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# Reinventing the Business Model in the Tourism Industry based on Sustainable Circular Economy and Innovation

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## Abstract

Today, the whole globe is facing a series of crises unprecedented in modern histories, such as health, social, economic, environmental, etc. All these crises result from an unsustainable development model based on the misuse of the planet's natural resources, threats such as climate change, and conflicts with economic, social, and environmental impacts. The crisis caused by the pandemic has accentuated new patterns of behaviour and consumption, accelerated the technological revolution, and grown concerned for sustainability. Tourism is an industry that is particularly vulnerable to the effects of climate change, the consequences of which vary widely. Therefore, sustainable solutions are in the interest of the tourism sector, and the circular economy is a life-saving solution for the tourism industry. The transition from a linear to a circular economy is presented throughout the European Union as one of the major drivers of change and Innovation. This article aims to move towards a new business model in the tourism industry based on the circular economy and Innovation by setting out the principles for applying the circular economy in tourism. New business models can help us transform the tourism industry in this disruptive process.

**Keywords:** Circular Economy; Innovation; Business Model; Tourism

**JEL classification:** Q01, Z32

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## Introduction

In recent years, tourism has played an important role in a country's economy, so tourism is seen as an economic branch with an increasingly dynamic. Tourism is one of the areas in which resource saving and environmental protection have become globally important. The circular economy has become an extremely popular term in recent years. It is seen as a solution to the global environmental crisis affecting the whole world and is as severe as the pandemic, although perhaps less obvious. The circular economy is a more appropriate model for current trends in the sustainability of economic processes.

The paper aims to shed new light on creating value and innovating the business model resulting from the circular economy in the tourism industry. For developing business practices based on sustainability concerns, the circular economy has emerged as a potential strategy for the tourism sector. As we all know, the tourism industry greatly impacts the environment in which we live. Large hotel chains are responsible for introducing innovations in business management to a circular economy. Emerging and digital technologies (e.g., artificial intelligence) play a key role in innovating business models for a circular economy.

If we were talking about sustainable tourism years ago, now we are focusing on innovating business models for a circular economy. According to the World Tourism Organization, sustainable tourism is "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, industry, the environment, and host communities". The tourism sector has so far (so far) not been given much attention as a possible context for circular economy initiatives and analyses. In the context of sustainable development, circular tourism can reconcile tourism with sustainable resource management. It aims to produce tourism goods and services while greatly limiting the environmental impact (including the consumption and waste of non-renewable energy sources). Circular tourism follows the logic of the circular economy, a business model in line with the principles of sustainable development. Thus, circular tourism proposes a model in which each tourism actor (traveler, host, tour operator, and provider) adopts an ecological approach. Closed circular tourism, already a trend in Europe, is a prerequisite for the sector's sustainable development. Today, the circular economy is a key priority in the circular economy, not just in tourism.

Urbinati et al. (2020) analysed companies' transition to new business models. They proposed a framework to explain how incumbents can adapt existing business models or create new value propositions. As the previous literature has deepened the discussion on the transition from linear business models to circular business models, there is a gap in scientific knowledge regarding business models.

## Methodology

This study consists of two stages. The first stage consists of a literature review focusing on circular economy and business model innovation. Once a review of the existing literature on how the circular economy is applied in the hospitality industry has been conducted, we will move on to the second stage. The second stage consists in conducting a qualitative multiple-case study to investigate the Innovation of the business model for the circular economy of hotel chains. We chose a multiple case study strategy to examine a contemporary and real-life phenomenon in its natural setting. A qualitative multiple case study applied to five international hotel chains. Specifically, three American hotel chains: Wyndham Worldwide, Hilton Worldwide,

Choice Hotels International, the British group InterContinental Hotels, and the largest European hotel chain owned by the French, Accor.

Business case analysis facilitates an in-depth look at an issue when knowledge is limited. We seek to understand multiple and different perspectives from empirical observation by analysing the differences and similarities between exceptional and representative cases. As business innovation for the circular economy is still an early topic of study, the multiple case study strategy is appropriate for exploring and identifying other emerging issues. In addition, investigating several cases allows us to generalize the study's conclusions.

Because the focus is on Business Model Innovation for the Circular Economy in the Tourism Sector, selecting relevant cases from the tourism industry was necessary to understand the key elements of Business Model Innovation. We have selected five hotel chains from the ten largest in the world by the number of worldwide locations. This method is very useful in understanding the various aspects of sustainability in the tourism industry. Table 1 presents the ten largest hotel chains in the world by the number of worldwide locations

Table 1

The ten largest hotel chains in the world by the number of worldwide locations

Hotel chain	Number of Locations	Number of Rooms	Annual Revenue (latest)	Established:	Headquarters
<b>Wyndham Hotels &amp; Resorts</b>	~ 9,300 hotels in 75 countries	~ 830,000	\$4.0 billion	1981	Parsippany, New Jersey, USA
<b>Marriott International</b>	~ 7,500 hotels in 131 countries	~ 1.4 million	\$21.0 billion	1927	Bethesda, Maryland, USA
<b>Choice Hotels International</b>	~ 7,100 hotels in 41 countries	~ 600,000	\$1.1 billion	1939	Rockville, Maryland, USA
<b>Hilton Worldwide</b>	~ 6,200 hotels in 118 countries	~ 980,000	\$9.5 billion	1919	Tysons Corner, Virginia, USA
<b>InterContinental Hotels Group</b>	~ 5,700 hotels in 100 countries	~ 880,000	\$2.1 billion	1946	Denham, England, UK
<b>Accor</b>	~ 4,800 hotels in 100 countries	~ 700,000	\$4.8 billion	1960	Issy-les-Moulineaux, Ile-de-France, France
<b>Best Western Hotels &amp; Resorts</b>	~ 4,700 hotels in 90 countries	~ 400,000	\$3.1 billion	1946	Phoenix, Arizona, USA
<b>G6 Hospitality</b>	~ 1,500 hotels in 2 countries	~ 110,000	\$495 million	1962	Carrollton, Texas, USA
<b>Red Lion Hotels</b>	~ 1,400 hotels in 2 countries	~ 90,000	\$114 million	1959	Denver, Colorado, USA
<b>Radisson Hotel Group</b>	~ 1,100 hotels in 115 countries	~ 200,000	\$1.2 billion	1962	Minnetonka, Minnesota, USA

Source: Our elaboration

The five hotel chains analysed from the top ten hotel chains in the world by the number of locations worldwide are Wyndham Hotels & Resorts, Hilton Worldwide, InterContinental Hotels Group, Accor, and Choice Hotels International.

To achieve our objectives, the specialized literature and the Global Reporting Initiative (GRI) reports, and the annual reports of the hotel chains chosen for analysis

were used. These reports show the initiatives of the hotel chains in terms of the notion of circular economy and business model innovation.

In the 1960s, Kenneth Boulding, a British economist, described the Earth as a "closed spaceship" in *Economics of the Coming Spaceship Earth*. Boulding introduced the concept of closed systems and envisioned a future economy that would work by reproducing the limited stock of inputs and recycling waste. Boulding used the terms "space economy" and "cowboy economy" to contrast the two different economies: the closed economy of the future (space economy) and the open economy of the past (cowboy economy) (Boulding, 1966).

Later, in the 1970s, the Rome Club came up with the "Limits of Growth", in which humanity can sustain its survival only by restricting production and consumption (Meadows et al., 1972). Table 2 defines the notion of circular economy in the literature.

Table 2

Defining the notion of circular economy in the literature

Source	Definition
<b>Heck (2006)</b>	„The use of sustainable energy is crucial in a circular economy. The transition to a circular economy would require addressing the challenge of establishing a sustainable energy supply and decisive action in several other areas, such as agriculture, water, soil, and biodiversity.”
<b>Preston (2012)</b>	„The circular economy is an approach that transforms resource function into economics. Factory waste would become a valuable input for another process - and products could be repaired, reused or upgraded instead of being dumped.”
<b>Su et al. (2013)</b>	„The focus of the circular economy is gradually expanding beyond material management issues and covers other issues such as energy efficiency and conservation, land management, soil and water protection.”
<b>Bastein et al. (2013)</b>	„The transition to the circular economy „is essential for a resilient industrial system that facilitates new economic activity, strengthens competitiveness, and generates jobs”.”
<b>EEA (2014)</b>	The circular economy „refers mainly to issues related to the physical and material resources of the economy - it focuses on recycling, limiting and reusing physical inputs for the economy and the use of waste as a resource that reduces the consumption of primary resources”.
<b>ADEME (2014)</b>	„The goal of the circular economy is to reduce the environmental impact of resource consumption and improve social welfare.”
<b>Mitchell (2015)</b>	„A circular economy is an alternative to a traditional linear economy (manufacturing, using, disposing of) in which we keep resources in use for as long as possible, extracting maximum value from them during use, then recovering and reusing products and materials.”
<b>Ellen MacArthur Foundation (2013a; 2013b; 2015a)</b>	The circular economy is „an industrial system that is restorative or regenerative by intention and design. It replaces the concept of "end of life" with restoration, the transition to the use of renewable energy, eliminates the use of toxic chemicals, which affects reuse and aims at eliminating waste through the superior design of materials, products, systems and business models. The objective is to "enable efficient flows of materials, energy, labor, and information so that natural and social capital can be rebuilt”.
<b>The European Commission (2015a)</b>	The circular economy is „where the value of products, materials, and resources is kept in the economy for as long as possible, and the generation of waste is kept to a minimum.” The transition to a more circular economy would make "a key contribution to the EU's efforts to develop a sustainable, low-carbon, resource-efficient and competitive economy”.
<b>Sauvé et al. (2016)</b>	The circular economy refers to „the production and consumption of goods through closed-loop material flows that internalize environmental externalities related to the extraction of virgin resources and the generation of waste (including pollution)”.
<b>EEA (2016)</b>	„A circular economy offers opportunities to create prosperity, growth, and jobs while reducing environmental pressures. The concept can be applied, in principle, to all types of natural resources, including biotic and abiotic materials, water, and soil.”
<b>Ghisellini et al. (2016)</b>	„The radical reshaping of all processes throughout the product life cycle, carried out by innovative actors, has the potential to achieve not only material or energy recovery, but also to improve the whole life and economic model.”

Source: (Rizos et al., 2017)

In addition to the above, other theories have influenced the development of the circular economy since the 1960s, including Cradle-to-Cradle, Biomimicry, Industrial Ecology, Performance Economics, and the Blue Economy.

The term circular economy seems to be officially used in an economic model for the first time by Pearce and Turner. The authors relied on the principle that "everything is an entrance to everything else" they took a critical look at the traditional linear economic system and developed a new economic model, called the circular economy, which applies the principles of the first and second. Two laws of thermodynamics (Pearce et al., 1990).

F. Blomsma and G. Brennan define the circular economy as a general term that covers all activities that reduce, reuse and recycle materials in production, distribution, and consumption. Most definitions have the same essential notions as "reduce", "reuse," or "recycle" (Blomsma et al., 2017).

Xavier Marcet, Marc Marcet, and Ferran Vergés believe that the term circular economy is used to define an economic model that aims to keep materials, products, and components in circular processes, in which they can be reintegrated into the value chain once they last. Their useful life is over, ensuring that materials lose as little value as possible (Marcet et al., 2018)

The authors, Kirchherr, Reike, and Hekkert, in their paper "Conceptualizing the circular economy: An analysis of 114 definitions", define the circular economy as an economic system based on business models that replace the "death" of material through the rule of three R -reduces, reuses and recycles- and, adding a fourth rule, -recovers-; this concerning the materials in the production, distribution and consumption processes that operate at the three levels of the economy (Kirchherr et al., 2017).

The transition to a circular economy, in which the value of products, materials, and resources is kept in the economy for as long as possible, and the production of waste is kept to a minimum, has gained special attention during the COVID-19 pandemic. Hundreds of circular economy definitions are found in the literature, centered around key concepts such as sustainable development and waste hierarchy.

## Results

More and more hotel chains have realized that we need to protect our environment and have begun to apply sustainable ways in their business.

Urbinati et al. (2017) argue that circular business models have three main dimensions: decisions and actions to define and implement the circular business through value creation, value transfer, and value capture.

Table 3 present the best practices in Innovation and the circular economy.

*Table 3*  
Best practices in Innovation and the circular economy

<b>Hotel chain</b>	<b>Hotels</b>	<b>Best practices in Innovation and the circular economy</b>
<b>Hilton Worldwide</b>	Hilton Garden Inn (HGI)	<ul style="list-style-type: none"> <li>- the roof is covered in grass, allowing for ultra-efficient insulation and a building that seamlessly blends into the local environment;</li> <li>- ultraefficient heating systems, including under-floor heating;</li> <li>- motion sensors on water taps and motion-activated LED lighting further prevent energy waste;</li> <li>- The hotel is powered by renewable energy from a local power plant that captures leftover energy from a range of industries, including turning waste from the Islands' thriving salmon fishing industry;</li> </ul>

	Rome Cavalieri, A Waldorf Astoria Hotel	<ul style="list-style-type: none"> <li>- the HGI Faroe Islands will be one of the first hotels on the island to offer electric vehicle charging stations.</li> <li>- optimizing the hotel's irrigation schedule and swimming pool water consumption;</li> <li>- redeveloping the property's evaporative tower system;</li> <li>- training housekeeping and kitchen teams to reduce water waste;</li> </ul>
	Hilton Bali	<ul style="list-style-type: none"> <li>- installing low-flow dispensers on all taps and showerheads.</li> <li>- the resort produces edible vegetable paper menus for VIPs and special events, reducing unnecessary paper waste;</li> <li>- Hilton encourages its hotels and resorts across the region to support responsible suppliers and integrates sustainably sourced ingredients into dining menus.</li> <li>- The Food &amp; Beverage team started a "Know Thy Neighbour" project to work with local vendors and producers to provide more of the hotel's culinary offerings while supporting small local enterprises and sustainable procurement</li> <li>- Hilton hotels in Bali helped a local Balinese small-scale water supplier, "Spring Water," build the necessary capabilities and credibility to cater to large hotels in Bali. The partnership with Spring Water allowed the three hotels in Bali to transition completely from single-use plastic water bottles to glass bottled water, taking a big leap in the company's progress towards being free of single-use plastics.</li> </ul>
<b>Wyndham Hotels &amp; Resorts</b>	Wyndham Deerfield Beach Resort	<ul style="list-style-type: none"> <li>Reducing energy and tracking resource consumption</li> <li>Reducing water usage</li> <li>Minimizing waste</li> <li>Improving air quality</li> <li>Educating our employees and driving Innovation</li> <li>Working with our community</li> </ul>
	Wyndham Grand® Manama	<ul style="list-style-type: none"> <li>- the hotel installed low-flow aerators throughout the hotel and experienced 37% water savings in that application as a result,</li> <li>- implementing a water reuse system that collects air conditioning condensate for landscaping irrigation.</li> </ul>
	Wyndham® Chongqing Yuelai Ramada® by Wyndham Ajman	<ul style="list-style-type: none"> <li>- installed solar film and motorized curtains on their rooftop atrium to improve its thermal insulation and reduce energy waste and consumption.</li> <li>- launched the Zero Landfill Project.</li> <li>- they achieved an estimated 90% waste diversion through a comprehensive recycling program that aligns with the Wyndham Green Certification.</li> </ul>
<b>InterContinental Hotels Group</b>	Kimpton Seafire Resort + Spa (Cayman Islands, Caribbean)	<ul style="list-style-type: none"> <li>- takes protecting the surrounding coral reefs to impressive depths,</li> <li>- solar power panels,</li> <li>- LED lighting,</li> <li>- recycled building materials,</li> <li>- the use of native plants contributed to the resort earning LEED Silver, an award for Leadership in Energy and Environmental Design.</li> </ul>
	InterContinental New York Barclay (New York)	<ul style="list-style-type: none"> <li>- six beehives producing honey and pollinating the rooftop kitchen garden, which produces fruits, vegetables, and herbs for the hotel's restaurant,</li> <li>- to reduce food waste, the hotel also uses a special system called the EnviroPure Digester that uses enzymes to separate food waste into compost and brown water to cultivate their garden further,</li> <li>- the hotel also donates used oyster shells to the Billion Oyster Project to help to restore the oyster reefs in New York Harbor,</li> </ul>

		providing a habitat to grow and hatch baby oysters that attach to the repurposed old shells.
	InterContinental Maldives Maamunagau Resort (Maldives)	<ul style="list-style-type: none"> <li>- Solar power energy system that can produce 8 percent of the resort's total energy requirement, resulting in a reduction of 365 tons of CO2 equivalent annually</li> <li>- A glass crushing system that allows the resort to use it as a component alongside aggregate in concrete works</li> <li>- A compost from organic waste, which in the process saves the ocean from food components such as spices and food coloring, known to be harmful to marine life</li> <li>- An ultrafiltration and reticulation plant system that carries a production capacity of 155,000 liters of water per day</li> </ul>
	InterContinental Danang Sun Peninsula Resort (Vietnam)	<p>Surrounded by the gorgeous unspoiled Son Tra Nature Reserve, containing more than 2,500 hectares of old-growth forest and a marvelous diversity of flora and fauna, InterContinental Danang Sun Peninsula Resort is encircled by 1,000 species of plants, over 100 types of birds and butterflies, and dozens of mammals and reptiles. In 2019, the resort created an on-site zoologist role to improve the conservation efforts of their most illustrious residents – the rare and beautiful red-shanked douc langurs, a species of colobine monkey.</p>
	Six Senses Bhutan (Bhutan)	<ul style="list-style-type: none"> <li>- Six Senses Bhutan grows dozens of varieties of organic fruits, vegetables, herbs, and flowers at an eco-village in Damchena near the Paro Lodge</li> <li>- agriculture is the top employer in the Kingdom of Bhutan; the resort collaborates closely with local farmers and the Ministry of Agriculture and Forests (MoAF).</li> </ul>
	Six Senses Zighy Bay (Oman)	<ul style="list-style-type: none"> <li>- the resort in Oman has involved hosts, villagers, the local municipality, and guests in tree planting</li> <li>- In total, 80 percent of the waste created on the property (organic or glass) is recycled or upcycled on site</li> <li>- They produce their own bottled water via reverse osmosis, and the salt water, filtered out during the process, is used in their saltwater pool, the largest in the Middle East.</li> </ul>
	Crowne Plaza Copenhagen Towers (Denmark)	<ul style="list-style-type: none"> <li>- the façade is lined with solar panels utilizing a renewable energy source to help power the building</li> <li>- To keep the building cool during the summer months and warm during the winter months, the hotel uses a state-of-the-art groundwater-based system, and automatic intelligent light, water, and waste-saving measures are installed throughout</li> <li>- the restaurant serves organic and locally sourced Nordic cuisine in a stunning green atrium filled with air-purifying plants.</li> </ul>
<b>Accor</b>	Ibis Wien Mariahilf (Austria)	<ul style="list-style-type: none"> <li>- with beehives on its roof to fight against the disappearance of bees and enable it to produce honey</li> <li>- the catering areas are free of single-use plastics, the kitchens use local produce, and waste is, of course, recycled</li> </ul>
	Ibis Barcelona Montmelo Granollers (Spain)	<ul style="list-style-type: none"> <li>- In 2018, ibis Barcelona Montmelo Granollers was also awarded Biosphere certification by the Responsible Tourism Institute – guaranteeing the economic, socio-cultural, and environmental balance of tourist establishments by implementing various actions, including green energy.</li> </ul>
	Mercure Porto Centro Aliados (Portugal)	<ul style="list-style-type: none"> <li>- closing floors during periods of low occupancy,</li> <li>- lowering light intensity depending on the time of day,</li> <li>- turning off the heating &amp; air conditioning system when rooms are not occupied</li> <li>- solar panels on the roof whose energy allows to heat the building, its water, and its pool.</li> </ul>
	Pullman London St Pancras	<ul style="list-style-type: none"> <li>- the hotel has implemented a smart building management control system to save energy;</li> </ul>



	(United Kingdom)	<ul style="list-style-type: none"> <li>- The air conditioning and heating are adapted according to the occupancy rate of the hotel and the flow of people in certain areas through the use of movement detectors;</li> <li>- Similar to ibis Wien Mariahilf, Pullman London St Pancras also has its beehives on the roof.</li> <li>- The hotel also actively cooperates with food banks and local businesses to limit food waste.</li> </ul>
	Sofitel Guarujá Jequitimar (Brazil)	<ul style="list-style-type: none"> <li>- the hotel has set up a circular economy system to reuse treated wastewater, thus enabling it to address the challenges of water management and even making the water drinkable;</li> <li>- the hotel is also committed in many other areas, such as the use of herbs and vegetables in the kitchen from its vegetable garden, and it even runs awareness campaigns on environmental issues for everyone (employees, guests, local communities), including specific actions to conserve nature and wildlife very close to the hotel.</li> </ul>
<b>Choice Hotels International</b>	Comfort Suites Manheim - Lancaster	<ul style="list-style-type: none"> <li>- Utilizing Energy Star Portfolio Manager to track and manage energy and water consumption</li> <li>- Partnering with non-profit Clean the World® to recycle soap and amenities - Using eco-friendly cleaning products or consumables</li> <li>- Investing in enhancements like energy management systems or renewable energy sources</li> <li>- Pursuing LEED-certified status</li> <li>- first net zero carbon hotel</li> </ul>
	Comfort Inn® by the Bay is San Francisco's Econo Lodge	- is powered by an on-site wind turbine
	Darien Lakes Rodeway Inn	- has 270 solar panels
	Decatur, TX	

Source: Author's work

Conrad Hilton bought his first property in 1919, called the Mobley Hotel, in Cisco, Texas. Six years later, the Dallas Hilton opened its first hotel under the iconic name that would become the world's first international hotel chain in 1949, with the Caribe Hilton Hotel in Puerto Rico.

Born in 1981 in Dallas, Wyndham is a newer player in the market, headquartered in New Jersey. However, it boasts the most properties, spread across 95 countries; its 22 famous hotel brands include Ramada, Super 8, Days Inn, and Baymont.

The Intercontinental Hotels Group was founded by Pan American Airways founder Juan Trippe, who wanted to offer people luxury accommodation at the end of each flight. Opening its first hotel in Belem, to eventually expand into various brands, the chain proudly carries the motto of offering "True Hospitality for Good" to this day.

According to the sustainability reports, the five hotel chains have made great efforts regarding the reduction initiative. Reduction initiatives are the most frequently implemented in the entire hotel chain. Analysing each hotel chain in detail, Table 3 summarizes the initiatives of large hotel chains.

Founded in 1939 and headquartered in Maryland, Choice Hotels is a 12-brand umbrella chain. With the motto "Our business is yours", its popular brands include EconoLodge, Comfort Hotels, Quality Inn, and Cambria Hotels, aimed at satisfying business travelers, tourists, and those traveling on a budget.

Table 4

The initiatives of the hotel chains regarding the circular economy in the period 2017 – 2021

Hotel chain	Period	Reduce	Reuse	Recycle	Redesign	Replace	Rethink
<b>Wyndham Hotels &amp; Resorts</b>	2017	n/a	n/a	n/a	n/a	n/a	n/a
	2018	n/a	n/a	n/a	n/a	n/a	n/a
	2019	✓	✓	✓	∅	✓	∅
	2020	✓	✓	✓	∅	✓	∅
	2021	✓	✓	✓	∅	∅	∅
<b>Hilton Worldwide</b>	2017	✓	∅	✓	∅	∅	∅
	2018	✓	✓	✓	∅	∅	∅
	2019	✓	✓	✓	∅	∅	∅
	2020	✓	✓	✓	∅	∅	✓
	2021	✓	✓	✓	✓	∅	✓
<b>InterContinental Hotels Group</b>	2017	✓	∅	∅	∅	✓	∅
	2018	✓	✓	✓	∅	∅	∅
	2019	✓	✓	✓	∅	∅	∅
	2020	✓	✓	✓	∅	✓	∅
	2021	✓	✓	✓	∅	✓	∅
<b>Accor</b>	2017	✓	✓	∅	∅	∅	∅
	2018	✓	✓	∅	∅	∅	∅
	2019	✓	✓	∅	∅	∅	∅
	2020	✓	✓	∅	✓	∅	∅
	2021	✓	∅	∅	✓	✓	✓
<b>Choice Hotels International</b>	2017	n/a	n/a	n/a	n/a	n/a	n/a
	2018	n/a	n/a	n/a	n/a	n/a	n/a
	2019	✓	✓	✓	∅	✓	∅
	2020	✓	✓	✓	∅	✓	∅
	2021	✓	✓	✓	∅	✓	∅

Note: (✓) – implemented; n/a – no available information

Source: Author's work

As seen in Table 4, most of the initiatives carried out by the five selected hotel chains in the five years chosen focus on the three main Rs that support the circular economy: reduce, reuse and recycling.

Table 5

Hotel chain initiatives regarding the circular economy

Hotel chain	Energy	Co2	Food waste	Water	Operations maintenance	Fertilizers and pesticides	Plastics	Sustainable Mobility	Healthy Issues
<b>Wyndham Hotels &amp; Resorts</b>	✓	✓	✓	✓	∅	∅	✓	✓	✓
<b>Hilton Worldwide</b>	✓	✓	✓	✓	∅	∅	✓	✓	∅
<b>InterContinental Hotels Group</b>	✓	✓	✓	✓	✓	✓	✓	✓	∅
<b>Accor</b>	✓	✓	✓	✓	∅	∅	∅	∅	∅
<b>Choice Hotels International</b>	✓	✓	✓	✓	∅	∅	✓	✓	∅

Source: Our elaboration

According to Table 5, the circular economy can be divided into three initiatives. The first initiative is represented by basic initiatives such as energy, CO2 emissions, water, operations, and maintenance. All five hotel chains fulfill the first four elements of the first dimension. The plastics represent the second dimension; the initiative to

reduce the plastics from the guest's experience from the five hotel chains represents an important step. Many hotels have implemented effective solutions and choose sustainable alternatives to combat pollution. The last initiatives category includes food waste, fertilizers and pesticides, sustainable mobility, and health issues. The health problem initiative is carried out only by the Wyndham Hotels & Resorts hotel chain, and the Sustainable Mobility initiative is carried out by Hilton Worldwide, InterContinental Hotels Group, Wyndham Hotels & Resorts, and Choice Hotels International.

AccorHotels is a hotel chain established, managed, and managed by Accor SA, a French multinational company. The company was founded in 1967 by two French entrepreneurs. Some well-known brands in the AccorHotels chain are Fairmont, Sofitel, and Raffles.

"For almost 100 years, Hilton has been guided by its mission to make a positive impact on the communities around our hotels," according to Christopher J. Nassetta, President and CEO of Hilton. "In this golden age of travel, we are taking a leading role in ensuring that the destinations where travelers work, relax, learn and explore are vibrant and resilient for future generations of adventurers."

## Discussion

Innovation in large hotel chains is emerging because it can motivate the administration to take action and develop new strategies to overcome seasonal crises. Innovation can be an engine for introducing any Innovation, the most common being the innovations associated with management. Examples are inter-departmental cooperation, people management, task delegation, and employee remuneration. In addition, Innovation can increase employee satisfaction in the workplace and improve internal skills and knowledge management. Process innovations are geared towards efficiency and productivity. It should be noted that process innovation is the combination of the application of information and communication technologies and other strategic and human resource management parameters. Thus, the acquisition of ICT can increase tourism companies' productivity, generate faster food preparation methods, save time and energy, and reduce waste. (Buhalis & Law, 2008)

It is observed that the process of Innovation in tourism has a certain degree of interdependence, either between competitors and customers or between tourist destinations. For their part, Maráková and Medvedová (2016) point out that the causes of Innovation in tourism companies include the unexpected decrease in visitors, the achievement of objectives, increased productivity, product and service innovations, the conquest of new customer segments in the market, etc. . Innovation has the potential to lead the necessary changes in the actions of hotel chains towards the systematic conservation of the environment. Business Model Innovation for Circular Economy analysis is essential to identify the key elements to achieve a higher level of circularity than existing hotel chains and to support the transition of the tourism industry to the circular economy.

As we all know, the business environment is unstable and often unpredictable. The business model must adapt to market dynamics to support the solution of socio-economic problems and the commercialization of this solution (Chesbrough, 2010).

The principles of the circular economy can be introduced into the business models of the hotel chains, or they can guide the business models of the hotel chains, allowing them to develop innovations in the business models for the circular economy.

The Innovation of business models through the circular economy leads to business capitalization by reducing and reusing materials in the processes of consumption,

distribution, or production by design, closed-loop systems, and efficiency of resources and materials.

The development or adoption of emerging technologies by hotel chains must consider the social dimension of sustainability to stimulate the circular economy's practices. Hotel chains can contribute to sustainability by developing environmental and human practices focused on economic and social development.

The circular economy is not seen as a starting point but as part of a transition process that comes from linear logic.

Hotel chains can develop business models based on new and digital technologies to facilitate the integration of different actors in the value chain of tourism, consolidating the management of circular practices.

## Conclusion

Hospitality trends show that hotel guests are concerned about sustainability. Guests make more educated choices at home and do not want their trips and nights in the hotel to affect the environment. There is a growing interest in options that reduce the environmental footprint, including selected hotels. The guests' experience remains a concern of the hotel managers, but sustainability has also become a common factor.

The challenges associated with the circular economy bring to the fore the need for a political commitment to the circular economy, the development of resource efficiency standards on each waste stream or other resources, and the financing of Innovation and research in the development of new technologies. From this perspective, the role of hotel chains, which have access to the most innovative technologies, and which will be able to implement the first principles of the circular economy, will be defined. They will practically shape the future global economic picture by approaching circularity and changing the technologies for various components and subassemblies.

The results of this paper present innovative trends in the supply chain, technology, and business strategy, highlighting possibilities for hotel chains to more sustainable practices.

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