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MASTER'S THESIS

ANALYSIS OF CIRCULAR ECONOMY PRACTICES IN SELECTED AUSTRIAN ALPINE DESTINATIONS

Ljubljana, October 2022   KUAN-LIN LU

AUTHORSHIP STATEMENT

The undersigned Kuan-Lin Lu, a student at the University of Ljubljana, School of Economics and Business, (hereafter: SEBLU), author of this written final work of studies with the title "Analysis of Circular Economy Practices in Selected Austrian Alpine Destinations", prepared under the supervision of Professor Tanja Mihalič.

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List of Abbreviations

ANTO - Austrian National Tourist Office

CE - Circular Economy

CT – Circular Tourism

CIPRA - International Commission for the Protection of the Alps

CSR - Corporate Social Responsibility

DMO - Destination Management Organization

EU - European Union

ÖGNU - The Austrian Society for Nature and Environmental Protection

NETS - The Network European Tourism with Soft Mobility

UNWTO - World Tourism Organization

SMEs - Small and Medium-sized Enterprises

ST – Sustainable Tourism

STD – Sustainable Tourism Development

SRT – Sustainable-Responsible Tourism

TSA - Tourism Satellite Account

Abstract

In light of the major global challenges of the COVID-19 pandemic and climate change, the concept of circular economy (CE) has attracted significant attention and awareness from different sectors. However, the definition of the CE concept and practical implementation remain ambiguous, and the linkage between CE and the tourism industry is unexplored. Under the condition that the mountainous area is being directly impacted by climate change which can permanently change the geographical condition and endanger the fragile ecosystem, it has highlighted the importance and urgency for these destinations to transition to a more sustainability-focused tourism system. The European Alpine regions are one of the most popular destinations that attract millions of visitors each year. Moreover, following the EU's general guideline of CE, Austria is among the 9 EU member states to have adopted a target of national-wide resource efficiency and is the only country to specify ecological strategies for a CE environment. As a result, this research examined the three selected Austrian Alpine tourism destinations – Innsbruck, Werfenweng and Seefeld by conducting in-depth semi-structured interviews with managers of the DMOs and related organizations to investigate their CE practice implementation. The results defined the 5R – reduce, recycle, reuse, redesign, and rethink as the most relevant CE practices with tourism, and the CE application requires the collaborations and co-creation between stakeholders in the tourism value chain, business model and technology. It offers a broader transitional framework that helps address some of the missing motivation within the traditional context of sustainable tourism development. This research has provided the steppingstone for further research linking CE and tourism with the example of selected Austrian Alpine destinations and served foundation for other Alpine destinations in Europe and beyond to follow.

Keywords

Circular Economy, Sustainable Tourism Development, Alpine Tourism, Austria, SDGs

Introduction

Tourism is one of the largest economic sectors, which accounted for 10.4% of the global GDP and created 319 million jobs worldwide (World Travel & Tourism Council (WTTC), 2022). It is a complex system with various stakeholders from different sectors and profoundly impacts economic, socio-cultural, and environmental aspects (Einarsson & Sorin, 2020). However, tourism also comes with negative impacts such as increased resource consumption, threats to culture and heritage, pollution, and damage to natural environments (Kuščer and Mihalič, 2019). To mitigate these global issues, sustainability has become a priority for policymakers and destination management organizations (DMOs) to take into consideration when managing tourist destinations (Manniche et al., 2021). Due to the unprecedented global COVID-19 pandemic outbreak in March 2020, the tourism industry and its value chains were significantly affected. It has generated discussions among the DMOs, scholars, policymakers, and other stakeholders to rethink and call for sustainable tourism development, transforming the industry more sustainably to rejuvenate and to adapt to drastic behavioral changes from travelers in tourism. At the same time, with the increasing evidence of extreme weathers from climate change in many countries around the globe, a consequential amount of attention has been raised by governmental officials to call for CE implementation in societies and transforming their economic system from linear to a closed-loop life cycle, which is considered to be a possible solution to mitigate the problems of resource scarcity, environmental damage and climate change (Korhonen et al., 2018).

Despite the significant growing numbers of studies and discussions on CE in recent years compared to the past decade, there is no clear definition for the concept, and the majority of the literature focused on minimizing the material use in the production and consumption processes with a closed-loop model from the industrial perspective (Rodríguez et al., 2020). There were only a few studies providing limited knowledge connecting CE with the tourism industry (Rodríguez et al., 2020). The contemporary application of CE has gone beyond the context of manufacturing dimensions and proposes a transitional framework that is aligned with the existing sustainability principles and guidelines such as the three pillars of sustainability and the United Nations (UN) Sustainable Development Goals (SDGs) (Schroeder et al., 2019). As a result, the CE implies a transformational viewpoint that calls for the development of novel technologies, business models, supply chains, and new interaction relationships with stakeholders in the local community and visitors (Manniche et al., 2021). Moreover, by highlighting how the tourism industry depends on and can be integrated into change processes at all levels of society, it could offer a broader transitional framework that helps address some of the missing motivation within the traditional context of sustainable tourism development (Manniche et al., 2021).

As the implementation of the CE practices in the tourism sector is still under explored, based on the overall national sustainable tourism policies and CE guidelines in Austria in the Alpine region, the main research question for this research is the following:

What are the circular economy practices that have been implemented in the selected Austrian Alpine destinations?

With the sub-research questions to conceptualize the concept of CE practices and connect CE with the tourism sector and Alpine tourism in particular:

1. What is circular economy, in short CE?
2. How can CE be implemented in the tourism sector?
3. How can CE potentially be implemented in other Alpine tourism destinations in the future?

This research aims to conceptualize the CE concept and define CE practices that can be implemented in the tourism sector, aiming to bridge the gap between the CE concept and its implementation in tourism within the context of sustainable Alpine tourism development in Austria. Based on the previous knowledge and literature regarding CE, sustainability, and tourism, enabled the author to conceptualize the CE concept, identify CE practices and pin down the ones that are suitable to be implemented in the tourism sector. Furthermore, based on the general EU and Austrian national policy framework, this research investigates the CE practices implementation in the Alpine tourism destinations in Austria.

The presentation of CE practices in three selected Alpine destinations in Austria - Innsbruck, Werfenweng, and Seefeld helped to investigate the implementation, obstacles, and potential future opportunities of the CE practices that can be followed by other Alpine destinations to develop tourism sustainably.

The main objectives of this research are:

- To conceptualize the concept of CE, sustainable tourism development, the link between SDGs, circular economy, sustainable tourism, and Alpine tourism in Austria based on the previous research literature.
- To define the CE practices that are suitable to be implemented in tourism.
- To introduce the Austrian Alpine destinations of Innsbruck, Werfenweng and Seefeld and examine the CE practices that have already been implemented in the regions.
- To further investigate the potential CE practices that could be implemented in Innsbruck, Werfenweng, and Seefeld.
- To shed light on the potential future implementation of CE practices in other Alpine destinations to develop tourism more sustainably.

The research problems were investigated using exploratory and descriptive qualitative research methods. Secondary data gathered from literature review, official reports, and

websites of DMOs and governments of the destinations, as well as primary data from three semi-structured in-depth interviews and three interviews answered in written form with professionals related to Austrian Alpine tourism, were used to answer the research questions. Data were thus analyzed by the thematic content analysis to discover the emerging topics of challenges and opportunities of CE practices implementation in the selected Alpine destinations.

Following the introduction, the first chapter of this research will present the gathered theoretical foundation of this topic by conceptualizing the history and evolution of the circular economy, sustainable tourism development, SDGs, and Alpine tourism in Austria and connect these topics altogether to provide a comprehensive context. The theoretical paradigm and methods will be explained in the research design and methodology chapter 2. Then followed by the presentation of the three selected Alpine destinations in Austria - Innsbruck, Werfenweng, and Seefeld in chapter 3. Chapter 4 examines the data collected from interviews conducted in this research and presents the findings with an explanation. Then, the results are discussed along with the secondary data gathered through the literature review and presented in chapter 5. Finally, this research is concluded by addressing the research questions, the contribution of this study, limitations, and recommendations for future research.

1. Literature Review

The purpose of this chapter is to construct the theoretical foundations for this research by collecting and identifying the previous knowledge on the history, definition of circular economy (CE), and sustainable tourism development with the main focus on Austrian Alpine tourism. It creates the opportunity for the researcher to reflect on the previous significant findings on the topic and offer alternative perspectives that further construct the studied subject in-depth (Leite et al., 2019). The literature reviews for the above-mentioned themes were conducted respectively with the aim to bridge the research gaps between them, in order to conceptualize CE practices and examine their implementation of them in Alpine tourism in Austria.

1.1 Circular Economy

1.1.1 Evolution and Conceptualization of Circular Economy

The concept of circular economy (CE) has attracted much attention from businesses, academia, governments, and NGOs in recent years (Lazarevic &Valve, 2017). However, there is no clear timeframe when the term circular economy (CE) originated, nor does it have a conceptualized definition. Bocken et al. (2016) and Korhonen et al. (2018) suggested that the theoretical foundation of CE was formed in the early 1990s in the industrial ecology field. Within ecological economics, the CE concept was categorized into a system-level approach with micro levels (products, companies, consumers), meso level (industrial networks and corporate symbiosis) to macro levels (city, regional, national, and beyond), with the aim to bring about sustainable development, as shown in Figure 1. (Avdiushchenko &Zajaç, 2019; Mhatre et al., 2021).

Figure 1: Circular economy system level approach
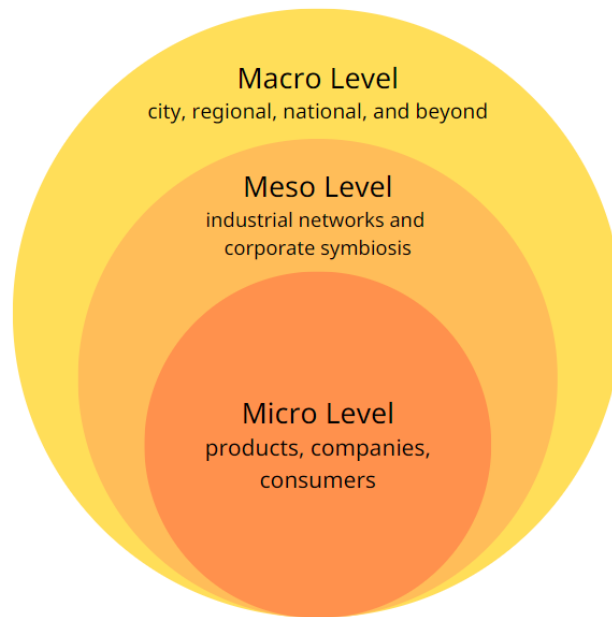
Source: Adapted from Vanhamaki et al. (2019)

Following the industrial ecology root that the CE concept is believed to have emerged from, China and the European Union (EU) were the two main regions that had earlier studies looking into this topic (Ghisellini et al., 2016). There were a large number of CE case studies in China because of the national policy strategy in correspondence to its rapid economic development pattern. CE was positioned as a top-down political approach while the EU and other countries in the world used CE mainly as a bottom-up tool to design environmental and waste management policies (Ghisellini et al., 2016). The focal points of the earlier CE studies primarily were analysis of the industrial operation process of production, distribution, and recovery of products, with the aim to optimize resource utilization to achieve economic growth (Ghisellini et al., 2016).

Throughout the decades, the CE concept continues to expand and change in different contexts and disciplines. More than 100 articles were published in 2016, compared to only 30 articles in 2014 (Geissdoerfer et al., 2017). Kirchherr et al. (2017) gathered 114 CE definitions with the coding of 17 dimensions to conceptualize CE. Kirchherr et al. (2017) defined CE as:

> An economic system that is based on business models which replace the 'end-of-life' concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes, with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations. (pp.224-225)

The contemporary application of CE has gone beyond the context of production and consumption dimensions of materials to provide a transitional solution for the entire economic

system. It is widely recognized that in contrast to the traditional linear economic system, the CE approaches emphasize the reduction and re-utilization of resources and the improvement of energy efficiency in the value chain, transforming the economic system into a "cradle-to-cradle", closed-loop life cycle to mitigate problems of resource scarcity and environmental damage (Korhonen et al., 2018). The core premise of CE practices focusing on the manufacturing sector has also shifted from the traditional 3Rs (reduce, reuse, recycle) to the 6Rs (reuse, recycle, redesign, remanufacture, reduce, recover) (Winans et al., 2017), or even 9Rs (refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover) (Kirchherr et al., 2017) as depicted in Figure 2.

Figure 2: The 9R Framework of Circular Economy
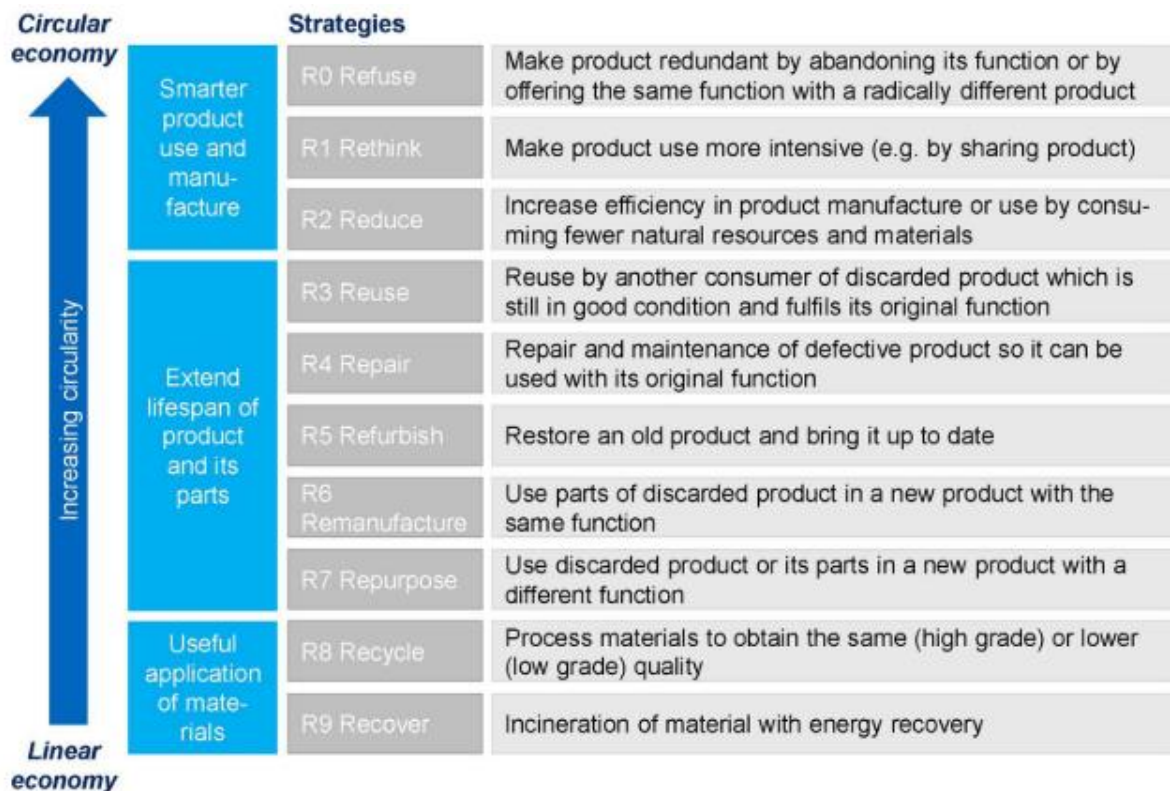
Source: Kirchherr et al. (2017)

Implementing CE practices in industries creates value in the value chains and enables new forms of businesses to emerge (Nußholz, 2017). This provides an integrational change in the consumption patterns, transforming passive consumers into active users that diminish the ownership of tangible products and intangible services, which push forward societal innovation and improvements (Manniche et al., 2017; Mhatre et al., 2021). The adaptation and implementation of the CE concept evolved differently within different cultural contexts in the past decades. According to Winans et al. (2017), the current applications of the CE concept can be categorized into three different aspects: (1) policy approaches and methods; (2) value chains, material flows, and product-specific implementations; and (3) technological, organizational and social novelty.

To facilitate the transition to CE, The European Commission adopted the first Circular Economy Action Plan in 2015, aiming to stimulate Europe's transition toward a circular economy that boosts global competitiveness, job creation, and sustainable economic development (Mhatre et al., 2021). It has provided a CE framework for the EU member states to collaborate and promote initiatives in various industries, businesses, and services. Following the EU's general guideline of CE, Austria is among the 9 EU member states to have adopted a target of national-wide resource efficiency and is the only country to specify ecological strategies for a CE environment (Domenech & Bahn-Walkowiak, 2019). Therefore, Austria is chosen as a destination in this research as a demonstration of CE embedded in political frameworks on a national level and transnational level as an EU member state, integrated by the EU. On top of this legal cornerstone, the CE initiative Circular Features - Circular Economy Platform Austria was established at the end of 2016. It is a multi-stakeholder platform initiated by various environmental umbrella organizations in Austria, advocating CE transition in politics and legislation (Circular Features - Plattform Kreislaufwirtschaft Österreich, n.d.). They educate and engage the general public about CE through their holistic activities such as collaborative events, workshops, and background papers.

1.1.2 Circular Economy in Tourism

Even though the concept of CE has received tremendous attention in various disciplines in the past decade, it is still a topic that remains unexplored in the tourism sector (Rodríguez et al., 2020). Kaszás et al. (2022) also pointed out that there is a lack of collective understanding of CE and tourism. Nevertheless, tourism might be viewed as being of utmost importance for the increased adoption of the CE concept and practices that support a systemic sustainable transition and provide solutions to mitigate global issues such as climate change (Manniche et al., 2021). Despite being a predominantly service-oriented economic sector, tourism businesses provide excellent opportunities for material reconfiguration since services are supplied on a substantial platform of often hedonistic use of energy and resources (Manniche et al., 2021). Furthermore, tourism is crucial for promoting more sustainable forms of consumption, for which purpose circularity could serve as a potent narrative. This is because many tourism services can incorporate elements that engage consumers in new practices, technologies, and everyday life choices (Manniche et al., 2021).

The material flows in the tourist industry cross over with other industries that have been researched from the CE standpoint. The transition to circular production and consumption modes should be prioritized in the categories concerning food and beverage, transportation, accommodation, buildings and construction (Manniche et al., 2021). It is essential to take action to strengthen CE initiatives within the sector's material resource base.

On the other hand, tourism not only provide basic services concerning tourism activities, but also with two-way interactions which constructed the visitors' experiences. As a result, CE could become a major point of reconfiguring services and communication from tourism

businesses and transform them to conveying and emphasize sustainability that shift away from unlimited patterns in resource use (Manniche et al., 2021). By incorporating CE concept and practices into tourism activities and actively engaging both the local community and visitors, it could develop border level of transformations and acceptance of circular technology and cultural values that contribute to sustainability (Manniche et al., 2021). Reflecting on the previously mentioned CE system level approach, according to Cristofaro et al. (2020), the meso level in the context of tourism would be shifted from industrial networks and corporate symbiosis to destinations as indicated in Figure 3.

Figure 3: CE system level approach in the context of tourism
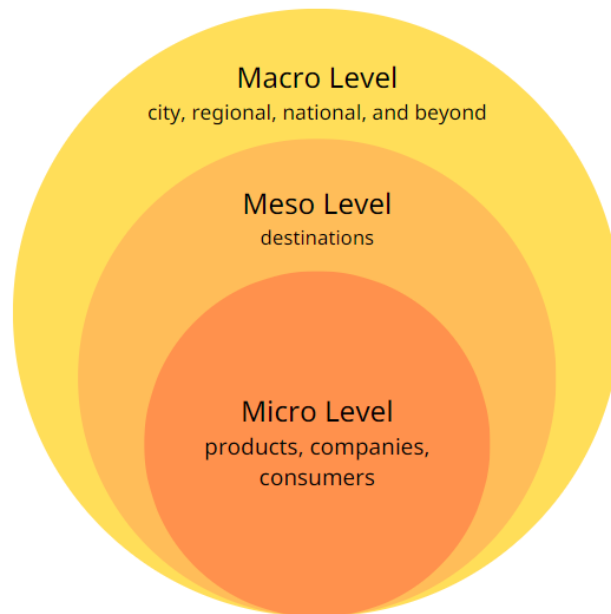
Source: Adapted from Kaszás et al. (2022); Cristofaro et al (2020)

To implement CE as a strategic, integrative practice for tourism businesses, the term circular tourism (CT) refers to a business model follows the logic of CE, which can establish a positive loop while producing tourism products and services with minimizing the environmental impact, in which tourism actors (travelers, hosts, tour operators, and other stakeholders) adopt an environmentally friendly and responsible approach (Girard & Nocca, 2017; Naydenov, 2018). While the term and concept of CT have not yet been discussed and recognized globally, the European Commission is now shifting its priority to CE and CT (Naydenov, 2018). Sustainability is embedded in the process, which reflects the essence of tourism destinations and local communities. It should not be overlooked that environmental education is among the essential elements of sustainable development. It encourages behavior change and urges people to take responsible actions as tourists that contribute to the local community in destinations. In other words, CT adds value by penetrating into the essential parts of living environments for sustainable economics, and ultimately efficient functioning of human societies (Naydenov, 2018).

Furthermore, Kaszás et al. (2022) highlighted that CT can be measured from the following five categories as presented in Figure 4:

- Sustainable mobility
- Food and Beverage
- Accommodation
- Re-utilization of items/objects
- Other areas that are potentially related to closing the material loops in tourism

Figure 4: Measurement categories for CT
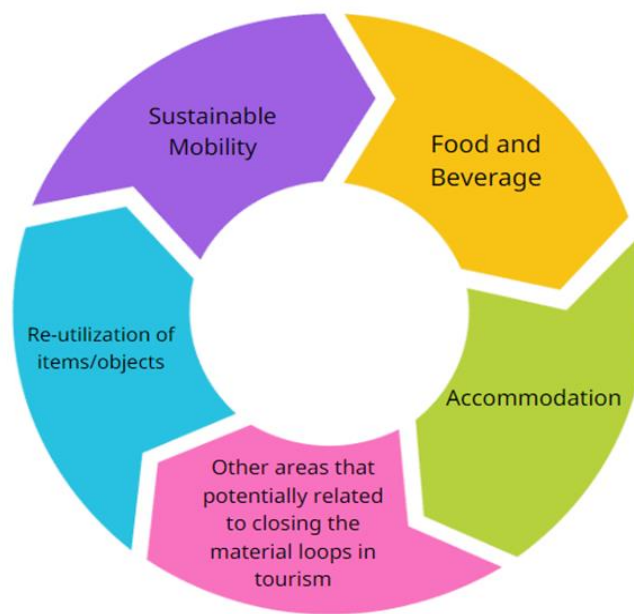
Source: Adapted from Kaszás et al. (2022)

The important elements in the CT business model not only refer to the tangible tourism infrastructure or products but also to the intangible services in tourism operation (Kaszás et al., 2022). While the variation of the R framework hierarchy in CE evolves over time as previously mentioned, the crucial practices chosen and adopted in this research are **5Rs - reduce, recycle, reuse, recover** and **rethink** out of the 9Rs with the most relevance to the tourism sector with the goal to make tourism more sustainable. It is worth noting that the remanufacture CE practices is excluded as it mainly refers to the remaking process of physical products in the industrial context.

1.2 Sustainable Tourism Development

The World Tourism Organization (UNWTO) (2005) defined sustainable tourism as:

> Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities. (pp.11-12)

Sustainable tourism is based on the three pillars of environmental, economic, and socio-cultural dimensions, and it requires the participation of all stakeholders in the collaborative process (UNWTO, 2005). It is dynamic and the impacts are constantly measured in the planning, development, and operation stages of tourism. The improvements and corrections measures are made in the process to ensure the sustainability of tourism. It should be kept in mind that sustainable tourism development should not be seen as a still status, but as continuous improvements. The UNWTO also emphasizes the role of political leadership in leading and engaging other stakeholders in the collaborative process.

Liburd (2018) made an argument that it is important to distinguish between the terms sustainable tourism (ST) and sustainable tourism development (STD), as tourism is a complex system and sustainability cannot be seen as a still goal to be achieved. Sustainable tourism development is a dynamic and multi-dimensional system interconnected with economic, social-cultural, and environmental perspectives that evolves (Liburd, 2018). It is a complex and collaborative-designed system that can potentially contribute to the societal objectives of sustainable development in a broader sense. It was also specified by Khalid et al. (2019) that the participation and empowerment of the local individuals and stakeholders play an essential role in the process of STD, which can reduce the negative impacts of tourism development.

The discrepancies between Liburd (2018) and the UNWTO (2005) defining sustainable tourism development presented that there is no universal well-defined definition for sustainable tourism development by the practitioners and policymakers in the industry. It leaves a space for interpretations of different perspectives. The UNWTO sees sustainable tourism as a concept based on the sustainability paradigm of three pillars that provides a general guideline for policymakers to follow. On the other hand, Liburd's point was addressed from a human perspective that the concept of collaboration is inevitable to be chosen with preferences instead of a neutral undertaking. The author raised the critical question of if the present generation presumes and determines for the future generation what and how tourism should be developed. This research reflects on the abovementioned different points of view on sustainable tourism development and acknowledges that sustainable tourism is not a type of tourism, but a dynamic and systematic collaborative process.

To combine the abovementioned aspects of sustainability in tourism, the sustainable-responsible tourism model incorporates the responsible implementation enablers into the sustainability pillars, as depicted in Figure 5.

Figure 5: Sustainable-responsible tourism (SRT) model
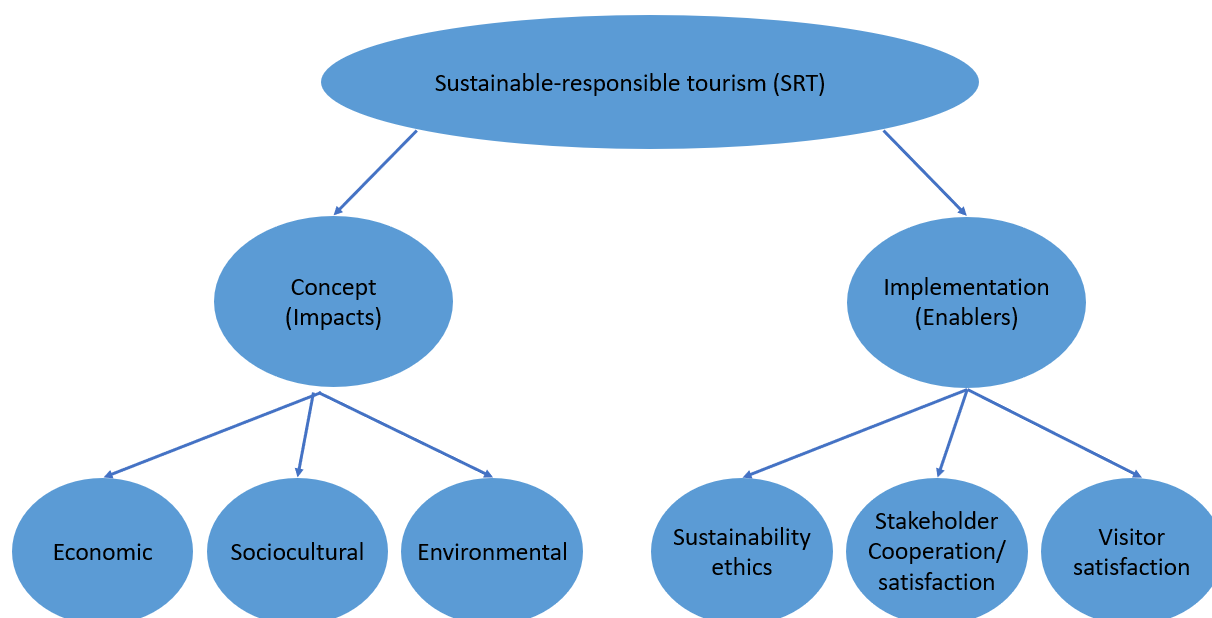
Source: Adapted from Kuščer & Mihalič (2019)

According to Kuščer & Mihalič (2019), the implementation enablers have three main propositions with three categories of sustainability ethics, stakeholders cooperation and satisfaction, and visitor satisfaction. The first premise sustainability ethics include environmental awareness, education and values from all tourism stakeholders of demand and supply sides. More specific tourist capabilities, such as laws and legislations may also be included in the ethics. The second enabler of stakeholder cooperation or satisfaction refers to the consensus participation and collaboration between all the concerning stakeholders. Political leadership and governance to be in place for the support of tourists and local communities. Through the active participation from the stakeholders, it leads to the third premise that the visitor satisfaction could be meet and sustained. The perception of local residents toward tourism in a destination are closely linked to the development of a destination. To provide the overview of the SRT model, the application of sustainability in tourism requires the cooperation from all dimensions. The integration of the sustainability pillars concept and the implementation factors can significantly help drive tourism to develop sustainably.

Due to the unprecedented COVID-19 global pandemic outbreak in March 2020, has put tourism activities on halt and caused a significant impact on the industry. Travel restrictions and border controls have been put in place, which sparked behavioral changes in travelers seeking more sustainable travel plans, prompting practitioners to accelerate transitions of sustainability within the industry.

1.2.1 Alpine Tourism and the Austrian Alps

The European Alpine region consists of 8 countries: Italy, Germany, Austria, France, Slovenia, Switzerland, and Liechtenstein. Tourism in Alpine regions attract approximately 120 million visitors every year and has been a popular destination since the 90s, which is of natural, living, cultural and economic significant importance for Alpine countries (Cristofaro et al., 2020). It is one of the most popular tourist destinations worldwide, inhabiting 80 million people (16% of the EU's total population), which brought about 20% of the EU's GDP (Halleux, 2016). Over the years, sustainability has been an important topic among all tourism destinations. In particular, mountains play an essential role in maintaining biological diversity globally. Therefore, it is of utmost importance to develop sustainable tourism to support conservation in mountain areas (Kuščer & Mihalič, 2014). Tourism is especially one of the main sources of income for local populations with small-business structures. It empowers the local communities with economic viability, which is an essential factor for mountain conservation (Kuščer et al., 2017).

In the European Alpine regions, The Alpine Convention has established international treaties for transnational mountains to support sustainability in the region, and Austria has proved to have stronger governmental support and collaboration between stakeholders at the regional level (Kuščer et al., 2017). An initiative by the Austrian Ministry of Agriculture, Forestry, Environment, and Water Management thus established the association Alpine Pearls --- an umbrella organization for the entire region (Heslinga et al., 2019). It is a forerunner to supporting eco-tourism, climate protection, and sustainable holidays in Alpine villages (Heslinga et al., 2019).

The Alpine area consists of two-thirds of the land of Austria and in the case of the Tyrol region, it attracts the majority of tourists to Austria with more than 45.6 million overnight stays and 10.9 million arrivals in 2015 (Pikkemaat et al., 2018). The characteristics of tourism businesses in Austria are mostly small and medium-sized enterprises (SMEs), while DMOs are publicly owned and are in charge of tourism development and marketing (Pikkemaat et al., 2018).

1.2.2 Sustainable Tourism Development in Austria

Tourism plays a vital role in the national and regional economy in Austria. Before the outbreak of the COVID-19 pandemic in 2019, it accounted for 7.5% of the GDP of Austria, and for 5.5% in 2020 (Federal Ministry Republic of Austria Agriculture, Regions, and Tourism, n.d.).

1.2.2.1 Austrian National Sustainable Tourism Principles and Policies

Sustainability is embedded in the core value of Austria's tourism strategy as presented in Figure 6 (Austrian National Tourist Office (ANTO), 2012). Originally, the term sustainability was specifically used in forestry for not consuming more than it can be re-grown. Over time,

the term and concept of sustainability have shifted from the context of raw materials in supply to the capability to regenerate a system. It follows the principles of the three pillars of sustainability. It is worth noting that the term ecological is frequently use as a synonym in the broader sense of sustainable tourism studies as environmental pillar considering natural, cultural and social environment. It echoes back and is aligned with the economic, socio-cultural, and environmental sustainability pillar addressed by the UNWTO.

Figure 6: Austria's sustainability policy for tourism
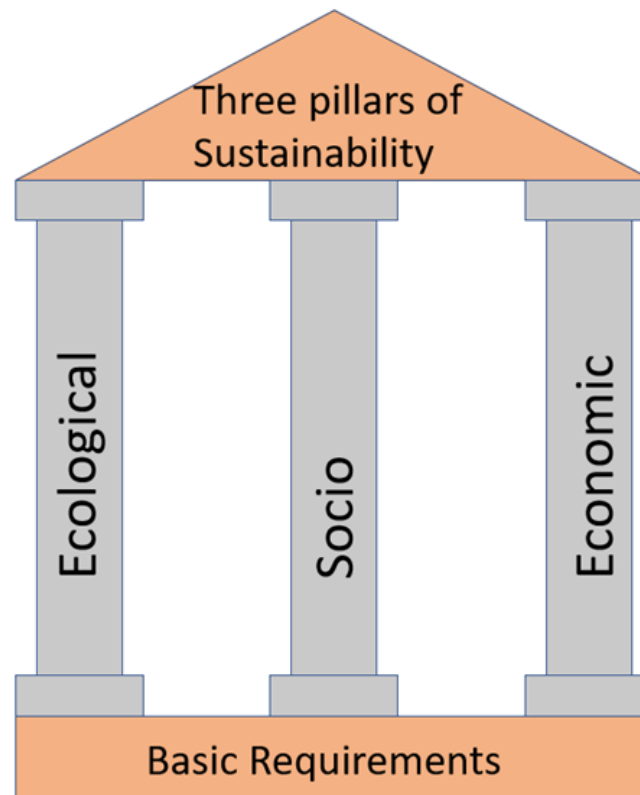
Source: Adapted from Austrian National Tourist Office (2012, January)

Moreover, to develop tourism in Austria in accordance with the three pillars of sustainability, the pyramid of three levels of requirements was presented by the Austrian National Tourist Office (ANTO) as presented in Figure 7.

Figure 7: Pyramid of three level of requirements in tourism in Austria
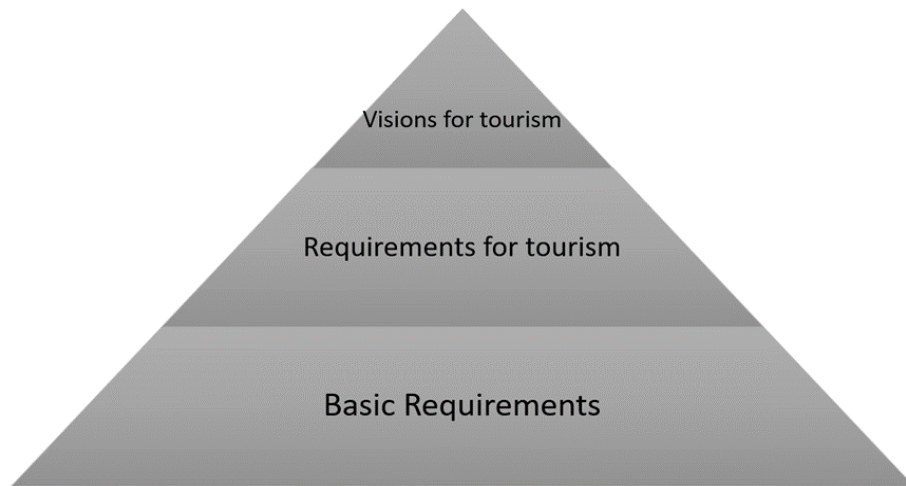
Source: Adapted from Austrian National Tourist Office (2012, January)

Sustainability has been integrated in Austria's tourism business models, as tourism products follow the pyramid of three levels of requirements of sustainable development in tourism. The basic requirements are also in alignment with the ecological, social, and economic aspects as the abovementioned (Austrian National Tourist Office (ANTO), 2012). It is crucial that Austria's tourism projects, products, and services must be developed in alignment with the basic requirements in the first place. The products cannot contradict the three-pillar sustainability balancing principle, which refers to the basic requirement at the bottom of the pyramid. The second level of the pyramid is to design and integrate sustainability with visitor experience in tourism projects through communications and marketing. The third level is visions for tourism. The vision refers to technology, regionality and identity culture, and effective visitor-host relations as tourism development goals. These three strategies comprise the sustainability pyramid in the Austrian national position paper, and it is emphasized that sustainability needs to be integrated into the center of the tourism business model.

The second layer of the pyramid is the requirements for tourism, describing it as essential to take the experience of the target groups of visitors into consideration when designing sustainable tourism products (Austrian National Tourist Office (ANTO), 2012). Sustainable experience in destinations should be placed at the root of communications and marketing. The top level of the pyramid is visions for tourism. The visions refer to three areas of activity – technology, regionality and identity culture, and visitor-host relations. Innovative technology can help optimize energy systems such as providing sustainable mobility solutions, solar panel installation, and reducing food waste. Austria also focuses on identifying images and values of destinations to keep economic circulation on a regional level. By presenting local festivals and events, it creates uniqueness and boosts a sense of belonging among local people in promoting their culture. Lastly, the vision for effective visitor-host relations is about communicating with the visitors with regional stories, locals, and traditions, which create

extraordinary experiences. All in all, sustainability is embedded in Austria's tourism development, and it should be integrated into tourism products, services, and the core of businesses.

1.2.2.2 The Plan T - Master Plan

In alignment with UNWTO's definition of sustainable tourism, The Plan T – Master Plan for Tourism was designed and published by the Federal Minister for Sustainable Tourism of Austria in March 2019. It presents a political guideline on sustainable tourism development (Federal Minister for Sustainability and Tourism, 2019). It comprises ecological, economic, and socio-cultural dimensions which echoes the above-mentioned sustainability policy for tourism announced by the Austrian National Tourist Office. The structure of the Plan T is comprised of one master plan, three guiding objectives, and nine fields of action. Following the Master Plan framework, an Annual Action Plan is added each year to indicate the implementation steps in detail which are adjusted to the dynamic environment. The Master Plan addressed the importance of engaging local people when a destination develops its tourism industry. Taking the economic livelihood of the local people into consideration creates a new holistic tourism paradigm shift in raising the awareness of sustainability from the tourists (Federal Minister for Sustainability and Tourism, 2019). It is also about developing tourism in harmony with nature and contributing to the implementation of the SDGs. The fields of action are categorized into nine main points:

1. Strengthening the awareness of tourism
2. Establishing a cooperation culture
3. Using digital potential
4. Designing an attractive business environment
5. Making training and labor market fit for the future
6. Keeping our livelihood sustainable
7. Creating a regional value – added for everybody
8. Further developing tourism marketing
9. Making financing and promotion more flexible

Measuring instruments of tourism in Austria are broadened from quantitative parameters such as overnight stays and arrivals to a holistic view with the Tourism Satellite Account (TSA). The indicators of the TSAs can calculate the economic, socio-cultural, and environmental importance of regional tourism in detail, and there are prospective indicators to measure the sustainable tourism development in Austria within a longer time frame (Federal Minister for Sustainability and Tourism, 2019), as shown in Figure 8.

Figure 8. Prospective sustainable tourism indicators in Austria

Prospective sustainable tourism indicators

Share of GDP
Tourism expenses
Value-added
Revenue per available room
Employment
Guest satisfaction
Share of renewable source of energy in accommodation
Share of renewable source of energy in gastronomy
Arrivals
Overnight stays
Fictitious debt repayment period
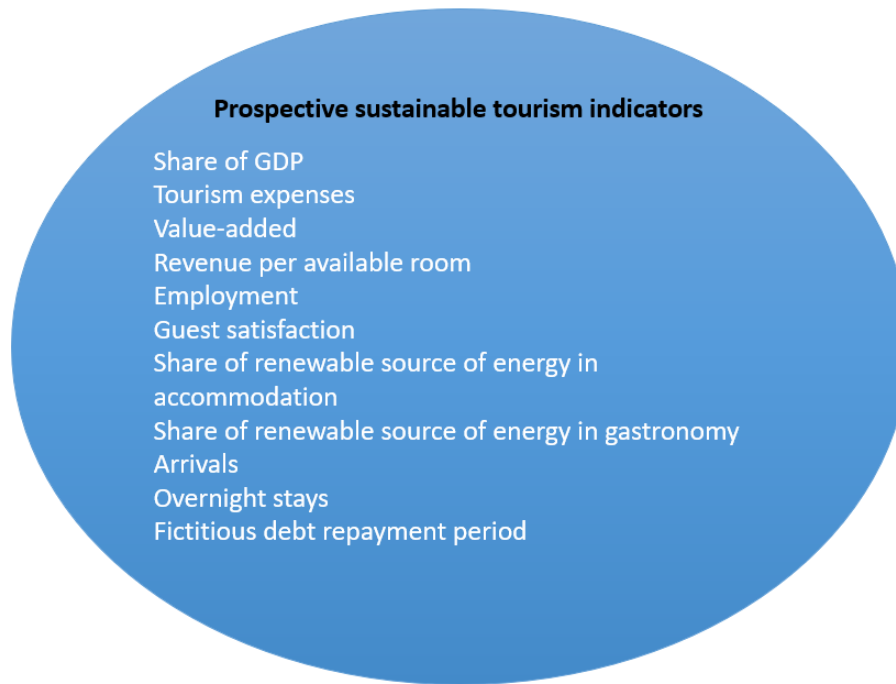
Source: Adapted from Federal Minister for Sustainability and Tourism (2019, March)

1.2.2.3 The Austrian Ecolabel

In addition to the Austrian national tourism scheme and policies, the Austrian Ecolabel is also an important element in shaping the sustainable tourism development in Austria. It consists of four main fields of the topic that are closely related to the society and living environment - (1) Products; (2) Tourism; (3) Education; (4) Green Meetings, as shown in Figure 9:

Figure 9: The Austrian Ecolabel

Source: Federal Ministry of Austria Climate Action, Environment, Energy Mobility, Innovation and Technology (n.d.)

The Austrian Label was an initiative introduced by the Ministry of the Environment in 1990, as the only state-certified environmental seal in Austria (Federal Ministry of Austria Climate Action, Environment, Energy Mobility, Innovation and Technology, n.d.). It presents the organizations and companies in Austria that comply with sustainability principles with high-quality products, services, management, and social responsibility. The requirements and criteria for being awarded by the Ecolabel are openly presented on the official website, which was established by industry-specific expert committees. It also consisted of an advisory board as an advisory body of the Ministry of the Environment that is responsible for examining the guideline recommendations. To be awarded the Ecolabel, it requires four years of independent thorough examination based on sustainability premises. The enterprises and organizations that have been awarded the Ecolabel have better visibility in their brand image as environmentally conscious, which increases trust in consumers and makes them more competitive than the other non-certified competitors. The Austrian Ecolabel aims to encourage enterprises to improve their products and services more sustainably, as well as raise awareness from consumers to make conscious and sustainable choices in daily lives. Concerning the tourism sector, certifications can be found divided into nine different categories:

1. Travel Offers
2. Hotels
3. Gastronomy

4. Communal Catering
5. Catering
6. Green Locations
7. Alpine Huts
8. Camping
9. Museums

By 2020, more than 400 tourism companies and tour operators in Austria are certified with Ecolabel, including hotels, gastronomy providers, catering companies, campsites, and guesthouses (Federal Ministry of Austria Climate Action, Environment, Energy Mobility, Innovation and Technology, n.d.).

With 70% of foreign guests accounting for the total number of visitors about 45 million, tourism in Austria was hit particularly hard by the pandemic (Federal Minister for Sustainability and Tourism, 2019). The tourism industry contributes to about 16% of the total GDP of Austria, the federal government has presented aid packages, funds, and compensations for the affected staff to apply for to minimize the economic impact of the pandemic (Federal Minister for Sustainability and Tourism, 2019).

1.3 Sustainable Tourism Development and Circular Economy

Combining the above-mentioned CE principles in the tourism discipline, the CE model provides great potential in balancing sustainability with resource consumption regarding accommodation, transportation, food, waste management, and hospitality services in the tourism sector. In contrast to the traditional linear economy model, CE can provide inspiration for innovative technology, and supply chains and enhance partnerships with stakeholders (Manniche et al., 2021). The circular economy practices include designing sustainable products, reducing waste, enhancing circularity in policies, and creating value for people, regions, and cities. It highlights the regulatory framework that engages consumers, citizens, businesses, and organizations through co-creation in the transformational process. However, Vargas-Sánchez (2018), Manniche et al. (2017), and Rodríguez et al. (2020) pointed out that there is a significant gap in the initiatives and application of CE in the tourism industry, and the previous research and initiatives mainly focused on the manufacturing sector. To bridge this research gap, it was suggested by Naydenov (2018) that circular tourism should adopt the logic of CE and apply the principles of sustainable development to construct a business model. Circular tourism positions tangible and intangible tourism goods and services in a context that minimizes the impact on the environment, while strengthening the ties between stakeholders in the value chain (Ghisellini et al., 2015). The Circular Economy Action Plan can be a useful strategic and narrative tool to reconfigure the resource flow in tourism and can potentially help mitigate global challenges such as climate change and transform toward a more sustainable environment.

The Federal Ministry for Health and Protection in Austria was first established in light of surging oil prices in 1972. It set up the institutional milestone in addressing environmental issues (The Austrian Society for Nature and Environmental Protection (ÖGNU), n.d.). In the following year, the Austrian Society for Nature and Environmental Protection (ÖGNU) was founded in a constitutive meeting with the aim of developing ecology concepts in Austria. It primarily provided the public and decision-makers with objectives and information about environmental policies. ÖGNU, later on, inspired the establishment of associations such as "The Nature Lovers", "The Alpine Club", and "The Mountain Rescue Service" with a strong focus on environmental protection and sustainability.

1.3.1 Sustainable Development Goals (SDGs), 3 Pillars of Sustainability and Circular Economy

The Sustainable Development Goals (SDGs) are the general guidelines adopted by the United Nations (UN) in 2015, calling for immediate actions to tackle global issues and improve the living environment for all people by 2030 (UN, 2015). There are 17 categories addressing main goals in different aspects concerning the living environment, aiming to work toward an inclusive living environment for all humans as shown in Figure 10.

Figure 10: UN Sustainable Development Goals (SDGs)

Source: UN (2015)

To link the SDGs with CE practices, Schroeder et al. (2019) scrutinized the seventeen 17 SDGs and 169 targets based on the 3 pillars of sustainability - economic, social and environmental aspects in CE and concluded that SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent work and Economic Growth), SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land) have the strongest

relationships with CE practices with direct and indirect contributions, as indicated in Figure 11.

Figure 11: Relevance between Sustainable Development Goals (SDGs) in the context of circular economy (CE) practices
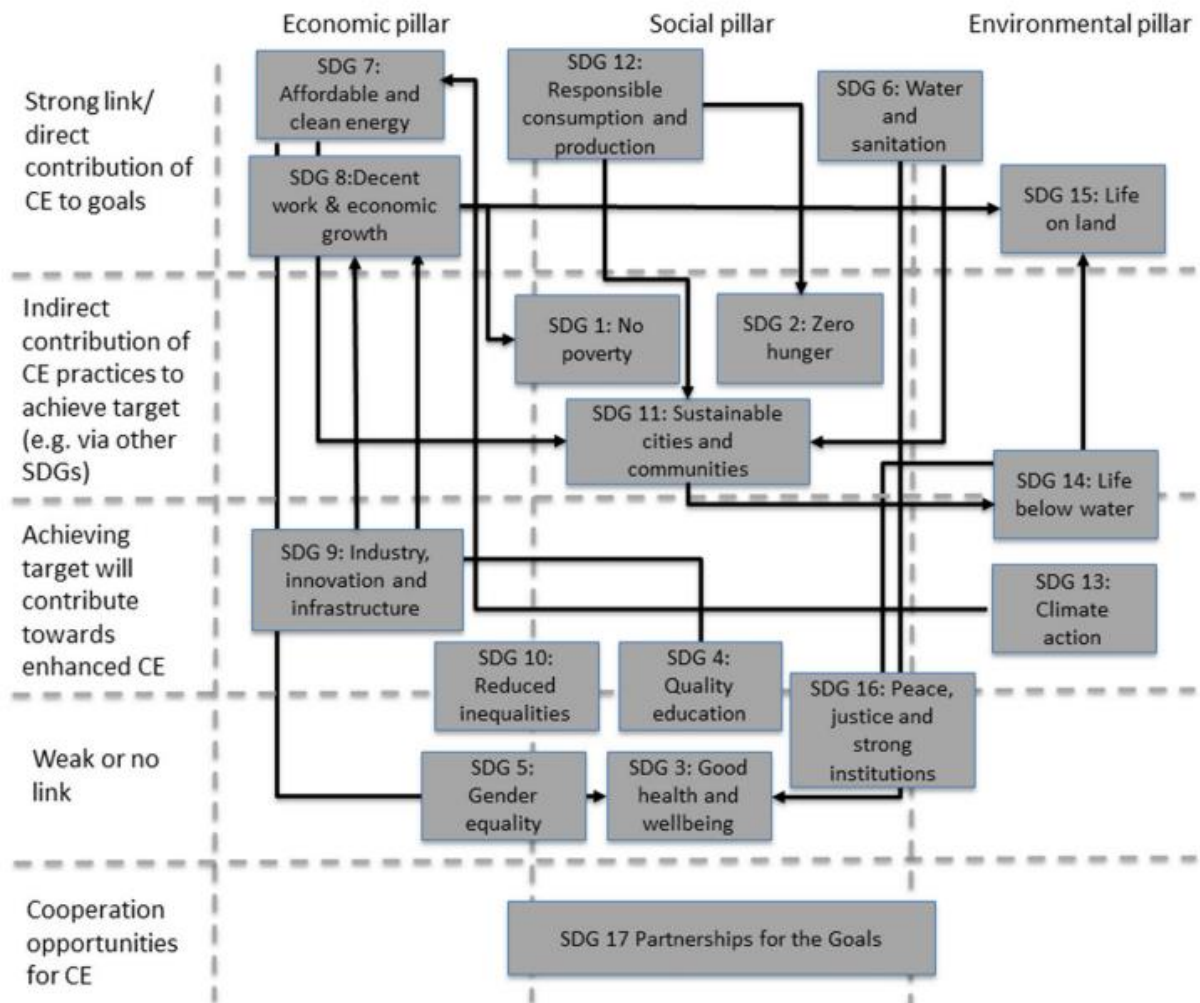
Source: Schroeder et al. (2019)

Aside from the abovementioned five main SDGs that have the strongest relevance to CE practices, other SDGs can also indirectly support the implementation of CE practices, such as SDG 16 (Peace, Justice, and Strong Institutions), SDG 4 (Quality education) and SDG 9 (Industry, Innovation, and Infrastructure) are of the importance of constructing a solid CE system with technology and physical infrastructure. Schroeder et al. (2019) concluded that the SDGs and CE practices are associated with each other. While the SDGs can help promote CE practices, CE action can also assist the achievement of several SDGs objectives. In addition, Einarsson & Sorin (2020) indicated that the SDGs serve as a measurable framework, in the meantime, CE presents a toolbox and a business model for further implementation.

Following the outcomes from the previous research, it is evident that the SDGs and CE practices are interconnected under the general context. On the other hand, to combine the context in the tourism discipline, it is recognized by the UN that three SDGs have the closest connection: SDG 12 (Responsible Consumption and Production), SDG 8 (Decent Work and Economic Growth), and SDG 14 (Life Below Water) (UN, 2018). It was recognized by the UN that tourism is one of the vital industries to drive sustainability, and SDGs have become the major element that can enhance sustainable development in tourism. To connect CE and the SDGs in the tourism sector based on the above-mentioned research results, the SDGs that have strong and direct relevance to the three concepts are SDG 12 (Responsible Consumption and Production) and SDG 8 (Decent Work and Economic Growth).

To summarize, CE practices provide a toolbox for reaching SDGs, thus the application of CE practices is crucial to achieving sustainability targets presented by the SDGs (Schroeder et al., 2019; Einarsson & Sorin, 2020).

2. Research Design and Methodology

The objective of the research is to answer unrevealed questions using scientific methods to uncover the truth (Kothari, 2004). The term "research" refers to a systematic process consisting of discovering the problem, constructing a hypothesis, collecting data, analyzing data, and therefore discovering findings and solutions to certain problems (Kothari, 2004). The main objective of this research is to identify the circular economy practices that are related to the tourism industry and to examine what are the CE practices that have been implemented in the selected Austrian Alpine destinations - Innsbruck, Werfenweng, and Seefeld. The research is guided by the interpretation of both interviewees and the research, and it shaped the data collection and analysis process. Therefore, the selected research paradigm, method of data collection, and methodology for data analysis will be presented in this section.

2.1 Research Paradigm

A research paradigm is constructed with ontology, epistemology methodology, and methods (Žukauskas, 2018). The use of methodology is up to the philosophical position of the researcher to analyze a social phenomenon (Žukauskas, 2018). Among all the paradigms, the constructivism philosophical paradigm is selected to be used in this research. Constructivism or interpretivism paradigm is used in this research based on interviewees' narratives collected through in-depth interviews. Fosnot (2013) defined constructivism as an approach that encourages active constructivists to raise questions, explore patterns, and construct their own realities throughout the learning experience. It emphasizes that knowledge is constructed based on understanding. There are multiple realities because they are intersubjectively based upon communications between individuals to support and extend their understanding of information (Kim, 2001). Intersubjectivity is influenced by different cultural and historical backgrounds, and meanings are shaped via social interactions (Kim, 2001). In this research,

in-depth semi-structured interviews via Zoom were conducted with the staff of DMOs in the Austrian Alpine destinations, and open-ended interview questions were presented to the interviewees. Constructivism is used throughout the interview process where the information addressed by the interviewees is coming from their personal experience and understanding, while the interpretation of the gathered information is made by the researcher.

2.1.1 Ontology

Ontology refers to the philosophical studies of existence, reality, and the social world that humans can understand (Snape & Spencer, 2003). Conceptualizing the social entities, helps researchers to identify the nature of a phenomenon that they wish to investigate and explore – of its ontological position (Mason, 2017). There are three ontological perspectives recognized by Snape & Spencer (2003) realism, idealism, and materialism. While idealism holds that reality can only be comprehended via the human mind and socially created meanings, realism asserts that there is an objective reality that is independent of what individuals may imagine or interpret it to be. Materialism also claims that there is a real world, but only the material or physical world is considered real. The material world is the source of other phenomena, such as beliefs, values, or experiences, but they do not mold it. This research adopts the idealism ontology where the nature of the reality is shaped by the interpretations of DMOs of the Austrian Alpine destinations to provide deeper contexts for CE practices that have been and could be implemented in their destinations to help develop tourism sustainably.

2.1.2 Epistemology

Epistemology refers to the "study of knowledge", the ways of knowing and learning about social reality (Guba & Lincoln, 1994). Two main perspectives of epistemology are positivism and interpretivism. Constructivism and 'naturalistic' are terms commonly referred to in the literature and sometimes in an inconsistent way for interpretivism (Guba & Lincoln, 1994). The term constructivism identifies the basic principle that reality is socially constructed whereas a relativist holds the view that there is no external reality independent of human consciousness (Robson 2002). This research adopts interpretivism and constructivism epistemology as the interpretations from the staff of DMOs in this research are subject to their own expertise and experience, which construct the scope of this research. On the other hand, after the data is collected, it is analyzed based on the researcher's interpretation and understanding.

2.2 Methodology

2.2.1 Research Design

Research design refers to building the structure of a research with strategic procedures of collecting and analyzing data and then investigating certain topics (Akhtar, 2016). It is an essential element in research as it helps to obtain information in a systematic way that minimizes time, money, and effort while ensuring the research result is as reliable as possible

(Akhtar, 2016). Qualitative and quantitative methods are two distinctive techniques in research (Gray, 2012). The quantitative method turns data into numbers that can be quantified to construct a social phenomenon, while the qualitative method relies on descriptive words and interpretation from personal experiences (Gray, 2012).

With the aim of having a comprehensive understanding of CE practices in tourism, the literature review was conducted before primary data collection to conceptualize the topic. The selected interview participants were then contacted afterward related to the case studies of the Austrian Alpine destinations. This enables the researcher to determine the appropriate methodology and select the interviewees that have expertise in the related field (Gray & Karp, 2007). An in-depth semi-structured interview method was chosen in this research in order to gain insightful perspectives from the interview participants about the CE practices application in Austrian Alpine destinations. 3 semi-structured interviews along with 3 in-depth questions answered in written form were conducted. Moreover, the secondary data from the official websites and documents of the Ministry of Austria and other Alpine-related DMOs were used to supplement the primary data providing more comprehensive contexts.

2.2.2 Qualitative Methods

Qualitative research is a type of research that looks into human experiences and sheds light on the subjective perceptions and meanings in their social reality (Silverman, 2020). According to Merriam and Tisdell (2016), qualitative research is to *"understand how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences".* In addition, to gain an insight into the correlations between the circular economy practices in tourism with the main focus on the Alpine destinations in Austria, data was collected through in-depth interviews with destination management organizations (DMOs) related to the Alpine destinations in Austria. Semi-structured questions are designed to understand the fundamental structure of the destinations and DMOs, connecting CE practices with the tourism sector in Austrian Alpine destinations. Based on the previous research, the appropriate CE approaches that can be implemented in tourism are identified and used in this research to analyze the collected data. The analysis of CE practices is performed on the macro (regional) and micro (DMOs, products) scale.

2.3 Data Collection

This research adopts purposive sampling within the qualitative research tradition. Purposive sampling is also known as judgmental, selective, or subjective sampling. It is a form of non-probability sampling where the samples chosen were based on the author's judgment, and they were believed to be representative of the destination presented in this research. According to DiCicco-Bloom & Crabtree (2006), the selection of interviewees should share certain similarities that are associated with the research topic and can provide insights for the depth to address the research questions. In addition to conducting interviews, preliminary

analyses should be performed and subsequently selecting more respondents to further enhance the data (DiCicco-Bloom & Crabtree, 2006).

The interviewees in this research were selected purposely, including the DMO managers of Innsbruck, Werfenweng, and Seefeld, as well as organizations and associations concerning the Austrian Alpine region. The chosen participants are particularly experienced and possess profound knowledge of the topic of Austrian Alpine tourism destinations, which could greatly help answer the research questions and the examination of the topic. The selection criteria include: 1) the participants must reside in Austria, 2) the interviewees must work or be involved in the tourism sector, and 3) the respondents must have knowledge of Alpine tourism in Austria. As a result, the interviewees were chosen and contacted based on their backgrounds and experience. Besides, the interviewees work in the DMOs of the three chosen Austrian Alpine destinations, and the snowball sampling method is also involved in the selection process of the interviewees. According to Parker & Geddes (2019), snowball sampling is a sampling method that involves networking and referral from participants in research. It starts out with initial contacts who agree to participate in the research. Then the participants are asked to recommend other contacts that are likely to be working in the same field who fit the criteria and are willing to participate in the research. This helps to develop a connection among participants and increases the number of samples. The overview of the selected interviewees is shown in Table 1.

Table 1: Overview of interviewees

Code	Company	Stakeholder group	Interviewee (the position in the company)	Date and duration of the interview	Interview format
I1	Werfenweng (Alpine Pearls)	DMO	Manager	24th March 2022 (00:45:34)	Online Zoom call
I2	CIPRA Austria	The national representatives of the non-profit umbrella organization	Vice president of the international board	29th March 2022 (00:15:31)	Online Zoom call
I3	Innsbruck Tourism	DMO	Product development manager	20th July 2022 (00:28:30)	Online Zoom call
I4	Seefeld	DMO	Marketing manager	6th July 2022	Written form
I5	Vitalpin	Association	Project & business assistant	24th May 2022	Written form

I6	Federal Ministry of Republic of Austria - Agriculture, Regions, and Tourism	Official government department	Head of the department	16th March 2022	Written form

Source: Own work

Once the interviewees confirmed their willingness to participate in the interview, they were inquired regarding the most comfortable platform and ways for conducting the interview. Due to the time and language constraints, three of the interviewees preferred to answer the interview questions in written form, which were sent to the interviewees in Word document format and then answered by the participants. Later, an interview consent form was sent out to the participants by email before the interview, with the disclaimer stating that the interview is only for research purposes and anonymous (see Appendix 1).

To keep the interviewees informed about the purpose and confidentiality of the research, the interview disclaimer was read out at the beginning of the interview (see Appendix 2). Participants then were asked to give out permission to be recorded for the interview. Three of the interview participants agreed to have the interviews recorded.

The data was collected through in-depth interviews with the DMOs in the Austrian Alpine destinations such as the Alpine Pearls, CIPRA, Alpine Convention, and the three selected destinations in the Alps – Innsbruck, Werfenweng, and Seefeld. Due to the limitations of time and research scale, the sampling size consists of a total of six participants. Three interviews were conducted virtually through Zoom meeting calls for durations between thirty minutes to an hour and were recorded with interviewees' consent, whereas three of the responses were collected in written form by sending the interview questions to the interviewees, and answers were received afterward.

Official Websites and Reports

Prior to conducting the in-depth semi-structured interviews, literature reviews have been conducted via databases such as Web of Science, Google Scholar Search, UNWTO E-Library, and SAGE Journals with authorized access through the University of Ljubljana from January to September 2022. Secondary data was also retrieved from the official websites of the Austrian National Tourist Office and the Federal Ministry Republic of Austria Agriculture, Regions, and Tourism. The keywords of "Circular economy and sustainability" and "Circular economy and sustainable tourism" were typed in to search in databases, but it is worth noting that there was only a little literature discussing CE in the tourism context. It showed that this is still a niche area that is under research. It was not until recent years that publications from

the EU focused more on CE applications in tourism. The official websites used in this research are listed in Table 2:

Table 2: The official websites

The website	The page (s)
UNWTO	Circular economy in travel and tourism - a conceptual framework for a sustainable, resilient and future proof industry transition
Federal Ministry Republic of Austria Agriculture, Regions and Tourism	Plan T - Master Plan for Tourism
Tourist Office Seefeld	Sustainability
Tourism Association Werfenweng	The whole official website
Innsbruck Tourism	The whole official website
The Austrian Ecolabel	Welcome to the "Green World" of the Austrian Ecolabel

Source: Own work

In addition, official documents and reports were also used as secondary data which presented the guidelines of sustainability, CE and the connections between CE and SDGs within the tourism discipline. The list of official documents and reports which included the analysis are presented in Table 3.

Table 3: The official documents and reports

The document/report	Publisher	Issued year
1. Green Deal guide 2. Green Deal info sheet plateau breakfast 3. Green Deal guidelines for e-cars in operation 4. Green Deal guidelines for green electricity 5. Green Deal guide printed materials 6. Green Deal guide natural green 7. Plateau Pioneers	Tourist Office Seefeld	2020

Circular Economy in Travel and Tourism	CE360 Alliance	2020
Destination: A Circular Tourism Economy	Center for Regional and Tourism Research, Denmark	2017
Circular Economy & SDGs: How circular economy practices help to achieve the Sustainable Development Goals	Netherlands Enterprise Agency (NEA) & Holland Circular Hotspot (HCH)	2020

In-depth Semi-structured Interviews

According to Guion et al. (2011), semi-structured in-depth interviews are functional tools of qualitative data collection. It is the most widely used type of qualitative research method (DiCicco-Bloom & Crabtree 2006). Compared to a survey, a few respondents are selected to answer the open-ended, semi-structured questions with the purpose of bringing about detailed information that could be beneficial for the research. The answers involve the interviewees' subjective feelings and perspectives on a topic which could potentially reinforce further development of questions that provide a broader sense for the research. Based on the research by Guion et al. (2011) and the setting of this research, four distinctive features of in-depth semi-structured interviews can be concluded as the following:

1. Instead of structuring questions that could be simply answered with "yes" or "no", the questions should begin with "why" or "how" with open-ended questions which empowers the respondents to answer them based on their own experience and perspectives freely.

2. The interview should be conversational with semi-structured format where the interviewers follow up on the interviewees' answers and reflect them in the flow of the conversations. E.g., The interviewee mentions that the COVID-19 pandemic has significantly put tourism activities in the destination on a halt. The interviewer should follow up on "What were the actions that your organization did, and how did you feel about that?".

3. The interviewer should proactively listen to and understand the interviewee's answers in a comprehensive manner, and make sure that the interpretations are met with what they are expressing.

4. The interviews are audio or video-recorded with the respondents' consent either online or face-to-face. Written notes can also be taken by the interviewer during the interview to capture the interviewee's verbal and non-verbal responses, which are crucial elements in an in-depth interview to record a personal point of view.

To apply this research method in this paper, the author referred to seven stages of conducting in-depth semi-structured interviews categorized by Kvale (1996) the following:

1. **Thematizing:** Clarifying the purpose of the research and selecting the suitable stakeholders/interviewees for the in-depth interview. Identifying the information needed to gather through the interview.

2. **Designing:** Include all the keywords and information that the author wants to know about, design, and integrate them into the interview questions. The designed questions should present the fundamental background of the research and guide interviewees to answer the questions in their own words.

3. **Interviewing:** The basic context of the research and research purpose should be explained by the interviewer at the beginning of the interview. Read the interview disclaimer to the interviewees and get verbal consent for audio/video recording. It is very important not to intimidate interviewees with complicated wordings, and they should be able to answer the questions freely based on the interviewers' guidance. Creating a trust-worthy and relaxing environment for the interviewees is an important part of the interview process that should not be overlooked. The interviewers will focus on listening and observing the answers from the interviewees and give them guidance through the questions based on their responses. To make sure that the messages that the interviewee is trying to convey are well-understood, paraphrasing is a technique that the interviewer could use during the conversations. It helps to clarify confusion and prompt the interviewee to stay on the topic.

4. **Transcribing:** Transcribing the audio or video recordings into text that includes each question and response from the respondent. Transcribing software Otter.ai is used in this research to help with the transcription. The notes taken down by the interviewer should also be included in the transcription to add insightful information to the research.

5. **Analyzing:** Analyze the interview transcriptions coming from different interviewees and identify the re-occurring wordings and keywords in their answers. Organize the answers in sections that are corresponding to the proposed research questions in the research.

6. **Verifying:** Triangulation is a common method used to double-check and verify the credibility of the information collected during the in-depth interview by interviewing different groups or participants. In the case of this research, the interviews were done with regional DMOs in Austria and transregional DMOs cooperating with Alpine countries to provide a holistic scope for this research.

7. **Reporting:** Lastly, a report (or thesis in this research) is written based on the result of the analysis along with findings and suggestions. It should be combined with the side notes taken down by the interviewer during the process. It is important for the interviewer to share the results with the interviewees and concerning stakeholders. The result could provide suggestions or improvements for future research.

This research follows the above-mentioned guidelines to conduct in-depth semi-structured interviews with selected interviewees. The interview questions consisted of 6 open-ended questions that are presented in Appendix 2. Moreover, this research defines and examines the CE practices based on the CE toolbox presented by Kaszás et al. (2022), which can be divided into five categories: **reduce, recycle, reuse, redesign and rethink.** Based upon the CE practices of 6R indicators (reuse, recycle, redesign, remanufacture, reduce, recover) summarized by Winans et al. (2017) and referring to the methodology that Kaszás et al. (2022) used, the data analysis of this research falls into five main types of CE practices: reduce, recycle, reuse, redesign, and rethink.

2.4 Data Analysis

The data analysis method chosen for this research was navigated by the research questions, theoretical backgrounds, and paradigms which are most applicable and appropriate for the analysis of the topic. Once the in-depth interviews were conducted and collected with audio recordings, they were transcribed through the online transcription software Otter.ai. Otter.ai is an AI-powered tool that automatically transcribes voice recordings from conferences, live sessions, and interviews into text (Otter.ai, 2021). Next, the empirical data was used in this research with content analysis. The qualitative content analysis addresses diversity, such as similarities and contrasts between elements like textual, visual, verbal, and visual communications while putting a strong emphasis on subject and context. It provides chances to examine both hidden and interpretive material in addition to apparent and descriptive content (Graneheim et al., 2017). The researcher frequently starts the study by categorizing the coded manifest information before continuing to look for the latent content and developing it into themes on various levels. Accordingly, the researcher adopts a variety of scientific stances based on the study's objectives (Graneheim et al., 2017). The collected empirical data were coded manually by the author with an inductive coding method with the software MAXQDA. MAXQDA is software for analyzing qualitative data, and it can transcribe and conduct qualitative data analysis with coding from texts, audio, and videos (Kuckartz & Rädiker, 2019). With inductive coding, a researcher analyzes and interprets unprocessed textual data to create concepts, themes, or a process model based on data interpretations (Chandra & Shang, 2019). Therefore, different themes were identified. Analytical reliability was improved by frequently merging and deleting codes until defined themes were reached. It should be noted that some codes can be categorized in more than one way. Most researchers use the inductive coding approach primarily to analyze data in fields where there is little existing knowledge, or areas where there is a knowledge gap in a concept, approach, or phenomenon (Chandra & Shang, 2019). The author of this research has prior knowledge in hospitality and tourism management with an interest in data analysis but has no past experience in the latter field. It is up to the readers of this study to decide whether the findings and analysis are subjective or objective under this context.

3. Presentation of the selected Austrian Alpine Destinations

Innsbruck City, Werfenweng, and Seefeld are the three Alpine destinations in Austria that altogether attract millions of visitors each year before the outbreak of the pandemic. Therefore, they have been chosen to be presented in this research. The following introductions present the demographic information, mobility, accommodation, food & beverage, and DMO of these selected destinations.

3.1 Innsbruck

The Innsbruck region consists of 40 towns and villages with the Innsbruck City as the main urban center (Innsbruck Tourism, n.d.). The geographical location is presented in Figure 12.

Figure 12: Geographic map of the Innsbruck region
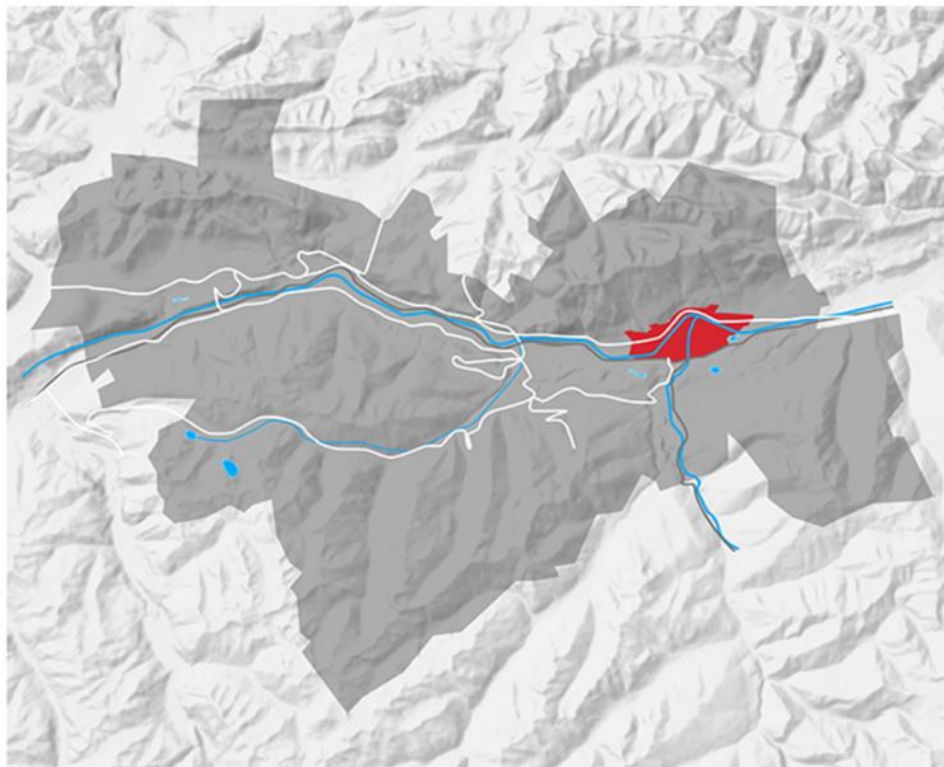
Source: Innsbruck Tourism (n.d.)

It is situated between valleys and mountainous Alpine terrains, and it is also the capital of Austria's western state of Tyrol. The population of the Innsbruck region is 159,208 ("Bevölkerung Nach Stat. Bezirken, Wohnsitzart Und Geschlecht," 2022). Innsbruck City is known as a popular destination for winter sports.

The Nordkette range serves a spectacular Alpine view overlooking Innsbruck City, it is also part of Austria's largest nature park – Karwendel Nature Park. The infrastructure of funicular and cable cars make it accessible for tourists to get a lift up from the city center to the top of the mountain peaks of Hafelekar (2,300 meters) within 20 minutes. Sustainability is the core

value of Tyrol's tourism development scheme. "The Tyrolean Way" refers to initiatives promoting sustainable development under the sustainability pillars of ecological, economic, and social dimensions (Tyrol Advertising, 2021). Due to the outbreak of the COVID-19 pandemic, there's a significant rising trend for awareness of sustainability. Nevertheless, sustainability has always been a strong focal point for Tyrol, especially on regional and local levels (Tyrol Advertising, 2021). Guest cards provide an integrated tourism package that includes entrance to most of the museums, adventure parks, swimming pools and attractions in Tyrol, combining public transport options like regional trains, hiking shuttle, and hotel shuttle services. For visitors choosing to stay in certain partnered accommodations, welcome cards are provided by the hosts for free public transportation in the duration of their stays (Tyrol Advertising, 2021).

Mobility

Visitors traveling to Tyrol are encouraged to take public transportation such as trains to minimize their CO_2 footprint. Aside from the train connection, Tyrol Advertising has also produced videos to call for making conscious sustainable travel choices from the visitors when they are planning their trips. They collaborate with the railways in Austria, Germany, Italy, the Netherlands, and Switzerland to strengthen the connections in between. In addition, "Nightjet to the Mountains" allows visitors to take night trains from Austria, Germany, and the Netherlands to Tyrol, which is a sustainable transportation package of better connections between transportation and accommodation (Tyrol Advertising, 2021). It can be combined with a route-planning app Komoot to plan hiking and cycling trips around the region.

Accommodation

From traditional guesthouses, hotels with wellness facilities, Alpine Mountain huts, and ski lodges to campsites, there are many different kinds of accommodation to choose from. There are also sustainable hotels that are certified by Tyrol officially. The selection criteria include serving dishes produced with locally grown ingredients, decorating accommodation with regional craftwork, and being equipped with energy-efficient spa facilities in the hotel, which contribute to emission reduction in the region for visitors. Moreover, the installation of solar panels and recycling systems are also elements that are environmentally friendly for the region. The certified accommodation providers receive the Austrian Environment Certificate awarded by the Austrian government which encourages them to keep up with sustainable work and can promote their service to conscious travelers (Tyrol Advertising, 2021).

Food & Beverage

The Tyroleans take pride in their cuisines, and it has been emphasized as one of their tourism attractions with the slogan "Regions of Culinary Excellence" (Tyrol Advertising, n.d.). The geographical condition provides an ideal environment for growing flavourful crops such as Paznaun Alpine Cheese, Oberinntal Potatoes and Plums of Stanz. The traditional Tyrolean cuisines of speck, mountain cheese, cured sausages and fresh-cut bread can be found in local

guesthouses and mountain huts. Home-cooked food such as spinatknödel and Kasspatzln using tyrol-produced and tyrol-grown ingredients are well-served in local restaurants and inns that present visitors with Tyrolean culture and culinary.

DMO

There are around 90 employees working in Innsbruck Tourism, consisting of six main departments and four staff positions as depicted in Figure 13. As of 2019, over 3.5 million overnight stays were recorded in the Innsbruck region., which makes Innsbruck Tourism one of the largest tourism institutions in Austria (Innsbruck Tourism, n.d.).

Figure 13: Organizational chart of Innsbruck Tourism
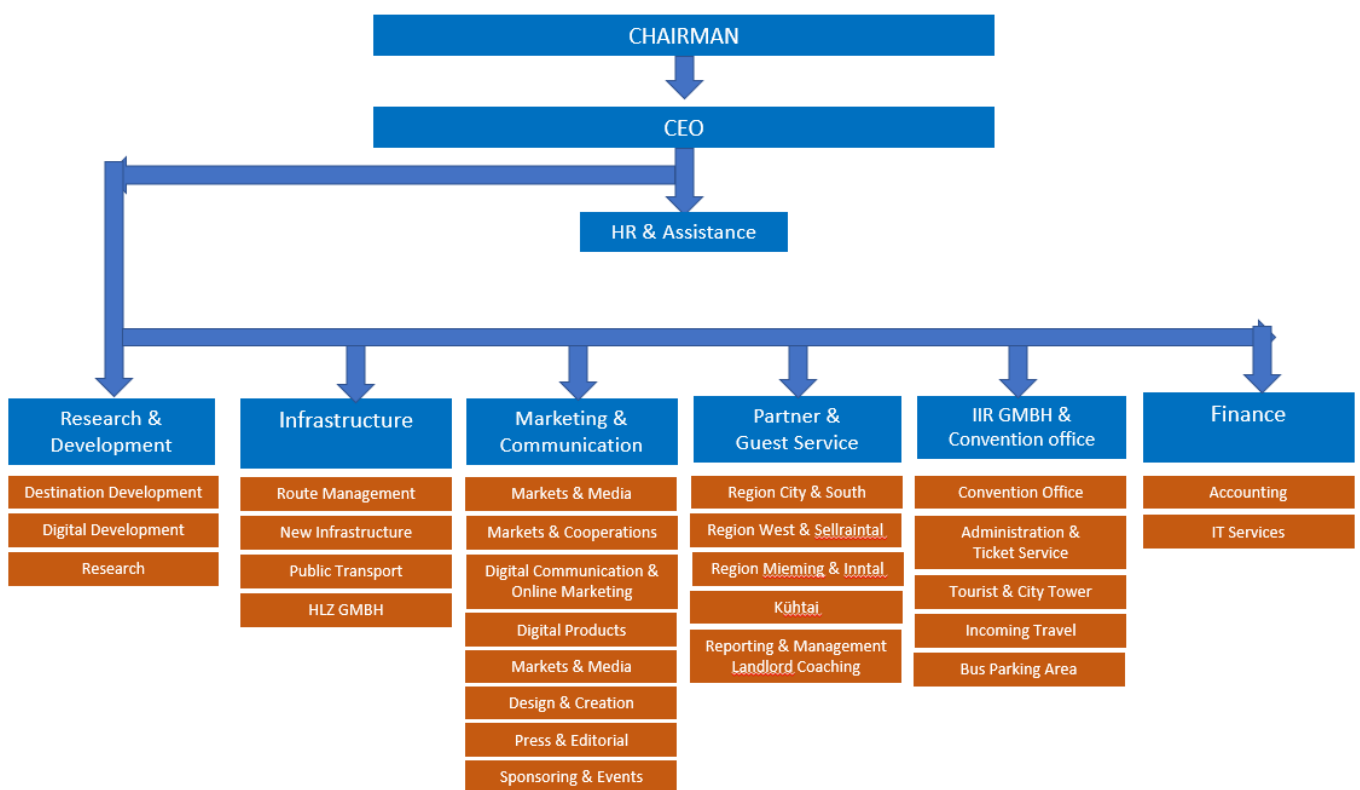
Source: Adapted from Innsbruck Tourism (n.d.)

The research & development department is in charge of coming up with solutions for tourism development. They focus on research current trends, topics and target groups, and develop tourism opportunities for the Innsbruck region; the infrastructure department is responsible for the tourism quality experience for both locals and tourists such as designing hiking and cycling trails, maintaining signs and boards for the public transportations, or renovating tourism infrastructure in the Innsbruck region; The marketing & communication department takes care of internal and external communications, as well as press and editorial releases; The partner & guest service department coordinates between partnered tourism service providers to optimize the tourist service for the visitors. The designed programs for outdoor

activities aim to provide unforgettable experiences for tourists; The Innsbruck Information and Reservation (IIR) organizes booking services and tourist information for the destination. Its subdivision of the Innsbruck Convention Bureau promotes the location of Innsbruck for conferences and congresses; The finance department is in charge of statistics and reporting of the finance of the region, as well as providing IT services.

3.2 Werfenweng

Werfenweng is a municipality in Salzburg, with a population of 1,031 as recorded in 2020 (Statistik Austria, 2022). The geographical location is presented in Figure 14.

Figure 14: Geographic map of the Werfenweng Region

Source: Werfenweng (n.d.)

It has been promoted as "The Pearl of the Alps," the highest peak Eiskögel overlooks down the Salzburg region with an altitude of 2,321 meters (Alpine Pearls, n.d.).

Despite having a small population size, Werfenweng has been a pioneer in developing sustainable tourism, with a strong focus on car-free soft mobility. It is among the 19 Alpine villages selected by the umbrella organization Alpine Pearls, with the mission to develop climate-friendly tourist packages specially to provide sustainable transportation solutions (Alpine Pearls, n.d.). Furthermore, Werfenweng has been awarded several prizes in 2004 and 2005. In the category of "Mountains", it has been awarded by The Network European Tourism with Soft Mobility (NETS) for the seamless transfer service which contributes to reducing the carbon footprint of travelers in 2004 (Tourism Association Werfenweng, 2021). In 2005, the projects "Soft Mobility – Holiday away from the Car" and "Energy Model Community as Energy Region of the Future" were granted prizes by the "Sustainable Management" program from the Federal Ministry of Transport, Innovation and Technology

(Tourism Association Werfenweng, 2021). It serves as an example of utilizing renewable energy on the regional level. Werfenweng was also chosen as the winner of the "Future of the Alps" competition held by the International Commission for the Protection of the Alps (CIPRA) (Tourism Association Werfenweng, 2021). The project "Soft Mobility – Car-free Tourism" was recognized for its efforts to bring environmental and economic benefits to the region with soft mobility implementation.

Mobility

Werfenweng can be reached by train with connections within or outside Austria to Bischofshofen, Pfarrwerfen, or Werfen train stations. Upon arrival, the electric W3 shuttle bus provides free shuttle services for tourists and drives them directly to their accommodation. There are various sustainable free-of-charge electric vehicle transportation options to choose from upon purchasing the Werfenweng Card, including ski bus, E-cars rental, excursion bus, and local taxi E-LOIS. In addition, E-bikes, E-mountain bikes, and bicycles can also be rented on demand. Visitors who choose to travel to Werfenweng by train and stay in a "Werfenweng Card partner accommodation" can use the local taxi E-LOIS and the W3-Shuttle service for free – no matter whether they have purchased the Werfenweng Card or not.

Accommodation

From traditional Austrian cottages to family resorts that are eco-friendly are featured on the webpage of the Alpine Pearls. The tranquility of being surrounded by nature in the mountains is shared with these accommodations. Several guest houses collaborate with Werfenweng Card, which are listed on their website. Guests coming to Werfenweng by train are encouraged to stay in those partnered accommodations, which free shuttle services will be provided as a package for easy accessibility in Werfenweng.

Food & Beverage

Locally produced products like cheese and ham are promoted on Werfenweng's official tourism website with a list of local restaurants and guesthouses that encourage tourists to visit and taste the meals that are made from organic and local ingredients. The local shops and supermarkets also promote organic products that were locally grown and produced in Werfenweng.

DMO

Tourism Association Werfenweng is the official DMO of Werfenweng. The destination is a member of the umbrella organization of Alpine Pearls, together with 18 other Alpine villages promoting climate-friendly holidays. Year-round environmentally friendly public transportations options are provided in these destinations, with the aim to support sustainable holidays. Tourism Association Werfenweng designed and implemented the "Werfenweng Card" combining soft mobility options with affiliated accommodations to encourage visitors

to minimize their carbon footprints when they visit the village. Tourism Association Werfenweng has been dedicated to developing sustainable mobility concept combining ecological effects with economic advantages as early as 2005, and the project had won "The Future in the Alps" competition hosted by the International Commission for the Protection of the Alps (CIPRA), awards for Alpine regions that promote sustainable tourism (Tourism Association Werfenweng, n.d.).

3.3 Seefeld

Seefeld is one of the high plateau villages situated between Wetterstein and Karwendel mountain ranges with an altitude between 1,180 to 2,063 meters, situated about 17 kilometers northwest of Innsbruck (Tourist Office Seefeld, 2022). The geographical location is presented in Figure 15.

Figure 15: Geographical map of Seefeld

Source: Tourism Association Seefeld (2022)

There were around 3,462 residents in 2020 (Statistik Austria, 2022). According to the Tourist Office Seefeld (2022), the development of Seefeld can be dated back to prehistoric times that gradually gained its importance as part of the Roman military road construction. Seefeld has been an important location to hold many ski tournaments and events. The Winter Youth Olympic Games and the Winter Olympics took place in the region in 1964, 1976, and 2012. The FIS Nordic World Ski Championships were also held in Seefeld in 2019. It is famous as an ideal destination for cross-country skiing with a well-established infrastructure. Seefeld's economic activities were developed as early as the 14th century as a trading middle point for the pilgrims between Augburg and Venice. It also produces Tyrolean shale oil around the same time. Later on, holiday resorts were established in the 1900s and since have become a

popular cross-skiing destination offering a variety of outdoor activities all year round with recreational facilities that are suitable for sports lovers and families.

The underlying principles for the tourism projects in Seefeld are following the three pillars of sustainability – ecological, economic, and social aspects (Ortswärme Seefeld, 2020), which are in alignment with the Austrian national tourism scheme. Moreover, the "Plateau Pioniere" project has been designed to collaborate with the Karwendel Nature Park as well as the local accommodation providers to implement Corporate Social Responsibility (CSR) to put together measurable goals and approaches that can help improve sustainability in the region. Seefeld is also among the first 19 destinations that received the Austrian Ecolabel for Destinations. It provides a framework and guidelines for the Seefeld tourism board and the accommodation providers to work in alignment with the SDGs and learn about developing tourism sustainably.

Mobility

Seefeld is easily accessible from cities such as Salzburg, Innsbruck, Munich, Zurich, Paris and even Rome by railway within eight hours. The Seefeld Station is the highest ICE railway station in the world and has well-developed connections with the neighboring European cities. Within the Region Seefeld, there are mountain railways that take visitors up to the mountains to see the spectacular scenery from above. Aside from taking the train, Seefeld can also be reached by long-distance bus or FlixBus connecting from Munich, Italy, and Switzerland. The visitors are encouraged to arrive in Seefeld taking the extensive network of public transportations for a car-free holiday. Upon arrival at Seefeld, visitors can choose from emission-free on-site mobility options from public buses, e-bikes, e-taxi, or e-car sharing. Charging stations for electrical vehicles have also been set up for drivers to charge their electric cars.

Accommodation

With the early development of the region, Seefeld has many 5-star hotels and pensions for accommodations. It is among the 11 "Best of the Alps" destinations that represent a strong branding image that engages the local community and the visitors to have recognized the Alps and to have a sense of place that they feel comfortable with. There are also wellness facilities such as pools and sauna areas that provide massage or yoga activities for visitors to enrich the visitors with a relaxing experience.

Food & Beverage

The Kaiserschmarrn or the Tyrolean traditional dumpling cuisines are part of the important representation of the region. The plateau breakfast – breakfast using certain ingredients that are locally grown and refined in the region. Restaurants and bakeries are participating to serve traditional dishes that contain local products, which connects the producers and businesses together.

DMO

The Tourist Office Seefeld is the official DMO of the Seefeld region. It is among the five DMOs of the major villages that consist of the high plateau in Tyrol. The Tourist Office Seefeld designs and develops the tourism products and services in the region. It has been promoted on the DMO's website that Seefeld is "Best of the Alps" which is a traditional tourist resort with high quality services.

3.4 Other Organizations and Associations

Aside from the three selected Alpine destinations in Austria, there are also Austria-based associations and organizations that play a crucial part in promoting cross national corporations and sustainable tourism in the European Alpine destinations, such as Vitalpin, CIPRA and Alpine Pearls.

3.4.1 Vitalpin

With the objective of becoming a strong voice for Alpine tourism, Vitalpin was established in March 2019 at the International Trade Fair Berlin (ITB) with the participation of 14 members. It is a non-profit, non-political international organization that builds bridges in which people, business and nature are in balance (Vitalpin, n.d.). The main focus for Vitalpin is sustainable development in Alpine tourism and the positive attitude towards tourism among the local population. They are working towards these goals with public relations, networking and knowledge management (Vitalpin, n.d.). It now has 125 members from South Tyrol of Austria, Switzerland, Germany and Switzerland and consists of the stakeholders working directly and indirectly in tourism in the Alpine regions, such as DMOs, associations, service providers, hoteliers, and economic chambers in various sectors (Vitalpin, n.d.).

3.4.2 International Commission for the Protection of the Alps - Austria (CIPRA Austria)

Since 1952, CIPRA has been an independent non-governmental, non-profit umbrella organization with the main objective to safeguard and sustainably develop the Alps (CIPRA, n.d.). CIPRA currently represents a significant Alpine-wide network with its international administrative office in Liechtenstein, its representatives in seven Alpine nations, and its approximately one-hundred-member organizations and institutions. Based on this foundation, CIPRA takes the lead to find solutions to issues and challenges and work toward a sustainable future for the Alpine regions. The Alpine Convention serves as a foundational basis for CIPRA's guidelines and principles. A treaty was signed by the Alpine states under the international law in 1991, providing a framework for cross-border cooperations between the Alpine regions. CIPRA Austria was established in 1975 as the national representation of the umbrella organization CIPRA (CIPRA, n.d.). CIPRA Austria promotes the sustainable development of the environment, resource, health, people and climate in the Alps. It provides a communication platform of the Alps for discussions of various matters in respect of the Alpine Convention and regional Alpine strategy (CIPRA, n.d.). Besides the nature conservation organizations and interest groups, the nature protection department of Austrian

federal states is also a member. The Alpine Convention office of CIPRA Austria based in Innsbruck has been assisting the application of the protocols of CIPRA since 1994. It is financed by the Austrian Ministry of Agriculture, Forestry, Environment and Water Management.

CIPRA International is formed by all national CIPRA representation, and people with professional background and communication in the various Alpine languages work together to coordinate between different Alpine countries (CIPRA, n.d.). It builds a large knowledge network that shares experiences of sustainable development in the Alps in diverse cultures in public sector administrations, civil societies, science, and politics.

3.4.3 Alpine Pearls

Alpine Pearls is an umbrella transnational organization established in 2006 consisting of 19 Alpine villages with the shared goal of forming climate-friendly holidays by providing soft mobility options (Alpine Pearls, n.d.). It was the result of two EU Projects of which originated by the Austrian Ministry of Agriculture, Forestry, Environment, and Water Management. Its main objective is to create innovative and environmentally friendly tourism products with a strong focus on minimizing the carbon footprint created during travel (Alpine Pearls, n.d.). From the well-connected train network to shuttle services with electric buses, taxi, e-bike and car rental, Alpine Pearls offers a variety of soft mobility choices in 19 Alpine villages situated in five Alpine countries (Germany, Slovenia, Italy and Austria) for visitors with the Guest & Mobility Cards. A list of affiliated accommodations that have been partnered with Alpine Pearls encourages tourists to consciously choose to stay in a place that is sustainable, and they get access to free public transport and shuttle options.

4. Findings and Discussion

In this chapter, the data collected through interviews and secondary data are examined with the main five circular economy practices concluded by Kaszás & Birkner (2022) that provide a toolbox for the transition of tourism toward sustainability: **reduce, recycle, reuse, redesign and recover.** Information was retrieved from the websites of the Austrian Alpine destinations and then explained by the interviewees' perceptions and insights working in the DMOs. The findings will be presented and then discussed to look into the circular economy practices that have been in place in Austrian Alpine destinations and can potentially support other Alpine regions to develop tourism sustainably to consequently answer the research questions.

4.1 Reduce

The first CE practice that is more widely discussed is reduce. From the traditional industrial perspective, it focuses on minimizing the use of raw materials and resources in the manufacturing process. Over the years, there has been a shift in definition toward a broader systematic point of view as a regenerative closed-loop model. Ghisellini et al., (2015) defined reduction as the process of minimizing raw resources, energy, and waste by improving

consumption efficiency while increasing social and economic benefits. In addition, according to Manniche et al. (2021) and Kaszás et al. (2022), it also means to reduce the negative environmental impacts from tourism activities, which can be categorized into the main points as shown below:

- **Longer stay per travel – Staycation:** The term Staycation is combined with the words "stay" and "vacation", referring to the duration of travelers staying in a destination is longer than before, which reduces the environmental impact and emission in mobility.

- **Sustainable mobility:** Travelers are encouraged to take public transportations such as trains and buses, or take electric vehicles like e-taxi, e-car rentals, and e-bikes instead of driving regular fossil-fueled cars and taking planes to minimize the carbon footprint caused by traveling.

- **Decreased numbers of unnecessary business trips**: The COVID-19 pandemic has pushed corporates to adapt to online meetings instead of on-site or in-person visits with their clients. In terms of one-day meetings that take up hours to travel to, companies are reducing unnecessary business trips.

- **Shorter travel distance for travelers:** As some of the countries have not yet opened up their borders because of COVID-19, travelers who are able to travel will choose the destinations that are closer to their home country.

- **Reduce consumption of resources and minimize pollution:** The use of renewable/biodegradable materials in tourism products and the utilization of renewable energy resources help to reduce waste and emissions. Moreover, the usage of local ingredients in season helps to reduce the carbon footprint caused by transportation and helps restaurants to monitor and reduce food waste.

The pandemic has brought many new trends in tourism and affected travelers' behavior changes such as traveling in small groups instead of with big groups, and they are prone to be in nature rather than in big cities, etc. The awareness of sustainability has been raised more than before. People start to choose their travel destinations more consciously, which has also prompted the DMOs to transform their tourism products more sustainably. In the following section, the selected Austrian Alpine destinations – Innsbruck, Werfenweng, and Seefeld are analyzed with the CE practice - reduce to examine their current tourism strategies.

Innsbruck City

To encourage visitors to explore the Innsbruck region using public transportation, with the stays of a minimum of two nights in a partnered accommodation from May to October, a welcome card is given to the guests by the accommodation providers for free. This includes free public transport of city buses and trams in Innsbruck City and the region, weekly guided hiking and biking tours, a 20% discount on renting an e-bike or equipment from the selected

rental partners, and discounts on pools, lakes, and other tourist attractions (Innsbruck Tourism, n.d.-a). Guests who stay for more than three days will get four rides on specific lifts and cable car rides for free. For guests staying in a partnered accommodation for a minimum of two nights in winter from November to April, a complementary welcome card is provided including free public transportation, guided winter hikes, taster ski tours, and snowshoe tours. There are also discounts for tourist attractions and for outdoor activities such as cross-country skiing, ice skating, swimming, and climbing. Either in summer or winter, the welcome card also provides additional buyable upgrade services that tourists can get based on their schedule and travel needs.

Besides the welcome card, there is also the all-inclusive Innsbruck Card with 24, 48, or 72 hours with different fares for tourists visiting mainly from Innsbruck City to choose from. It not only includes free public transportation in the Innsbruck region but also entrance tickets to 22 museums and attractions as well as the lifts and cable cars to the mountain and the hop-on hop-off bus (Innsbruck Tourism, n.d.-a). It aims to provide the visitors with all of Innsbruck to reduce the carbon footprint created by the travelers during their visit to the Innsbruck region, as stated by the DMO product development manager in Innsbruck Tourism:

"We have the city card, which is a really nice product for the guests because we're trying to give them the opportunity to have free public transport, so they don't use their car anymore." – said by I3.

Aside from focusing on developing soft mobility to reduce the carbon footprint in Innsbruck City from the tourists, the manager also pointed out the fact that it is very important not to ignore the residents in the region.

"But it is also challenged in the rural regions because their accessibility is not so good as in the city. So that's kind of a field that needs to be adapted. So we are now having a product, a project about sustainability and mobility in a more rural region, the Mieming Plateau. And we are now trying to develop alternative solutions for reducing individual mobility and give a greater opportunity for guests but also for the locals to use public transport. 〔…〕 Because it's not just the destination, it's also a living space of the inhabitants. So for us, it's very important to have or to establish the connection (with) these people because these are also kind of part of a tourism product and the tourism experience." – said by I3.

Werfenweng

It has been a strong focal point for Werfenweng to strive to establish a car-free, climate-friendly Alpine destination. The well-developed soft mobility (SAMO) options in Werfenweng from train connections, electric vehicles, and electric shuttle services to horse carriages or even by foot, encourage travelers to explore the destination in ways that reduce negative environmental impacts during travel. The all-inclusive mobility Werfenweng Card enables the visitors to take environmentally friendly transport to get around the region with

minimized emissions. On top of that, the card also comes with a point system that includes some of the leisure activities and tourist attractions that visitors can purchase based on their interests and the duration of their stay.

The soft mobility not only helps reduce the carbon footprint created by the visitors coming to Werfenweng and going around within the region, but it also has been used to transport ingredients that are locally grown within short distances as stated by the DMO manager of Werfenweng:

"Short transportation ways for products being in wood, or tiles or food regionality. This product stemming from the region belongs together, but with high quality. And with that, foster the development of the region sustainably." – said by I1.

Besides soft mobility, other sectors in tourism such as accommodation, food and beverage, nature, and the cultural experience in Werfenweng are also important components that attract visitors to come.

"The (sustainable) criteria do focus on mobility as a focal point, but as you said, (Werfenweng) has also of course other important parts of a holiday. Tourists don't come because there is a cheap taxi and because there is one E-bike. They come for all the other nice accommodation, food, protection of nature with national parks biodiversity, activities awareness raising for nature, then for this "Wohlfühlen" in German (comfortable feeling) - Wherever you go for a holiday, it must be nice. You must feel well for the well-being." – said by I1.

Combining the above-mentioned measures that have been implemented in Werfenweng, it is evident that the CE practice reduce can be identified and has also been applied in the region that contribute to minimizing the carbon footprint emission both in sustainable tourism products and services development in Werfenweng, as mentioned by the DMO manager of Werfenweng:

"Topics like slow food, with all these regional products. Also, with this circle where the product is built, how it is produced, which bio-products with the least (amount of) waste, and so on. With a big quality sign on it that this is local and good. So that's our part of the regional circular economy." – said by I1.

Seefeld

The "Green Deal" project was presented in the Seefeld region in 2020 as a pilot region, with the main objectives to conserve natural diversity and develop sustainable tourism. This has set up a foundation for many projects to be implemented by October 2022, including the establishment of the local bio-heating plant that supplies 54 percent of the local tourism businesses and community (Ortswärme Seefeld, 2020). The region will receive 85,000 Euros from the state of Tyrol to execute its projects. According to the Office Deputy Governor of

the state of Tyrol, the goal of bio-heating renewable energy is to close regional economic cycles and offer job opportunities for the local community (Ortswärme Seefeld, 2020). Aside from the climate-friendly bio-heating system, solar panels that generate power for tourism facilities and the local households are also being expanded to transform the renewable power supply in the region. The long-term goal is to replace oil and gas heating with alternative renewable energy resources (Tourism Association Seefeld, 2022).

Furthermore, the "Green Deal" also promotes climate-friendly transportation for visitors to come to the region. There are three train stations that have well-established connections with trains from Germany and Innsbruck by ICE trains. An extensive network of local electric shuttle services and public transport also provides visitors with many emission-free travel options to minimize the carbon footprint and impacts for the region.

To reduce the consumption of resources, aside from actively avoiding printing with paper, their printed products use organic inks and renewable energy in production. The refreshing drinking water from the Tyrolean Alps goes through the tap in the region, reducing the packaging waste and transport emission for the bottled water. The region also produces high quality meat and fish that are sold to the local restaurants, which not only maintain the regionality, but also help to reinforce the relationship between the producers and buyers working together toward sustainability. There are also many vegetarian or vegan dishes to choose from. On top of all, there are separate shelves for local products from farms in the region in restaurants and accommodations to encourage visitors to support local products such as honey shower gel, organic herbal tea, organic salt and so on (Tourism Association Seefeld, 2022).

Vitalpin

In order for tourism and the protection of the Alps to move closer together, Vitalpin, together with the climate protection expert ClimatePartner, launched the climate project "Vitalpin - Your partner in climate protection". The package for the DMOs followed in autumn 2021, with the aim to calculate and reduce carbon emission created by the tourism activities in the Alpine destinations, mentioned by the project manager of Vitalpin:

"The Vitalpin climate protection package, which comprises of freely selected modules, is specially tailored to the requirements and specifics of each DMO. The carbon footprint of the associations and their events is estimated in the first stage. The implementation of the first reduction measures is then planned. In addition, handbooks with standard measures to avoid greenhouse gas are being drawn up. This first phase is identical for all destinations. After that, there are individual options for the associations to expand the climate protection initiatives, for example to hotels, gastronomy, leisure facilities or cable cars." – mentioned by I5.

In addition, there is a Climate Investment initiative supported by climate protection experts ClimatePartner with funds raised of EUR 65,000 to award sustainable projects for

environmental and climate protection as well as for sustainable management in the Alpine region, explained by project manager of Vitalpin:

"The evaluation criteria include the categories of sustainable mobility, energy efficiency, investment and use of renewable energy, carbon sequestration measures, measures to promote biodiversity and circular economy initiatives. In the end, 11 projects were honored and received prize money of between EUR 3,000 and EUR 20,000." – mentioned by I5.

The Climate Investment project encouraged the Alpine destinations to improve their infrastructure, service, and sustainability in tourism development.

4.2 Recycle

The CE action recycle is defined by Vanner et al., (2014) as the process of transforming waste and trash into new materials that are usable or adding supplemental usage to the original substances. It involves the procedure of reprocessing organic ingredients but does not include the materials that are processed and turned into fuels as a source of energy. By recycling the waste, it minimizes the number of waste and enables the reusable components to be remanufactured and utilized again, thus decreasing the negative environmental burden.

Besides the materials that can be decomposed and reprocessed, the food waste can also be recycled. According to Notarnicola et al., (2017), it can be recycled as biodiesel and or fertilisers for crops. The recycling of waste oils from cooking can also be reprocessed and re-used in food production. On the Alpine mountains, water is an important element for the local community as well as for developing tourism. It is worth noting to keep in mind that the wastewater refers to the "gray water" – wastewater comes from shower, laundry, and bathing, which is different from the "black water" of the use in toilets (Notarnicola et al., 2017). It can be collecting rainwater in mountain huts or accommodations in the destination or managing wastewater in the health and wellness facilities such as spa. The rainwater storage system is also a practical solution for mountainous regions to recycle the rainwater and to be used in households and farms for watering plants and crops (Kaszás et al., 2022).

Innsbruck City

In the Tyrol region, the strategy of waste management is already in place following the "consciously avoid, separate and recycle" principle (Tyrol Advertising, n.d.). Proactively avoiding creating waste is the ideal goal to be achieved, and there is a clear guideline of correct waste separation in different categories as shown in Figure 16:

Figure 16: "Consciously avoid, separate and recycle" principle in Tyrol region

Rubbish separation made easy!

If you have any queries please contact the Tyrol Environment Association www.umwelt-tirol.at, email: info@umwelt-tirol.at

Umwelt VereinTirol www.umwelt-tirol.at — tirol Unser Land

Coloured and clear glass	Metal	Paper and cardboard	Plastic and composite material	Electric appliances	Bio-waste	Hazardous waste	Bulky waste	Non-recyclable waste
Yes please - mixed or clear glass	**Yes please - metal**	**Yes please - paper or cardboard**	**Yes please - plastic**	**Yes please - electric appliances**	**Yes please - bio-waste**	**Yes please - hazardous waste**	**Yes please - bulky waste**	**Yes please - non-recyclable waste**
Hollow glass containers like bottles, flacons, food jars, cosmetics bottles, glass ampules... Please carefully separate clear and coloured glass and remove the tops. Ensure that no returnable bottles are included - these should be reused.	Tin cans, drinks cans, steel cans, aluminium foil, drinks bottle caps, (scraped clean and drip-free only) paint and varnish tins, completely empty spray cans (containing no pressurised gas)	**Paper:** newspapers, magazines, brochures, mail shots, notebooks, books, writing paper, catalogues, window envelopes, uncoated and clean paper. **Cardboard (please fold):** boxes, corrugated cardboard, cartons, kraft paper bags	Plastic sheets, drinks/coffee/vacuum/ deep-freeze packaging, rinsed out empty containers from cleaning and cosmetic products. Composite materials e.g. tablet packaging. Styrofoam (separate collection sensible) Please ask your local authority.	Large electric appliances like washing machines and dishwashers, fridges and freezers, TVs, computers and monitors. Small electric appliances e.g. toasters, mobile phones, phones, electric razors, radios, calculators... Energy-saving light bulbs, fluorescent light bulbs, batteries	Fruit and vegetable remains, rotten food and food leftovers, eggshells, coffee grounds and filters, tea leaves and teabags, cut flowers, wood shavings, charcoal and ashes, garden waste	Used oil, batteries, solvents, nitro-cellulose combination thinner mercury, disinfectants, photo chemicals, medicines, acids, alkaline solutions Please put used cooking oil and fats in oil collection.	Household rubbish that won't fit in the non-recyclable rubbish container due to its size/ shape, broken furniture, carpets/rugs, sports equipment, skis, pushchairs/ prams, scrap wood and scrap iron For undamaged furniture and objects - please ask your local authority about re-use collections.	Waste that cannot be recycled: broken porcelain and ceramics, cigarette stubs, ashes from charcoal stoves, vacuum cleaner bags, toothbrushes, coat hangers, tights, disposable nappies, toiletries, broken toys, light bulbs, MCs/video cassettes
No thanks - coloured or clear glass	**No thanks - metal**	**No thanks - paper or cardboard**	**No thanks - plastic**	**No thanks - electric appliances**	**No thanks - bio-waste**	**No thanks - hazardous waste**	**No thanks - bulky waste**	**No thanks - non-recyclable waste**
Lids, caps, porcelain, earthenware bottles, ceramics, glassware, drinking glasses, bulbs Window panes, mirror glass, wire glass (separate collection sensible)	Composite materials spray cans and gas cartridges etc. that are not completely empty Pots, pans, household scrap metal - goes to communal scrap metal collection	Deep-freeze packaging (coated), carbon paper, cellophane, wallpapers, paper tissues, drinks packaging	Anything that doesn't count as packaging: e.g. broken toys, toothbrushes, coat hangers, tights, music and video cassettes, CDs	Toy train sets (tracks, carriages) car racing tracks (road) CDs, audio tapes, video tapes, toner cartridges, greetings cards (with sound)	Artificial cat litter, vacuum cleaner bags, disposable nappies, cigarette stubs, hazardous waste, non-recyclable waste, ashes from coal-burning stoves, all packaging	Scraped clean, drip-free and rinsed out empty dye, paint, cleaning product containers etc., count as packaging and must be disposed of accordingly.	Non-recyclable waste, rubble, hazardous waste, cardboard packaging, electronic appliances, oil radiators and fridges/ freezers are collected separately in all areas.	Waste that can be recycled! This includes waste items like wearable clothes and shoes, all packaging and bio-waste and electric appliances and hazardous waste.

Status - 2017 - Englisch

Source: Tyrol Advertising (n.d.)

The waste separation general guideline as shown above is published on the official Tyrol website and people are encouraged to contact local authorities and waste management consultants for further assistance and information. Aside from the general waste recycling guideline for the Tyrol region, the Innsbruck Tourism also provide sustainability-related workshops and training on waste management for their staff, as well as measuring their carbon footprint for their DMO to identify the challenges and reduce emissions.

"We also have different initiatives for informing the employees about how to be more sustainable, how they can reduce or recycle for example. So in the beginning of this year, there was an info session about recycling and how to how to what to do with your waste, basically, waste management. So that the people, the employees know. First of all, that there should reduce waste, but also if they have waste, how to recycle and manage that waste. We did measure our carbon footprint of the company. Figure out how to reduce our carbon footprint with all the information we have now on the potential barriers and problem fields that are now producing carbon, so that's one aspect as well." – said by I3.

Werfenweng

The waste separation and management are already being implemented in Werfenweng. The rubbish is categorized into used packaging (made of metal/plastic/and natural materials),

organic waste, paper, and other residential wastes (Gemeinde Werfenweng, n.d.) for recycling. The different waste collection dates differ, and the schedule is presented on the website of the municipality of Werfenweng. There is also a recycling center in the region for people to hand in wastes that cannot be disposed of as residential waste, such as electrical components and bulky objects. However, there is no obvious campaign or promotion in Werfenweng specially for the tourism sector, the focus points are more on sustainable soft mobility to reduce emissions during travel.

Seefeld

Waste classification and recycling are implemented at the Seefeld region with differentiating paper, plastic, and organic waste. It is the ultimate goal to achieve as waste-free as possible. Only the recycled paper is used in the Seefeld region as printed material with the attempt to reduce the energy and raw material consumption to minimum. In addition, the Seefeld Tourism Board also hosts the "CleanUpPlateau-Challenge" annually to raise awareness for environmental protection and waste collection.

4.3 Reuse

According to Vanner et al., (2014), the CE practice reuse refers to any product and component that does not just get disposed of but can be used again for the same purpose or beyond. Compared to the new product, to reduce a product requires fewer natural resources, energy, labor in the process of manufacturing through recycling. It should be kept in mind that to implement reuse of products, it requires steps from both demand and supply sides. From the demand side, the consumers' awareness and demand for reusable products is a crucial drive for companies to design and produce products that are durable, can be disassembled, refurbished, and reused for many cycles (Ghisellini et al., 2015). To apply reuse in the tourism sector, this includes shared tangible facilities such as electrical vehicle car rentals, shared car rides, infrastructure to store water/heat/energy and transition them to be reused, the reusable linen and towels in accommodations, to intangible services that provide maintenance and consultancy to extend the durability of the products in a closed loop. In tourism destinations, water fountains can be set up to encourage tourists bringing their own water bottles to refill the refreshing water.

Innsbruck

There are many public drinking fountains across the Innsbruck region which came down from the Alps and enriched with minerals from the rocks. A spring water facility "Mühlauer Quelle" - a tunnel that is one kilometer and is used to collect water and flow through two pipelines that distribute clean tap water to the whole region supplying 90% of households in the city. The tap water in the region is directly drinkable, so there is no need for the tourists to buy any bottled water. The visitors are encouraged to bring their own bottles and reuse/refill the water from these public drinking fountains.

Werfenweng

Soft mobility has always been the focal point of sustainable tourism development in Werfenweng. As earlier defined CE practice of reuse in tourism, it includes sharing and reusing tangible and intangible tourism products and services. In Werfenweng, the rental service of electric cars, E-bikes and shuttle vehicle facilities has evidently provided the examples of the reuse element in the region. It diminishes the permanent "ownership" in electric vehicles and keeps the material use in a closed loop.

Seefeld

The infrastructure of a bio-teleheating (Bio-Ortswärme) plant has been established since 2017 and is being implemented in the Seefeld region. The biomass of wood chips and timber are collected from the local households and businesses and are refined and turned into sustainable renewable energy to supply more than 50% of the needs for the region. The bio-teleheating plant is equipped with highly innovative technology that filters the smoke coming out of the chimney, even captures the waste heat and to reuse it for energy distribution (Weittenhiller, 2020). Then the heat energy is transported through a pipeline directly back to the village. Since its establishment until 2020, the bio-heating plant has supplied the energy for 1,100 households in the Seefeld region (Weittenhiller, 2020). Moreover, most of the local enterprises are utilizing the energy supplied by the bio-teleheating plant today, as well as hydro-electric power stations and solar energy farms.

In addition, Seefeld was the city to hold the FIS Nordic World Ski Championships in 2019 (Stora Enso, n.d.). The city collaborated with the sponsor Stora Enso, a company working with renewable materials to set up the tournament. Multi-use cutlery and cheering horns made from biocomposite, fiber-based materials - serves the same purpose of traditional plastic but were produced with 60% less of oil-based plastic polymers, were provided at the games which can be reused and recycled. Several recycling stations and a waste management system were set up around the stadium to cope with waste that was from the duration of the games. A landmark tower that was built for the championships remains after the games for the local community, which can be reused for community events and other purposes.

4.4 Redesign

Redesign can be interpreted as breaking down the components of a physical product, and reuse it afterward (Kaszás et al., 2022). However, before the manufacturing process, it is essential to focus on the eco-design perspective. It should be a priority in businesses and creators' minds to consciously choose the materials that are decomposable, easy-to-be-repaired, recyclable and reusable. To implement the redesign concept in tourism, the menus can be redesigned and planned in gastronomy to incorporate local ingredients with an appropriate portion to reduce food waste. Establishing food distribution networks on food sharing platforms such as TooGoodToGo can also be potential ways to minimize the waste. Besides focusing on the physical material and resources, redesign also refers to improvements

in business models which add value to tourism service providers, consequently, create social effects such as job creation and increased trust in consumers with sustainable products and services (Manniche et al., 2017).

Innsbruck

At the time when the interview was conducted and this research paper was being written, it was stated by the manager of the research and development department in the Innsbruck tourist office that there has not been a sustainability strategy implemented in place yet. Nevertheless, with the changes of a new CEO, there are new visions and goals set for working toward sustainability. They also have external and internal workshops and activities such as Tyrol cleanup day and training sessions to engage the employees in the tourist office to gain a deeper understanding about waste management and carbon footprint measurement. The design of the all-inclusive Innsbruck Card integrates the main tourist attractions and public transportations such as buses, trams, and cable cars to the mountain peak, which encourages car-free ways of travel that significantly reduces the carbon footprints in tourism activities. They are in the beginning stage of redesigning and implementing the sustainable strategies, but the first step would be to inform and educate their DMO staff internally and serve as an example for other stakeholders to follow.

"We are quite in the beginning. But we are very aware of the three elements and for us, it's very important to implement these in future actions. So the mindset was that we started getting better are a more sustainable workplaces. And the next step is that if we are more sustainable as a company, we can transport and be like a role model for other companies in the destination. So it's kind of hard to say to partners or to other stakeholders in the region, you need to be more sustainable then we don't. So that's kind of our, our vision, our goal to be more sustainable in our business. And then we can transport the sustainability aspects or three elements into the region." said by I3.

Werfenweng

It was undoubtedly that the tourism in Werfenweng also underwent a huge impact of the COVID-19 pandemic. However, it was stated by the manager of the Alpine Pearls that it had also provided a good opportunity for tourism service providers such as hotels to redesign and renovate their facilities more sustainably:

"[...] Like hotels, would have the time to fit photovoltaics on the roof, maybe have time to put water-saving units into the faucets. Normally you don't have the time, you're so busy. So they weren't busy, and they didn't know for how long, maybe it was some months. So they started to be positive and put in their money. Many reserves are coming into renovations, installation, better windows, and many good hotels with good saving accounts. They're good investments into sustainability and a circular economy." – said by I1.

The time in between has made them rethink the new ways of developing tourism more sustainably to tackle the issues that existed before the pandemic and potentially might come back after - over-tourism, as people were more inclined to get out of cities to get fresh air and avoid crowded tourist destinations:

"We tried our best to still, insist there is a time after COVID, and then people will rush out of the cities. And then they will storm your villages and you have overtourism, so do something against overtourism. Bring them on buses, bring them on trains, or think about a new travel system from the train station to your hotel, work it out, now. They're not here yet, use the time here." – said by I1.

Seefeld

According to the manager of sustainability and marketing of the tourist office Seefeld, they have come up with a new project "Plateau Pioneers" which they host workshops together with CSR experts for tourism accommodation and hoteliers to work on minimizing their carbon footprints produced from their business (Seefeld Tourist Office, n.d.).

"We already started with working out the carbon footprint and we will do many workshops in the future regarding this topic. Furthermore, our region is among the first 19 destinations in Austria who apply to receive the Austrian Ecolabel for Destinations. During this process, the tourism board as well as some accommodations work on the SDGs and "learn" to operate sustainably". – mentioned by I4.

Partnered with the Karwendel Nature Park, the Tourist Office Seefeld will firstly evaluate and determine climate-specific data for the tourism businesses and formulate measurable objectives and take actions with the CSR experts. This offers the opportunities for the accommodation providers to look into their current sustainability performance and teach them to redesign and improve their facilities and services toward a more sustainable development.

4.5 Rethink

In addition to the other four CE practices mentioned above, it is essential to transform the way of thinking of people in their daily lives about circularity, especially in the tourism sector. This refers to the CE practice rethink. Ghisellini et al. (2016) pointed out that CE proposes rethinking ownership, which is a model that diminishes the concept of ownership in products. The consumers are no longer paying to "own" the product, but to lease for the service. Product-to-service is not a niche idea in tourism, as the re-utilization of utensils, beddings, and soft mobility with electric car share rides have already been implemented in some of the destinations. According to Kaszás et al. (2022), circularity can also be applied in events as the selection of the materials in the upstream supply chain in the process can significantly improve the circular flow. It creates the opportunity to rethink the existing economic and tourism system. In light of the COVID-19 pandemic, it especially urged all the concerned

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stakeholders in tourism to rethink tourism and the travel behaviors of tourists have had an obvious shift in being more conscious and sustainable ways of travel.

Innsbruck

As one of the biggest DMOs in Austria, Innsbruck Tourism has a structured organization setting. Among all the departments, there is a research and development department that is in charge of designing and developing tourism products. According to the manager of the research and development department in Innsbruck Tourism, they constantly think about the latest trends in tourism and improve their tourism products and services, especially in times of the pandemic.

"We want to be a quality destination. So we need to rethink what we need, what we need to do to be more qualitative and to get a better experience for the tourists. So rethinking our products, and our behavior is kind of a part of sustainability. And you for sure will implement this in our doing." – said by I3.

By the time the interview was conducted, it is stated by the manager of research and development that Innsbruck Tourism hasn't developed a comprehensive sustainability strategy, but that would be the future vision and mission for them.

"*We don't have a sustainability strategy right now. But I'm working on it. And I'm kind of just asking the question: how sustainable is our destination now? And what are fields that are great? And what are fields that need to be more developed? So this is kind of my ongoing project that I'm kind of thinking about the region, about the company: what is our status quo? and how can we further develop? But overall, alongside that, we also have smaller projects like this mobility project for reducing individual mobility and developing alternative innovative solutions for public transport. But I'm also very much trying to develop a more sense of sustainability in the company, but also in the region so that stakeholders, the employees are more informed. And their vision of sustainability is also implemented in their doing. So I'm trying to get them information and try to give them ideas how to act on sustainability, and then we have smaller projects for all these kind of things."* – said by I3.

Werfenweng

Way before the outbreak of the pandemic, Werfenweng had been developing sustainable tourism - with a strong focus on establishing sustainable mobility in tourism. Nevertheless, the region and DMO was still greatly affected by the pandemic. The service providers took their time to rethink - coming up with new initiatives providing better tourism services and renovating their facilities to reduce energy and material consumption. They even think ahead about after the pandemic, the tourists are likely to be out of the city and results in over-tourism.

"But we tried our best to still, insist there is a time after COVID, and then people will rush out of the cities. And then they will storm your villages and you have overtourism, so do something against overtourism. Bring them on buses, bring them on trains, or think about a new travel system from the train station to your hotel, work it out, now. They're not here yet, use the time here." – said by I1.

Seefeld

It was clearly stated in the "Green Deal" of Seefeld that product design is crucial toward a more sustainable environment (Tourist Office Seefeld, 2020). According to the DMO manager of Seefeld, the pandemic has given them to rethink their destination and thus established the initiatives of the Green Deal (Tourist Office Seefeld, 2020 August):

Nature and the protection of it have always been a core value and was of high importance to us. Having time to rethink certain processes and actions during the lockdown, made us start the project "Green Deal". – mentioned by I4.

There are five main sustainable pillars in the Green Deal that provided the general guideline for develop sustainable tourism in the Seefeld region (Tourist Office Seefeld, 2020):

1. **Mobility** - Develop a more extensive public transport network with emission-free mobility in Seefeld to reduce traffic.
2. **Resources** - It is essential to rethink and reduce resource consumption as well as actively avoid waste and encourage recycling to achieve climate neutrality. The biomass heat is to be developed further to supply the entire region with renewable energy.
3. **Local Value Added** - Locally-grown food and ingredients should be supplied directly to the hotels and kitchens in local restaurants.
4. **Conservation Nature and Species** - The biodiversity of nature and the surroundings should be conserved and protected in town.
5. **Development of Tourist Offer** - The tourist offers should combine with a respectful approach to the natural environment and provide guests with intensive, long-lasting experience.

To tackle global issues like climate change, sustainability is a clear vision and prerequisite for the development of Seefeld (Tourist Office Seefeld, 2020). It is also emphasized that the sustainable vision cannot be developed without the collaboration between the tourism service providers and the local community. In addition, the future vision of Seefeld will continue focusing on working toward sustainability and it is their primary goal by the end of 2022 to be the first eco-label awarded tourism regions in Austria.

"We, the Region Seefeld – Tirols Hochplateau, will focus on sustainability also in the future. We love our natural surroundings and outdoor activities are highly important to us. This is the main reason why guests visit us. Our goal must always be to find the perfect balance

between social, ecological and economic sustainability - protecting nature and providing valuable and sustainable experiences for our guests and locals. Since 2022 we are part of an Austrian pilot project where 19 tourism regions apply for the highly acclaimed "Austrian eco-label". By the end of 2022 we want to be one of the first eco-label awarded tourism regions in Austria." – mentioned by I4.

4.6 Challenges of Implementation of CE Practices in Austrian Alpine Destinations

Almost all the interviewees mentioned that the CE concept and implementation in the tourism sector are still relatively new or have just started to be emphasized by the DMOs and the officials. The vice president of the CIPRA international board pointed out that there is a difference between the traditional concept of CE, and it cannot be fully implemented in tourism due to the core of the industry being service-oriented. He stated some of the CE practices that are highly relevant to tourism could help construct a circular business model in tourism for businesses to reduce operational costs, assist in marketing, and essentially generate interest in consumers and raise their awareness about topics related to sustainability.

"You cannot implement the ideas of circular economy directly into a service industry, because the idea is based on the production of something. (The circular business model) would help on different levels, it would help them to save resources, energy or avoid energy use, or reduce the energy that's used. But especially for the resources, it has a good impact. In the end, at least after some investments, it would also reduce operational costs. And it definitely also on the level of marketing. [...] I do think that with this (circular economy business model), if you really work along either full sustainability or full circular economy, you could use that also in marketing because there are growing interests of consumers towards the whole area of big climate change, sustainability, and circular economy." – said by I2.

The manager of the research and development department of Innsbruck also stated similarly that the implementation of CE practices in tourism as services is the core of the industry, it is more complex than just focusing on the production and consumption of physical products.

"I think the circular economy is very important, but it's also very hard. We as a tourism sector, it's mostly about service, and to be in a circular service is more complex than just doing a product. It is definitely a very interesting topic and needs to be more focused on." – said by I3

To investigate the lack of implications of CE in tourism, Manniche & Broegaard (2021) pointed out that the framework of sustainability in tourism has dominantly focused on the SDGs as guidelines for developing sustainable tourism, mainly promoted by well-known international organizations such as the World Tourism Organization, even though often lacking operationalization. Moreover, there is a conceptual gap between researchers and

policymakers for implementing transformational approaches to practically implement changes to develop tourism businesses more sustainably (Manniche & Broegaard, 2021).

4.7 Influence of the COVID-19 Pandemic

On top of the transformational challenges toward sustainability, the outbreak of the COVID-19 pandemic in March 2020 also amplified the urgency and importance of the transition of the tourism industry toward sustainability. It has significantly impacted tourism in the selected Austrian Alpine destinations as there were no tourists coming and thus no income from the tourist tax for tourism businesses. Nevertheless, it has also provided them with a period of time to improve their infrastructures and come up with new initiatives that take sustainability into consideration, as stated by the DMO manager of Werfenweng.

"Many downsides, and of course, also good chances for a new world, like hotels, would have the time to fit photovoltaics on the roof, maybe have time to put water-saving units into the faucets. Normally you don't have the time, you're so busy. So they weren't busy, and they didn't know for how long, maybe it was some months. So they started to be positive and put in their money. Many reserves are coming into renovations, installation, better windows, and many good hotels with good savings accounts. They're good investments into sustainability and a circular economy." – said by I1.

The pandemic has also pushed the adaptation of technology in the industry and influenced the behavior changes of tourists. Business trips were replaced with online meetings, and travelers prefer to travel within the country but outside the cities to be closer to nature. It urged the DMOs and tourism service providers to redesign the product and services that reduce materials and energy consumption.

Despite the negative impact of the pandemic initially on Innsbruck, Werfenweng and Seefeld with the reduced numbers of tourists, it was stated by the managers of these DMOs by the time of conducting interviews, that they are optimistic because people prefer to be close with nature. At the time when the interviews were conducted, there was already an obvious comeback of tourists to these destinations as stated by the research and development manager of the Innsbruck tourist office:

"So overall, in comparison to other just city destinations, we were quite lucky because we also had the region around us, which was attractive for the guests that don't want to be in a city. So it had an effect, but we're kind of developing now and we're very, very lucky, especially now that it is very nice and the city is full of tourists." – said by I3.

During the lockdown, it has given the DMO of Seefeld time to restructure and rethink their tourism products and sustainability strategies.

"After shutting everything down in March 2020, we had a restart during summer and a lockdown again in winter 2020/21. It was a difficult time, but our markets and marketing

strategy did not change much. We always focused on activities in nature and markets close by like Germany and Switzerland. However, we had time to rethink some processes and work on a plan to focus even more on sustainability. Therefore, we started our project "Green Deal" in summer 2020 after the first lockdown." – said by I4.

Moreover, they were already expecting and thinking ahead that tourists would want to be out of the city and thus may result in overtourism. They started to think ahead about how to prevent the situation, as mentioned by the DMO manager of Werfenweng:

"But we tried our best to still, insist there is a time after COVID, and then people will rush out of the cities. And then they will storm your villages and you have overtourism, so do something against overtourism. Bring them on buses, bring them on trains, or think about a new travel system from the train station to your hotel, work it out, now. They're not here yet, use the time here." – said by I1.

For transnational organizations that focus on the collaboration of Alpine regions such as CIPRA, the impacts of the pandemic were not necessarily negative. As how the members communicate has shifted from in-person to virtual meetings, it has significantly reduced cost and increased the efficiency of contacting each other, thus helped strengthen their relationships and communications with each other.

"Being an NGO, anyway, we already had before, all our electronic media and electronic communication systems are quite established. So it was nothing new for us. So this was easier. I would say. On the other hand, even due to the pressure to have more communication online, we could also save some traveling costs. And some of the new design for some meetings will stay also. So we have in the future more hybrid meetings. And actually, we could intensify some contacts with some of the members. Because on virtual tours, it's easier. And financially, we had not really a big negative impact." – said by I2.

4.8 Future Perspectives

With the distribution of vaccines and gradual control of the pandemic, many European countries have eased the travel restrictions and opened their borders. There is already an obviously increased number of tourists within the region. On top of all the challenges of CE implementation in tourism mentioned above, CE provides a multidimensional drive that calls for innovations in technology, business models and supply chains through the collaboration between the local tourism stakeholders and tourists (Manniche & Broegaard, 2021). By highlighting how the tourism industry depends on and is integrated into change processes at all levels of society, CE presents a broad transition viewpoint that might help restore some of the lost motivation of the traditional concept of sustainable tourism. Moreover, it can provide a restorative and regenerative framework for developing sustainability in tourism after the COVID-19 pandemic. The CE concept and practices provide new systematic transitioning approaches other than the linear structure of the traditional concept of sustainable tourism. By implementing the new CE business model with the implementation of CE practices, it puts

forward a narrative tool to empower the local community to co-create and co-develop tourism in destinations that are beneficial from the environmental, social-cultural and economic perspectives.

It was mentioned by the manager of the research and development of Innsbruck Tourism, despite the difficulty of fully implementing CE practices in their destination, it is an important topic to be more focused on:

"I think the circular economy is very important, but it's also very hard. We as a tourism sector, it's mostly about service and to be in a circular service is more complex than just doing a product: It is definitely a very interesting topic and needs to be more focused on." – said by I3.

Similarly, despite the lack of attention from the hoteliers and tourism service providers, the DMO manager of Werfenweng has expressed the interest in looking into the potential of CE application in their destination to help accelerate transformation to a more sustainable tourism.

For Vitalpin, their future vision would be working on engaging more stakeholders through different marketing channels to stakeholders such as visitors and local communities of their tourism attitude to restructuring their sustainability strategies.

"For the future we are pursuing the following priority areas: public relations (articles, podcast, social media), tourism attitude (survey and scientific investigation) and sustainability (sustainability programs). In general, after 3 years now, we are also in a phase of restructuring (determination of focus topics)." – mentioned by I5.

With the unprecedented crisis of climate change and the COVID-19 pandemic which put tourism activities on halt, it has generated greater attention from the international organization UNWTO to provide conceptualized CE framework for tourism development as a transforming tool for a more sustainable and resilient industry transition (Einarsson & Sorin, 2020). Actors in the tourism industry may be effective circularity facilitators and gain from shared circular value creation and value capture within the key value chains. Aside from collaborative CE initiatives, education and awareness are also essential factors to optimize the transformative CE business model in tourism.

As discovered from both literature review and information from the managers of DMOs in Austrian Alpine destinations, the current discussion and studies for the CE framework is primarily focusing on resource-intensive businesses, with much little linkage with service-oriented industries like tourism. The tourism sector is a complex system interlinked with value chains of many other major industries to operate. Therefore, the actors in tourism play a significant role within a circular transition.

Suggested by Einarsson & Sorin (2020), based on the organizational structure and business model of tourism businesses, they can focus on positioning the CE concept and practices on two levels:

- **Implementation policies (upstream supply chain):** Formulate and adopt CE guidelines to promote innovation in closed-loop supply chains, such as sharing to diminish the permanent ownership; collaboration in supply chains; procedures to enhance sustainability, etc.
- **Distribution and marketing communication (downstream supply chain):** Strategic market positioning as a purpose- and impact-driven company with an emphasis on circularity and sustainability.

It is essential to identify the context and type of business for each tourism operator in order to thoroughly investigate the business models, value propositions and target markets for a CE transition. If there is a lack of coherence between the new value proposition, positioning, and the real circular transformation plan implementation in the downstream supply chain, supply chain partners and customers may regard it as "greenwashing." This might be very detrimental to the brand's reputation and cause negative effects. A transparent, iterative transformation process may be developed and communicated to emphasize coherence, a long-term value proposition, and business model evolution. Additionally, it could offer a justification for any apparent inconsistencies between the organization's existing value offering and its newly prioritized agendas for resource usage optimization and medium- to long-term sustainability and their potential short-term inconsistencies.

Moreover, to successfully construct and implement a CE framework in tourism, it is crucial for the stakeholders in the value chain to co-create and collaborate. A destination's social and environmental carrying capacity limits should be discussed by proactive and coordinated conversations with participatory inquiry involving local communities, associations, DMOs, and inbound travel operators (Einarsson & Sorin, 2020). Lowering the negative social and environmental effects should be the objective, along with coming up with more diverse and resilient travel products that are beneficial for the concerned stakeholders in the long run. This would eventually protect the asset value of a location while also preserving its long-term environmental, sociological, and cultural appeal. Incorporating a systematic CE concept with CE practices implementation on destination management, it may also foster a driver for innovation and sustainability in a border context.

Stated by the DMO manager of Werfenweng, CE could be implemented from cooperations in value chains between different stakeholders regionally.

"That (CE) could be like cooperation models between agriculture, trade and tourism. Like this hotel builds new rooms, it takes the local trade person even though they are expensive than the ones from Hungary. And for milk and products, they take the regional milk, which always is, it's not so easy. […] But of course, it's better, healthier, and better for everybody. So we ask very much that they focus on regional markets, farmer markets. Topics like slow

food, with all these regional products. Also, with this circle where the product is built, how it is produced with which bio-products with the least of waste, and so on. With having a big quality sign on it that this is local and good. So that's our part of the regional circular economy. And mostly, of course, in mobility. Also the regionally produced energy for electric vehicles.

Figure 17 illustrates a comprehensive CE tourism system constructed by stakeholders' collaboration, value co-creation, business model innovation and CE practices implementation in direct and indirect value chains. These value chain connections seek to maximize the system as a whole in order to fulfill its primary function of regenerating natural and human capital.

Figure 17: A circular economy tourism system
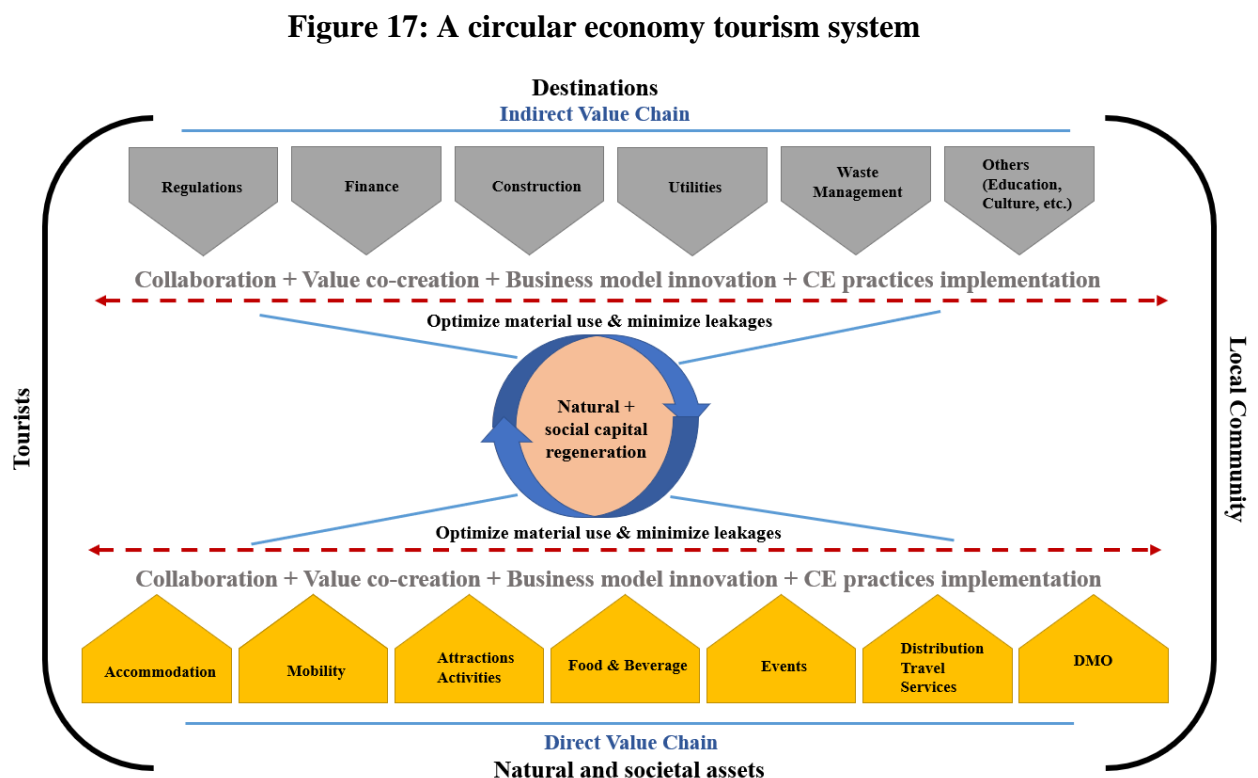
Source: Adapted from Einarsson & Sorin (2020)

Despite the continuous signs of recovery in international tourism, international arrivals almost tripled from January to July 2022 compared to the same period in 2021 (UNWTO, 2022), there are also increasing behavioral changes in tourists and societal demands for a more sustainable and circular economic transition in tourism post COVID-19. With the implementation of hygiene and safety measures in response to the pandemic, there was a drastic increase in single use and disposable food and cleaning packaging in the tourism value chains which resulted in higher volumes of wastes. The tourism service providers and stakeholders should rethink and consider their product supply and waste management strategies, in order to adopt more circular business models as a result of the significant growth in waste stream volumes. Due to the complexity of the dynamic tourism system, the implementation of CE practices and transformation in the industry should be a constantly

evolving process (Einarsson & Sorin, 2020). To implement the CE framework and embark on a journey of a circular transition in tourism, Einarsson & Sorin (2020) indicated that it can be categorized into four stages:

1. **Circularity Exploration:** In the first step, important stakeholders should be introduced to the framework, its justification, and any possible effects it might have on the organization and value chain. Additionally, this would increase staff understanding of the possible competitive advantage of circular transformation.
2. **Circularity Assessment:** Secondly, using a circularity assessment to examine the organizational environment of a DMO, its circularity drivers and obstacles, material flows, strengths, weaknesses, opportunities, and threats with the SWOT analysis in the context of circular value generation, capture, and distribution. This helps to identify important stakeholders and possible partners, as well as the DMO's and its value chain's potential for circularity.
3. **Circular Transformation Roadmap:** In the third stage, a roadmap for the circular transformation would be proposed along with an action plan. In order to provide a circular strategic roadmap and identify the essential stakeholders to include, this stage would further analyze the choices for circular value generation, capture, and distribution as well as business models.
4. **Circular Strategy Implementation:** Following the road-mapping step for the circular transformation, the circular strategy execution stage would deploy a clear action plan throughout all business functions, supported by crucial circular performance indicators customized for the organization.

As a result of the analysis of the interviews and official reports and websites, it was revealed that there is a limitation of implementing the CE concept and CE practices in the tourism sector, to be defined as 5R (reduce, recycle, reuse, redesign, rethink) out of all the 9R CE practices categorized from the literature review. The current tourism products and services provided by the selected Alpine destinations of Innsbruck, Werfenweng and Seefeld are in alignment with the 5R CE practices with the aim to develop tourism sustainably.

However, the results show that most of the approaches that were in place did not necessarily come from the purposes of applying CE concepts and practices in these destinations. They were mainly based on the 3 pillars of sustainability from the national tourism policy of Austria - ecological, socio, and economic dimensions for developing sustainable tourism. The challenges of implementing CE practices in these destinations including the CE concept has not yet been discussed and integrated in the tourism development scheme, the nature of the tourism industry is more service-oriented, which requires more comprehensive investigation to be applied in the destinations. Due to factors of global issues such as the COVID-19 pandemic and climate change, it has stimulated behavior changes of their travel preferences from tourists and pushed the DMOs, policymakers, as well as the local communities to start to rethink and draw their attention to the application of CE in tourism.

As mentioned, the CE concept and the 5R practices can provide a restorative framework that by actively reduce and re-utilize resources within a closed-loop lifecycle to mitigate the environmental damage created by tourism activities, as well as boosting global competitiveness, job creation, and developing a sustainable economic system. It is still based on the fundamental principles of the three-pillar sustainability that have been widely discussed in developing sustainable tourism but expands the scope with new systematic perspectives of innovations in technology, business models and value chains that is different from the traditional linear dimension of sustainable tourism. It is important to acknowledge that it is an interconnected structure that requires the collaboration between tourism stakeholders including DMOs, tourism businesses, tourists and the local community.

In light of COVID-19 and the recovery process post-pandemic, the tourism stakeholders should carefully rethink and strategize the waste management action plan to tackle the huge number of wastes in cleaning and packaging products in response to the hygiene measures. A four-stage instruction was introduced in this study based on the research from Einarsson & Sorin (2020) that provides a general guideline for DMOs on how to implement the CE framework and practices into their organizational structure and value chains.

Conclusion

In this final chapter of this research, conclusions are presented based on the main research question, sub-research questions, and the research that was conducted. The limitations of this study and recommendations for further research are also addressed here. The objective of this research was to investigate what circular economy practices have been implemented in the selected Alpine tourism destinations in Austria. The main research question was: what are the circular economy practices that have been implemented in the selected Austrian Alpine destinations? The findings indicated the CE practices that have been implemented in the selected Austrian Alpine destinations - Innsbruck, Werfenweng and Seefeld respectively. It was discovered that the tourism products and services fit into the five main conceptualized CE categories of practices - reduce, reuse, recycle, redesign and rethink. However, the CE practices and the tourism development schemes differ from region to region, and it was discovered that they were in place not necessarily coming from the main focus of applying CE as a transformational toolbox for sustainability. The majority of the interviewees addressed that it must be acknowledged that due to the nature of tourism as a service-oriented industry, it is a complex process to integrate CE into their system. In addition, the main research question will be fully addressed through three sub-research questions, which will help to conclude this research from the 5R major CE practices that are the most related to tourism for practical implementation and transition to sustainability in this sector. The findings for the three sub-research questions are presented below:

According to the first sub-research question on CE understanding and definitions, the findings discovered that from the traditional industrial perspective, CE is an economic system which aims to replace the "end-of-life" concept with reducing, alternatively reusing, recycling, and recovering materials in production/distribution and consumption processes to achieve

sustainable development. The contemporary application of CE has gone beyond the limited framework on the production and consumption aspects of materials. In contrast to the conventional linear economic system, the CE practices place an emphasis on resource reduction, re-utilization, and improvement of energy efficiency throughout the value chain, transforming the economic system into a "cradle-to-cradle," closed-loop life cycle to reduce issues with resource scarcity and environmental damage. The core premise of CE practices has evolved overtime from initially 3Rs (reuse, recycle, reduce) to 6Rs (reuse, recycle, redesign, remanufacture, reduce, recover), and even 9Rs (refuse, rethink, reduce, reuse, repair, refurbish, remanufacture, repurpose, recycle, recover).

Secondly, following the above conceptualized explanation of CE concept and practices, the findings for this research acknowledged that CE offers a transitional framework and a multidimensional drive for innovations in technology, business models and supply chains in tourism. Based on the previous contribution in literature regarding CE practices in tourism, out of all the CE practices that have been identified and categorized, this research followed the major 5Rs that are closely interlinked with the tourism sector - **reduce, reuse, recycle, redesign and rethink**. To fully implement the 5Rs CE practices in tourism, it requires the collaborations and co-creation between stakeholders in the tourism value chain, business model and technology. It should be noted that the characteristics of destinations differ, consequently resulting in different types of organizational structure in DMOs. Therefore, before implementing the CE concept and practices, it is essential to identify and evaluate the process based on the context. Nevertheless, there is a general four-stage CE implementation that could be followed by the tourism service providers and stakeholders, which could step by step help to transform the industry to a more sustainable and circular future:
1. Circularity Exploration
2. Circularity Assessment
3. Circular Transformation Roadmap
4. Circular Strategy Implementation

Furthermore, to answer the third sub-research question, it was presented in this research that there is rising attention and awareness of CE in tourism from international organizations such as UNWTO, political entities like the EU and governments - in this study the Federal Ministry of Republic of Austria - Agriculture, Regions, and Tourism. Through the analysis of CE practices implementation in the selected Austrian Alpine destinations - Innsbruck, Werfenweng and Seefeld and the insights retrieved from tourism professionals in these destinations, it presented that the Austrian national tourism policies and guidelines play a crucial part in leading the overall direction of sustainable Alpine tourism development which significantly influenced the tourism product design and promotion from the DMOs. As a matter of fact, only little emphasis of CE application in tourism has been put on in Austria. However, it has provided a structured sustainability framework that could potentially be integrated with the CE model and serve as an example for other Alpine tourism destinations to follow.

To sum up, from the theoretical point of view, this research gathered the existing conceptualized CE concept and practices based on previous research, and further investigated the implementation of CE practices in the selected Austrian Alpine destinations and provided insights and suggestions potentially for other Alpine tourism destinations to follow. It could serve a holistic overview on the topic and raise more awareness for tourism operators and stakeholders and drive more interest and collaboration throughout the value chain in the tourism system, to eventually working toward a transitional circular future for tourism.

While this research has inspected the potential implications of CE concept and application with a strong focus on Alpine destinations in Austria and attempted to bridge the knowledge gap, it still carries certain limitations. One of the major weaknesses of the analysis was generalization, as only three of the managers of the DMOs were interviewed, along with three organizations and governmental officials provided further insights in written form. Due to the time constraints, the availability of interviewees, and the language difference factor (German), some of the interviewees addressed the concern of not being able to fully express their experience in English when receiving the invitation for interviews, thus alternatively responding in the written form. Including more respondents from the local tourism service providers would support and reinforce the data validity. Furthermore, another weakness of this research is that the CE application context is based on national tourism policies of Austria under the supranational political and economic framework of the EU. It can potentially provide an example for other Alpine destinations in Europe, with the prerequisite to examine the national political structure and tourism scheme and adjust accordingly. However, the value chain structures, and related stakeholders might significantly differ across the globe in different types of mountainous regions and destinations. This study only provided the perspective within a certain context. Additionally, this research only focused on the interpretation from the tourism supply-side and neglected the perspectives of visitors and local residents. The importance of engaging and collaborating with the local communities was addressed by the interviewees but the narrative did not provide insights from the point of views of the local communities. This limitation is a consequence of the scope and focus that have been set for this research. Lastly, owing to the hospitality management background of the researcher instead of data-oriented experience, thus this research might have been more focused on the interpretation and understanding of the results. It would be suggested to incorporate more scientific analysis methodology to be applied for future research with collaborations of professionals providing insights from different perspectives across the tourism system and value chains. It remains to be investigated the practical innovations in technology that could be integrated in the CE practices and help optimize the CE implementation. This research has provided the steppingstone for further research between CE and tourism utilizing Austrian Alpine destinations as examples and provide foundation for other Alpine destinations in Europe and beyond to follow.

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Appendixes

Appendix 1 - The Interview Consent Form

Interview Consent

Thank you for reading the information about the interview. If you are happy to participate, then please check and sign the form below

Please check the boxes:

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.

I understand that my responses will be kept strictly confidential. I understand that my name will not be linked with the research materials, and will not be identified or identifiable in the report or reports that result from the research.

I agree for this interview via Zoom meeting to be recorded. I understand that the video/audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in any conference presentation, report, or journal article developed as a result of the research. I understand that no other use will be made of the recording without my written permission and that no one outside the research team will be allowed access to the original recording.

I agree to take part in this interview.

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of researcher	Date	Signature

Appendix 2 - Final Version of the Interview Questions

1. Could you please briefly introduce yourself (in the research it will only address your job title) and about the DMO that you are working at?
2. Are sustainability (environmental, economic, and socio-cultural) important elements to be considered when designing your tourism products?
   a. If so, could you please talk about it from the environmental aspect?
   b. What about the ecological aspect?
   c. What about the socio-cultural aspect?

3. Do you think that the tourism products in your DMO's region are connected with circular economy practices defined in the research: reduce, recycle, reuse, and redesign?
   a. If so, could you please tell me about the circular economy practices mentioned above that you have been implementing in different aspects? E.g., accommodation, transportation, food & beverage, attractions…etc.
   b. If not, is there any future plan to implement any?

4. Circular economy practices also emphasize the engagement of different stakeholders in the value creation process. Does your DMO play the role in communicating with the concerned stakeholders?
   a. If so, who are the stakeholders, and how do you coordinate between the stakeholders?
   b. If not, is there a specific stakeholder who is crucial for decision-making when a new tourism product/campaign comes up?

5. How did COVID-19 affect the region and your DMO?

6. What are your future vision and upcoming projects?

Appendix 3 - Interview Transcriptions

Transcription 1 - Interview with Consultant of ÖAR and Manager of Alpine Pearls in Werfenweng

Date: March 24th, 2022
Duration: 45 minutes

The researcher: I found it very useful from the Q&A documents that you sent to me beforehand, and I think we can skip some of the questions that are sent to you. I already learned the Alpine pearls, the structures, the organizational structures, and about what you have been doing. Could you please briefly introduce yourself and your role in the Alpine Pearls?

The manager: I am a consultant, the company is called ÖAR. This is a Vienna-based consulting company. And I supported the buildup of Alpine Pearls in 2005, it was formally founded as an association. Since 2006, I'm also the manager of one of my consulting projects. So I have a double role being a tourism consultant, and at the moment being the manager of the Alpine Pearls, but it's like a contract. So and here we do, I think we go further towards your question already. We do internal and external communication and projects for this association.

The researcher: I understand, thank you. I already saw the organs of the Association of the Alpine Pearls. It's assembled by the General Assembly, the Board of Directors, the auditors, the court of arbitration, and the controlling body. Could you please explain a little bit of how where the Board of Directors was selected, or how they came together?

The manager: Okay, so the assembly of all members votes for this board of directors. And the structure is that every country can send one. And we have exceptions to the rule. This is for Italy, they can send two because Italy has a German-speaking part and then a big Italian-speaking part. So they have one for each language, but they are both Italian. They get proposed, and then they are elected at the yearly member meeting every three years.

The researcher: As we know, the Alpine pearls was originally an initiative by the Federal Ministry of Austria. Was that originally already integrated into the Austrian National sustainability policy? As for tourism, they have plenty. And also they are emphasizing sustainable tourism under the three pillars as ecological, environmental, and cultural pillars. When the Alpine Pearls was established, was it already under Austria's (three pillars of the sustainability policy) integrated national policies?

The manager: Well, I'd say it probably was, but it was not top-down. Like we have a sustainability strategy. And therefore we form this network. But it was, of course, intertwined. So there's this European Union project, it started in the year 2000. Having the idea of developing sustainable tourism destinations, it's not only in Austria, it's all over the Alpine

Space. So it's in France, Switzerland, Italy, Germany, and Slovenia. So it's not only it's not an Austrian initiative. But the projects in the year 2000 to 2003, were by the lead partner of the Austrian Ministry of Environment, but there was also the economic one included and there was the traffic one included. So it was a big, huge project of the European Union, trying to build up as many sustainable destinations within the Alpine Arc with a focus on sustainable mobility. Of course, all the countries and the Alpine convention have sustainability goals. So that played well together. Therefore, the project, which was called Alps Mobility, was continued from the year 2003 to 2006. And here again, the question was, how could these destinations, and some be integrated, improve these services for travelers without a car for sustainability, what must be done? And in that second face already, the idea came up to build up a network working together longer than these funding projects. This was actually the idea of one person within the Austrian Ministry of the Environment. So that's why we say they especially fostered that idea. But of course, many hands, many fathers, and many mothers fed this child. And then, in 2005, it was already predicted that it needs a lot of energy to build a network with those cultures, languages, and mountains at various extreme distances. The idea is not to use the car. For a meeting in France to meet somebody for one hour, you drive maybe 14 hours. So it was already there, trying to think about the best ideas. Then it was like Skype, working via Skype, taking the train, trying the best to not only create something artificial but really live it within the network. And we mostly still meet for yearly meetings, where we meet for three days, make a big conference. Make a formal Association meeting, board member meeting, and a lot of fringe programs. Visiting projects, meeting people also having friendly encounters, and building up this family more than the technical network. So the Austrian Ministry used to be closely intertwined, from the beginning of the year 2000 to 2006. But then, until now, there is no network with them anymore, not these personal contacts. We do invite them for meetings, but there's no money in it. And no strategic, special support all the time. I think in the Alps, there are a lot of sustainable initiatives going on. And the ministries are happy about them trying to foster where they can, but it's not only open or close. There are so many more things going on, which is good.

The researcher: I understand. How is the process of participatory methods that involve the local people? Because also we know that the local people, especially in Werfenweng? The local people are very happy about creating this image and developing sustainable tourism. How are the local people involved in this process?

The manager: There are many levels to it. From the start you asked me well, how does the destination do it? I could say I don't do it. But I could say, it's not my business. I'm the coordinator for the Alpine-wide network, not for the destinations. But secondly, of course, we know how they work, and especially in Werfenweng I have had projects too, so of course, there is a mix. How did they do it? Well, normally, it is a normal process of a participatory approach, where you invite as many stakeholders as possible. You inform them what's your initial idea or the basis, and then you work together while giving them the word, the speech, and giving them room and time to be innovative and brainstorm. And then the ideas come and

then you try, definitely, there are many. You prioritize together with dots and with points and then you say okay, you mostly like this shuttle. You start to calculate, you start to find out which persons you need. And then again, there are people in the room, so you try to let them take part in a participatory approach and talk to them. Not only in the professional time but maybe also use the time in your spare time at guest houses where you sit together and have drinks or coffee. And like "Ah, I met you." our project has carried on and you try to make these informal, which are very important, make the informal contexts to foster the development. And then you make it again, what we call workshops. What we do, which is really interesting for the inhabitants, is to make study tours, invite them, organize the bus, sit them onto the bus, have a nice program, music, good drinks, and we show them something. Then you combine it with maybe a walk, maybe meeting nice people having a talk, and suddenly these all start to live. So, study tours are good. What we also did a lot is to invite study tours to our villages, as you said, beforehand, the inhabitants start to be proud. We brought tourists from Japan, Norway, Portugal, from Germany, and held their study tours here and you see these 40 people walking around taking pictures. That's also participatory, to let them feel the philosophy of what it's all about. Then, it is very important that important stakeholders in the village also use those special facilities. For example, it doesn't help if the mayor still drives a large BMW. It is very helpful if he takes a cycle every now and then. If he takes an electric car maybe owns one or hires one, just to show and invite them. What is very good is once you have established services, you invite the people working in the hotels before the seasons start. And you know, just show them like an open day, traders of the buses, try the electric bikes, take a walk, take the gondola up the mountain because mostly the people working in tourism, they don't know the village. They just arrive and have to work at the reception and when they are asked (by the visitors): "What can I do this afternoon?" (They would respond) "I don't know." So you need to really train them on soft mobility. And that doesn't really happen. The hoteliers don't think so much about that. They want to feel beds, cook well, clean, and have a good calculation at the end of the day, but they don't think of soft mobility all the time. So we have to train constantly. So we Alpine Pearls, we offer projects where they can send people to training. At the moment, we have an Erasmus project, where they can send young people and unemployed people to training. We just closed on a project which is called Europe for Citizens, which was a big program. And here we got money to really talk to people in the villages to have meetings, just to inform them of what is going on. They hear something and then they see something, and we formally could inform them about content and why we do that. It's so helpful, and CO2 emissions are cut down and so on. We have basic finance from our village, which pays for the basic work being a network and this meeting every year and communication work. And then we have additional funding for projects to do much more of this information work.

The researcher: Thank you. For Alpine Pearls, the target group of visitors is mostly conscious travelers who are also interested in traveling but in a sustainable way. And also there are car-free households in big cities where the families don't have cars and they come here by public transportation. I am wondering which countries they are mainly from. Are they

mainly just in Europe, they're coming from other European countries going to, for example, Austria or Italy? Or are there also some international travelers before COVID?

The manager: It's an interesting question. Again, our network is communicating and trying to raise awareness for this topic and make internal communication and some marketing projects. Who arrives as a guest and does what in the destinations? We don't know exactly. I'm sitting somewhere, you don't know that little village somewhere. You must know, you must ask 19 of our members. You could ask: "Where are your guests from? What are they doing?" and so on. Of course, we as Alpine Pearls, have this one target group, with these households without cars in big cities. Because we have a very small budget, we can only focus on a little bit. We could, of course, talk to everybody who has bikes. But then we have millions of people and we don't have the money for that. We could talk to hikers and everybody's hiking. So we said no, we can only have some very specific actions on the market. Let's focus on these households who don't have a car because we know they still want to go on holiday. They live in big cities, they are used to buses, underground, and walking in the city, also maybe to biking. So let's invite those ones because they don't sit in the car all day. It's very difficult to get somebody out of the car, once they live in the countryside and need a car. So we don't invest much money in convincing people who are sitting in the car. But we are a niche, taking those people who on their own will decide to have no car. The budget is the reason, not that we want to define what target groups, there are many of them. But that's how we broke it down, we can only focus on a little target group growing actually. And if you focus on that target group, it's quite easy to find their communication channels and get hold of them. That would be magazines, on buses in big cities. That would be maybe broadcasting in these big cities, on channels where you know that there are more green clientele and so on. So that was the reason why we focused so much. Then they arrive and they see it works, and then it's word of mouth. Werfenweng has a huge reputation on word of mouth that it really works. And it's fantastic service and so on. It doesn't put much money into marketing. Yeah. What was your question again?

The researcher: I know for Alpine Pearls, you are coordinating between different members. Are there any plans to cooperate with some international organizations that are also focusing on sustainable tourism, like Green Destinations, outside of the European Alps and Europe?

The manager: The one thing you asked beforehand was Where do our marketing measures take place? And where do we target our target groups? That would be Germany, and that's it. The reason is that those people are prone to arrive without a car because it's difficult for people from the Netherlands. So long away and they might fly and so on. So, Germans from the northern part of Italy, like Milano and so on, are so much in a jam and traffic congestion, that they are happy to use our car-free service. So that was the one question and the other question is yes, we are constantly working on cooperation with other companies or other institutions like the Alpine Convention, and CIPRA - an association for the protection of the Alps. As with the German railway company, the Austrian railway company, and the Slovenian railway company. We work with big green platforms like Sonnenseite - it's a very

useful information tool. It's German and is hosted and written by a very famous writer. He's called Franz Alt. And if you live in Germany or Austria and you want to read about sustainability, you should read on www.sonnenseite.com, and then we cooperate with them. We say, write about us, and then normally he says "I don't want money and I come for two or three nights and research in your village. Can I get a free hotel room?" "Yes, of course." Or we cooperate with platforms like (Forum Nachhaltig Wirtschaften) the manager Fritz Lietsch. It's a very important German platform for sustainability. They're great people, we know them personally. And they have super interesting websites and portals and blogs, and we add content. They ask us, what's new in your villages, and if I can, send the news they posted. We work with journalists also on a professional basis. Inviting them on press trips, sending them press releases. But of course, also a niche for this like sustainable journalists and bloggers on social media. My young team members are very active on social media Instagram and Facebook.

The researcher: I understand, thank you. Would you say, outside of soft mobility functions, there are also mentioned in the documents that other approaches, such as circular economy using locally grown food and regenerated energies? Are they coordinated separately by the members in the villages, establish these by themselves and Alpine Pearls is just mainly for E-mobility?

The manager: The Alpine Pearls network has a backbone catalog of criteria. The criteria do focus on mobility as a focal point, but as you said, there are also other important parts of a holiday. Tourists don't come because there is a cheap taxi and because there is one E-bike. They come for all the other nice accommodation, food, protection of nature with national parks biodiversity, activities awareness raising for nature, then for this "Wohlfühlen" in German (comfortable feeling) - Wherever you go for a holiday, it must be nice. You must feel well for your well-being. There are hours and there is something to sit down on and there might be a well in the middle of the town beside the church where you can drink fresh water. And there are friendly people saying hello to you. So this culture and the beauty of the Alps, more than any infrastructure. That means, also there are these little shops selling souvenirs. When they build a hat, they use regional products. They have these flowers everywhere in the parks and make a nice ambiance. The fourth (question) is about this very special focus you have with the circular economy. It's not so much repair, but it's more focused on short ways. Short transportation ways for products being in wood, tiles, or food regionality. This product stemming from the region belongs together, but with high quality. And with that, foster the development of the region sustainably. That could be like cooperation models between agriculture, trade, and tourism. Like this hotel builds new rooms, it takes the local trade person even though they are more expensive than the ones from Hungaria. And for milk and products, they take the regional milk, which always is, it's not so easy. From a factory far away, it's clean, hygienic, certified, and tested. And with local, is the quantity here? How is the farmer doing? How are the cows doing? So it's riskier. But of course, it's better, more healthy, and better for everybody. So we ask very much that they focus on regional markets,

and farmer markets. Topics like slow food, with all these regional products. Also, with this circle where the product is built, how it is produced with which bio-products with the least amount of waste, and so on. With a big quality sign on it that this is local and good. So that's our part of the regional circular economy. And mostly, of course, in mobility. Also the regionally produced energy for electric vehicles. That's our car.

The researcher: Car share?

The manager: Yes...that's far-fetched. But yes. Car sharing, of course, is very important and very much done. But I don't know if you would count it to Circular Economy, maybe yes?

The researcher: I think it's a very great initiative. Just one last question - how did the COVID-19 pandemic affect the Alpine Pearls? Are there any noticeable changes or like, for example, more destinations want to join the Alpine Pearls? Or how was the pandemic affecting it?

The manager: It's two sides. The one side is, of course, it's terrible. There were no tourists anymore. So why foster networking for tourism if there aren't tourists? This situation two years ago was terrific. It was terrific. It was horrible. I do webinars on the topic of the shuttle services, and they say no shuttles, no people, we're locked down. The second thing of course, if there are no tourists, there's no tourist tax, and Alpine Pearls is paid by the tourist tax. So two years no tourists tax. Some members are now prone to leave the network. They think we are nice and have good work, but still, 12,000 Euros to be paid. They say "where do I take it from having no tourist tax? And what do you do with it? You do tourism marketing, trying to bring people on a train where there is a lockdown? And the ones who arrive on the train have a mask for five hours. It was so useless, completely senseless. What worked well was the alternatives. On small distances, you would go for a day trip, cycling, or day trips hiking without staying overnight because all hotels were locked. That did not bring any tourism tax, and restaurants were closed anyway. But it's still, you saw people cycling, you saw people moving out of the cities trying to get fresh air. And the destinations develop daily leisure offers, like better cycling paths, building up some new initiatives. Many downsides, and of course, also good chances for a new world, like hotels, would have the time to fit photovoltaics on the roof, and maybe have time to put water-saving units into the faucets. Normally you don't have the time, you're so busy. So they weren't busy, and they didn't know for how long, maybe it was some months. So they started to be positive and put in their money. Many reserves are coming into renovations, installation, better windows, and many good hotels with good savings accounts. They're good investments into sustainability and a circular economy. Not all, but some. And then we as a network tried, of course, to keep up the momentum and, well, not very good. But we tried our best to still, insist there is a time after COVID, and then people will rush out of the cities. And then they will storm your villages and you have overtourism, so do something against overtourism. Bring them on buses, bring them on trains, or think about a new travel system from the train station to your hotel, work it out, now. They're not here yet, use the time here. So I think we did a good job. But still, it was

awful. In Austria, we have such a high rate of COVID. We are constantly again canceling meetings. Is this bad for everybody? Of course. Yeah. So we are fighting, we're struggling. And still many plans for the future. At the moment, we are restructuring from an Austrian Association, by law to the European Union Association. And then again, new projects, new ideas, and so on. That's why I wanted to give you an interview because your topic of circular economy is so very much into my personal professional interest. And I really think that we, in tourism, need to do a lot more here. So if I can hear your results, I would be really happy and really want to use them. I don't know what your results are. And say, this is the future. We have built up a lot of green destinations and green pearls and whatever. There are new ideas, but now the circular economy is not really known by hoteliers so much yet.

Transcription 2 - Interview with the manager of the research and development department in Innsbruck Tourism

Date: July 20th, 2022
Duration: 29 minutes

The Researcher: Could you please briefly introduce yourself and Innsbruck Tourism?

The manager: I'm currently working at Innsbruck Tourism, in the area of research and development, and especially in the part of product development. And I'm responsible for the topics of sustainability, CSR, mobility, nature, all that kind of stuff that is connected with each other. And Innsbruck Tourism is the official DMO of the Innsbruck region, which is quite large. So we have on the one side the Julian capital, the City Innsbruck, but also its tourism region stretches across 40 different towns. So we have Innsbruck city and its surroundings, like the idyll, and also the Memminger. Plateau. We also have Kühtai and a Sellrain Valley. So we have quite a large area as a destination. And in 2019, we had almost 3.5 million overnight days. So Innsbruck Tourism is quite one of the largest tourism institutions in Austria. And as you can imagine, it's quite a unique situation. And because we have on the one side, that urban characteristic, the urban feeling, the guests can go shopping, sightseeing, go for food, I mean, you have experienced that yourself, I think,

The Researcher: Yes, I have been to Innsbruck, and I actually bought the Innsbruck card, and it was very convenient.

The manager: So we have the city, but we also have beautiful nature, which is just a breath away, you can go up to the mountains, you can go cycling, hiking, whatever you want to do in nature and have quite a unique experience. So we have this combination. And that's very favorable, I think. And it's quite nice to have both worlds, I would say.

The Researcher: Thank you so much. And we are talking about the three pillars of sustainability - environmental, economic, and social or cultural elements. Are they important? When you're designing your tourism products, do you take them into consideration?

The manager: For sure. So I have to say, for me, it's very important since I'm also responsible for sustainability. But I also have to say that we are just in the beginning, or on the pathway to more sustainable development. So I'm quite new in the company, I think it's since March, I've been in the company. And before that, the employee, one girl, was responsible for the CSR in the company. And now with my position, I'm also more responsible for the overall sustainability of a destination. So we are quiet in the beginning. But we are very aware of the three elements and for us, it's very important to implement these in future actions. So the mindset was that we started getting better and more sustainable workplaces. And the next step is that if we are more sustainable as a company, we can transport and be like a role model for other companies in the destination. So it's hard to say to

partners or other stakeholders in the region that you need to be more sustainable than we are. So that's kind of our, our vision, our goal to be more sustainable in our business. And then we can transport the sustainability aspects or three elements into the region. And if you want, I can kind of explain or list a few examples of these actions' three elements.

The Researcher: Sure, it's actually my next question. Because in my research so far that I've done, the previous literature review and the circular economy practices are, because our research is mainly to look into what Circular Economy practices can be implemented in helping to develop through sustainable tourism. So we defined circular economic practices as reduce, recycle, reuse, redesign and rethink. It'd be awesome if you can maybe give some examples coming from all these aspects.

The manager: So to be honest, I'm quite new to all the topics of circular economy, and I just did one kind of information session before. So we can use all these examples more on the sustainable aspect, but not thinking about the circular economy. But it's definitely an aspect, which is, for me, important, and will be in the future more implemented into products or services. So, I mean, I can kind of, I can maybe mention a few things.

The Researcher: Sure, no worries, because that's why I chose to do this topic, because I know it's not very widely discussed in tourism. Yeah. So it's totally fine. Like if you can just talk about some, maybe some tourism products or services that you're already doing. And it's like, concerning sustainable tourism.

The manager: Okay, great. So, because I think the circular economy is very important, but it's also very hard. We as a tourism sector, it's mostly about service, and to be in a circular service is more complex than just doing a product: It is definitely a very interesting topic and needs to be more focused on. So, overall, in our company, we try to be more caring about our resources and the environment. Because nature and the environment is our product. So we take, for example, cleanups. So next week, there will be the Tyrol cleanup days, which we will also be part of, to pick up trash in the mountains. But we also have, for example, path workers, who are caring for the hiking roads to be cleaner and better for the guests. But we also have different initiatives for informing the employees about how to be more sustainable, how they can reduce or recycle for example. So at the beginning of this year, there was an info session about recycling and what to do with your waste, basically, waste management. So that the people, the employees know. First of all, they should reduce waste, but also if they have waste, how to recycle and manage that waste. And then we also try, or we measure the carbon footprint of the company. Figure out how to reduce our carbon footprint with all the information we have now on the potential barriers and problem fields that are now producing carbon, so that's one aspect as well. We have the city card, which you also used, which is a really nice product for the guests because we're trying to give them the opportunity to have free public transport, so they don't use their car anymore. And they especially use public transport in the city, public transport. But it's also challenged in the rural regions because the accessibility is not as good as in the city. So that's kind of a field that needs to be adapted. So

we are now having a product, a project about sustainability and mobility in a more rural region Mieming Plateau. And we are now trying to develop alternative solutions for reducing individual mobility and giving a greater opportunity for guests but also for the locals to use public transport, or maybe if there are other, more innovative solutions. So that's one project where they are aiming to reduce the individual mobility of every person. So overall, we have a long-term strategy. And so we're setting five goals. And which kind of implements sustainability. And also in my field, every year I set goals for sustainability in our company, so that we kind of have a vision, and the frame to work. And, for me, it's very important that sustainability all in all in the company and in the region is more implemented. And in the future, the circular economy will be one aspect as well.

The Researcher: I agree with what you said earlier, it's more like a framework, but to implement it, it does, there are some really detailed things to be considered and to be designed to be implemented in real tourism activities. So that's why I'm also trying to look into how we can do that.

The manager: I am very excited about your results.

The Researcher: Thank you. What role does the Innsbruck Tourism Office play, and how do you coordinate between different regions or different sectors, from transportation to accommodation?

The manager: So we are quite a large company, I would say, for tourism, we have 90 employees, and there are a lot of employees outside in the region. So we have different tourist information. But these are not just tourist information for the tourists. And they're all kind of expanded now. And there are many regional experts in these small regions. So if I'm thinking about a product or topic. I'm calling them to ask, do you have connections for me? Do you know somebody? And so these regional experts, I would call them, are very well connected with the stakeholders in the region. First of all, for example, for the Tyrol cleanup days, I called one of them and asked: do you know how I can, where I can call to get something to put the waste in? And they were saying: yeah, of course, I know. We also have inside the headquarters, which I would call it, and we have different people which are connected within that topic. So we have somebody that is very well connected with the mobility sector because we need to kind of discuss contracts and other products that are being developed, and you need somebody to kind of manage these. And we also have partners in the tourism sector here in the region, we have a coach which is connected to these, and he helps them if they need any help, basically, for the website, or something else. And we kind of really focus on building a broader network, and in the city, with the region, with all the stakeholders that are involved. For me, and thinking about sustainability, which also includes the inhabitants of the city of the region. And it's a field, which needs to be more considered overall in the tourism sector. I think it's a topic that needs to be more focused on. So, for example, in the mobility project I

was talking about before, we also ask the inhabitants, what are your needs? What are your problems? Because it's not just the destination, it's also the living space of the inhabitants. So for us, it's very important to have or to establish the connection (with) these people because these are also kind of part of a tourism product and the tourism experience. So they need to be implemented or to be involved in so that's also our goal, and our vision.

The Researcher: Yes, thank you so much, and I know now it's opening up, especially in Europe for tourism. But how did COVID-19 affect Innsbruck as a destination? And how did it affect your tourist office?

The manager: So, I mean, as the overall tourism sector, we also were quite affected in a negative way. Because the tourists didn't want to come to the city. They wanted to, or even if, with the lockdowns, they didn't even were allowed to travel to our region. So that was quite an effect, I would say. But we are very optimistic. And we did have or we had a reduced number of guests. But we also see, especially in the last few months, that these numbers are very, very rising now and being very optimistic. And I think it's especially because the character that we have is a mixture of Alpine and urban. So overall, in comparison to other just city destinations, we were quite lucky because we also had the region around us, which was attractive for the guests that don't want to be in a city. So it had an effect, but we're kind of developing now and we're very, very lucky, especially now that it is very nice and the city is full of tourists.

The Researcher: The last time I was there, I was there in April. It was already kind of crowded. So the last Circular Economy action that is defined in the research is rethink, and do you think the pandemic influenced how tourism, your tourism office to rethink the tourism trend? And, how is it affecting how you design your tourism projects and products?

The manager: For sure. So, rethinking is quite, I think our goal in every aspect and especially in my area. So I don't know if you have seen our organization chart. So we have marketing, we have other sectors within our company. And I'm in research and development. And we kind of think about these trends all the time and how we need to change and how we need to rethink. And it's, we want to be a quality destination. So we need to rethink what we need, what we need to do to be more qualitative and to get a better experience for the tourists. So rethinking our products, and our behavior is kind of a part of sustainability. And you for sure will implement this in our doing. I hope this answers your question.

The Researcher: Yes, I think it makes sense. And also, Innsbruck is a really huge tourism destination. So I'm sure even before the pandemic, you are probably already always thinking about how you can improve and make your destination more sustainable.

The manager: Especially since we had a change in CEO, and she's very ambitious. She really is very, very thinking, looking forward and developing in the best way we could, implementing trends, but also the issues and benefits for the whole destination and the living space. So that's really great. And I'm really looking forward to that.

The Researcher: Maybe in the future, I'll revisit Innsbruck. And last question. So you already mentioned a little bit about, you have upcoming projects about sustainability to improve sustainability and mobility in rural regions, and also some long-term strategies for sustainability. So just to kind of recap, what are your future visions and upcoming projects that you have already known or like it's already in planning?

The manager: So the big picture is to have a really great sustainability strategy. So with a really great vision, with a really good frame and goals set, what are the next steps? So, which is kind of the big picture. We don't have a sustainability strategy right now. But I'm working on it. And I'm kind of just asking the question: how sustainable is our destination now? And what are fields that are great? And what are fields that need to be more developed? So this is kind of my ongoing project that I'm kind of thinking about the region, about the company: what is our status quo? and how can we further develop? But overall, alongside that, we also have smaller projects like this mobility project for reducing individual mobility and developing alternative innovative solutions for public transport. But I'm also very much trying to develop a more sense of sustainability in the company and the region so that stakeholders and employees are more informed. And their vision of sustainability is also implemented in their doing. So I'm trying to get them information and try to give them ideas on how to act on sustainability, and then we have smaller projects for all these kinds of things.

The Researcher: Thank you. I think that's all the questions for today. And thank you so much for taking the time to participate.

Transcription 3 - Interview with the vice president of CIPRA Austria

Date: March 29th, 2022
Duration: 22 minutes

The researcher: Could you please briefly introduce yourself and your role at CIPRA? Thank you.

The vice president: I'm in the CIPRA, which is Commission Internationale pour la., the International Alpine Protection Commission, I'm Vice President, in the international board. Separator national space to the umbrella is based in Liechtenstein. And we have national branches in all the open countries, and the NGO. It's a non-government organization NGO. And we are exactly 70 years old now.

The researcher: Thank you very much. Because there are several different countries, regions and organizations, how do they coordinate with each other? And is the legal framework mainly based on the EU's policies?

The vice president: No, the legal framework is not at all referring to EU policies as CIPRA International is based in Liechtenstein and is a non-EU member. And we have members also in Switzerland, which is not an EU member. What I call branches, simply also independent NGOs in all the countries and they are members of CIPRA International. And usually all those organizations consist of different national NGOs. So for example, CIPRA Austria, is composed of 20 different Austrian NGOs. There is only one CIPRA, one in Slovenia, that also has individual members of persons, not legal entities as members, but usually everything is based on NGOs. So it's a network and an umbrella organization of different environmental NGOs. We have an international board. Not all member organizations are represented in but we look to usually that we have a large variety, and the board meets regularly every four to six weeks. And we have two international meetings every year. One is called members assembly with its larger one, and then we have a presiding committee, where also the member organizations are represented and one of them takes place in autumn the other one takes place in spring.

The researcher: Thank you. Based on the literature review that I have done so far, according to 2016, a research article about the circular economy, as a new sustainability paradigm. They defined circular economy as a regenerative system in which resources input and waste emission and energy leakage are minimized by slowing closing and narrowing material and energy loops. And this can be achieved through long lasting design maintenance, repair, reuse. remanufacturing, refurbishing and recycling. So there are six R's we call it. I know that CIPRA's main missions also include a changing economy that is one of the missions and topics shown on the website. Would you say that this is also CIPRA's main objective to work toward a more circular model in the Alps?

The vice president: Well, the main objective of CIPRA is definitely sustainable development in the Alps. So this discovers a lot of different areas. And the column is, of course, one of the important columns or areas of sustainable development. And if we look at the economy, I mean, the demand and the striving of CIPRA is very much first on the locally based networking economy. That means really to look for local products, local knowledge, skills, also to keep up old traditions, which also goes down into minimizing transports and reducing negative climate impact by the economy. And, yes, I mean, the idea of a circular economy is an important one. There is no place where it's fully implemented. And so, what we usually think of is, when it comes to specific situations in regions that will take some ideas of the circular economy and use those ideas to improve the sustainability of the economy in general. But it's not our task, I would say not the main interest really, to fully implement a circular economy.

The researcher: Yes, I understand. Because I also have read your profile and I find it very fascinating, and I admire your experiences and based on your expertise, there's a literature talking about circular economy being implemented into the tourism sector. To speak from your experience, how do you see the relationships between them? And from your understanding, is there any project from CIPRA already working on this or working toward this direction?

The vice president: I mean, tourism is a service industry. So actually, you cannot implement the ideas of a circular economy directly into a service industry, because the idea is based on the production of something. Of course, tourism could try to use whatever products are used in tourism, be local products. Be it furniture or handicrafts, could try to motivate those that provide those products to work in a circular economy. So actually, tourism would not implement a circular economy, but would be part of a circular economy, which is working in, in some aspects, again, not to full extent. So the circular economy has no place in tourism fully implemented. But with things like recycling, and again, using local products, etc. There are some approaches to how tourism could use this idea of a circular economy.

The researcher: Yes, I agree. Because there are also discussions about circular business models, would you say, for example, if the enterprises or the companies like that are mainly based in the Alps, would it be beneficial for them to implement or to integrate a more circular business model that would help them?

The vice president: It would help on different levels, it would help them to save resources, energy or to avoid energy use, or reduce the energy that's used. But especially for the resources, it has a good impact. In the end, at least after some investments, it would also reduce operational costs. And it definitely also on the level of marketing, it would bring something. I do think that with this, if you really work along either fully sustainability or full circular economy, you could use that also in marketing because there's growing interest in consumers towards the whole area of big climate change, sustainability, and circular economy.

The researcher: I think that's a very good point. How were the impacts of the COVID pandemic on CIPRA as an umbrella organization, and for other members?

The vice president: I mean, being an NGO, being kind of independent from consumer behavior or travel travelers and so on. We have had many severe negative impacts due to COVID. We have the same situation that nowadays, some team members are (tested) positive. So, of course, this is short term, influencing the whole work situation. And of course, we had to deal with home office and flexible working hours, etc, like everyone else. But being an NGO, anyway, we already had before, all our electronic media and electronic communication systems are quite established. So it was nothing new for us. So this was easier. I would say. On the other hand, even due to the pressure to have more communication online, we could also save some traveling costs. And some of the new design for some meetings will stay also. So we have in the future more hybrid meetings. And actually, we could intensify some contacts with some of the members. Because on virtual tours, it's easier. And financially, we had not really a big negative impact. I mean, we're living mainly on projects, but the projects are still here. So compared to many other industries, it was really easy for us.

The researcher: That's very good to hear. And then do you see any changes because of the COVID-19 pandemic in the projects that CIPRA has or working on? Or are there any different directions or trends that emerge from what you have been seeing?

The vice president: I mean, outside of CIPRA, I'm dealing very much with tourism, working in the University of Applied Sciences responsible for sustainable tourism. Inside CIPRA, tourism is just one of our issues. And yes, of course, tourism is changing very much due to COVID. But I mean, this is a very wide field. It's both, but it's also climate change that's changing tourism. And for the COVID, it's quite difficult really to forecast, as we don't know how long lasting the change in the behavior of the tourists will be. So we see a different behavior right now. But it's difficult really to have an idea of what's going to happen in the long run.

The researcher: I see. In Europe, because mostly it's convenient to travel with no strict border control, do you see the sign of tourism coming back a little bit? Do more tourists go into the Alps, or does it still need some time to recover?

The vice president: Well, some of the destinations in the Alps had the best tourism result ever last year (2021) and in 2020, because many people could not travel abroad. But then they stayed in their own country, or instead of going long distances, because flying was not possible, they just traveled to the neighboring countries. Especially those areas that are a bit more close to nature where you also have distance to other people, because it's not densely occupied by tourists. They really had very, very good tourism results in the last two years. So for them It's unnecessary that it's coming back because it was always here. For some other destinations that had a stronger focus on the long distance market, for example. Like, there are many destinations, several destinations in the upstate focus on the East Asian market. And

this will definitely take longer, because there are a lot of travel restrictions. On the one hand, there is also the kind of evidence or the impression on those markets that Europe has a kind of very weak COVID policy. So I know that several East Asian people, at the moment, are a bit afraid of traveling to Europe. Because I mean, there are a lot of COVID figures at the moment here in Austria. So it is really a lot. So yes, the negative impact on those destinations that will have this focus on the East Asian market, this will be definitely for longer. And those destinations that have a strong focus on our business travelers and conference tourism, they also will suffer for a long time, because this is the only concrete forecast that business travel and conferences will decrease by about 30%. Because of hybrid meetings, online meetings, saving costs, instead of traveling to a conference, you call via zoom.

The researcher: Yes. From my perspective, it's like seeing back home. And here it's quite different mindsets toward COVID, and now the border is not open yet. What is the future operational plan for CIPRA? Is there a general big objective, or it will just go with after all the 70 years what you have been doing, keep working, focusing on sustainability?

The vice president: On one hand, we're quite satisfied with our structures. And, I mean, no one has reached sustainability so far. So it's still an issue, and it's still necessary to work on that. But on the other hand, we are currently, but I cannot tell you any results here, because it just started. We also used the 70s anniversary for a larger strategy process. So, we are using this method called Theory of Change, this means that we first identify the long term goals and then we kind of calculate back what kind of measures structures activities, communication, we need to reach those goals. So, this is this, and this starts now. We have to go till the end of the year to come up with a new strategy that includes maybe also changes in the structure and the topics, but we have no results right now.

The researcher: I see, thank you. Besides the traditional sustainability three pillars: economic, cultural-social, and environmental pillars, there are also more and more discussions about working toward technological innovations. Are there any projects or approaches that CIPRA has been doing? To work on integrating technology within the member countries?

The vice president: Technology is not the main main aspect of what we do. When we discuss it, we're really looking mainly at the social area. So thinking about governance issues, participation, especially youth participation, but not so much on technology.

The researcher: I see. I've seen there's a project called resources and it's about the CIPRA Youth Council. And I think it is a very great idea to educate young adults. I think now the questions are pretty much all of them. But I would like to ask, I looked up the university that you are a professor in, and I'm wondering if there's any content about circular economy on your program that you'd have known of?

The vice president: Not in my Tourism Program, but we are currently developing a new master's, which is called Sustainable Business Management. And I'm quite sure that there they

deal also with the topic of circular economy, but this master's will start for the first time in autumn this year. I don't have detailed information.

The researcher: I see. I've seen the information about this semester as well. It's very good to know. And thank you so much for your time for today.