar em até 8% o consumo de energia);
- Quando o aparelho estiver ligado, mantenha as portas e janelas bem fechadas para que o ar quente externo não entre.
- Desligar lâmpadas e ar condicionado ao sair dos locais;
- Se possível, utilizar luz natural.

Apague a luz ao sair.  
Basta um clique. **Coopere.**





TERMO DE AUTORIZAÇÃO E COMPROMISSO  
PARA USO DE INFORMAÇÕES

Eu, LUIS FELIPE CASAGRANDE, ocupante do cargo de SÓCIO ADMINISTRADOR na instituição GARDEN PLAZA HOTEL LTDA, após ter tomado conhecimento do projeto de pesquisa intitulado Economia Circular: Uma Perspectiva Institucional sobre as Práticas circulares, Barreiras e Facilitadores no setor hoteleiro de Cascavel-PR, que tem como objetivo Analisar as práticas circulares adotadas no setor hoteleiro da cidade de Cascavel – PR, suas barreiras e facilitadores sob a luz da Teoria Institucional, e, para tanto, necessita coletar as seguintes informações: Dados cadastrais, históricos, documentais, detalhamento dos processos envolvendo praticas circulares, autorizo a pesquisadora JULIANA BISPO DE ALMEIDA a ter acesso às informações desta instituição para a referida pesquisa.

Esta autorização está sendo concedida desde que as seguintes premissas sejam respeitadas: as informações serão utilizadas única e exclusivamente para a execução do presente projeto;

Esta autorização está condicionada ao comprometimento da pesquisadora a utilizar os dados dos participantes da pesquisa e dos documentos acessados, exclusivamente para os fins acadêmicos e garantindo a não utilização das informações em prejuízo das pessoas e/ou das comunidades.

Cascavel, 26 de setembro de 2023.



Luis Felipe Casagrande