S T A N D A R D   F R O N T P A G E
F O R
E X A M I N A T I O N   P A P E R S

To be filled in by the student(s). Please use capital letters.

Subjects: (tick box)	Project	Synopsis	Portfolio	Thesis **X**	Written Assignment

Study programme:	MA Sustainable Tourism Development
Semester:	10th Semester
Exam Title:	Master thesis

Name, Date of birth/ Names, Dates of birth of group members:	Name(s)	Study number	Date of birth (not CPR number – only 6 numbers: dd/mm/yy)
	Dora Berky	20161545	24/02/89

Hand in date:	01/06/2019
Project title /Synopsis Title/Thesis Title	Rethinking tourism waste through circular economy
According to the study regulations, the maximum number of keystrokes of the paper is:	168000
Number of keystrokes (one standard page = 2400 keystrokes, including spaces) (table of contents, bibliography and appendix do not count)*	156078
Supervisor (project/synopsis/thesis):	Helene Balslev Clausen

I/we hereby declare that the work submitted is my/our own work. I/we understand that plagiarism is defined as presenting someone else's work as one's own without crediting the original source. I/we are aware that plagiarism is a serious offense, and that anyone committing it is liable to academic sanctions.
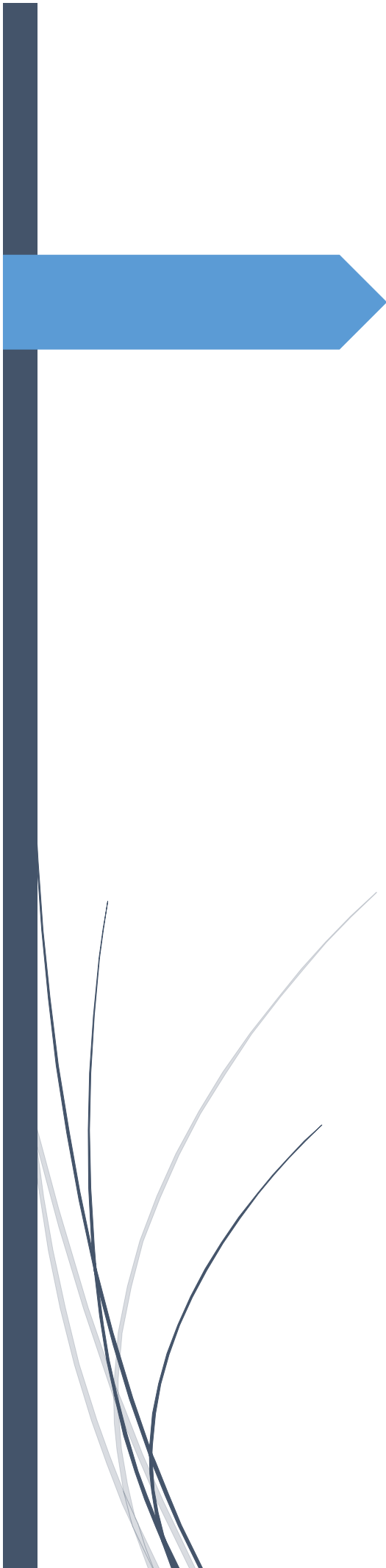
Rules regarding Disciplinary Measures towards Students at Aalborg University:

http://www.plagiarism.aau.dk/Rules+and+Regulations/

Date and signature(s): 01/06/2019

* Please note that you are not allowed to hand in the paper if it exceeds the maximum number of keystrokes indicated in the study regulations. Handing in the paper means using an exam attempt.

Rethinking tourism waste through circular economy

Master thesis by

Dora Berky

AALBORG UNIVERISTY
Department of Culture and Global Studies
MA Sustainable Tourism Development

Supervisor: Helene Balslev Clausen

May 2019

AALBORG UNIVERSITY
DENMARK

Abstract

Circular Economy is an emerging concept in various fields including tourism, therefore this research explores how could it provide value for tourism companies, tourists and locals alike through reducing waste produced by tourism activities. In order to form a theoretical background of the research, the literature review provides and understanding of the origins and current state of the CE in general and specifically in the tourism industry. Through data collection from different sources like interviews and observations in Copenhagen, Denmark, the field of the research an analysis is carried out regarding waste management practices in tourism currently and how could the CE concept improve the situation. As a main result of the research challenges are identified which currently prevent the CE from spreading more widely in tourism and therefore support the elimination of waste. Furthermore design, marketing and business practices are presented which could provide answers to these issues and alleviate the pollution caused by tourism.

List of Tables

List of Figures

List of Abbreviations

CE – Circular Economy

CT – Circular Tourism

DfSB – Design for Sustainable Behaviour

Table of Contents

I.   INTRODUCTION

Tourist arrivals in 2017 reached 1,323 million and the industry is predicted to keep up the yearly average 4% growth in the coming years (UNWTO, 2018), therefore the significance of tourism activity worldwide both from an environmental and economic point of view is undebatable. In Copenhagen, the field of this research thousands of hotel rooms and restaurants serve the millions of tourists visiting the city every year. While Denmark is a leader in green technologies and sustainability and some actors of the tourism sector contribute to that as well, the issue of waste management, just as in all parts of the world are present in the everyday lives of locals, tourists, policy makers and industry stakeholders. Meanwhile circular economy is a concept which is gaining attention in the Nordic Region rapidly and is already included in EU policies and strategies to create a less polluting and more eco-friendly way of economy. This concept in tourism is very scarcely used so far, but it is an emerging phenomena, which could significantly contribute to sustainable tourism development in new and innovative ways. After an initial research phase I identified the topic of waste management as one of the main issues in the tourism sector and circular economy as a concept which can provide much more complex solutions for this issue than simply recycling. Therefore I formed my research question to find out if circular economy has a potential to reduce waste produced by tourism and what kind of solutions could it provide for this complex issue.

Research question:

How could circular economy be implemented in tourism to support waste reduction?

I furthermore set three aims, which guided the research process and the analysis of the data gathered. The three aims are:

Aim 1. Define and understand the circular economy in a tourism perspective.

Aim 2. Create concepts to implement and promote circular solutions in tourism.

Aim 3. Understand the values that circular tourism could deliver for tourists and change practices.

Throughout the following sections I aim to answer my research questions, by exploring the three aims. In the Theory section the origin and main principles of circular economy will be presented together with its implications for tourism and sustainability. Furthermore theories of consumer behaviour, marketing and design will be discussed in order to provide a ground for further analysing these in a circular economy context later on. In the Methodology section the whole research process will be presented together with the chosen methods of data collection. Finally in the Analysis section the collected data is going to be analysed based on the theories discussed in order to provide an answer to the research question.

II.   THEORY

1. Circular Economy

Since the 1983 issue of the Brundtland report, sustainability became a central idea of economic development plans, even though simultaneously in the past decades neo-liberal economic principles have been adopted by most western countries, which also resulted in increased consumption and globalization (Murray et. al., 2017). The latest response of the sustainability community for this paradox situation is the circular economy (CE) concept. As a theoretical background of my analysis, in the following section I provide an overview of the history and current situation of the concept both from an academic and a business perspective. I will also look at CE specifically in the tourism industry.

1.1.Origin and overview of the circular economy concept

Regarding the origins of the phrase and the concept Circular Economy different theories exist depending on which discipline we look at. According to Murray et. al. (2017) the first mention of a circular system without waste is from 1848 and it refers to chemical factories, stating that the profit increases as a factory makes use of its own waste. The first mention of a circular economy system in its modern sense, including the sustainability idea is by Boulding (1966), who highlights the issue of limited natural resources and offers a closed system as a solution (Merli et. al., 2018; Geissdoerfer et. al., 2017; Winans et. al., 2017; Murray et. al., 2017). The popularization of the CE as a tool of responding to economic growth and limited resources began in China in the 1990s and spread rapidly from then on (Winans et. al., 2017). It has also gained the interest of policymakers, starting with Germany in 1996 followed by China and Japan where it got integrated into national laws as well (Geissdoerfer et. al., 2017). Finally the EU also created a strategy to implement the CE on a supranational level (Geissdoerfer et. al., 2017). These policy level decision show that the CE is becoming a widely recognised and accepted principle to guide societies towards a more efficient and sustainable production and consumption. NGOs and think tanks, like the Ellen Macarthur Foundation are exploring

further opportunities, carry out research and support companies in adopting the CE principles (Murray et. al., 2017). Meanwhile there are still debates regarding the exact meaning, possible flaws and unintended negative consequences of the circular economy, which will be discussed in this section later on (Murray et. al., 2017; Merli et. al., 2018).

Murray et. al. (2017) offers an interesting approach by examining the different meanings of the term circular economy, which provides an understanding of the concept itself. From a *linguistic* point of view circular is the opposite of linear, therefore it aims to overcome the take-make-dispose linear production method (Merli et. al., 2018). On the other hand we can look at the *descriptive* meanings of the word circular to understand it in more detail. In this aspect it relates to the concept of a cycle, which refers to both the biogeochemical cycles of our natural environment and to recycling - another integral component of the circular economy (Merli et. al., 2018). From an academic point of view, the circular economy is a rather new topic of research, but there are already academics of various disciplines looking at the concept (Merli et. al., 2018). For the purposes of this paper I am going to focus on the literature studying the relationship between sustainability and the circular economy and I use the CE concept as defined by Geissdoerfer et. al. (2017, p. n/a):

"A regenerative system in which resource input and waste, emission, and energy

leakage are minimised by slowing, closing, and narrowing material and energy

loops. This can be achieved through long-lasting design, maintenance, repair,

reuse, remanufacturing, refurbishing, and recycling."

Based on a thorough review of academic papers Merli et. al. (2018) concludes that the concept first sparked interest in academy when China adopted it in its five year plans and made it the guiding economic principle of development. Therefore up until 2014 when the EU adopted the CE as well, the literature is mainly focused on macro level discussions of eco-cities, circular production plants and circular society structures within China. For my current research I identify as more relevant the discussions emerging after this point in a European context and according to Merli et. al. (2018) these focus on two main fields of research: "The first oriented toward changing the social and economic dynamics at the macro level. The

second toward supporting firms in circular processes implementation." (Merli et. al., 2018 p. 716)

An example of the macro level understanding of the CE concept is the eco-industrial park in Denmark, called Kalundborg Symbiosis, which is a partnership of nine companies and the main principle is, "that a residue from one company becomes a resource at another, benefiting both the environment and the economy" (http://www.symbiosis.dk/en/). In this system we can see circular economy in its most original sense, as it was described in 1848. This example is just to show that there can be different understandings of the concept, depending on which level we look at.

The second level which Merli et al. (2018) talks about is the product creation, design and production, whereas private companies are supported to change their processes towards slowing down or closing loops of production. These can be achieved by three main actions, defined by the so-called 3R concept: Reduction, Reuse and Recycle, which is described by Manniche et. al. (2017) as:

1. The **Reduction** principle "*aims to minimize the input of primary energy, raw materials and waste through the improvement of efficiency in production consumption processes*" (Manniche et. al., 2017, p. 22).
2. The **Reuse** principle refers to "*any operation by which products or components that are not waste are used again for the same purpose for which they were conceived*" (Vanner et al., 2014, p. 8 as cited in Manniche et. al., 2017, p. 22).
3. The **Recycle** principle refers to "*any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations*" (Vanner et al., 2014, p. 8 as cited in Manniche et. al., 2017, p.22)

These principles and the process of circular economy are visually represented in the figure below for better understanding:

Figure 1. The Circular Economy, UNIDO, 2018, p. 3

Figure 1. shows that circular economy not only focuses on recycling materials, but on eliminating waste by design through cleaner production and therefore reducing resource dependency and generating increased income (UNIDO, 2018). The relation of these principles to sustainable development will be discussed in detail in the following section.

1.2. Circular economy and sustainability – discussions and critics

Even though circular economy is often presented as a step towards sustainability, there is still a research gap concerning how exactly it relates to the well-known sustainability principles and how could it support sustainability efforts (Sauvé et. al., 2016.; Geissdoerfer et. al., 2017; Korhonen et. al., 2018). As the main obstacle of more research and holistic implementation of the CE in sustainable development Korhonen et. al. (2018) identifies the interdisciplinary nature of the concept so far. As described above, different fields like engineering and natural sciences has been dealing with the concept circular production for a long time, while management and system design has a new take on the subject, but with these combined a sustainable circular economy concept could emerge (Korhonen et. al., 2018).

Researchers who did analyse this issue in the past seem to agree that sustainability is more complex and open concept without well-defined stakeholders, whereas circular economy is a more direct approach focusing mainly on environmental factors and identifying business and policymakers as main stakeholders (Sauvé et. al., 2016., Geissdoerfer et. al., 2017). Sauvé et. al. (2016) argues that this is exactly why the circular economy is gaining attention, since it provides a clearer and more tangible solution to the more and more threatening environmental challenges. Still, the circular economy can be seen as a step towards sustainability, since it reduces our dependence on raw materials and non-renewable resources, therefore improves both the current and the future generations ability to meet their needs, which is the basic definition of sustainability (Sauvé et. al., 2016). Korhonen et. al. (2018) also agrees that the CE has the potential of effectively supporting sustainable development, due to the similar goals of the two concepts, but they also note that there is much more work and research to be done, before reaching this stage. The concepts therefore definitely align in some aspects, but we can find significant differences as well. Geissdoerfer et. al. (2017) after thorough research of the sustainability and CE literature concludes that both concepts aim to integrate non-economic aspects into development and highlight the importance of close cooperation of stakeholders to improve the process and each other. Furthermore even though both concepts agree on the significant role of private stakeholders, they still rely heavily on policies and regulations to ensure long term commitment and accountability of all stakeholders (Geissdoerfer et. al., 2017).

On the other hand, sustainability is more a holistic approach, where social, environmental and economic benefits are treated equally and it aims to balance these dimensions. Meanwhile according to Geissdoerfer et. al. (2017), circular economy seems to prioritize the economic benefits, then the environment and only latent gains for the social systems. It is also argued that on the macro and micro level CE is based on model of production and consumption, therefore if these systems are improved and the environment is better protected, it will result in benefits for society as a whole, it is just not highlighted as a separate main goal in the concept (Sauvé et. al., 2016). Therefore Murray (2017, p. 377) suggests the following definition for future reference of the CE concept:

"The Circular Economy is an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being."

This definition contains the basic aspects of the CE concept regarding maximized function through closed-loop systems, but it also adds the important aspect of social well-being. This shows that even though Geissdoerfer et. al. (2017) argues that the CE is a limited business oriented concept, there is room for adjustment and there is no single universal definition for the CE, since it is a dynamic, still evolving concept (Korhonen et. al., 2018).

1.3.Tourism and circular economy

The significance of tourism as an industry is undebatable, especially considering that the number of international tourist arrivals worldwide reached 1,323 million in 2017 and the yearly growth is keeping up the above average 4% for 8 years in a row now (UNWTO, 2018). From an environmental point of view tourism accounts for 8% of global greenhouse gas emission and this number as well had grown 4 times more between 2009 and 2013 then it was predicted (Lenzen et. al., 2018). Since continuous growth is both supported and encouraged by the UNWTO and most countries aim to increase tourist numbers further year by year these trends are not expected to reverse soon (UNWTO, 2018; Wonderful Copenhagen,   2017).

In Danish tourism the trend is similar with 2017 being a record year of 52.4 million bednights and 85% growth in city tourism between 2008 and 2015 (Visit Denmark, 2016). From an economic aspect, the total turnover generated by tourism in Denmark is 108.1 billion DKK, tourist spent 38.9 billion DKK in 2016 and this represents 3.5 % of all Danish exports (Visit Denmark, 2017). The economic advantage of tourism growth is clear, but this kind of growth puts environmental and social pressure on a destination, therefore in the following section I am going to discuss what kind of solutions can circular economy provide for the tourism industry.

1.3.1. Research and theories in circular tourism

Just as circular economy being a new field of research, its implications in tourism are an even less explored territory (Vargas-Sánchez, 2018; Naydenov, 2018). Due to the previously described political interest in China to integrate circular economy principles, there is significant literature regarding CE based tourism development in Chinese destinations, which provide valuable findings in various fields, like destination management, resource management, evaluation systems and beyond (Vargas-Sánchez, 2018). However, in these the approach towards CE is more of a top-down, policy driven, macro level application, therefore for the purposes of this research I am going to focus on studies and research from a European perspective (Pattanaro & Gente, 2017).

As a basic principle circular economy requires system thinking and cooperation of different actors in the value chain and this is especially important in case of tourism businesses, where the overall experience delivered to tourists is constructed by so many different stakeholders, which are all essential for a high quality service (Vargas-Sánchez, 2018). Tourism involves not only the service providers, but a range of local SMEs, that provide goods and services for the tourism businesses, therefore to implement CE in this industry has the potential of serious trickle-down effect in the local society (Manniche et. al., 2017). For that to happen one of the most crucial steps is raising awareness and education both among business and consumers about CE and its benefits for the society (Vargas-Sánchez, 2018; Naydenov, 2018). As it was described above CE relies highly on businesses and consumers to take steps and gives opportunity for them to be advocates and pioneers in the field, without having to wait for legislation and policy to set the scene (Sauvé et. al., 2016; Naydenov, 2018). On a more theoretical level Girard & Nocca (2017) discuss the relations of sustainability, the SDGs and circular tourism and they highlight, that while there is a great potential in sustainable tourism to support the SDGs, if solutions are based on the linear model, than the long-term effect is uncertain. Naydenov (2018) agrees that circular economy is way to support sustainable tourism, but only if it takes over the linear production and consumption thinking and completely new business models are developed. As to the specifics of these new business models, there are currently few examples of real-life application of the circular tourism principles, but new ways of doing business are emerging. Pattanaro & Gente (2017) explains

the lack of practical implementations of circular economy in tourism with the lack of awareness from both tourists and industry, therefore limited marketing or promotion value and the limited scope of the concept so far focusing mostly on environmental factors. Therefore there is a need for an objective performance indicator system, which would take into account the systemic nature of circular economy and balance environmental and social factors (Pattanaro & Gente, 2017).

1.3.2.   Practical examples of circular tourism

That being said, after a thorough literature and web search, it is possible to collect quite broad range of examples of circularity in the tourism sector, which will be discussed in the following section, starting with a broader destination level and narrowing it down to concrete business and service models, finally to the tourists perspective.

On a destination level, circularity is usually represented as a broad, strategic concept which is supposed to show the way towards sustainable development, such as in the case of the Venlo Region in the Netherlands or the Municipality of Samsoe in Denmark, which aims to be the first fully circular local community (Cradle to Cradle (C2C) – the Dutch Region of Venlo towards a circular economy, n.a.; Manniche et. al. 2017). Another interesting strategic approach is the "Charter of commitments for sustainable material resources management and circular economy" created by the The BLUEISLANDS project, which aims to create a network of islands, cities and regions to raise awareness and develop strategies to reduce tourism generated waste (Charter of Commitment BLUEISLANDS, 2018). The Charter was signed by several island regions of Europe, which strengthens international cooperation to ensure the implementation of circular economy principles in tourism destinations (Charter of Commitment BLUEISLANDS, 2018). These strategies show a direction for change and in order to support this challenging transition from linear to a more complex circular business model Scheepens et. al. (2016) suggests two Life Cycle Assessment based methods through the case of the Friesland region in the Netherlands. Through their case study Scheepens et. al. (2016) conclude that the main challenge of implementing circularity on a regional level is the long-term commitment required from stakeholders - including public and private actors - like

developing infrastructure and regulations as well as offering tax reductions or subsidies, so companies can lower the eco-burden of their products. In order to do that a highly important factor is to minimize transport and optimize supply chain and logistics as well as resource and waste management, which has a regional effect for both tourists and locals, but it has to happen on the level of each tourism business and company (Naydenov, 2018).

Even though circular economy has a much broader scope, waste management and reduction is often one of a key action on a company level, since it is a very visible and threatening area of unsustainable practices in tourism which affects the local public waste management systems as well (Girard & Nocca, 2017; Jones & Wynn, 2019). Within this area the hospitality industry focuses highly on food waste, meaning reduction and possible reusing methods, like planning menus more efficiently and serving plates instead of buffets, separating biological waste and reusing it to regenerate eroded land or seasonal menu offers (Manniche et. al., 2017). Another aspect of waste management is implementing a basic circular business model in tourism, called dematerialization, where products are offered as services, for example a company that rents out office furniture instead of selling (Manniche et. al. 2017). This way the ownership and the responsibility of maintenance and reuse or recycling stays with the manufacturer who has greater expertise in this field then an office or a hotel (Manniche et. al. 2017). In order to understand and manage issues and possibilities of waste management in the hospitality industry Jones & Wynn (2019) argues that waste mapping tools could be effective, although they highlight the lack of academic attention in this field.

Another area of focus on a company level is energy efficiency and CO_2 reduction, which often also financially beneficial for the hotels and service providers (Girard & Nocca, 2017). Jones & Wynn (2019) also argues that using ingredients from local producers in the kitchen or other locally made products has both environmental benefits through less CO_2 emission from transportation, while it supports local communities therefore has social benefits as well. On a larger scale building hotels specifically according to circularity principles can give a great advantage, since the most modern techniques of renewable energy and water efficiency make it much easier to adapt other measures later on, such as in the case of the Green Solution House on the Danish island Bornholm or the Crowne Plaza in Copenhagen (Manniche et. al., 2017). Pamfilie et. al. (2018) also explores the possibilities of circularity in the hospitality industry and argues that the framework of the ISO standards can introduce a more

systematic, regulated approach to implement CE principles, while also highlights that with this purely managerial method socio-cultural aspects can be easily neglected.

As a third area of tourism services Manniche et. al. (2017) highlights spas, where potable water consumption is the main issue, therefore they have a responsibility in conserving one of our most precious natural resource, by reusing as much as possible and finding alternative ways of laundry service for example. Additionally the chemicals and cosmetics used in spas contaminate the water and make it more difficult to recycle it for other purposes, therefore circular solutions are especially important for spas in remote locations and areas where the infrastructure is not developed enough (Manniche et. al., 2017). To resolve these negative effects, possible actions can be investing in firm-based wastewater management systems, renewable energy sources, closed loop showers or implement policies that enhance the incentive to reuse minerals and chemicals (Manniche et. al., 2017).

Finally circularity in tourism must be understood from a tourist/guest perspective as well. Vargas-Sánchez (2018) argues that the pressure from tourists for more sustainable or responsible travel choices is growing, but companies struggle to provide these and move forward in this field. Pamfilie et. al. (2018) agrees and adds that a more sustainable tourism development also gives greater responsibility to tourists, since for example hoteliers will not move towards circularity until they see economical advantage in that. Manniche et. al. (2017) draws similar conclusions and state that guests receive sustainability measures well (like the towel and linen reuse program), but their main drivers of satisfaction are still the more traditional room, facilities, food and beverage quality.

In this sense the following figure is interesting, because it illustrates circular tourism from a guest perspective as opposed to the usual industry perspective representation:

Figure 2. Circular Tourism, Green Tourism Network, 2015

As the Green Tourism Network (2015) highlights, the tourists understanding of circularity means that the travel experience starts before the actual trip in the planning phase, therefore requires more complex preparations and awareness both before and during traveling. The implications of that for tourist behaviour will be discussed in more detail in the following chapter.

2. Consumer behaviour and circular economy

As it was outlined in the previous section, tourism and other industries put high pressure on our natural and social environment, therefore new paradigms and business models, such as circular economy emerge and provide alternative ways to mitigate that pressure. After looking into the industry perspective, in this chapter I am going to discuss how consumers – in this case tourists – affect and are affected by these new concepts to explore their motivations and behaviour when it comes to circular economy. First theoretical approaches will be discussed to provide an overview of the different views about sustainable consumer behaviour, then some more practical approaches will be explored to understand the current view of the marketing, design and tourism industry perspective.

2.1. Approaches of sustainable consumer behaviour

Circular economy being a relatively new concept and practice generally and even more so in tourism, consumer behaviour is a rather neglected aspect of this field so far (Daae et. al., 2017, Manniche et. al., 2017). Chamberlin & Boks (2018) states that the transition to circular economy might require an increased involvement from the consumers, which means most probably a change in behaviour is inevitable, but there are limited concrete actions in this direction so far. Hall (2013) argues that most of the choices consumer make are not results of conscious decision making, rather habitual and routine and are influenced by the socio-economic and political environment, therefore these need to be understood in order to encourage certain behaviour changes. And there is a definite need for behaviour change, since even the most environmentally conscious consumers seem to make highly unsustainable consumer and travel choices in spite of their extensive knowledge and understanding of the devastating consequences of their actions (Antimova et. al., 2012; Juvan & Dolnicar, 2014; Chamberlin & Boks, 2018). Simply getting out the information does not seem to be enough to provoke change, therefore to understand sustainable consumption Seyfang (2009) establishes 3 main approaches of consumer behaviour: utilitarian, social/psychological and systems of provision/institutional. These all also suggest different ways to promote sustainable consumption and since there is no specific literature so far in this field in a circular economy context, sustainability related research will be taken as a

starting point with circular economy examples added where possible (Daae et. el., 2017; Chamberlin & Boks, 2018). These approaches can also be interpreted when looking at sustainable tourism practices and tourists behaviour therefore they will be shortly described together with their implications to behaviour change.

2.1.1. Utilitarian, Social/psychological and Systems of provision/institutional approaches

The *Utilitarian approach* assumes that consumers make choices in a well regulated free market with perfect competition, based on "which course of action delivers the greatest utility" and therefore to promote sustainable behaviour companies need to simply overcome the "information deficit" and encourage "rational behaviour" (Hall, 2013, p. 1096). In this approach the main tools are education and access to information, like green labelling, tax incentives or pricing techniques, but Hall (2013) also states that these haven't been proven to lead to significantly improved sustainable consumption. Manniche et. al. (2017) adds that in case of such a new concept as circular economy, promotion of consumers responsibility and easy access to information is crucial to encourage engagement towards the transition, but it should be part of a broader societal change approach. Chamberlin & Boks (2018) also argues that this approach relies too much on rationale and functional advantages, while emotional appeals or a mix of function and emotions have much more potential to reach behaviour change. In a circular economy context Daae et. al. (2017) mentions cases where companies publish data regarding the estimates of how much they reduced CO2 emission or raw material consumption due to certain activities, which is a highly rational approach. These statistics might not provoke action, just understanding and this issue has been identified as the values/awareness-action/behaviour gap and has been analysed in a tourism concept for example looking at environmental awareness and the willingness to use other means of transportation instead of flying, the most pollutant method of all (Antimova et. al., 2012; Juvan & Dolnicar, 2014). Antimova et. al. (2012) analysed the awareness-action gap in a sustainable tourism context and concluded that consumer decisions can be understood on three levels of theories: individual, interpersonal and community level. While they assign greater significance to individual and interpersonal level's influence on decision making, they

also highlight the role of a community level, especially the practice of people observing other's actions around them, using those as guidelines for their own behaviour (Antimova et. al., 2012).

Therefore the *Social/psychological approach* emerged, which realizes that simply providing better quality information does not change consumer behaviour in a more sustainable direction, since people are not isolated, but socially situated and influenced by social norms, routines and political factors (Hall, 2013). For example the symbolic value of traveling as self-expression and social status, instead of a purely rationale decision has long been recognised and understood in tourism consumption literature, which is another factor contributing to the awareness-action gap (Hall, 2013; Bramwell & Lane, 2013). Therefore the tools of this approach can be for example nudging and social marketing, both of which aims to influence consumer behaviour of a specific group to encourage them to make more socially and environmentally beneficial choices (Hall, 2013). This approach however, especially nudging has been criticized for being manipulative and not considering how those needs and aspirations of people are formed originally, just takes them as fixed basic structures (Hall, 2013). Nevertheless Chamberlin & Boks (2018) argues, that tools like social and green marketing and Design for Sustainable Behaviour (DfSB) are relevant frameworks and ideal starting points when exploring the possibilities of circular economy, therefore these are going to be discussed in detail later on in section

The *Systems of provision/institutional approach* takes a much more structural perspective by focusing on rules, norms, institutions and infrastructures that influence, constrain and encourage individual decision making processes (Hall, 2013). Hall (2013, p. 1100) specifically highlights the constrains that these systems can put on consumers and "therefore lock them in to particular social practices of behaving and consuming". For example as people got habituated to long-haul traveling, holidays, city brakes and the idea of traveling whenever they feel like it (Bramwell & Lane, 2013). Beside the above mentioned problem of excluding the role of social environment, the Institutional approach raises some other concerns too regarding the previous two approaches (Hall, 2013). First, that consumers do not consume resources, but the services that are made from them; second, that too much focus on the end-user conceal the factor of production and design; third, that social aspects of sustainability are often neglected and finally that institutions are not neutral and have biases

for certain behaviours (Hall, 2013). Barr et. al. (2011) furthermore highlights the importance of context and the possible conflicts of consumption spaces and how these can have significant effect on consumer choices. As in case of the tourism industry businesses and governments promote both economic growth and sustainability, while they fail to implement actual regulations and practices supporting sustainability, which can confuse the consumers decision making (Bramwell & Lane, 2013). Considering these critiques in a circular economy context, we can see how for example changing ownership to being user, which is a common concept of CE, not only requires consumers to step outside of habitual constraints, but also companies to accept value creation through sales and service (Manniche et. al., 2017). Therefore this approach suggests a more radical step and focuses on creating completely new, alternative, innovative systems instead of the existing ones, such as Fair Trade or short supply chains in the food network focusing on locality, like Slow Food (Hall, 2013).

2.1.2. Marketing and design approach

The role of marketing in promoting sustainable tourism and therefore provoking tourist behaviour change has been established in literature and discussed from different perspectives like heritage tourism, hotel industry, volunteer tourism or overall strategy for sustainability (Chhabra, 2009; Dief & Font, 2010; Pomering et. al., 2011; Barr et. al., 2011; Smith & Font, 2014, Font & McCabe, 2017). In order to create a niche of sustainability, marketing, tourism and circular economy literature I am going to rely on the research of Chamberlin & Boks (2018) who, while considering critics, still identified green and social marketing and Design for Sustainable Behaviour as most relevant approaches for circular economy and I am going to look at these in a tourism context. These concepts provide a good ground for exploring communication strategies and behaviour change related to circular economy, since social and green marketing aims to influence consumers at the purchase phase, while DfSB addresses behaviour change during use phase (Chamberlin & Boks, 2018).

2.1.2.1. Social and Green Marketing

Hall (2013, p. 1099) defines social marketing as "the application of commercial marketing techniques to influence the voluntary behaviour of target audiences and improve personal,

environmental and societal well-being". Social marketing has been argued to be a more effective tool to encourage behaviour change then green marketing, since the latter focuses mainly on products and neglects non-purchase elements (eg. disposal) and emotional and cultural context of the consumer decision (Chamberlin & Boks, 2018). Green marketing takes a more individualistic approach as it is defined as "the application of marketing tools to facilitate exchanges that satisfy organisational and individual goals in such a way that the preservation, protection and conservation of the natural environment is upheld" (Mintu and Lozardo, 1993, p. 2. as cited in Rettie et. al., 2012, p. 422). Nevertheless Rettie et. al. (2012) highlights that while green marketing had failures in the past, the current increasing environmental concerns, stricter regulations and technological innovations create a momentum, where it still has a potential for eco-friendly businesses. To utilize this potential and possibly support the expansion of the circular economy concept and products green marketing has to focus strongly on avoiding 'green washing', misleading customers with slogans that promote sustainability, but not actually following sustainable practices (Font & McCabe, 2017; Rettie et. al., 2012).

Barr et. al. (2011) looked at social marketing as a tool to encourage 'sustainable lifestyle' practices and argues, that while sustainability practices are more integrated in the home environment of people, there is a gap when it comes to global issues such as climate change. When looking at tourism, even environmentally conscious people tend to neglect sustainability aspects and focus on enjoying themselves, since while traveling they just want to get away from every-day problems and do not think about global contexts, like climate change when making transportation or accommodation decisions (Barr et. al., 2011). Therefore the tools of social marketing and segmentation are not invalid in a sustainable tourism concept, but there is a strong need to consider context and the specific practices of traveling (Barr et. al., 2011). That is why social marketers often work on behalf of governments or non-profit organizations, since they consider broader social aspects and promote behaviour, not specific products (Chamberlin & Boks, 2018). Still, social marketing can be an effective tool for circular economy products to frame new behaviours in a familiar way, promote environmental benefits, make green solutions more desirable and reach broad audiences, but the marketers also need to make sure to avoid an overly rational approach and consider social and cultural context to overcome the above mentioned awareness-action

gap (Chamberlin & Boks, 2018). Peattie & Peattie (2009) even argues that social marketing can be used to de-market certain unsustainable behaviours and promote anti-consumption, which both are fitting approaches for a circular economy context. They also suggest an alternative marketing approach instead of the traditional 4P method, which is summarized in the table below:

Traditional marketing	Alternative social marketing	Details
Products	Propositions	Instead of promoting a product, social marketing makes propositions, such as: "new is not always better"; "maintaining and repairing products is a smart strategy"
Place	Accessibility	In social marketing the main issue is the accessibility of alternative ways of reaching satisfaction: access to repair services or biking infrastructure instead of cars
Price	Cost of involvement	In case of behaviour change for sustainability the cost is often not financial, but can be in terms of time and effort. Like collecting recyclable waste separately and potentially taking it to different collecting points. These need to be explained and alleviated by social marketing.
Promotion	Social Communication	Instead of spreading information social marketing need to focus on a two-way communication and keep a up a continuous conversation to promote acceptance and adaptation of new behaviours.

Table 1. The alternative social marketing mix suggested by Peattie & Peattie, 2009.

Considering the last point of the table, Chamberlin & Boks (2018) argues that social marketing is especially relevant for marketing circular economy products and services, which require a much closer communication and higher degree of involvement from the marketers, since they often have to keep being in contact with their customer in the phase of use, not only for the purchase.

In a tourism context social marketing can be applied by destinations to ensure the long-term social and environmental interests of hosts communities, to encourage certain behaviours in hotels, like reusing towels or switching off the lights or address gender issues in the tourism industry (Truong & Hall, 2013). The specific research on the use of social marketing in tourism is limited so far, but Truong & Hall (2013) argues that the most important factors to consider are proper market research to understand the needs and wants of the target audience as well as the competing behaviours and barriers of adapting the proposed behaviour, since these are essential to reach voluntary behaviour change.

2.1.2.2. Design for Sustainable Behaviour

As Chamberlin & Boks (2017, p. 5) state "Design for Sustainability and in particular Design for Sustainable Behavior (DfSB) have emerged as areas of design research that explore how to influence the environmental impact of consumers' activities, mostly during the use rather than purchase phase". Moreno et. al. (2016) agree, that looking at sustainability related design perspectives is an ideal starting point to look at design in circular economy. Therefore after looking at theories of marketing and promoting circular economy products, this section is looking at how to design such products and services to make them more attractable and easy to use for consumers and specifically tourist. Considering the broad scope of research in the field of DfSB I am going to focus on aspects relevant to circular economy and tourism context. After a short introduction into the role of design in the CE and discussing basic design strategies, DfSB will be explored in detail.

Designers have been recognized as the link between industry and consumers and this way influencing the decision making of people on what do they buy and why (Moreno et. al., 2016). The field of design therefore has to recognize the responsibility and power of shaping the environment we live and work in and take a step further from designing "less bad

consumer products" to truly circular systems, products and business models (Moreno et. al., 2016). Andrews (2015) suggests that design thinking has a great potential of turning the need for CE into demand, but there are some concerns to be addressed as well, for example that manufacturers need a reliable supply of materials, which in the beginning can be a challenge in the CE. Nevertheless, designers are the ones who have the possibility of designing infrastructure, supply chain and business models to support the CE and the best way to encourage that according to Andrews (2015) is the implementation of sustainability and CE principles in design education.

Bocken et. al. (2016) agree that the new approach of designers need to start at the very beginning of the design process and they divided circularity related design approaches in three basic strategies. They also highlight that companies need to have an overall vision of circularity before implementing these and developing circular business models (Bocken et. al., 2016). The three main strategies are:

- Slowing resource loops: "the utilization period of products is extended and/or intensified, resulting in a slowdown of the flow of resources, closing, and narrowing loops" (Bocken et. al., 2016, p. 309).
- Closing resource loops: "Through recycling, the loop between post-use and production is closed, resulting in a circular flow of resources" (Bocken et. al., 2016, p. 309).
- Narrowing resource flows, aimed at using fewer resources per product.

Within these broad categories, Moreno et. al. (2016) identified specific design methods and tools, that are the most relevant when looking at a circular economy context, these are presented in table no. 2.

Design Strategy	Design method/tool example
Design for circular supplies	Design for biodegradability
Design for resource conservation	Design for reduction of production steps
	Design for reducing material/resource use
	Design for production quality control
Design for long life use of products	Design the appropriate lifespan of products/components
	Design for repair/refurbishment

	Design for easy maintenance, reuse and repair
	Design for product-service systems
Design for multiple cycles	Design for easy end-of-life cleaning, collection and
	transportation of recovered material/resources
	Design for upcycling/recycling
	Design for (re)manufacturing and dis- and re-assembly
	Design for swapping, renting and sharing.
Design for systems change	Design for the entire value chain
	Design for local value chains

Table 2. Design strategies and tools for circular economy by Moreno et. al. (2016).

Since tourism is a service industry, Manniche et. al. (2017) highlight the role of service providers, especially the hotel and accommodation industry to adopt the result of such design approaches and business models. Hotels can for example buy remanufactured furnishing products, lease laundry or kitchen equipment with lower investment, design for energy efficiency from scratch or improve existing systems (Manniche et. al., 2017).

While the above approaches are focused on the initial phase of designing and manufacturing a new product, Design for Sustainable Behaviour specifically addresses the use phase of products and therefore aims to reduce environmental and social impacts of consumers (Bhamra et. al., 2011). Chamberlin & Boks (2017) agree that even sustainable design has so far mainly focused on reparability, disassembly and remanufacturability of products to support circularity and has neglected the aspect of how consumers can adopt new behaviours connected to circular economy the easiest way. Bhamra et. al. (2011) identified five different barriers that prevent people from changing behaviour towards new, potentially more sustainable practices. The first is 'Invisible energy', whereas people are not aware the actual amount of energy use their everyday practices generate, which connects to the second barrier 'Unawareness of the link', meaning even if they consider their own energy use, they do not consider it substantial enough to have a significant effect (Bhamra et. al., 2011). For example

tourists in cities are not confronted that much with their energy use and waste they generate, since it is lead away, so they might think it is not significant compared to the energy use and waste of the city itself (Manniche et. al., 2017). The third and fourth barriers are 'Lack of information and concern', whereas people either do not know the technicalities of using electronic equipment or choosing transportation, so they cannot make a more environmentally friendly choice; or they are just not concerned with the effects of their choices (Bhamra et. al., 2011). Hotel rooms for example might seem as places of unlimited resource use, until tourists understand the huge and complex systems that ensure that energy, therefore hotels could provide information and reward guests with bonuses or financially if they limit their impact (Manniche et. al., 2017). Finally a 'Lack of lifestyle' means that consumers assume that the product and services they purchase are designed to be the most efficient and sustainable possible, so there is no need for specific actions on their side (Bhamra et. al., 2011). To overcome these barriers a design strategy that Lockton et. al. (2013) suggests is the design pattern approach, whereas a pattern form can help both designers and users realize that a 'new' situation is similar to another which they encountered and solved in a different context before, therefore will not feel resistant to adopt a new behaviour. Chamberlin & Boks (2017) used that theory and the Design with Intent Toolkit developed by Lockton et. al. (2013) to understand challenges and possibilities of behaviour change for circular economy. This toolkit uses 101 patterns in eight lenses to demonstrate possible behaviour change approaches and Chamberlin & Boks (2017) suggests it's a highly adaptable tool, since designers can pick and choose the ones which are relevant for their current project and therefore make sure to implement circular economy in their product design. Another design tool that Chamberlin & Boks (2017) suggests especially for designing Product Service Systems (PSS) which is a very common model of the CE, is looking at different consumer factors. This tool was chosen as especially relevant for my current research, since it looks at online marketing of CE products and services, therefore highly adaptable to a tourism context, where consumers often buy services based solely on online or written information without seeing the actual destination or hotel room, that they purchase. The eleven consumer factors to consider are:

- Contamination/disgust/newness
- Convenience/availability

- Ownership

- Cost/financial incentive/tangible value

- Environmental impact

- Brand image/design/intangible value

- Quality/performance

- Customer service/supportive relationships

- Warranty

- Peer testimonials/reviews

- Awareness

These are therefore factors that designers and marketers need to focus on when designing and promoting circular economy products in order to guide their business communication and overcome the barriers identified by Bhamra et. al. (2011) and possibly reach the behaviour change needed for the CE to spread broadly (Chamberlin & Boks, 2017).

Summarizing the previous section, it first looked at consumer behaviour and influencing factors from a more theoretical perspective exploring broader social contexts, then examined more practical methods and tools to promote and design desirable and consumable circular economy products and service. As a conclusion we can see that changing consumer behaviour towards more sustainable practices is more complex than simply providing information. A more holistic approach is needed where the whole supply chain from raw materials to design and the use phase are set up in a circular way and it is easily accessible, understandable and enjoyable for consumers as well.

III.   METHODOLOGY

The following chapter is going to introduce the research process and argue for the chosen methods of data collection to approach the relatively unexplored field of circular economy in tourism. First the research design will provide an insight into the philosophy of science behind the research and explain the reason to choose interpretivism and social constructivism as a framework. In order to provide a valid answer to the research question I identified certain research methods as most relevant, these will be also presented and their rationale and relevance will be discussed. Finally the issues of validity, reliability, trustworthiness and generalization will be addressed, as well as limitations of the research methodology. This chapter is aimed to provide a guide to the research process in order to ensure transparency and logical flow of my work.

1.   Research design

As a first step of the research process and establishment of a research design it is essential to set a paradigm which influences the way knowledge is collected, studied and interpreted, since it is this framework that sets down the intent, motivation and expectations for the research (Mackenzie & Knipe, 2006). Paradigm is also defined as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research" and it influences subsequent choices of methods, literature and research design (Bogdan & Biklen 1998, p.22 as cited in Mackenzie & Knipe, 2006, p.2). All researchers start out with basic assumptions about the reality as they know it, but this a-priori knowledge has to be tested and put into perspective of existing body of knowledge and the first step to do that is choosing the paradigm to work within (Jonker & Pennink, 2010). I am going to present the chosen paradigms of my research in the following two subsections.

1.1. Paradigm – Interpretivism

I position myself in the interpretivist paradigm, since as a social scientist I aim to look for the complexity of views, rather than narrowing down meanings into categories, I set broad initial

questions and rely on the participants views and meanings emerging from discussions and interactions with them to understand social, cultural and historical context of a certain issue (Creswell & Creswell, 2017). This view defines the ontological approach of this research as relativist as well, since it explores phenomenons and concepts as "dependent on social actors and assumes that individuals contribute to social phenomena" (Wahyuni, 2012, p. 71). I chose to work within this philosophical dimensions, because it fits with my view as a researcher and it also provides a good way to understand such a complex field as circular economy in tourism, which involves various stakeholders, actors, industries, social groups and it is heavily affected by cultural norms and social habits. Furthermore as Chowdhury (2014) highlights interpretivist look for meaning and motive behind people's actions to understand behaviour and not only what people do, but why they do it in a certain way, which is exactly the approach that I follow to understand how circular economy could be further adopted to everyday lives of people. Due to the nature of this field, a researcher also has to recognize that social constructions and cultural environments are in a constant state of change, since they are influenced by various factors and therefore researchers have to look for inside perspectives, background and underlying motivations, which calls for narrative forms of analysis and therefore qualitative methods of data collection (Wahyuni, 2012). I aim to explore all possible aspects of my research field by talking to various stakeholders and choosing a mix of methods which will be explained in detail later on in this chapter.

1.2. Inquiry paradigm - Social constructivism

Within the interpretivist paradigm I also considered my inquiry paradigm, meaning the concept that defines what falls within and outside legitimate inquiry for a researcher (Goodson & Phillimore, 2004). Social constructivism was identified as a relevant inquiry paradigm, since as a researcher I recognize that it is only possible to present a specific version of reality, rather than a definite truth due to the above mentioned constant changing nature of the social environment of my studied subject (Bryman 2016). Being a social constructivist also defines the epistemology of this research being subjectivity, since the focus is on details of a specific situation, namely the current stage of circularity in tourism and I explore the motives and subjective meanings behind that by looking at the situation through the eyes of

different participants (e.g. hotel industry, social science research or the government) (Wahyuni, 2012). Social constructivism has been gaining momentum in qualitative tourism research during the last decades, because there is a growing need from tourism researchers to look at their field in a more holistic way, outside the positivist models and categories (Hollinshead, 2006). Additionally, sustainability and circular economy are both concepts that are based on the idea of balancing social, environmental and economic factors, therefore I argue that in this context it is essential to apply a paradigm which considers social, cultural and political aspects as well when looking at a phenomenon.

2. Triangulation

Jonker & Pennink (2010) argues that even though it is important to form a structure for the research process in the very beginning, the actual design is something to figure out later in the process, since it has to take into consideration the research question and the existing theoretical context as well. Therefore during this research process I started out by exploring existing literature in the field of circular economy, its implementation in tourism and consumer behaviour change as main theories underlying my research. After an initial exploration of literature, I formed the first version of research question and set up a research design and set of methods that were identified as most relevant for exploring a rather new field of tourism research.

I use mixed methods in this research to be able to explore different aspects of a certain situation, namely the adaptability of circularity to the tourism context. While this kind of interpretive research had been recognized for providing in-depth analysis and valuable results, its validity has been criticised and to overcome this issue triangulation of methods is an accepted solution (Chowdhury, 2014). Triangulation is also a way to eliminate personal biases and therefore had been the foundation of my research design from the very beginning, by applying four aspects of triangulation as it was described by Decrop (1999). As *triangulation of data* I collected primary data from interviews and observations and secondary data by reviewing existing literature, websites, reports and news articles related to my area of research. Furthermore I took detailed field notes during interviews and

observations, which adds additional value to the textual content and ensures that both verbal and non-verbal elements are noted and utilized later in the research (Decrop, 1999). *Triangulation of methods* is important because each method have their advantages, limits and biases, therefore I identified a mix of methods, which provide more credible and dependable information then a single method data collection (Decrop, 1999). *Investigator triangulation* means using several different researchers, which was not an available option in this case, since this current research is not a group effort, but the constant cooperation with the supervisor ensured the coherence of the research and eliminated personal biases as much as possible (Decrop, 1999). *Theoretical triangulation* was not carried out in a broader sense, since this research focuses on the tourism aspect and is based on the discipline of tourism studies, but circular economy was investigated from different aspects like marketing, design and social science (Decrop, 1999).

The chosen data collecting methods are described in more detail in the following three subsection in order to explain the choice the specific methods and provide an understanding of how data collection was carried out.

3. Desk research

Reviewing existing literature in a field is essential both to have an understanding of what have been done so far and to be able to develop an argument and to show the relevance of the current research (Bryman, 2016). One of the main challenges of this research is the lack of existing academic attention on circular economy in tourism and therefore very little existing literature. In order to make sure that the few sources that do exist in this field are all found and considered several databases and advanced search methods were used. Besides Google Scholar, I carried out several searches in the ProQuest Research Library, GreenFile multidisciplinary sustainability related database and EbscoHosts Academic Search Premier database. Advance search techniques revealed sources that could not by identified by simple Google Scholar search, below are some examples of search phrases used: "noft(tourism) AND "circular economy""; "noft(tourism) AND behaviour OR marketing AND sustainability"; "noft("circular economy") AND design AND sustaina*". As Bryman (2016) suggests, I not only describe the theories read in the articles, but aimed to provide a multi-sided discussion of the topic by taking a critical approach and present different aspects of each theory I look at.

Meanwhile, due to the scarce of resources, it was difficult to find in-depth critiques of the theories, since most of the articles I used were written in the past 2-5 years and therefore not enough time passed for critical arguments to be published. As a result I present different theories in the literature review and take a critical view in the analysis and point out controversies and possible ways to improve discussions regarding the CE.

Besides scientific articles, I also looked at online resources to form a holistic picture about the state of the CE in tourism. The website of the Ellen Macarthur Foundation proved to be a valuable resource in the initial phase of the desk research to have an overall understanding of the CE and the most recent trends, but due to the fact that none of their reports are dealing with tourism specifically, I decided to exclude it as a main source for my literature review. Quantitative secondary data, like statistics regarding global and Danish tourism arrivals, bednights, etc. was collected from reports published by official local and global tourism organizations like the UNWTO, Visit Denmark and Wonderful Copenhagen. I furthermore collected secondary data about existing practices of the CE in tourism from websites of companies and international organizations, but in case of considering such sources it is highly important to be aware who is behind a website, what is their agenda, what is told and not told in a story. To overcome this issue I double-checked the background of each information I found and used only those, which I could verify by other sources as well.

4. Interviews, survey

In order to follow my inquiry paradigm as a social constructivist and understand the problem at hand through the eyes of different participants, I carried out interviews with stakeholders and designed an online survey to gather data about a larger audience from the tourists perspective (Wahyuni, 2012). During the research process it was a challenge to identify and approach relevant parties to interview, since there are not specific companies or organizations working directly with circular economy in tourism. Therefore I identified the main tourism actors that are relevant based on the literature when it comes to adapting circular economy to tourism and approached to ask for an interview. Furthermore I looked for people that are knowledgeable about circular economy in general in some way, which

could be used for my analysis to look for new ways to understand circular economy in a tourism context. After thorough consideration the following parties were interviewed:

- The Klima- og Miljøplanlægger group at the Ressourcer og Affald department of the Municipality of Copenhagen, where I talked to a project manager about how the new 5 year Waste Management Plan to form a picture about the state of recycling and waste management in the city of Copenhagen. (Personal interview)
- Lucy Chamberlin – A PhD candidate at the Department of Design at the Faculty of Architecture and Design at the Norwegian University of Science and Technology researching the issue of how communication can be applied to user behavioural change in the context of a circular economy. (Skype interview)
- Jesper Manniche – Senior Researcher at the Danish Center for Regional and Tourism Research, he is one of the authors of the "CIRTOINNO Handbook - Destination: A circular tourism economy", a highly extensive report, which was a major source for my research to understand circularity in tourism. (Phone interview)
- Mireille Jakobsen - Responsible Hospitality Manager at the BC Hotel Group, the owner of the Crowne Plaza, an innovative, sustainably built and managed hotel in Copenhagen. Mireille provided insight into the possibilities and challenges of applying circular economy in the hospitality sector. (Personal interview)

In all cases I carried out semi-structured interviews, where I had a series of questions prepared, some more general, some more specific and I allowed for the conversation to form freely in case the interviewee raised interesting angles that I could not anticipate in advance (Bryman, 2016). Where possible personal interviews were carried out, but in some cases geographical location or time-constraints made that impossible, so computer assisted video or phone interviews were used as well. Bryman (2016) raises the issues that telephone interviews are often shorter and some research suggests that they do not provide so high quality data as personal interviews, therefore I took this into consideration and made sure to ask extra clarifying questions when I felt in doubt regarding the information provided, to make sure the lack of body language and personal contact does not result in any misunderstandings. All interviews were recorded with the consent of the interviewees.

Additionally I designed an online survey to collect data regarding the tourists understanding of circularity and waste management in tourism. A web-surveys main advantages are that it can reach a broad audience independent of location and timing and it can be designed to fit specifically for the researchers purposes, like deciding the order of the questions, the number of questions appearing on the screen, adding filter questions and changing between multiple choice or open questions as it is necessary (Bryman, 2016). The survey questions can be found in Appendix 5. I chose this method because I wanted to explore the current awareness and willingness of people to change behaviour towards circularity. Even though this method provides a less interactive way of collecting data, then talking to people personally on the field, it allowed me to reach a much more varied audience and collect a larger sample then by personal surveying.

5. Observations

Observation is a basic tool of exploring the environment around us for constructionist researchers, therefore in order to collect data regarding the field of research in Copenhagen observations were carried put on several occasions (Mackenzie & Knipe, 2006). I used structured non-participant observation, since I had a plan regarding the places and times of the observations to make sure the data reflects the changing nature of the research field (Bryman, 2016). The goal of the observation was to collect data regarding the behaviours of tourists and the way waste generated by tourists is handled in Copenhagen. To reach that goal observations were carried out in different times of the day, different weather conditions and before and after the main tourists season started. More specifically the dates and times of the observations were:

- 13th of March 2019, Wednesday, 10:30 - 12:30 – Central Copenhagen: Nyhavn, Nørreport, Strøget

  Cloudy, rainy weather, few tourists
- 30th of March 2019, Saturday, 15:30 – 17:30 – Nyhavn, Kongens Nytorv

  Sunny weather, centre crowded with tourist

- 21th of April, Sunday, 11:00 – 14:00 – City centre, Tivoli, Strøget Crowded city centre, sunny weather

As Bryman (2016) suggests the observation plan prepared in advance detailed the goal and subjects of observation, which I used to make sure that the relevant data is collected and the notes taken reflect the aim of the data collection. The main focus of the observation was to collect information of tourist behaviour regarding single use plastic, specifically if they use plastic items and how do they dispose of them. On the other hand I also made sure to observe the facilities available for tourists to use other solutions instead of plastic and to dispose of their trash in a way which does not pollute the streets and waters.

I did not take any videos or photos where people are easily identifiable and did not observe specific people's behaviour without their knowledge to make sure ethical standards are not violated during the research process.

6. Credibility / Transferability / Dependability / Confirmability

Qualitative research has been criticized for lacking generalizability as compared to quantitative research, since it often operates with different standards of validity and reliability (Wahyuni, 2012). "Reliability refers to the consistency of measures whereas validity concerns with the extent to which it reflects the social phenomena being observed" (Wahyuni, 2012, p. 77). While these are important factors for the generalizability of qualitative research, quantitative research rather seeks to produce unique, in-depth understanding of a given situation or phenomena in a specific context and therefore produce valuable knowledge for society (Wahyuni, 2012). To assess qualitative research Kalof et. al. (2008) - based on the theories of Guba & Lincoln (1989) - suggest a framework to provide a better understanding and evaluation of the value of qualitative research: credibility, transferability, dependability and confirmability. *Credibility* refers to the accuracy of the data and how it reflects reality (Kalof et. al. 2008). During the current research process I ensured credibility by triangulation of methods, combining my observations with findings directly from people involved in tourism industry or having experience regarding circular economy. While the data collected this research is not replicable, there is a quite high level of *transferability*

of the research to other settings, since data collection was carried out in an urban setting, with adjustments the research could be carried out in other similar European cities building on some of the learnings of this current research (Wahyuni, 2012). The findings regarding circular economy are also transferable to other industries, since the basic models of business, marketing and supply chain management are possible to adapt to different settings. To enhance *dependability* of my research I present a detailed description of the research process and data collection throughout all the chapters and I also provide instruments used like interview questions, observation notes and pictures, transcript of interviews, survey questions in the Appendix (Wahyuni, 2012). Finally, beside the above described tools of triangulation and documentation of data collection, the *confirmability* of the research is ensured by the cooperation with my supervisor to confirm that the results reflect the viewpoint of the participants, rather then my own perceptions (Wahyuni, 2012).

7. Limitations

There has been several limitations I faced during the research process generally and connected to specific methods as well. In general, as it was stated before the fact that circularity in tourism is a relatively new concept limited the available resources and meant a lack of awareness from the stakeholders. To overcome the lack of awareness I used phrases and words that are already known and understood, therefore makes it easier for stakeholders to be open about my research and have a common basic understanding to start with. I adapted these phrases according to the context and person who was the recipient, which involved some level of personal judgement, but that was necessary in order to establish a common ground which made it easier for the interviewees or survey respondents to get engaged and participate in my research process.

Moreover specifically regarding the interviews the relatively short, limited timeframe was a significant limitation. The following parties were approached but were not available for an interview:

- Plastic Change – A Danish environmental organization with the mission of fighting plastic pollution in Denmark and globally.
- The Sustainable Tourism Development department of Wonderful Copenhagen

- The Sustainable Tourism Development department of Guldsmeden Hotels – an award winning sustainable hotel chain with several hotels in Copenhagen and Europe

These parties could have had provided further insight into managing sustainability and circularity in an urban tourism context, but unfortunately they either didn't reply to my inquiry or were not available for an interview. This is one of the challenges of relatively short research project, since I had a limited timeframe for carrying out the interviews, therefore if someone wasn't available I could not wait for months when they are less busy for example.

Regarding the online surveys the uncontrollable nature of sampling is an issue which can result in limits to generalization compared to quantitative research (Bryman, 2016). In the case of the current research project, the lack of targeted sampling meant that I could not control who fills out the survey, since I distributed it to a broad audience on various online channels, therefore could not ensure representative results. However as a social constructionist I do not consider the research as a whole adaptable to other contexts and while lack of generalization is a significant limitation of the project, it is also a natural character of a social constructionist qualitative research.

The main concern when it comes to observation is the issue of the researcher effecting the observed scene or people and therefore the data collection not providing reliable, objective results (Bryman, 2016). In the case of the current research this limitation was not significant, since I was able to blend in to the crowd of tourists at the observation field and observe tourists while walking or sitting in a distance that made sure that my presence is not effecting their behaviour in any way. In case I approached someone to talk to them, I always made sure not to disrupt significantly their experience, for example I did not interrupt someone who was eating, shopping or being in a conversation.

Each of the chosen methods have limitations, but as it was argued above these fit the best with the aim of the research and provided the results which were the most relevant to answer the research question.

IV. ANALYSIS

After discussing theories regarding circular economy in tourism and presenting the data collection process and methods, in the following chapter an analysis of that data in relation to the existing theories will be presented. This section focuses only on the second level implementation of the CE, meaning how to support firms implementing circular economy in everyday practices, like product creation, design and production and in the case of tourism providing services. The analysis is divided into three major sections, first I am going to discuss circular economy's value and challenges from the tourism industry's perspective – both service providers and tourists – then from the government and public organizations perspective regarding policies and ways to support the industry in the shift towards a CE. In the whole chapter the role of CE in sustainability and the relation of the two concepts from different perspectives will be discussed as well.

1. Tourism industry

In the following section the tourism actors perspective on the implementation of circular economy principles will be discussed, mainly focusing on hotels, since that is the area where most of the data was collected. Due to the CE concept being a new way of business in the tourism sector, it is fairly difficult to present hands-on practical examples, therefore in the following analysis I am going to rely also on my sources, like interviewees and reports to illustrate my argument with concrete examples. In the second part of this section the tourists perspective will be discussed, focusing on how they relate to new concepts and how much are they willing to adapt to new practices and which marketing and design strategies could firms that work with CE use most effectively to reach tourists.

As it was established in the theory section, tourism is an industry which relies on local communities, entrepreneurs and service providers and therefore has an effect on the development of the country, region, city, neighbourhood or community where it operates. Still, it seems rather difficult to create cooperation between tourism stakeholders and the

way sustainability was integrated in tourism, it did not provide a solution for that issue in many cases, since it was based on the same linear market principles as before, which beside positive development, also led to green washing or resistance from businesses and consumers (Vargas-Sánchez, 2018). The circular economy is established as a new concept which is led by businesses and companies and is said to be more attractive, because it holds economic advantages as well, therefore I looked into how can private stakeholders be initiators of circular economy, what are their challenges and what can they gain from it (Sauvé et. al., 2016., Geissdoerfer et. al., 2017).

1.1.Challenges

Circular economy is something that is based on cooperation and is not possible without exploring how different industries or actors within an industry can work together to reduce waste or design new business and production models. This requires much more communication, then the traditional way of business and even some specific expertise, which might not be present at the moment in tourism. As Mireille Jakobsen, the sustainability manager of the BC Hotel Group put it:

"Actually we really want to go [towards circular economy] and we've been trying for many years, but the problem is again, when you think about the circular economy we have to work with partners to help you on the journey (Mireille Jakobsen, 13.03.2019)."

Besides being interested in the concept, she highlights the challenges of circular economy as well, since even for a company that is engaged in sustainability and the CE, it is impossible to do it alone. Irrelevant of which approach of circular economy we talk about, it is essential for the right partners to find each other and work together. Jesper Manniche, one of the authors of the handbook called 'Destination: A circular tourism economy' explains it as well:

"And it's also when you talk about circular economy you need this kind of a system perspective, it's difficult to talk about it in a very restricted micro business level, I mean how can you have a circular economy inside one business? It connects to so many supply chains, energy systems, infrastructures and so many things (Jesper Manniche, 15.03.2019)."

Jesper Manniche supports the theories of Korhonen et. al. (2018), that the circular economy has the potential of contributing to sustainable development, but he raises concerns about how it could spread in the business sector, since it involves a complex system thinking across different industries or actors. These issues raised by both Mireille Jakobsen and Jesper Manniche are also due to the initial phase where circular economy is at the moment, those who are engaged in it need to find each other and develop new solutions, so it would spread more widely and then it would become easier for companies to find cooperation partners. Therefore as Naydenov (2018) suggests there is a need for new business models to be formed which makes it easier for companies, to engage in circular economy, since as Mireille Jakobsen explained without patterns and ready solutions, a company needs to be expert in fields that are not connected to their activity:

"…but it's also difficult, why should we be actually doing that, because we are not good at that. We are extremely good at hotelier, we are not waste experts (Mireille Jakobsen, 13.03.2019)."

This concern aligns with the conclusions of Scheepens et. al. (2016), since it also highlights the difficulties of creating a long term partnership and the great resources needed to invest in infrastructure and support systems. At the moment it takes too much effort and resources for a tourism company to figure out ways to be a part of circular economy, how should a hotel or a restaurant know which other industry or company can use their waste product or whose could they use? Mireille Jakobsen also mentioned that even in the case of a company which is committed to sustainability and open to innovative solutions, it is difficult to start:

"First of all I have a product, but I don't know who can use my product, you can take it for free, but how do I find, how do I know, what options there is. It seems a little bit random sometimes, that I just happen to find somebody that can use coffee grinds… so who kind of connects the dots? (Mireille Jakobsen, 13.03.2019)"

She also adds why is it a challenge to find the right solution to this issue:

"…seems we cannot put too much resources in it either, because we have a business to run, so obviously we want to do something and we do something about it, but it's difficult."

Through these interviews and the theories of CE, the main challenge identified is the need for coordination between stakeholders, so it is easier for them to find the relevant partners and form the ways of an effective partnership. In order to reach that special expertise is needed. It is a difficult situation because combined knowledge is necessary in both the industry where the given company operates and in the ways of circular economy and also other industries that could be connected to it.

A specific case of this challenge is regarding waste management and public organizations, where partnership with the private sector is almost impossible and there are no private businesses on the market to take care of the recycling of every kind of waste. The lack of this creates a huge problem for environmentally conscious businesses to manage their waste responsibly. As Mireille Jakobsen explained it:

"[…] we don't have problem sorting waste, the problem is who can take it? So actually it's the bottleneck when it comes to public organizations, because they cannot handle all the fractions that we are actually sorting now. We could sort in more than thirty fractions…we can, but there is nothing more, they cannot take it (Mireille Jakobsen, 13.03.2019)."

The issue raised here by Mireille Jakobsen is analysed in more detail in the following section explaining the role of public organizations in the CE, but it represents the nature of the challenges businesses face when they try to implement CE principles. Even if one company starts, there are factors out of their reach and influence where they hit walls and in these cases they need to be especially committed to continue and look for solutions that they can carry out themselves or more cooperative partners. On a more critical note, there are solutions that can be developed and used without the support of publicly organized waste management, especially those that aim to design waste out of production and service systems and therefore there is no issue of the waste being collected. Innovative circular economy solutions can eliminate most of the waste produced and that is the main goal on the long term. Nevertheless, I argue that even though it is true what Sauvé et. al. (2016) and Naydenov (2018) suggests, that circular economy can be developed by the private sector without having to wait for policies and legislations to set the scene, it is still a disadvantage if public organizations are not open to cooperation or discussion.

Another challenge of the circular economy, which needs to be addresses more during its development in the near future is the lack of the focus on the social aspects. Researchers highlighted the fact that even though social well-being seems to be a natural consequence of implementing CE principles, it still needs to be more integrated to make it obvious for practitioners that it is not an optional add-on, it is an equally important element of the CE concept as the economic and environmental benefits. As Jesper Manniche explained it:

"It may be correct that there is not a big focus on the social aspects… [But] I think it's difficult to implement it only as a material, technical solution, it really also is about the better jobs and involvement of people, so at least it will be a result of it (Jesper Manniche, 15.03.2019)."

While he states that social well-being is an integral part of the CE concept, he also agrees that at the moment it is not highlighted and it is a result that comes out naturally, but often not a goal from the beginning of the implementation. Besides using Murrays (2017) definition for CE, which includes the social aspect, I argue that there is a need for those who advocate for CE to put more effort into promoting the importance of the social implications of CE, how it could improve people's lives, since that would help in engaging more people as well. I also argue that in tourism that is especially important, since tourists might not be aware of the local consequences of their travel activity as much as they are familiar with their home environment. Even if they are interested, they also have less time (the timeframe of their trip) to learn about and understand the local social issues, therefore tourism actors that implement circular economy need to be aware of those issues and make sure they are addressed as well, not just the environmental ones.

A third challenge for businesses is to integrate circularity with their primary goal to provide high-quality service the way it is demanded by their customers. If these demands do not meet the principles of the CE, then they will still come before the companies efforts of being circular. Pattanaro & Gente (2017) explains this with the limited promotional and marketing value of circular economy, therefore customers cannot be persuaded, since they do not see economic benefit in any way. To tackle that both Vargas-Sánchez (2018) and Naydenov (2018) highlights the importance of education and raising awareness and that not only refers to tourism actors, but the consumers as well, especially corporate customers, who have a much more significant influence and footprint when it comes to travel and events. Furthermore

they also have more visibility and role as providing an example. As Mireille Jakobsen explained from a concrete example they face frequently at the BC Hospitality Group:

"If you have an event coming with American guests, they have no concept of what food waste is - compared to if you have a Scandinavian customer – for them is just about serving food constantly, all the time, even though there is five people left, they don't think about what does that actually mean, that we have to throw it out (Mireille Jakobsen, 13.03.2019)."

Even though this example is a bit generalizing regarding customers from different cultures, it shows that service providers are not able to influence the demands of the customer and they need to provide for those demands, since their business is based on the customers. Especially in tourism which is now a global market and customers do not only chose between service providers, but destinations and can easily shift their activities towards other destinations that are more flexible regarding sustainability standards. As Mireille Jakobsen puts it:

"And also kind of aligning sustainability, our choices for sustainable product with quality, sustainability should never give a lower quality. That's our thing, because then our guest will go away (Mireille Jakobsen, 13.03.2019)."

Therefore it is a main challenge to communicate and educate customers in a way which would not turn them away, but would make it possible to implement new ways of business. This again needs cooperation of both public and private sector to provide both information and economic incentive (e.g. reduced tax) to support the advancement of circular economy.

To summarize, the main challenges identified currently of the CE in tourism are:

- Lack of knowledge, awareness
- Lack of cooperation both within the industry and between industries and public organizations
- Lack of resources and expertise in circular economy to coordinate and organize partnerships.
- Lack of focus on the social aspect of the CE

In the following section collected data and theories are going to be used to address these challenges and offer solutions to overcome them.

1.2. Values, opportunities

While making the challenges of circular economy obvious, both Mireille Jakobsen and Jesper Manniche offered some solutions to have a starting point for circular economy in tourism:

"And it's also about challenging suppliers, saying 'this is just not good enough, come on, do something about it' (Mireille Jakobsen, 13.03.2019)."

This quote provides a very innovative way of looking at the interconnected systems of tourism not as an obstacle but as an opportunity to create change and it shows that one committed actor can influence their whole supply chain and their customers as well. Following the theories of Vargas-Sánchez (2018) and Naydenov (2018) raising awareness among businesses and consumers is the current most important step to help the advancement of the CE, therefore the approach of the BC Hospitality Group is a highly recommended one, whereas they do not wait for such suppliers to emerge, but push for new solutions themselves. This way their suppliers can also introduce these new solutions to other hotels or even other companies in different industries that they work with and spread these circular solutions very effectively. Jesper Manniche provided a similar solution for the first steps of tourism towards circular economy:

"So that's of course also a thing that maybe you have to start from a very limited way and have to pick up step-by-step, picking some lower hanging fruits and it's very often something about saving energy, [being] more efficient [...] Some circular ideas, that are maybe a little easier to start with then some of the bigger perspectives (Jesper Manniche, 15.03.2019)."

Sauvé et. al. (2016) formed the theory, that some pioneers of the industry can be advocates for circular economy and by that start the change, since unlike in sustainability, circular economy requires cooperation as a basic principle. Jesper Manniche refers to a similar approach whereas those tourism actors who are interested and open to circular solutions should start with small scale ideas that they can carry out themselves or with some suppliers that they can influence and then take those to a larger scale. A good example of that is Finland, the country that decided to be a leader in circular economy and therefore already provides a good ground for businesses in different sectors to implement the CE. In the tourism sector

two restaurants are leading the way, taking different approaches towards circularity. One of them called Nolla is a zero-waste restaurant, which integrated innovative solutions, like using glasses made from recycled material, excluding single-use plastic items, planning seasonal locally sourced menus and having an on-site high-tech composter from which the good quality compost is given back to the farmers who supply the restaurant. Luka Balac, one of the owners of the restaurant said in an interview:

"It's unknown territory. In a couple of years, when we have shown that this is a viable business model, I think it's going to be much more common." (Bird, 2018)

He therefore supports the idea that once a company can make it work and prove that circular economy can be a good business as well, then other actors are going to follow. This example shows that one actor has an influence on the environment where it operates, since they influence their own suppliers, educate their customers and raise awareness about the issues of food waste in this case. The other Finnish restaurant called Loop takes a different approach and uses food that would have been wasted otherwise as a resource. Stores in the Helsinki area provide them with fruits, vegetables and other products they would throw out, therefore the restaurant always have to work with what they get offered, which requires a totally new way of cooking, planning the menu, management and thinking from the staff. Ossi Palenova, the head chef of the restaurant explains:

"There are quite different rules at play with waste food. But perhaps the most surprising thing is that there is so much goodwill. It's a hot topic and companies want to be associated with us." (Bird, 2018)

He highlights that while at first doing new ways of business can be challenging, there is a current environment which supports those who try and there is interest in these new ways.

Mireille Jakobsen explained this the following way:

"Because sustainability is about change management at the end of the day, driving change. And people are scared of change, most people…many people embrace it, but again it comes back to showing the value, because when people understand it, they can accept it and they can go with it (Mireille Jakobsen, 13.03.2019)."

She mentions sustainability but it can be adapted to circular economy as well, since it requires some changes both from the business side and the consumer behaviour side to adapt these new principles. Therefore the challenge of complex systems and the need for cooperation can be tackled with forerunners who in their own fields raise awareness and create a need for circular economy. As for the need for support from public organizations, from a company perspective of course this is something that cannot be forced or influenced, so those companies that worry about their waste management or the quality of the service their suppliers provide they need to look into that themselves. At the moment this requires extra effort from these companies, but it only depends on the level of commitment, as Mireille Jakobsen explained their situation:

"I think that's why it's so important for us to say, okay they can't do it, but what do we do then, think a little more circular, how do we then not create waste to begin with, because that's where the problem is. It's not about sorting it, it's about eliminating it, right? (Mireille Jakobsen, 13.03.2019)"

This is an approach which might not be very common yet, but it can definitely drive innovation to figure out new ways of working with suppliers in the tourism sector. In this sense hotel chains and big corporations can have a more significant influence, since if they demand services in a certain way they have enough volume to get that and then spread these practices on other levels as well. In the case of the BC Hotel Group the issue is that even though they are able to sort their waste in many different fractions, the municipality is not able to collect and recycle that due to different reasons, therefore they realized that the only way is to not produce most of that waste at all. Waste management is a very common topic when it comes to circular economy and in case of tourism is it is a highly important discussion (Girard & Nocca, 2017; Jones & Wynn, 2019). As Mireille Jakobsen explained in the BC Hotels there are bins for different fractions of recyclable waste and guests use it, but most of their waste is generated back of house and it creates a huge problem to deal with that waste in a circular way. She also mentioned events as significant producer of waste and highlighted that it is not even possible for the hotel to reuse that in any way, since it is not their property. Therefore to overcome the challenge of the lack of support infrastructure and other outside factors that hotels cannot influence the only solution so far is to reduce waste generated by themselves whatever way they can. Again, pushing suppliers for more circular solutions is a possibility

which need to be explored, since if hotels and restaurants persuade suppliers to loose plastic packaging or figure out some kind of return system for packaging materials then this system can be adapted to other businesses as well.

From a social aspect, both Mireille Jakobsen and Jesper Manniche provided some insight into how treating staff and the local community according to circular economy principles can benefit the whole system of tourism and the local well-being. They both argued that even though it might not be outlined specifically in the current discussions of the CE, considering human – and social factors comes naturally if one is already concerned with global and local environmental issues. Mireille Jakobsen highlighted the role of their staff in their activities:

"Well, I think that people are extremely important, because we are in the service industry, so that's our greatest resource, I mean yes we have buildings and yes we have a huge environmental impact, but at the end of the day our core competencies is in the people that we have, our employees that serve our customers (Mireille Jakobsen, 13.03.2019)."

In the tourism industry it is a highly relevant issue to consider the role of the various staff and employees who serve the customers and their situation, since the service sector relies on their work, but their rights and work conditions are not always ideal or respected. As for the value of circular economy in that aspect, Jesper Manniche added:

"Yeah, so I think the staff involvement is really a very important thing, when it comes to these things, and that is another disadvantage of tourism, or it is like now, because it is really low paid, seasonal work and this staff needs to be…because they are those who meets the guest, so they really need to be also involved in the storytelling, they need to be involved In knowing what they are doing and what is the rationale behind this and this and this (Jesper Manniche, 15.03.2019)."

His view shows that staff involvement becomes much more crucial once a company starts to implement CE principles, since it involves lots of changes in everyday practices, which then need to be communicated to the guests or clients. The people who can do that are the ones which are in daily contact with them so the staff themselves need to really understand and embrace these principles and changes to be able to communicate it in an authentic way. If these principles are followed, then there is a closer communication between employees and managers and this results in employees feeling more involved and even proud in representing

such a concept. Even though both Mireille Jakobsen and Jesper Manniche highlighted the role of staff in implementing circular economy in tourism, the way they interpret social aspects somewhat supports Geissdoerfer et. al. (2017), since these are mainly secondary benefits that come about as a result, not necessarily part of the goals of the circular economy. Therefore the obstacle of circular economy lacking the social aspect still is significant one which needs to be addressed and analysed further in the future. This aspect is especially important in tourism and in destinations where local legislation do not provide a high level of protection and support for employees. This concern is also supported by Mireille Jakobsens comment regarding the local environment where their businesses operate:

"We need to contribute to our destination and we have to contribute to their goal of being CO2 neutral, of being sustainable. So in that way it's an organic approach, we are part of the city and we need to help each other in that way (Mireille Jakobsen, 13.03.2019)."

Even though she highlighted that they need to be aware of and contribute to the destination where they operate, she mainly highlighted the environmental factors and tourism promotional benefits. The challenge of including social aspects in the concept of circular economy seem to be the most difficult one in this sense, since it can be argued that it already is there, but in the same time it does not seem to be present with the same weight as the other two elements. Again, as Sauvé et. al. (2016) states focusing on environmental goals does have a secondary effect of improving the life of the locals, which is a good starting point towards tackling this challenge, but there is still a way to go before social factors become equally weighed and included in the basic implementation of the CE in tourism.

2. Sustainable tourist behaviour

When looking at more sustainable industry practices the tourists behaviour is an important aspect of understanding how could current trends in tourism could be used to raise awareness and create change. Through my online survey I aimed to find out the main issues tourists face when it comes to changing their practices to be more sustainable to see if circular economy could provide solutions for these issue. First the survey results will be analysed in order to understand tourist behaviour and current issues with sustainable

practices, then I build on these results to recommend communication and marketing tools for companies working in the field of circular economy.

2.1.Tourist perspective

While for tourism companies the implementation of circular economy principles means a new approach and new practices compared to sustainability, from the tourists perspective it is not necessarily the most important which phrase or concept is used, as long as they understand the positive and negative outcomes of tourism practices. As Lucy Chamberlin explained:

"My personal view is that consumers don't necessarily need to be able to understand or be able to define or know about the term circular economy or sustainability. It doesn't really matter if they understand that as long as they are doing it (Lucy Chamberlin, 19.03.2019)"

As it was outlined in the theory section, different terms and concepts exist to engage tourists in a more sustainable/responsible way of traveling, but circular economy can bring new values to this discussion. If circular economy creates new business models where consumers are more involved, it also requires new design approaches and marketing, which could better relate to tourists. As Hall (2013) argues tourists do not necessarily make every decision based on conscious planning, since numerous factors like the socio-economic environment, habits and routines influence their decision making process. Lucy Chamberlin explained a similar view:

"The problem with asking people to be more environmentally friendly, is that that's already everybody's intention, everyone wants to do better stuff and nobody dislikes a clean green environment, but they have other priorities that get in the way (Lucy Chamberlin, 19.03.2019)."

The findings of my survey that I used to collect data about tourists general idea and attitude towards tourism practices related to sustainability and circular economy support that view. In order to find out if there is values-action gap and find some reasons for it if it exists, among other questions I included a fairly simple one regarding waste management and tourism:

Are you worried about the plastic waste polluting our land and waters and the future consequences of that?

101 responses

Figure 3 - Tourist approach of waste management, Appendix 5.

This diagram shows that 99% of my respondents are generally aware and worried about the plastic waste polluting the Earth, therefore the basic issue is not getting out the information or that people are not aware of the problems of climate change, sustainability, plastic waste and other environmental issues. This can be attributed to the large amount of news coverage and other media focusing on climate change and the dangerous amount of plastic waste ending up in the oceans and eventually being eaten by animals and therefore humans as well. Therefore all the replies given to other questions in my survey can be interpreted with the basic assumption that the respondents are aware and does have an identity that is conscious about these issues, but they seem to have other factors influencing them if they do not make the most sustainable decision when traveling. Another finding that supports this is the following question regarding their approach towards action against these issues:

Would you be open to using alternative solutions while traveling instead of single-use plastic in case it was easily available on a similar price?
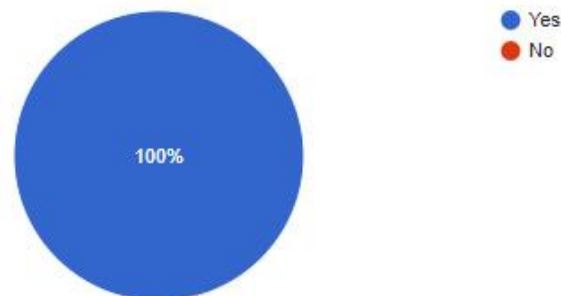
101 responses

Figure 4 – Tourists willingness of changing behaviour, Appendix 5.

We can establish that all the respondents are willing to do their share for sustainability, since they would consume the products that are less harmful to the social and natural environment, if such products were available and affordable. These two questions provide a ground for analysing other responses from the survey with the basic assumption that all of those who replied are willing to act to a certain level and are concerned about sustainability issues. Mireille Jakobsen provided the industry perspective on that:

"The guest shouldn't be able to choose between two things constantly, that's an add-on, that's work for them, it should just be a good experience and add value for their experience (Mireille Jakobsen, 13.03.2019)."

She argued that if their hotel only offers organic food or is following a no-plastic straw policy then it is actually not a loss of choice for the their guests, but higher quality experience and they do not even have to take the time to consider the options and make the choices. These views support the theories of Bramwell & Lane (2013) that tourists are put in a difficult spot when making a decision, since governments and tourism companies both promote the importance of economic growth, the value of traveling to their personal life and status parallel with the importance of sustainability and responsible choices. From all this information it is a difficult task to form conscious decisions and most people do not possess the necessary time and energy in their daily life to make comparisons for example of the CO_2 footprints of the different holiday packages they are considering. Therefore Hall (2013) argues that there is too

48

much focus on the end-user decision and less on how the industry could change their practices, so tourists are not facing an impossible situation when it comes to their travel plans between endless number of economic, environmental and other factors. To illustrate that, in my survey I asked respondents about their waste practices, since this is a field which is easily relatable for everyone and in tourism waste management raises serious issues. 95% of respondents collect waste separately at their homes and 91% of them said that they use some kind of zero-waste solution at home, mostly canvas bags, reusable water bottles or coffee cups. When asked about using these solution when they are traveling only 66% said that they do in some way or in some cases. There were few respondents who actually admitted that they just did not think about using those solutions while traveling:

"I just didn't think about it. Lack of examples in my surroundings, lack of info that I could do that."

This quote raises the issue that even someone who uses waste reducing techniques at home and therefore is concerned about environmental issues would not think about doing the same when on a trip, even though those issues are clearly global and the environment at the destination needs just as much protection. Therefore this proves the theory that some tourists are less willing to think about global issues when they try to enjoy their holiday and traveling is something that they use as a distraction from all of those problems, so it can be difficult to get them to spend extra energy or money on more sustainable solutions (Barr et. al., 2011). Furthermore this respond also highlights the importance of the community levels influence on decision making as described by Antimova et. al. (2012), whereas observing other peoples practice can help overcoming the action-value gap when it comes to sustainable choices.

Among those who responded that aim or try to reduce their waste during traveling, only one respondent mentioned in their answer other means of transportation than flying. The question did not specify if the travel should be by plane or other means, but almost all respondents automatically identified traveling with flying. Therefore the most common obstacle is the space and packaging limitations of air travel and the availability of clean tap water at the destination when it comes to water bottles. This proves the theories of Barr et. al. (2011) that context has a great influence on consumption choices, since in a home context

the respondents found it easier to reduce their plastic waste, but in a travel context it is more difficult due to several factors. One of the respondents wrote:

"I'm trying to be as ecofriendly as possible during my trips, but health is a priority for me, so I never drink tapwater (and use my water bottle), instead I buy bottled water."

This answer represents that people do not only have one context to think about when they make choices, it is not only about if they want to be sustainable or not, it is also about health issues or regulations outside of their influence as another respondent explained:

"No, because I'm usually travelling only with cabin luggage, so I have to pack as few things as possible."

Airplane luggage regulations are very strict and it is often very costly to add extra kilos, or extra luggage when buying a flight ticket, therefore naturally tourists will aim to save space and not carry extra items, that they easily buy at the destination then throw out. But even those who consider taking them can have other needs and limitations that just come before the environmental concerns:

"I would prefer to buy things that are reusable, also while shopping during the trip. Still, sometimes I just do forget the extra bag or kids feet get wet and I am choosing the plastic bags to protect the new, dry socks from the wet boots."

Here we can see that - as Hall (2013) suggests – peoples choices are based on needs and aspirations that are built up from various factors in their lives and they will always prioritize the ones which are the most important at that moment, for example their kids wet feet. Therefore they will work with the products and solutions available for them at each moment. For example if they are in need of a single use plastic bag, they will buy it, but if that bag is made from biodegradable materials, then it is less pollutant, since even if it is thrown out it will not damage the environment as much as a usual plastic bag. Circular economy has an added value to tourism, because it can provide a system thinking, which considers the whole life-cycle of each product and service and therefore it can even provide solutions for what to do with products at the end of their useful life or how to replace the ones which are essential, but damaging for the natural or social environment in some way. Therefore those who sell and promote products tourism and services that are based on circularity need to have a broad

perspective and be able to compete with regular products that serve the same purpose, it is not realistic in most situations to expect tourists to choose solely based on sustainability factors. As Lucy Chamberlin said:

"I mean a lot of techniques have been used over the years in traditional marketing, but I think actually circular or like green companies haven't been as good, they rely a bit on their values, you know "we are really good, so you should shop at us". Well, why if you don't make me feel excited, if they don't make me want to shop there...(Lucy Chamberlin, 19.03.2019)"

This kind of approach, when people are expected to make the most sustainable choice due to their understanding and awareness of global issues without providing viable options, often results in the value-action gap. Therefore the following section is focusing on communication and marketing tools for circular tourism to overcome the value-action gap.

2.2.Communication and design for companies engaged in circular tourism

Traveling became an integral part of everyday life, in my survey 88% of the respondents take more than three trips in a year and among these 15% of the total number is the proportion that takes more than 10 trips, which means basically they are constantly in the planning phase of the next trip. When selling tourism products, the purchase of many of the elements of a trip happens before the actual travel, therefore it is a highly important part of the whole tourist experience how they get to know the destination and the service providers before the trip. Even though Barr et. al. (2011) argues that when people travel they are even less concerned about global issues, than in their home environment, since they just want to enjoy their holiday, Lucy Chamberlin suggests a different view:

"You know people are going on holiday, there may be an element where they are open to new stuff because they are taking in so many new impressions all the time anyway, so perhaps that's a really good way or good time to communicate with them, cause they are bit more chilled out, perhaps that's a good way to talk to them (Lucy Chamberlin, 19.03.2019)."

This approach opens the possibility of trips not only being holidays, but a time when people experience new ways of life, have the chance to know other cultures and take those learnings

home with them. For example Copenhagen being promoted as a city where people live a sustainable lifestyle gives the opportunity to engage tourists as well and provide them with ideas that they can implement when they return to their home environment. Both Lucy Chamberlin and Jesper Manniche agreed that circular economy has a very strong storytelling power, even more so then sustainability and this can be used to promote and sell such ideas. This approach can be used by destination management organizations, hotels, service providers or other actors who communicate with tourists directly. Social marketing is a tool which is set up to tell these kind of stories, therefore the alternative 4P model of social marketing will be used to provide examples of using this kind of communication in circular economy and tourism (Peattie & Peattie, 2009).

<u>Products -> Propositions</u>

- Even though it is not meant as a circular economy concept, the 2017 Localhood strategy of Wonderful Copenhagen is an example of promoting an idea of togetherness and a tourism based on local residents and innovative solutions. The strategy is innovative in a way that it does not highlight the most common attractions and events that could pull-in tourists, but instead promotes a new way of tourism in cooperation with locals. The outcome of the strategy is still uncertain being quite new, but the basic elements correspond to the idea of not promoting the city as a product, but sending a message of a place of shared experiences

- The organization Green Kayak sells kayak tours where tourists and locals who participate collect waste from the sea during paddling. Normally collecting waste themselves is not something people pay for, but through these tours the NGO sells the idea of doing something good for the planet, while enjoying the scenery of a kayak tour. Those who chose this company instead of other kayak tours are interested in the proposition of acting for our environment.

- If a hotel switches from buffet to plate service, or starts a no-plastic policy and excludes single-use items, they need to communicate towards their guests the reasons of the change and sell the proposition that this way they are contributing to the hotels environmental efforts

Place -> Accessibility

- Many cities offer shared bike systems for tourists and locals, just as the company Donkey Republic and others provide bikes that can be used with a mobile app. Therefore while people are encouraged to bike in many cities, they are more willing to do so instead of cars or public transportation if the bikes and the infrastructure is easily accessible.

- The store We Food in Copenhagen collects food from supermarkets, that would be dumped otherwise and sells it in their well-located stores, that look like an average supermarket. While there are determined activists who break into supermarkets to "save" food waste, or most people this much more accessible alternative makes it possible to reduce food waste during their daily shopping.

Price -> Cost of involvement

- Collecting waste separately seems natural today, but it does require extra efforts, needs extra space in the kitchen and extra time to take the different fractions to different collecting points. The municipality in Copenhagen uses posters saying "Genbrug er guld" – "Recycling is gold", to sell the idea of recycling to locals through the tools of traditional marketing.

- Even for environmentally friendly tourists it takes extra efforts to reduce their plastic waste, since it requires carrying reusable items like a water bottle or coffee cup, but with campaigns like the "Bottle for life" campaign of the organization Plastic Change aims to promote the idea of reusable items and make it part of our everyday routines.

Promotion -> Social Communication

- As it was established spreading information is not enough in itself to create change in industry practices or consumer behaviour, circular economy specifically requires two-way communication, like the company Desso, which provides modular carpets for hotels and offices, therefore the whole carpet does not need to be replaced, only the

faulty or used parts, but this way there is a need for continuous partnership and communication between the company and the customer to ensure the quality of the service (Manniche et. al., 2017)

- As a basic model of circular economy all cases where there is service instead of product model implemented, the continuous two way communication is an essential part of a high quality, reliable service.

- Another approach of circular economy is selling second-hand, reused products, where warranties and follow up communication, the sellers availability for questions is crucial for the customers to trust the product and make the decision to buy that one instead of a new. This aspect of closer communication can be highlighted when promoting circular economy products.

The above examples show that social marketing can be used effectively to promote the aspects of circular economy products and service which provide value to the tourists in order to highlight the new and innovative solutions that make those possible. Meanwhile these companies also need to make sure that they provide a service which is just as reliable and high quality as their competitors, since tourists will always look at that aspect first. As Lucy Chamberlin explained it:

"…It's difficult because these circular services have to be as good as the competition and then better. So all of those other things that people want […] are important as well so for each service [they need to know] what's the most important thing for the customer? (Lucy Chamberlin, 19.03.2019)"

In order to ensure high quality of the service or product and that it is competitive on the market as well, not only provides a circular solutions, the 11 factors outlined in the theory section provide a frame which can guide circular economy companies to find out what is the most important factor in their market segment. Again, in tourism circularity is happening on a very small scale at the moment, therefore it is difficult to provide empirical findings and practical examples of successful or failed communication strategies in this field. One approach that three of the interviewees highlighted (Lucy Chamberlin, Jesper Manniche and Mireille Jakobsen) as especially relevant for circular economy is the power of storytelling. Since

circularity is very hands-on and practical, it is well presentable for people to illustrate the consequences of their choices. In a tourism context, it also easily adaptable, so it could represent for tourists what are the main issues at a destination or just raise awareness about one small thing they can change to change their social and environmental influence. An example of that is the small company in Berlin organizing circular economy tours for tourists, where they show cutting-edge projects and passionate innovators, circular products and start-ups in Berlin, so tourists can learn about circular economy, waste management and resources (https://circulareconomytours.com/). Through these tours tourists can experience something truly unique and specific to the destination, something that they would not see elsewhere, therefore it provides a great added value to their trip, while it fits into the practices they know about tourism since it is based on the most common sight-seeing tour concept. Tourists can even chose between tours based on topic, neighbourhood or customize it to their interest, therefore they might end up having a one of a kind experience. This example shows a unique way how tourism can add value to the development of circular economy and in the same time circular economy adds value to the tourist experience. In this case the company uses traditional marketing techniques, since it fits in the way tourists spend their city-breaks and buy services, there is no need for special convincing regarding the format of the tour. As for the theme of the tour, the website of the company aims to break it down, make the technical term easily interpretable and provide pictures and examples, so tourists can relate them to their own interests. The available topics are for example Urban Farming, Fashion & Textiles or Circular City. These are phrases that everyone can relate to and chose which is the most attracting to them. Furthermore they often words like "fun", "positive", "beautiful", which communicates something that people would like to experience, the website does not intend to scare people with the awful consequences of plastic waste or large scale farming, instead provides a positive picture of possible solutions. This kind of communication according to Lucy Chamberlin is much more effective than finger-pointing or guilt provoking:

"I think that one thing that is important is engaging with people at a more emotional level, not just giving them facts, but making things more meaningful for them, more kind of human, not just giving them dry statistics, but a bit more emotive stories (Lucy Chamberlin, 19.03.2019)."

The positive, story based easily relatable communication technique seems to fit well with the circular economy products and services, but there is still need for further implementation and research to come up with marketing models that fit with the new circular business models.

Another approach in tourism to use circular economy as a marketing tool is for lesser-known destinations to become leaders of the CE and use that as added value to attract tourists. Manniche et. al. brings the example of Lithuania, being an emerging tourism destination, but already focusing on sustainability and responsible tourism and Europe's representative in the UNWTO Committee on Tourism and Sustainability. Therefore by applying the holistic approach of the CE and standing up for those values internationally it could significantly benefit from the emergence of the CE in the coming period.

For any of these marketing strategies to be successful, the products, services and tourism strategies need to be designed in a way which is not only circular and sustainable, but attractable and convenient for tourists as well. As outlined in the theory section Moreno et. al. (2016) identified five design strategies that are most relevant in a circular economy context, adapted to tourism services these could have the potential to highlight areas where CE would be implemented.

- Design for circular supplies

Those items that are not replaceable by reusable items in hotels, restaurants or airplanes, due to hygiene or other requirements, can be substituted with biodegradable products. Meanwhile it is also important to look at the lifecycle assessment of these alternative products and chose the one which requires the less raw material and energy to produce, since beside keeping plastic out of oceans and land, it is also an important factor to use the minimum possible resources for production.

- Design for resource conservation

In case a hotel or restaurant does not want to carry out their own life cycle assessment for each item they use, the easiest way to save resources is to look at sustainability standards and qualifications (e.g. ISO, labels), which can result in better quality control and the reduction CO2 emissions and other negative environmental effects.

In-house reuse is always a preferred option to recycling, therefore, especially in the case of large hotels and hotel chains, it can always be the first step to see if something can be reused before giving it away or throwing it out.

Locally sourced products can ensure the reduction of production steps, since goods will need to travel less, which needs less energy and also this way the local economy can better benefit from the tourism activity in the region.

- Design for long life use of products

Consider the life-span of products before purchase, this is especially true for long term investments in machines and furnishing.

Design services in a way which enables repair and long-term maintenance of the machines, products used, for example switching to product-service systems in case of machinery, whereas the company that owns them provides maintenance and even takes care of reuse or recycling when the hotel or restaurant does not need it anymore. This way the tourism company has the benefit of using the most modern technology without having to pay for the full price of the equipment.

- Design for multiple cycles

In case of furnishing and other equipment which is not possible to lease, tourism companies could actively look for recycling and reusing options, even though this takes up time and money, for which they do not necessarily have the resources, as it was stated earlier. Still there can be always some easy options, which does not take too much research, for example designing out food waste.

In case reuse is not possible, companies can still make sure to disassemble equipment and collect the waste from them separately, so it can be recycled.

- Design for systems change

Design services in way that considers the entire value chain, apply system thinking to procurement processes, consider local benefits that a purchase could provide. When there is

a local alternative for any kind of product that is always preferred, especially in tourism to keep the income from tourists in the local economy. If a food or any other kind of product is sourced locally it makes it much easier to keep in close contact with the producer, ensure warranties and long term maintenance and reuse or recycling of products. In case of small hotels and restaurants this is a more viable option.

If the design of the services and products ensure a circular economy, then next step is the use phase, where there might be a need for consumers to adapt some of their practices, even if the design is aimed to be as convenient as possible. The barriers which make it more difficult for people to adapt these new practice are outlined by Bhamra et. al. (2011) and can be interpreted in a tourism context as well: Invisible energy; Unawareness of the link; Lack of information and concern; Lack of lifestyle. Lucy Chamberlin primarily suggested that again it is important to understand the situation of the tourists and relate to them in a way which they connect to something they already know and use in their everyday life.

"And services, hotel services, I think what's meaningful to people is things that they see and experience in their day to day lives, so like you know everybody experiences kitchen waste, so if the hotel can kind of communicate in a way that people understand what they're doing in terms of their own kitchen at home, I think that's effective (Lucy Chamberlin, 19.03.2019)"

She further argued that this is where design thinking has a value, just as Manniche et. al. (2017) suggests, circular economy does not only look at isolated links of production, but requires a more comprehensive system thinking. A larger scale example of that in tourism is the Green Solution House in Bornholm which is a hotel, restaurant and meeting center originally designed based on innovative circular design in every aspect possible. Starting with the construction following the most innovative sustainable architecture solutions based on the Cradle to Cradle framework to waste management, smart room technology, conscious energy use and 70 other solutions, the center aims to demonstrate that a comfortable hotel stay and high quality experience is possible, while it is still sustainable both environmentally and economically (Green Solution House). Most of the 75 solutions presented on the website of Green Solution House are based in some way of circular economy principles, but many of those would be easily adaptable to other actors in the hospitality sector, therefore these will be shortly presented below.

- Working together with a leading supplier of furniture fabrics Green Solution House upcycles used furniture replacing used parts with environmentally friendly fabrics and therefore keeping them out of landfills.

- During renovations the furniture or equipment that cannot be upcycled is given to charities like the Red Cross to be used further by someone who needs it.

- Green Solution House is based on a circular business model, whereas part of the revenue is channelled into funding ongoing innovation and assessment of existing practices to make them more sustainable

- In Green Solution House they choose products to equip and furnish the hotel and restaurant, which are made of recycled materials and just as importantly can be recycled again, for example a bedframes that are designed for disassembly, soap dispensers and tiles made from recycled and recyclable materials

- On-site kitchen garden and procuring wood and other produces locally ensures short transportation, low CO2 emission and long-term partnership which enables the hotel to also reuse and recycle their "waste" products locally if possible

- Solar panels installed on the balconies on the south façade of the building produce 5000 kWh of energy per year for the hotel

- The roof is covered with Noxite roofing membrane which cleans the air of harmful pollutants

The above examples and solutions show ways which would be adaptable at the moment to many actors in the tourism industry and would improve significantly the natural and social environment at the destination where they operate. These are all solutions that are mainly based on the design and technology and would not mean any difference in the practices of tourists, it would not require behaviour change, they could enjoy the experience as usual, but their travel activity would result in much less damage towards the environment. As a conclusion of this section, I argue that circular economy could significantly contribute to sustainable tourism and it would bring a value for tourists because many of the circular solutions would mean the continuation of usual tourism practices, but without the harmful consequences.

3. Role of government – policies

Until a more developed circular economy emerges and industries will be able to use each other's waste products, so nothing gets thrown out as trash, there is a significant focus within circular economy on waste management, especially plastic waste. Therefore my research about current policies in Copenhagen was narrowed down to waste management and plastic waste, since this is the area that was highlighted by Mireille Jakobsen as where they would need the most support from the public organizations. In the following section the current situation of waste management in Copenhagen is going to be presented based on the data I collected form interviews and reports to identify the main challenge when it comes to waste management and recycling.

Even though there are complex waste management systems in place, globally a staggering 32% of plastic packaging escapes collection systems (World Economic Forum, 2016). In Denmark - according to my interviewee at the waste management division of the Copenhagen municipality Jonas Åbo Mortensen – the goal is to reach a 70% recycling rate from the current 45% by 2024 for all of the waste not only plastic. When it comes to specifically plastic waste he explained the situation:

"For plastic waste we know that last year we collected around 2,600 tons of plastic waste in the city, at the households. But we also know that the total amount of plastic waste is around 17,000 tons, so we only collect maybe 15% or something like that of the total amount and we can go higher than that, but we can never get to 100% […] so the main part of the waste fractions will still be in the residual waste. […] Therefore we also need to focus on developing solutions to sorting the residual waste, to get out the resources from that fraction (Jonas Åbo Mortensen, 29.02.2019)."

As he explained, this amount only refers to the waste collected from households in Copenhagen, because they are not allowed to deal with the recycling of the waste of private companies.

"When we talk about hotels and stuff like that, because of the way the legislation is in Denmark, we can't as a municipality deal with that waste, it has to be part of a private market. And for especially plastics [...] there is no demand for that at all in the recycling industry in Denmark, so it's almost impossible for hotels [...] to offset it. No one will have it (Jonas Åbo Mortensen, 29.02.2019)."

He further explained that since the municipality has to pay for the plastic and other waste to be recycled, the municipality cannot take care of that in case of private businesses. In order to overcome that issue, in some countries a producer responsibility scheme is implemented, whereas private companies pay a sort of tax, which is built into their production costs and that covers the cost of recycling, but that scheme is not used in Denmark for plastics. Still, in the 2018 Resource and Waste Management Plan of the Copenhagen Municipality one of the main goals is to encourage more separation in the business community, whereas they also state there are around 17,000 businesses in Copenhagen that generate waste in noticeable quantities and the after offices and trade the second biggest group among these is the hotel and restaurant sector based on the number of employees. Therefore the plans proposes:

"Most major industries separate recyclable waste. The challenges lie in the service sector, primarily among offices, hotels, and restaurants. The City will first of all prepare a supervision strategy so our efforts are focused on sectors and types of businesses with the largest potential for achieving a better separation of recyclable waste. Then for a period of time the City will make an extra effort to follow up on the strategy and visit the businesses to attain a better separation" (Københavns Kommune, 1).

While the plan highlights the volume and the significance of businesses in the city when it comes to waste production, the offered solution is encouragement and supervision of their separation practices, which as I found out does not tackle the most significant part of this problem. As Jonas Åbo Mortensen explained above, separation is not the main issue, since there is no one who could take it and make use of the waste that hotels and restaurants produce. Both he and Mireille Jakobsen highlighted the issue of unrecyclable plastic waste, which ends up incinerated, because there is no private market for it and the public organization is not allowed to deal with it. The reason why the kind of plastic which is most commonly used food and other packaging - and is produced in great quantities in hotels - is not recyclable comes down to the quality of the material. Since it is already probably made

from recycled plastic, it is not clean, it is a blend of different quality materials and it is not possible to profitably recycle it. Joan Åbo Mortensen further explained:

"And that's why we cannot deal with it, because there is no market for that so it goes into the incineration basically. Even though the legislation says that the private companies have a duty to sort the waste. So on the one hand they have to sort waste, on the other hand it doesn't make sense for them because they can't sell it at all (Jonas Åbo Mortensen, 29.02.2019)."

The quality aspect of sorting and recycling waste is a huge issue, considering that people are often lead to believe the by sorting their waste they already make sure that plastic will not end up in the waters or soil, as one the respondents in my survey said about buying plastic water bottles when traveling:

"Of course it results in huge number of water bottles by the end of my trips, which I don't like, but I'm trying to drop them to the selective trash."

While people are very accepting about sorting their waste, they might not necessarily be aware that there is a significant proportion of plastic that cannot be recycled and that plastic cannot be recycled an infinitive times, since it loses quality each time and finally it still ends up in landfills or incinerated. As Jonas Åbo Mortensen explained the most significant change in that would be the development of technology and infrastructure to recycle plastic in a way which keeps the quality and it will make it good enough to use in different industries for new products. This would a way to make recycling profitable as well and therefore a private market could actually take care of the waste of hotels, restaurants and other private businesses, that the municipality cannot handle. To start a discussion in this direction and understand better the current situation Jonas Åbo Mortensen proposed a more innovative way of measuring the successfulness of recycling:

"Actually all over Europe we look at recycling and the circularity by how much waste we collect, we don't look at how many secondary resources are used by the production industry and that would be a lot better indicator I guess. Because the whole challenge is actually to get the production industry to want to buy secondary raw materials instead of virgin materials, that's the whole concept of circularity and there are different directions to that according to which materials you look at (Jonas Åbo Mortensen, 29.02.2019)."

Therefore we can see that the issues of circular economy are interconnected and even though a hotel or a restaurant can decide to be more circular, sorting their waste is not the way to go at the moment, since it will require significant improvement in technology and infrastructure before that will be a real way of reducing waste entering the natural environment. That is why Mireille Jakobsen suggested a different way of looking at the issue:

"That's the biggest problem, we get these weird blends of plastic that can't be recycled and I think that's the number one thing, look at if you cannot eliminate it then reduce it or make it better quality so that it actually can be reused. Because it is also difficult, what can replace it that has a better environmental footprint then the plastic (Mireille Jakobsen, 13.03.2019)."

In an ideal case as she suggests the first step of turning to circular economy should be eliminating all waste that is possible to eliminate, so not even produce it start with, but to find a way to implement zero-waste alternatives or ways to reuse. Then, since there implications where plastic simply cannot be replaced, for those few instances sorting and recycling in high quality could provide an alternative.

Another area where tourists add the municipalities waste management load is the bins in public places. So far in Copenhagen there are no separate bins on the street to collect that waste in a recyclable way. Even though it was already part of the 2018 Waste Management Plan, where it says:

"As part of the strategic effort for street cleaning it should also be studied whether separation in public bins is possible. In other cases a central sorting plant will be the solution, for instance, for subsequent separation of plastics and metal (Københavns Kommune, 1)."

And:

"In parks the City will also make it possible to separate waste - for instance by locating "mini recycling centres" at some of the gates. The idea is that the waste you bring into the parks must be taken out and separated in the different containers. Similar measures may be established in the streets and squares of the city as well as during major events Københavns Kommune 1)."

It did not become reality by 2018, so in the 2024 Waste Management Plan these steps are included again, stating that the municipality collect 2,500 tons of waste from the street bins yearly, which gets incinerated instead of sorting and recycling (Købenavn Kommune, 2). Jonas Åbo Mortensen informed about the concrete plans regarding this issue:

"Yeah, there is an initiative to implement 750 new spots around the city in public space for sorting, so there is one of the major changes with that new waste management plan. So there will be a lot of new waste sorting places around the city in the coming year (Jonas Åbo Mortensen, 29.02.2019)."

Since according to Wonderful Copenhagen's statistics there were 12.3 million bednights in the Capital Region in 2016 and the number of hotel rooms are predicted to grow with 8500 rooms added to the existing 21000 by 2022, the amount of waste that tourists add to the total waste produced in Copenhagen must be a significant amount (Wonderful Copenhagen, 2017; The Copenhagen Post, 2018). These sorting spots would offer the opportunity for tourists as well to drop their water bottles and plastic bags in separate containers if they end up buying those.

Another area where legislation and public policy can improve to support circular economy is represented by the example of the Green Solution House, where they developed a system where water from the sinks and toilets is collected and it flows through anaerobic, clarifying, and biological filtering stages to enable on-site reuse. At the moment they can only use this water for irrigation of the Green Wall and garden of the hotel, but the aim is to close the loop and use it for the public toilets. At the moment this is not possible not because lack of technology, but because of building law. They are planning to run trials as soon as they manage to obtain permission for that and eventually persuade lawmakers to change the existing rules, so this circular system can be developed further and eventually obtain drinking water quality through the biological purification process. Therefore there is a need for law-making and policy to follow the development of technology and support new circular solutions, so they can be more widely used in the industry.

Finally, as part of this research the Sustainable Development department of Wonderful Copenhagen was also contacted to find out if they consider the issue of waste management in their sustainability strategy as the main public organization dealing with tourism

development in Copenhagen. Unfortunately they were not available for an interview, but their sustainability strategy is available on their website, so this was used as a source instead. Since according to the strategy published by WoCo in 2016, the target is to reach a growth in bed-nights by 1/3, equivalent to 17 million bed-nights, their intention to promote and encourage tourism growth in Denmark as a public organization is clear (Wonderful Copenhagen, 2017). Meanwhile in the sustainability strategy they also highlight the goal of for example maintaining a score of over 90 per cent and a top three ranking in the Global Destination Sustainability Index of the world's most sustainable meeting and conference destinations (Wonderful Copenhagen, 2019). In order to reach both growth and sustainability goals, Wonderful Copenhagen establishes targets in accordance with the UNs Sustainable Development Goals and among these they mention briefly waste management, but without proposing any concrete actions or plans (Wonderful Copenhagen, 2019). Furthermore in the strategy when waste management is mentioned it refers to the consumption side and WoCos own operation, the industry actors are not seem to be involved in these efforts:

"By focusing on the consumption, tourism can contribute to more efficient resource consumption and reduce water and fossil fuel usage, food waste, general waste and other environmental impacts. As a tourism organisation Wonderful Copenhagen can include sustainability information in its reporting cycles."

While it is an important step that waste management is part of the organizations strategy, the way they approach the subject might need some improvement in the future. The promotion of waste management towards tourists and improvement in WoCos own operations are definitely good initiatives, which can have an effect on the industry and encourage other actors to follow, but considering the amount of tourists WoCo is intending to attract to Denmark there is need to consider the issue of waste on a larger scale. Based on the currently available resources this is not currently part of the organizations 2030 strategy.

In summary there is a growing attention on circular economy and waste management as part of sustainability efforts of public organizations in Copenhagen, but currently private actors are a step further in the process, therefore regulations and strategies need to follow their lead and enable them to improve circular economy further.

4. Practical implementation of the research

Based on the results of my survey and my observations about tourists in Copenhagen I came up with a solution for providing tourists with a service that helps them cut back their plastic use and produce less waste on the streets of Copenhagen. In my survey I found out that only 15% of respondents said that they never use plastic water bottles and 24% said they never use plastic bags when traveling. Furthermore the coffee cups to go are also a very often used item, but those are made mostly of paper, only the plastic lid is problematic.
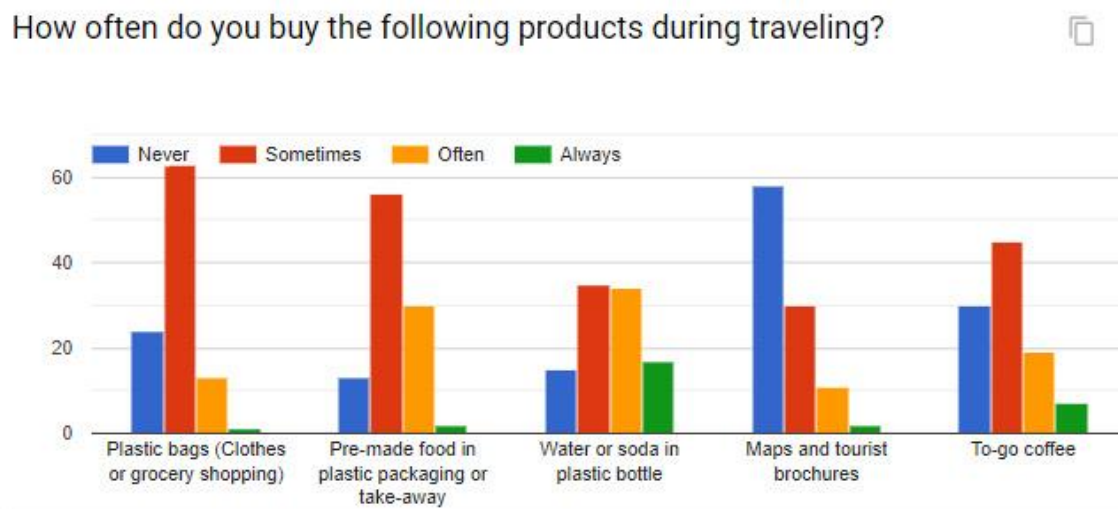

Figure 5 – Products most often bought by tourists, Appendix 5.

As it was outlined earlier, the most common reason among respondents for not using reusable alternatives of these items were the lack of space inn luggage and the lack of willingness to carry them to and from the destination, finally the fear of drinking tap water at the destination. Out of these three reasons, the last one is not an issue in Copenhagen, the tap water being clean and high quality. Therefore for the first two issue I came up with the solution of providing a Welcome pack for visitors, which they can buy in advance online, through the website of Wonderful Copenhagen or ideally even add to their hotel booking or flight ticket while they are already making a purchase for those.

The product

As for the actual product, the welcome pack would include reusable canvas bags in two or three different sizes and a reusable water bottle. Both items would be made by Danish brands and designers who provide innovative, sustainable, unique products that could be included in the package.

The main principle is that everything, including the packaging of the welcome pack has to be coming from a sustainable source and preferably have some story behind regarding the design and the material used. This way it already provides an experience for tourists about sustainable Danish design and lifestyle. It would also have to look stylish and something that tourists would like to own, otherwise they would not pay for it. As it was suggested in the analysis the power storytelling would be used for telling the background, why is it important that people buy this product, what do they contribute to.

An example for the bottle could be made by the Danish company called *Not Just Bamboo*, who produces the drinking bottle called *Not just a bottle.* It is a one-piece bamboo bottle which is made by hand from environmentally friendly material and the company supports rainwater filtration projects after each bottle sold.

The canvas bags should be made of material that proved to be sustainable based on a life-cycle assessment carried out, considering all factors, including the CO2 emission and other environmental and social aspects of the production. It is now becoming a point of discussion that these durable, reusable items take more energy to produce then thin plastic bags, therefore in a sense their production is more damaging than that of the plastic bags (Schlanger, 2019). Therefore there is a minimum amount of reuse that is necessary for a canvas bag to be a more sustainable option than a plastic bag. (The canvas bag is still way less polluting in a sense that it does not damage land and water as much as plastic after thrown away, therefore it is a preferred option, people just need to make sure to use them on the long term as intended and not throw away after a few usage.) Thanks to the lifecycle assessment tourists could also be informed about the number of minimum reuses needed so the canvas bag is "worth it" from an environmental point of view. Since the bags provided by well-known brands have a status symbol effect as well when people shop for clothes, this canvas bag should be also designed to represent something that people would like to own,

like graphics of famous Danish designers or they could be for example supported by certain brands and carry their logos.

The package would also include a simple, informative guide which would explain to tourists that in Copenhagen there are many places where they can fill up their bottle with high quality, safe drinking water - together with some concrete examples of such places of course. According to a news article released on the 17th of February 2019 on politiken.dk, there is an app under development which would provide a map of the places where people can fill up their waterbottles for free (Grundtvig, 2019). If that app is released it could be a great source of information for tourists as well and it definitely should be suggested for those buying the welcome pack. In the guide it would be also explained that in most stores they would have to pay for plastic bags, but if they use the provided canvas bags they actually save money while saving the environment. I would also make sure to figure out a way to provide this information on a material that is not going to end up as trash.

To carry out a more thorough analysis of this product, as suggested earlier in the analysis, I used the Product Service System by Chamberlin & Boks (2017) which describes 11 consumer factors to consider for online marketing of circular economy products. The table below provides a description of the consumer factors, the possible issues those could mean and solutions to them.

Consumer Factor	Issues	Solution
Contamination/disgust/ newness	Cleanliness of reused bottles	Continuous, detailed communication regarding the sterilization process
Convenience/ availability	Requires more effort to find a place to fill up the bottle Convenient drop-off spots are needed so the products will not end up in trash bins	App with map for water fountains and drop-off points, signs on shops/cafes Communication in the marketing campaign -> "worry resolution" Free shipping

Ownership	Responsibility of Recycling	Emphasize the correct way of disposing the bottle/bag to ensure circular economy principles
Cost/financial incentive/tangible value	It might be a bigger onetime cost versus the small amounts for buying more bottles and paper bags	Show clear calculations and why does it worth it financially as well, beside the value for our planet and society Free giveaways, extra gifts, etc. Extra services/information online
Environmental impact	Getting out the world about circular economy and why is better than recycling, how is it different	Simplicity, clear communication of the model, highlighting the nowaste principle Refer to/cooperate with more well-known brands
Brand image/design/ intangible value	Loss of brand image of shopping bags Drinking water instead of soda	Storytelling about Danish design, cooperation with brands/designers Highlighting health benefits - careful not to create guilt
Quality/performance	Tourists buy the product online	Certifications, communication about manufacturing process to ensure quality
Customer service/supportive relationship	Unclear who to turn to in case of problems, e.g. hotel staff could distribute, but they do not represent the company	Prompt and high quality online customer service One main contact for urgent issues on the spot
Peer testimonials/reviews	New product, not a lot of personal reviews out there	Using all available online social media tools, travel bloggers, travel sites, celebrities, etc.

Awareness	Difficulty to reach out to people who are not already aware of the plastic waste problem	Advertising on booking sites and other websites, to reach new customers
		Make it very user-friendly and easy to order, pick-up, drop-off, so it is not an extra task for tourists

Table 3. Consumer factors, issues and solutions for the Circular Welcome Pack

Added value for tourists

Possible deals could be also negotiated with Danish stores and cafes (eg. Lagkagehuset, Flying Tiger, and small Danish design shops as well), that they either give a small discount for tourists who arrive with the canvas bag or fill up their water bottle or provide discount on coffee, etc. The possibilities are endless and all deals could be individually negotiated with the place. The welcome pack would include a QR code or some similar digital tool so tourists can access the list of places that offer discounts online.

Circularity - What happens after the tourists leave?

Tourists could decide if they would like to keep the items in the welcome pack or not. If they decide not to keep it, there would be a container at the airport, train station, possibly in hotels where they can discard of them and get back a portion of the selling price. The items would be collected to assure that they do not end up as just more trash on the streets of Copenhagen. The recycling, reusing or upcycling of the items has to be arranged as well. As in the case of the reusable plastic cups in Tivoli, the reuse and cleaning of the bottles could be arranged and the material of the canvas bags could be repurposed or reused. To identify exactly the best way to reuse each element the above mentioned lifecycle assessment and research in different industries would be necessary. The best option would to identify a producer who would take back the used canvas bags and use the material for the new ones. This step would ensure the circularity of the model.

Further value creation

As suggested before, the welcome pack would include a QR code which would point to a website, that provides additional information, including the above mentioned guide and list of places. Furthermore the website could promote small Danish designers, design shops, cafes that have a sustainability agenda either in an environmental or social sense. It would also provide information about the effects of plastic waste on our lands and waters and further tips for reducing the use of plastic during traveling and in the everyday life.

V.   CONCLUSION

During this research project the possibilities of applying circular economy principles were explored and as a result suggestions were outlined in order the support the advancement of circularity and waste reduction in tourism focusing on Copenhagen as the field of research. In order to provide a comprehensive answer to the research question the interpretivist paradigm and social constructivist inquiry paradigm were identified as frames of the research project. Due to taking a social constructivist approach generalizability of the research is limited, but the level of transferability with adjustments in the research process is high. My aim was to provide concrete relatable and adaptable examples to show the diverse possibilities circular economy has for tourism. The main goal of all the provided examples and principles is to reduce the waste produced in the tourism industry and therefore alleviate environmental and social negative effects. Furthermore I looked at the consumers/tourists perspective to find out if there is a need for certain behaviour changes and if there is, how could it be outlined and communicated for tourists to be easily adaptable to their everyday practices. Through researching these fields I aimed to provide answer to my research question and three aims:

How could circular economy be implemented in tourism to support waste reduction?

Aim 1. Define and understand the circular economy in a tourism perspective.

Aim 2. Create concepts to implement and promote circular solutions in tourism.

Aim 3. Understand the values that circular tourism could deliver for tourists and change practices.

In order to reach Aim 1., the existing concepts and principles of circular economy were explored and as a main issue, the lack of social aspects was identified, therefore I argue that the definition of Murray (2017) is the one which should provide a base for adapting circular economy to tourism:

"The Circular Economy is an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being. (Murray, 2017, p. 377)"

72

This definition includes the holistic system approach of the CE while also highlights the importance of the human aspect, not only the natural environment. This approach is especially important in tourism which is an industry working closely with an array of various small businesses on the destination and employing large numbers of locals in different positions from low income, unskilled workers to high levels managers. Therefore as I establish based on my interview with Mireille Jakobsen, close communication and cooperation with local stakeholders is essential part of circular tourism. Furthermore cooperation is the basis of forming long term partnership which make circular models possible. More concretely as Aim 2. suggests, examples of existing solutions were presented, most of which are adaptable to other tourism actors, especially in case of hotels and restaurants which mainly struggle with similar issues in terms of waste and food waste. Besides the concrete examples frames for designing circular solutions for tourism were also suggested, such as the alternative 4P model, design strategies by Moreno et. al. (2016) or the eleven consumer factors by Chamberlin & Boks (2017). Furthermore the tourists perspective was also explored to find out the valued that circularity could bring for them and as a main advantage I found that while implementing CE requires resources and changes from industry actors, in most cases it can provide tourists with the same experience they are used to in a linear economy based tourism. Technological solutions and using different resources would not affect how the tourists experience most of the services. For example in the Finnish restaurant where the meals are prepared from food saved from being wasted, the guests have the same experience as in any other restaurant but without the polluting, negative effects of their activity. For those cases where the implementation of the CE means sight adjustments in consumer practices the tools of green marketing and DfSB were suggested, which are both adaptable to circular economy context.

For my research question the numerous examples presented throughout this research provide the primary answer, since are based on practical, feasible solutions for everyday issues of waste management in hotels and restaurants. These can be summarized in the following categories:

- Food waste management
- Energy efficiency
- Eliminating single use items

- Life-cycle assessment of equipment and machinery bought to make sure they are recycled and recyclable
- Considering Product as Service models where possible
- Networks and partnerships to identify ways of circularity within the industry

Furthermore the lack of public organization support was identified as an obstacle of the CE spreading in the tourism sector, this is a field which is likely to improve in the future in the Nordic region due to the increasing attention on the topic from the public and policy makers alike.

Therefore I conclude that the main value circular economy could bring to tourism is the enhancement of cooperation, establishment of new partnerships and a system thinking which includes different stakeholders within and outside the industry. If these cooperations become more common, it will definitely mean that the waste produced in tourism and eventually ending up in public waste management systems will decrease and lighten the burden of the industry on the natural and social environment.

APPENDICES

Appendix 1.

Personal Interview with Jonas Åbo Mortensen

Date: 29/02/2019

DUE TO TECHNICAL DIFFICULTIES, THE FIRST 2-3 MINUTES OF THE INTERVIEW IS NOT RECORDED

Jonas: ….. 70% recycling in 2024 and we are now on 45% or something like that, so it's quite a gap. And then triple the amount of reuse and then of course to save CO2 emissions, I think it's 59,000 tons or something like that, so there will be a lot of new initiatives to recycling rates in the coming years focusing on all of the different materials that we are already collecting, but also focusing on the new waste collection fractions, so Tetra Pak and diapers, actually.

Dora: Okay, so I read the previous report and I see that even now, recycling is quite advanced in Copenhagen compared to some other European cities, like household wise, you can find basically in every building separate containers and everything, so how do you see that now, the population accepted this concept and they are fine with the inconveniences of that?

Jonas: I mean in general terms, there's been a lot development in this field in Copenhagen in the recent years, because before we used to incinerate all the waste and we probably had the most advanced system for incineration and use of energy and heat. But now we are recycling and there are all the places in Europe where they have recycled many many years, so I would say Copenhagen is still not among the frontrunners, but we need to be. And the way that we do it in Copenhagen is that we have source separation of the different waste fractions and that means that you have one wastebin for each fraction of waste, so that also means that there are lot of different wastebins in the house and that is okay, I mean people are very positive towards recycling in general they want to recycle. But I think also we are getting near a limit now to the amount of different wastebins that we have, both in certain places for instance the historic inner city, it's very difficult to fit in more containers, but also in peoples homes and backyards it's difficult to get more containers now, so that will be a challenge definitely, to figure out how we sort even more. But you can say that there are two basic different ways of doing it, where one is source separation, where we have one wastebin for each type of material, but you can also do comingling, which is where you have a wastebin where you can put several types of material in the same wastebin. Certain types of material are okay to mix, because they are easy to separate automatically afterwards, so that could be maybe a way to go down in the future. We'll have a look at it, as part of the activities in the waste management plan. I mean, the reason why we have source separation now instead of comingling is that we believe that we get a better quality material when we have source separation that we would have with comingling. But that is changing because the technology is developing, so the better sorting technology you have at automatic sorting facilities afterwards, the less important it is to source separate.

Dora: Yeah, okay that makes sense. Do you see that it's a risk maybe that people not necessarily sort very well, for example the hard plastic and the soft plastic and different types of papers. I know there instructions, but has it ever been an issue, that people need more information or convincing about this?

Jonas: I mean it's a constant effort to engage people in sorting even more and we can see that in plastic for example we have around 10% of the fraction that we collect is not plastic, which is waste that as well need to be sorted. And that can happen, I mean sometimes you go out, think about something else and then you throw it in the wrong bin and 10% is fine. The people who do the final sorting of the waste for us, they say that it's a good quality also to compared to most other places, so that's fine. But it's a constant struggle to get better and better or more clean fractions of course and then the other thing is that when you have source separation then people need to go down with the specific type of waste to the specific type of bin, it has kind of a natural limit to how much waste you can collect, if you look at the total potential. We talk about the collection rate versus the total waste potential. So for instance for plastic waste we know that last year we collected around 2,600 tons of plastic waste in the city, at the households. But we also know that the total amount of plastic waste is around 17,000 tons, so we only collect maybe 15% or something like that of the total amount and we can higher then that, but we can never get to 100%, that will never happen. And we will probably never get past 40% even, so the main part of the waste fractions will still be in the residual waste. And we can see that also from cities that had source separation for longer time then Copenhagen, that there is kind of a natural limit to how much waste they get in. Therefore we also need to focus on developing solutions to sorting the residual waste, to get out the resources from that fraction.

Dora: Yes, actually that was another topic that I read in the previous report about the bins outside on the streets and parks and how is it a challenge that that's of course not recycled, because it's not separated. Do you if in this plan there is a plan to change that?

Jonas: Yeah, there is an initiative to implement 750 new spots around the city in public space for sorting, so there is one of the major changes with that new waste management plan. So there will be a lot of new waste sorting places around the city in the coming year. We will of course first do smaller tests in certain areas of the city and we have to develop the designs that it also looks nice, because it has to be part of the public space, it has to be a good solution, but in the end we should 750 of these spots to get more of the waste that is generated in the public space recycled as well. We know there is a lot of plastics and paper, cardboard, stuff like that in the public space. So that's one of the initiatives that we have. There is also another initiative, which is a central sorting facility for the residual waste which is under development now and it will open I think it's end of 2021. So basically all the waste that now goes to the incineration will first have to pass this plant, that takes out everything that's worth taking out and then the final residual will go into the incineration.

Dora: Yes, because from my research point of view, tourists don't really have the chance to sort waste or collect it separately because on the streets or in their hotels they probably don't… so that's part of the waste that's generated and it's not even possible to separate it.

Jonas: I mean in the public space of Copenhagen they will have the chance to do so in the near future. When we talk about hotels and stuff like that, because of the way the legislation is in Denmark, we can't as a municipality deal with that waste, it has to be part of a private market. And for especially plastics that are plastic packaging, that looks like plastic packaging, that you find at peoples normal homes, there is no demand for that at all in the recycling industry in Denmark, so it's almost impossible for hotels – if they were to collect this waste stream – it's almost impossible for them to offset it. No one will have it. So that's definitely a challenge, because there is quite a big amount of this type of plastic waste, which is now not recycled, because there is no private market for it and public is not allowed to go in and recycle it. I mean the plastic waste that we collect in the municipality, we pay to get recycled, so it's kind of a political choice, we recycle these resources, therefore we pay, so there is no market for it which would live in itself. And that's why we cannot deal with it, because there is no market for that so it goes into the incineration basically. Even though the legislation says that the

private companies have a duty to sort the waste. So on the one hand they have to sort waste, on the other hand it doesn't make sense for them because they can't sell it at all. So that's definitely a challenge.

Dora: And you said there is no need for this kind of plastic packaging, do you know if a solution exists, it's just not organized in Denmark, or there is no facility or is this like a more global challenge?

Jonas: Oh, yeah, it's recyclable, you can definitely recycle it, so it's not a technical challenge at all, but you can say it's an organizational challenge, because one thing is to recycle another thing is to recycle AND earn money and no one can do that, as it is right now. In Denmark public pays for the recycling o the plastic waste, in most other places in Europe it's a producer responsibility scheme that pays for the recycling, which means that the companies that market the plastic products, they pay a certain amount of money according to how much plastic they market to ensure that that plastic is recycled. So no one earns money right now for recycling that type of plastic waste, they probably will sometime in the future, but not right now. And I don't know facilities in Denmark that can take this type of waste, so it's impossible for companies to – even if they wanted to sort it…because than they would need to have an export notification of the waste to send it abroad and I mean that doesn't match up the whole effort of getting an export notification for maybe I don't know 500 kilos of plastic waste, that doesn't really make sense.

Dora: Yeah, I think that's a common issue when it comes to sustainability and recycling, this balance of how much we can do, that's still worth it from an environmental and a financial and business point of view of course.

Jonas: Yeah, and it's basically the economic point of view that is difficult for these types of waste fractions, I mean most of the waste fractions, if not all have to be subsidised in some way in order for a private market to exists. I mean there is a big private market for recycling plastics in Europe, but it's subsidised by the money that's sent from the producers responsibility schemes or from the public as it is in Denmark.

Dora: So do you think circular economy concept or some kind of circular market as a solution, like producing less waste or producing product that are not becoming waste at the end of the cycle?

Jonas: Definitely, a lot of different new types of business models that are coming are interesting. For example when you ship packaging and clothes like that… **INCOMPREHENSIBLE** …. Reusable cups for events is another one or reusable cups for coffee shops is also implemented in some places, there is a lot of these different types of… But I mean if you look at the whole picture there is usually a very small amount of waste or potential waste that they prevent, so the way I see it, it's not really something that has big impact in that way. The big impact would be to recycle the waste in good enough quality, so that it could be used for new quality products and for that to happen we would need to have investments in infrastructure for sorting, because as I said before, you'll never get the public - even though everyone wants to recycle and it's very hip nowdays to sort everything – you would probably still only get one third of the waste or something like that, the biggest fraction will be the residual waste and we have to figure out how to actually take out the resources from that and turn it into something that's valuable for the industry, so we can use it again. You won't see anything completely circular before that happens. And then another interesting discussion is how circular the different materials are by design, because sometimes a material, even though you separate them, you can only recycle them into a very low quality new raw material which you can use for some low quality application and then once that application is done you can't use that again. And then other types of materials, maybe types of metals or also some types of plastics, you can use a lot of times, as long as

you make sure that you sort it well and that you process it well you can use it may times for many different applications, so in that way those types of materials are more circular by design.

Dora: Yeah, and that's the reuse or recycle debate…

Jonas: Yeah, there is an interesting case right now about food packaging plastics. In Europe tight now, most of the soda bottles are made from PET and a lot of them are recycled into new soda bottles, so that's a circular economy concept involving recycling. And the first facility doing so with PET trace, has opened now in Holland, it's called 4PET Recycling and that's very interesting because we can sort out all the PET trace automatically from the plastic waste and then they turn it into PET trace again and then you have a closed loop for a very big part of the plastic fraction, actually it's about 30-35% in the whole quantity of plastic that we collect which is made from different kind of tops and trays. So even though plastic gets a lot of bashing nowadays in the public, because it's really a bad material if it ends up in the wrong places, it's also a very very good material if we keep it in a closed loop. Because it's very circular in that way a lot of times.

Dora: Okay, so with this new plan, what do you think is the most… or what the main topics of this plan? Is circularity included as the name suggests?

Jonas: It has a specific focus on tripling the use levels, so that means basically that once someone is done using the product, they can share it with someone else or they can sell it on some kind of used platform and that's circular economy in some way I would say. And then there is a focus on plastics, recycling the food packaging plastics to new food packaging plastics, which is also doable, but it's still not being done on a big scale in Europe. It has this specific focus on quality in most of the initiatives, also wood waste for instance for different types of applications.

Dora: So, in the previous plan in the previous plan, it said that the waste from constructions is quite well recyclable, so is this still a part of the plan?

Jonas: We have a big European funded project about construction waste, it's mainly an issue, because it's big quantities, but again as a municipality we are not dealing directly with construction waste, it's part of the private market. The way we can deal with it is by setting up different requirements and tenders that we have for our own buildings for instance. But it has a major potential, just concrete for instance as a material, it's a ridiculous amount of concrete that we use every year and it's not really recyclable as it is now, but there are concepts to recycle concrete. It's quite difficult to talk about circular economy unrelated to the specific materials, because it's very different, the circular economy for plastics has very different requirements from the circular economy for bio. And also just circularity…it's enough that it goes in a circle, but the new product is a very much lower quality than the first product, is it then a circular economy or is it just a spiralling down economy of some sort? So it's a quite difficult concept.

Dora: Yeah, as you said it can mean very different things on the different levels, even on macro level implementations, there are some like these eco-city concepts and then the industrial sites, a factory using the waste of another factory then there is the level of communal waste, plastic waste and such. So it's kind of an umbrella term, it can mean so many different things.

Jonas: Yeah, it's one of those terms, where you had sustainability for example or smart cities, you know kind of what it means, but not exactly and there are all these different types of concepts and you put it under a label.

Dora: Yeah, it's a new buzzword, but it's still hard to pinpoint what is exactly the goal here.

Jonas: Yeah, and one challenge that could be interesting for your thesis as well is, actually all over Europe is how we look at recycling and the circularity is by how much waste we collect, we don't look at how many secondary resources are used by the production industry and that would be a lot better indicator I guess. Because the whole challenge is actually to get the production industry to want to buy secondary raw materials instead of virgin materials, that's the whole concept of circular and there are different directions to that according to which materials you look at.

Dora: Okay, so for example with the plastic waste, is it more accepted in the industry to use plastic from recycled PET bottles for example, so plastic would be a good place to start?

Jonas: Yeah, plastic could be a place to start, what happens with most plastic is that you have a quite high level of recycling actually, but most of it goes into very low quality applications, so Styrofoam or park benches for example. I mean when you buy a new vacuum cleaner or something like that, the plastic is not made from recycled plastics. So that's a challenge to have a lot higher quality recycling. Because then there would be a broader scope of the industries which would then buy the plastics.

Dora: yeah, that makes sense and I think that's not a really well know aspect of the whole recycling. Like we more or less know how plastic is recycled but people don't really consider how is it used after recycling.

Jonas: Yeah, exactly, recycling is recycling, so if it high quality or low quality, it counts the same in the statistics. But that's a big problem definitely and that's a general problem to start looking more at what type of materials come as an output from the recycling facilities, instead of just looking at what you put in as input.

Dora: Yeah, and then so for waste coming from private businesses, what the municipality can do is basically issuing rules and regulations to try to push businesses in that direction, but it's up to the companies or businesses how they handle their waste?

Jonas: Yeah, basically it is and then we can go out sometimes on company visits and say "You have to do this according to this and this paragraph" and that's okay, but it won't really change anything until the whole market is improved so that is actually makes sense also from an economical point of view. Because of course the companies, they have to survive.

Dora: Okay, so it should start with the private sector of recycling and waste management on the solutions and then companies would use that if it would exist and it would be profitable for them.

Jonas: Yeah, or if everyone had the same….as is the case in most places in Europe where you have producer responsibility scheme, that puts the cost on the private sector, but as long as everyone gets the same cost, it's the same level of competition for everyone as well, so in that way it works. But you can't chose as a company to be the only one who spends a lot of money to be really green, unless it's part of you green advertising campaign or something like that, so it has to make sense from an economic point of view. Another interesting case from a tourism perspective is the cruise ships, the waste management on the cruise ships, that's a whole other area and you get more and more of those in Copenhagen.

Dora: Yeah, I guess they also have to take care of their own waste.

Jonas: Yeah, but I think every time they into a town or a harbour somewhere they offload the waste, I'm not sure how it's organized.

Dora: Okay, I think that was it from me, thank you.

Appendix 2.

Personal Interview with Mireille Jacobsen

Date: 13/03/2019

Dora: Yeah, so I had a look at the sustainability initiative of the BC Group and I've been doing this research for a while now and I was really impressed with all the stuff that's on the website, so to start maybe could you say a few words about your role in this and also why is it so important for BC Group, because I know a lot of other big hotel chains who don't put that much effort in sustainability, so I was wondering what's the reason for BC Group?

Mireille: Yeah, let me start by saying that I'm the responsibility manager or the sustainability manager or the CSR manager, call it what you will. So it's my primary role here to basically to drive that in the entire group with all our business units. And the reason why it's so important, I think for us it's just a question of win-win or why not? For us it's very much about stating the obvious that of course sustainability must be a also profitability. We say that you are able to run a good profitable business by the same time being sustainable. So we don't really get why everybody else isn't doing it. It's a bit more complex sometimes, this is why you'd have a job like mine to basically handle the strategy for that and where do we actually put in and where do we not, but we think at the end of the day that it's good business, so that's why we do it.

Dora: Yes, that's what I got as well, from what I saw on the website, that you really manage to combine well profitability and sustainability initiatives, because I think that's quite a common argument against sustainability.

Mireille: Yeah, one doesn't exclude the other one, on the contrary, it can be mutually beneficial or it should because it's not a secret that we do it and we've been open about it, this is a business strategy for us, we just don't see what's the bad thing about it. We don't just invest in random things, you just need to do it strategically.

Dora: Yeah, and another thing that grabbed my attention is the holistic approach of sustainability, because it's often just refers to environmental aspects, but I saw that human rights and social aspects are also parts of BC's strategy, so if you could say a few words about how you cooperate with the social surroundings?

Mireille: Well, I think that people are extremely important, because we are in the service industry, so that's our greatest resource, I mean yes we have buildings and yes we have a huge environmental impact, but at the end of the day our core competencies is in the people that we have, our employees that serve our customers. So if we are able to invest in them, they will also give back, two times over. That's also what I think gives us an advantage ahead of our competitors. So it is a holistic approach, because what's more important is constantly weighing up what should we invest in, because there are so many things that we could improve on, I mean we are not perfect by all accounts and that counts both the social and the environment. But it's also very much about just engaging with our stakeholders and our employees here, so it's very much about just opening the dialogue and creating trust both internal in the company and the local community, hearing how can we both benefit. How can we as a company help maybe local groups of the society and at the same time be helped ourselves. So again win-win. Sometimes it works, sometimes it doesn't but we've been doing this for many years, well the BC Hospitality Group has been existing since 2014, but before that I used to work at the Crown Plaza

Hotel with the same things. So it's also the same CEO that I've been following. So we've been working on that for like 10 years now. And that gives us and advantage, because we've had some experience already, while many companies are just starting now, realizing that this sustainability is not going away. We need to do something, if it's nothing else just a reputational risk… Now we are already ahead of the gang. So it also takes a visionary leader to see that, it takes commitment from our top managers. So we wouldn't be here today, if there wasn't this commitment. But the commitment wouldn't be there if were not able to show the value and advantage that it gives. But it does take some… I think 10 years ago maybe you had to be brave, but today it's a no-brainer… and it's also just common sense at the end of the day.

Dora: Yeah, I was actually looking at the Crown Plaza, as I understand specifically designed to be a sustainable building, so how do you, was it easier in a way to start from scratch or how is it to integrate it in a building and in a running business?

Mireille: Yeah, it's so much easier to start from scratch and build everything up from the ground, even in the construction phase, you think everything through and have a vision, okay this has to be a sustainable hotel and then you can do the building features and you can constantly have that in mind. But also with people, you can just integrate it, you can build up all your policies, you can build up all your procedures, culture, everything, it's a completely different experience to be there to come in here. When I started here, the management have never even heard the word sustainable inn their lives. So to kind of transform…because sustainability is about change management at the end of the day, driving change. And people are scared of change, most people…many people embrace it, but again it comes back to showing the value, because when people understand it, they can accept it and they can go with it. So it is still a challenge today, especially people who's been here 30-40 years, that's something. And now it's not just the cheapest price that's good enough, now you actually have to look at where does it actually come from, what is the risk of the supplier, you have to look at a lot more, is it organic is it not, all of a sudden you need to consider many things. It's a lot about training and engaging them, talking to them, understand why, where do they see the problem. Because actually I think most people want to come to work and not just be at work, but actually contribute something more than themselves. So I think people become very proud when they realize, okay that is actually something that we want to do and they can actually contribute to do. Because it's not me sitting in the office somewhere saying, okay now we all have to run this way. I'm not doing anything, it's them and the operation that's actually making the change, so it's extremely important for them to understand what it's actually doing for them, and it's completely different. It means completely different for a chef, then it does for a person in finance, so to kind of translate that to where they are.

Dora: Yeah, it's a very complex system and as I see the main challenge is cooperation between stakeholders and different departments in case of a hotel, and usually people are not that used to these kind of cooperation, so it can be a challenge to set up this systems, but as I hear once you are there, there is commitment to continue.

Mireille: I think its constant. I think it's more culture driven then it is driven by a single understanding. For example if you come to the Crown Plaza Hotel, there is just a culture, that this is what we do. We are on this understanding, so when you come into the Plaza as a new employee, you just kind of have to do that because everybody understands and everybody accepts it. So you need to work on the culture, you need to build this culture. But we are getting there.

Dora: And how do you see the customers, the guests? Do you promote these things specifically or do you keep some of them in the background or how do you put that into your whole image of the group?

Mireille: Well, we should be communicating more, the thing is that we have a very large, differentiated customer base, who is our customers? Is it private/public organizations, is it NGOs, is it small, is it big, anybody really can stay here or can use us. We have SO many different customer bases, so how do we kind of focus it on them? And that's one thing, you have customers and then you also have guests, because the customers are not necessarily the guests. The guests haven't necessarily chosen to be here. So how do you communicate to each of these groups separately as well. I think for the customers the dialogue is very much with the companies, the private corporations are the most focused on that. Unfortunately public organizations are not good enough to focus on it, but we work a lot with them, because we have a lot closer dialogue with them. So with the guests it's more in context, so if you're in a hotel room, you'll see little things what's happening, why we are doing it, that we are sorting waste and doing this… And when you come to the restaurant you can see that organic bread or something like that. So I don't know, I think for us at the end of the day, I don't think it's the customers responsibility to make sure that we are sustainable, it's ours. So we want to give a sustainable experience, whether they want it or not. Because we have to drive toward that, we cannot wait until the customers are ready. That being said, it should not be more expensive, because it can be much more expensive, so it's also for us finding that right balance, working with our stakeholders, working with suppliers, finding sustainable products that doesn't cost… It's not an add-on, so how can we do that? And luckily we have a certain volume in our organization that we are able to get more sustainable products and have more competitive prices. And it's also about challenging suppliers, saying "this is just not good enough, come on, do something about it". And you know that kind of puts the whole chain of events in advance and if we are first movers in the industry it's also our responsibility to push for that. To make sure that somebody is doing it, because otherwise who else can do it.

Dora: Yeah, I think that's a really interesting approach, because another common discussion is the guest experience or the tourist experience when it comes to destinations, how are going to feel that they are forced to do things, like you mentioned separating the waste or they have to pay some extra attention to things, but I see that there are tactics to do it in a way… or the pricing, that it doesn't actually goes above, it's not a hassle for the guest, it just something that happens organically.

Mireille: And for the guest experience I think the contrary, I think that you actually have a better visitor experience at the end of the day because, again, it's back to purpose, right? You are actually contributing to something and it's also about when they are choosing something in one of our restaurant, they don't get to choose the organic or the non-organic burger, there is just an organic burger, end of discussion, right? The customer or the guest shouldn't be able to choose between two things constantly, that's an add-on, that's work for them, it should just be a good experience and add value for their experience. And we do things, that some things… yeah I don't know if it's more difficult, accept for the waste and I think Copenhagen is also a very sustainable destination and we are also aware of the fact that we are extremely integrated in our destination. People don't come to stay at the Crown Plaza, they come to Copenhagen and then they happen to stay at the Crown Plaza, so we have to sell Copenhagen, we need to contribute to our destination and we have to contribute to their goal of being CO_2 neutral, of being sustainable. So in that way it's an organic approach, we are part of the city and we need to help each other in that way.

Dora: Actually I'm also looking into waste management and ways to reduce mainly plastic waste and non-recyclable waste in tourism, so you mentioned that you have a focus also on that, so you have separate bins in the rooms or how do you manage?

Mireille: Yeah, we separate waste in the guest rooms in three fractions, it's a bit different for each hotel what they have most of, but it's basically paper, organic and metal or something, to kind of help the guests sort there. But I mean it's minimal what comes that way, at the end of the day the waste is

happening back of the house. It's the same with plastic straws, we eliminated that of course, but at the end of the day it's a symbol or something, the amount of plastic it actually has, it's very minimal compared to what's happening otherwise, but it's fine, it's good and obviously we do that. But it's also about having a focus back of the house not just on these pretty little things the front of the house, so actually also looking at where is it happening and what can we actually do about that. And again it's also about talking to suppliers and how do we receive it, why does it have to be wrapped in plastic, can you work something out, can we do something that we give you the boxes back or there are many ways. And the plastic that we do have…because plastic is fantastic, plastic is such a great material, but make sure that it's clean plastic and it can be recycled. That's the biggest problem, we get these weird blends of plastic that can't be recycled and I think that's the number one thing, look at if you cannot eliminate it then reduce it or make it better quality so that it actually can be reused. Because it is also difficult, what can replace it that has a better environmental footprint then the plastic. So it's not so easy, especially what we have to do with food, there is very high demand of hygiene, that we need to keep. So it's not an easy task, but it's something that we have focus on and we are slowly working on it and our biggest problem is really that we don't have problem sorting waste, the problem is who can take it? So actually it's the bottleneck when it comes to public organizations, because they cannot handle all the fractions that we are actually sorting now. We could sort in more than thirty fractions…we can, but there is nothing more, they cannot take it.

Dora: Yeah, I actually talked to the kommune as well and they also said that there is this gap because they cannot handle all the waste coming from businesses or constructions in Copenhagen, so even though it's possible to separate and solutions exist for recycling, but maybe not in Denmark, so I see this gap of waste management.

Mireille: I think that's why it's so important for us to say, okay they can't do it, but what do we do then, think a little more circular, how do we then not create waste to begin with, because that's where the problem is. It's not about sorting it, it's about eliminating it, right? Why don't we start reusing materials and maybe talking to some other stakeholders that can maybe collect… We have for example here so much carpet going out, now we are talking to someone else, maybe they can use the fibres from that or something else. So it doesn't have to end up there, so it's thinking a little bit more circular, but it's also difficult, why should we be actually doing that, because we are not good at that. We are extremely good at hotelier, we are not waste experts. But it has to come to that as well. It's just many solutions and many products and we have start looking at where is our biggest waste impact. Because we know, especially in Denmark we create too much waste, so think about how we can solve that problem with other people.

Dora: Yeah, actually another field of my thesis research is circular economy and it's implementations in tourism, so as I see at the moment this field is very narrow, but I was also wondering if that's something you consider or how is it?

Mireille: Actually we really want to go and we've been trying for many years, but the problem is again, when you think about the circular economy we have to work with partners to help you on the journey. It's this connection, first of all I have a product, but I don't know who can use my product, you can take it for free, but how do I find, how do I know, what options there is. It seems a little bit random sometimes, that I just happen to find somebody that can use coffee grinds, so who kind of connects the dots? So I don't know many organizations that starting to do this, that's not organized unfortunately. So it seems we cannot put too much resources in it either, because we have a business to run, so obviously we want to do something and we do something about it, but it's difficult.

Dora: Yeah, especially in the tourism industry I think, it's so fragmented and there are so many different actors and stakeholders, in a hotel you have the furniture, the carpets, the kitchen, you have to be an expert to know where this material came from, how could it be recycled.

Mireille: And you have to be an expert in other industries, that's the problem, because it's a cross industry thing, because we are very good at tourism, but tourism is also very hands-on industry, with very small profit margins to begin with. So how can we invest knowledge to kind of move us, to breach industries at the end of the day.

Dora: I haven't found any examples yet, but maybe you know something about companies that offer service instead of products, so I now in other countries companies that lend furniture for offices an hotels and then they take it back and they take care of the recycling. So have you met any example of this in Denmark?

Mireille: Not as far as I can recall, but we are also very big, so it's also very difficult that it's financially viable to rent things, because it's cheaper to buy them and have it constantly and use it in other units, but obviously that's the way forward to kind of eliminate ownership to be able to circulate it a bit more. And it's the same with square meters, that's something we have loads of, I mean how do we circulate square meters and make it available in different ways. Not that we know exactly what to do, but this is what you have to think of, how can you create an economy like that.

Dora: I just had one more thing about events, because I used work in event management and I know the high standard of corporate events and how wasteful can it be sometimes that quality and standard, so I just wanted to hear a bit about how you manage events, I saw on the website that it's also one of the initiatives. What sustainability aspects can you implement in that?

Mireille: It's a lot about for us…and luckily the event manager is getting more focus on sustainability. So it's a lot about taking the dialogue with them in the very beginning, ensuring we can align with what their goals are, what is it that they want to achieve and what can we actually do to kind of help that? So if it's about water then we have focus on water or something, so we can easily align with that. But it's also, talking about waste, oh my god… the difficulty for us is that as soon as an event comes in here they own the space, they own everything, so we cannot really tell them what to do or how to act. We are moving towards that, if you have an exhibition for example, all the stands, the materials, that's being just dumped, it's horrible. Yes they pay for it to get rid of it and yes we try to force them to recycle it, but it's not being reused again, because we don't own it, we cannot just take it. So there is something there, that needs to be cracked. And also kind of aligning sustainability, our choices for sustainable product with quality, sustainability should never give a lower quality. That's our thing, because then our guest will go away. So talk to them, so they can understand, why are we doing what we doing, why are we serving certain products. Now we are talking about reducing beef a lot, so that's a big dialogue to have with people that don't consider CO2 footprints or anything like that. So dialogue, dialogue and getting them to also start giving us demands, because then we also can excel.

Dora: Yeah, so I see more of the role of the event management and organizing companies in that, if it's not a hotel that they rent but a venue, then I know companies who focus specifically on sustainable events, but I guess it's up to the client to choose their way of approaching their own event so as you said you cannot force them to do it in a specific way.

Mireille: Yeah, it's difficult with customers, guests, but we are…we have to start moving towards that. It's just when you have such a big international culture…food waste is one of the issues, we just pulling our hair out…if you have an event coming with American guests, they have no concept of what food waste is - compared to if you have a Scandinavian customer – for them is just about serving food

constantly, all the time, even though there is five people left, they don't think about what does that actually mean, that we have to throw it out. When you talk to somebody else, it can still be presentable, just with small bowls or…so it's this balance about what they want, what we can offer.

Dora: Okay, I see, I think those were all my questions for now, if anything comes up later…

Mireille: Yeah, you can just write me, that's fine.

Dora: Yeah, okay, thank you, because you can never know.

END OF RECORDING

Appendix 3.

Phone interview with Jesper Manniche

Date: 15/03/2019

Jesper: Det er Jesper.

Dora: Hi this is Dora calling, we e-mailed regarding my thesis.

Jesper: Yeah, okay, hi.

Dora: Thank you for taking the time for this call.

Jesper: Yeah, I'm rather busy in these weeks, so… But where do you study and what is the education, I don't remember.

Dora: Yeah, so I'm a master student at Aalborg University here in Copenhagen and I'm in the Sustainable Tourism Development program, currently in my final semester writing my thesis.

Jesper: So is this connected somehow to Sziliva Gyimothy?

Dora: Yeah, so my thesis topic is about circular economy and possibilities and challenges of implementing circularity in tourism.

Jesper: Sorry, sometimes I cannot hear you, I don't know if you have your phone.. if you hold it in the wrong way.

Dora: Yeah, just a second maybe it's…is it good now?

Jesper: Yeah, now it's better.

Dora: Okay, great. Yeah. So I'm researching possibilities and challenges of circular economy in tourism for my thesis, that's how I found your report and it was the most extensive report I could find about this topic, so that's why I was interested in hearing a bit more from you.

Jesper: We were very lucky to have made this report, because as you say it is the first, almost the first in the world and also UNs World Tourism Organization also spotted this report and have invited me and my colleagues to several conferences and so on and it's very nice to have this visibility. Yeah, so I don't how you want to organize this conversation.

Dora: Yes, so first, do you mind if I record our conversation for my research?

Jesper: Yeah, no problem.

Dora: Okay, thanks. So I wrote down some questions, but to start with maybe if you can tell me about where the interest or the motivation came from to write this handbook, because as you said this is quite a new field in tourism.

Jesper: Yeah, you can say that is given from the project, it's written as a report in the project Interreg South Baltic, there is a Polish lead partner a development agency in Gdansk and it's the Chamber of Commerce and energy consultancy groups and so on that are part in Lithuania and in Sweden and Poland. And then we as a research center in Denmark are included also, but Bornholm is not a, what it's called, an implementation region, but in Poland and Lithuania they are supposed to carry out all

the activities of this project. It deals with it to support hotels and all businesses in the tourism sector to start thinking about circular economy. How can it be implemented, what does it mean in tourism and to support the uptake of implementation of circular economy ideologies and ideas in companies. And there is a lot of workshops for training and so on for tourism businesses in the other regions of the project, but Bornholm as I started saying we are not implementation region. We started the project by making this report to prepare ourselves and our partners about what is actually the circular economy in tourism. It is very new this combination, it is mainly the manufacturing sector that has been in focus of discussions of circular economy so it's rather very new to talk about it in tourism. And because of this we started making this rather comprehensive approach to really find out – are there good examples? And how should we understand circular economy so they made it rather comprehensive and I guess after doing it, it had paid off, it was a good idea that we made it a little more comprehensive.

Dora: Yes, it is the most comprehensive report I think so far. So do you have any future plans of continuing with this research or this this project is done and…?

Jesper: No, during this year we will make the final version of it, it will be smaller changes, but mainly it will have to make some recommendations on the basis of these and also the other activities of the project to collect some experiences about how to support businesses. And also policies, what could policies be? So to do some recommendations, it will be the last part of this and it will be maybe during this summer that we will be finished with that. And that I guess some of the other… I don't know if there will be some continuation, we did not talk about that in this project. But of course there are so many things going on these months, I think it's really a…so many people have seen this report, because it's really a theme of growing attention. Yeah, there seem to be something going on.

Dora: Yes, definitely. Where do you see the most interest coming from, tourism service providers or policy makers or who do you think is the most committed to this?

Jesper: Yeah, it's a good question. Still, and of course what wrote in the report is that it's still a very new field and I mean there are examples from the business sector, that's maybe where at the moment the most inspiring thing is to be found, it's not a policy driven, at least not in tourism, it's not policy driven development. You can say when it comes to plastic, there is the EU plastic directives and the policies for circular economy. That you could say it's top down and policy driven, but in tourism at least it's driven from smaller businesses or in fact some of the bigger businesses that make some interesting things and want to market themselves to brand themselves as sustainability and so on, green hotels.

Dora: Yeah, because as I see from the existing literature that's one of the comparisons with sustainability, that sustainability was in tourism a more policy and top-down approach and circular economy seems to be more of a bottom up or coming from the industry actors, so that's something that others also...

Jesper: But do you read this out from the report?

Dora: No, no, from other literature that I read about tourism, that's something that came up but since it's so new, I'm just not sure how much experience is behind these opinions, because there are so few examples.

Jesper: And it's also when you talk about circular economy you need this kind of a system perspective, it's difficult to talk about it in a very restricted micro business level, I mean how can you have a circular economy inside one business, it connects to so many supply chains, energy systems, infrastructures and so many things. So that's of course also a thing that maybe you have to start from a very limited

way and have to pick up step-by-step, picking some lower hanging fruits and it's very often something about saving energy, more efficient…but also there is some focus on reducing waste, especially for food, how can we resell it. Some circular ideas, that are maybe a little easier to start with then some of the bigger perspectives.

Dora: Yes, actually I talked to one of the sustainability manager of one of the hotel chains in Copenhagen and that's what they also said that, even though they have an interest in circular solutions, they just cannot do it on their own, they don't know how to recycle furniture or how to upcycle or how to sell it, so it's something that needs cooperation. As I see this is a main challenge for tourism, regarding circular economy and as I understood your report, that's something you also found out.

Jesper: Yes, and I think in the report we also talk about some more positive aspects of the role that tourism has and maybe effecting the consumption side, the guests, to make them reflect on their consumption, to use this circular economy as a narrative also. Of course it should not only be green washing, you cannot do it only by marketing, telling a good story about things, but also to reduce your energy and make some material improvements, but there is some interesting narrative potentials of the circular idea, that also attract people. I mean from a story telling point of view it's an interesting thing, maybe more interesting than the concept of sustainability, which is something so difficult to understand and technical and scientific concept, about the balance and different dimensions, no one can really define it very clearly. But circular is easily understandable and it has something very simple that is attractive also from a storytelling point of view. And I think this is an advantage in the tourism where they could work with also telling these stories about how they work with the local communities to maybe provide some second hand equipment for the guest or whatever it could be.

Dora: Yeah, defiantly, I was also looking into this aspects of the tourists and I see two main directions, one is to really raise awareness and educate people about this and the other is just work in the background and maybe tourists don't even notice some of these how the water is recycled or what kind of energy is providing the heating, they maybe don't care because it's just warming the room and that's good for them.

Jesper: But I'm rather sure it's difficult to do it only in the background, I think you have to work a lot with the guests, for instance if you take the food, this buffet style it's the worst way of organizing when it comes to waste. So at least if you are a smaller hotel, one of the first things to reduce your food waste is to abandon the buffet concept and only have produce on demand. And this creates a lot of questions among the guests, I know from those that have started this. So that the pedagogic of telling why are we doing these things, there is a reason behind and we do it because of that and that. On the one side there is a growing interest, growing segment of people that find this attractive and also maybe select the hotel according to who is green or not green. But there is also a group that are not and I think in any case I think there is a lot of dialogue with the guests and host that need to be organized and taken care of if you start this process.

Dora: Yeah, it's a good approach to make guests understand why are there certain changes happening because they notice some of these definitely.

Jesper: yeah, so I think the staff involvement is really a very important thing, when it comes to these things, and that is another disadvantage of tourism, or it is like now, because it is really low paid, seasonal work and this staff needs to be…because they are those who meets the guest, so they really need to be also involved in the storytelling, they need to be involved In knowing what they are doing and what is the rationale behind this and this and this.

Dora: Yeah, that makes sense, that's actually what I hear from the hotel sector as well, that it's getting even more and more important to involve staff in these, even the decisions and how to communicate it to the guests, because they are the ones in contact. So that's definitely a new addition of circular aspects I think, compared to how staff used to be treated in the hotel sector for example. This also brings in another critique that I read about circular economy, that it lacks this kind of social aspect, that's involved in sustainability. But do you think is it just natural if you do all the things in circular economy than the social benefits will arise or should it be more present or more highlighted?

Jesper: Yeah, at least as the concept is used, it's maybe correct that there is not a big focus on the social aspects and this could be a little…I don't know if it's a problem or what it is, but I think it's difficult to implement it only as a material, technical solution, it really also is about the better jobs and involvement of people, so at least it will be a result of it. And maybe also at least the consumption side…at the moment it's very often used only…at the moment the discussions about sustainability and what we can do is very much connected to the production side, the companies and maybe a little less to the consumption side, the consumers, but I think it will also turn now in the coming years and the efforts will also start focusing on the consumption side and our behaviours and patterns and so on. And I think this social aspect will also relate to these, that consumers can see how they can have a better life by consuming in a different way.

Dora: Yeah, that's an interesting aspect I think which is not that significant in sustainability, that it's not only good for the environment for example, it's good for the consumer as well, if they get higher quality of products and services by this.

Jesper: But it is really a conceptual problem of the circular economy, but I think it's a little reductionist way of using the concept, that it only concerns the material aspect, in fact it also relates to all kind of…including human resources. So nothing is wasted, everything is taken care of, everything is improved and not just abandoned and then you chose something else. Everything is, including human resources and social aspects, the cultural aspects also, I think it's somehow also included in this vision of circular planetary system, that's also what I really like about this concept, that it is one system and not a lot of systems.

Dora: Yeah, definitely, I also think that things are all related and if we keep in mind all these aspects of circular economy then it has a very big potential for tourism especially, because it's such a fragmented business, it involves so many different actors and all sectors of the economy so it just needs to go for a bit more cooperation between all these and develop in this sense. So based on your research and work through this report, do you think circular economy has a potential in tourism?

Jesper: Yeah, but I think it's not about the argument to start with circular economy, it's so logical that we need to do these principles, we need to reduce the waste, we need to design out waste, it's so obvious and I think it's very clear, not a rocket science, these principles are so simple. Yes, of course we have to do that. And I think there is so much momentum now, it will come more and more and it will be a process, where also tourism will play a part in this and also it will play a big role on the consumption side I would say. Because also usually it's discussed as if sustainability and *INAUDIBLE* … you cannot separate it and also sustainability and joy and fun it's also two different things, but it's not. It's also about how this process can actually be funny and create a lot of growth and create a lot of good lives and jobs and that's where tourism could play a role in developing these things.

Dora: Yeah, I see your point in that. Okay, I think that was all my questions, I don't ant to take up too much of your time.

Jesper: I forgot to ask, do you have a supervisor?

Dora: yes, my supervisor is Helene Balslev, in the tourism department. She is now the head of the department I think since last year.

Jesper: Yeah, I don't think I know her.

Dora: Yeah, she is very interested as well in this topic so it's great to work with her.

Jesper: Okay, so if you have a question of something you can call me again, I may not have the time, but you can just call me.

Dora: Yeah, thank you, I think further in the research process there might be something else that comes up, because now I'm just in the data collection, but when I get there to actually write my analysis, there might be some further questions, so I might contact you then. So thank you for your time and have a good weekend!

Jesper: Yeah, same to you, bye.

Dora: Thank you, bye.

Appendix 4.

Skype Interview with Lucy Chamberlin

Date: 19/03/2019

Dora: Hi, thank you for your time, to start with, I was thinking if you can tell me a bit… because this whole circular economy and especially the consumer behaviour field is very limited, so I was wondering what was your background of looking into this field, what was your motivation?

Lucy: Back in 2011 I did a masters in London Imperial College in Environmental Technology and I think that was probably the first time I came across this term circular economy. After that I worked for about one year with the Ellen MacArthur Foundation on the Isle of Wight, you might have come across them in your research, so I work there for a while kind of a researcher and a program manager. Then I came back to London and worked for a project called the Great Recovery which did a lot of things with designers, so what does circular economy mean for designers thinking about end of life of stuff. Kind of whole life recovery, designing things differently from the beginning. Yeah, I was there for a few years in London, it was based at the World Society of Art, so that got me into visiting a lot of waste sites, workshops teardowns, working with designers, but also students and public sector, people from public authorities and small businesses, trying to look at the whole circle and everybody who had responsibility for bringing about circular economy because the more you look and the more you ask people to change stuff, the more interconnected you realize everything is. And everybody thinks that it's somebody else's fault or somebody else's job to do something first. So it was really about trying to have those conversations with people and show rather than just tell them what the problems were. So then more recently I've been I Norway working on this PhD on circular economy and consumer behaviour, because I think there is quite a lot of buzz going on when it comes to business models and also design approaches, but the assumption is that consumers will therefore just automatically adopt these new models and perhaps that's not necessarily the case. There is not so much that has been done about incentives and behaviours and why people would get involved, what's in it for them, why they wouldn't. So that's got me more into like why people consume in the first place and you know peoples motivations and the different theoretical approaches. So that's like two years of work I've been doing. Does that give you a kind of overview of what I've been up to? Hopefully.

Dora: Yeah, so because I just started looking at circular economy from a tourism perspective and one of the first issues I have faced was why and how to get people interested and open to these kind of solutions, so I'm looking into how is this different from sustainability and sustainable design, so how do you see the differences in both marketing and the behaviour of consumers compared to when it comes to sustainability.

Lucy: I think when you talk to consumers there is isn't necessarily a difference, I think the whole success of circular economy is communicating with businesses, because there is this implication that they can make money whilst also decreasing their environmental impact. Now, this issue is called decoupling. Decoupling environmental impact from profit and growth and there is some literature particularly I'm thinking by Vaxon, which suggests, that actually in an absolute way that's never been proven to be possible, so it's a bit of a marketing buzz word for businesses to some extent. I think for consumers my personal view is that consumers don't necessarily need to be able to understand or be able to define or know about the term circular economy or sustainability. It doesn't really matter if they understand that as long as they are doing it. And maybe they understand the more day to day activities, so people

are more likely to understand why not wasting something is a good idea, but I think trying to explain this whole concept of circular economy and all of the loops and the implications for businesses and economies is not really going to engage consumers or appeal to them and the word economy may also just switch them off. So I think it's more important to kind of translate it at a local and culturally relevant level, so what is good for someone to do in – where are you, in Hungary, right?

Dora: No, I'm in Denmark.

Lucy: Okay, so what it kind of means for somebody in the local shopping center or in their house in Denmark might be different from what it means in a different environment in a different country. Yeah, I think it's difficult to generalize. I mean there are some general principles, but they are bit you know broad. If you say you need to just make sure you lease everything and reuse everything, I think you need to be a bit more specific than that. And for people it's better to make the kind of messaging and marketing relevant for them in their day-to-day lives as a mom, a shop worker, a bus driver, a teenager, I don't know, but one the thing I've been looking at is that people are different, you can't really categorize one person into one category, like marketing has this way of doing segmentation, fitting people in boxes, but most research now shows that people aren't really like that, it's the very activity of putting people in boxes or doing the segmentation that creates those conditions. It's not like it's uncovering some truth that's already there, every person has a lot of different identities, they   might be a mom AND a bus driver AND a partner AND a…I don't know…a sister and a friend and you know they have a lot of different roles and different identities. The problem with asking people to be more environmentally friendly, is that that's already everybody's intention, everyone wants to do better stuff and nobody dislikes a clean green environment, but they have other priorities that get in the way. And the identity they have as a mum, might conflict with their identity as an environmentalist and the mum identity is always going to win because their kids are right there, whereas the environment is out there somewhere and you know, what does that mean? So I think it's all very well telling people to be more sustainable and do your recycling, but why and what does it mean for them and how is it practical for them when they are busy they barely have spare cash, they have a lot of other priorities to think about, so their kind of environmentalist identity usually comes after the other ones. So if you sorted out all peoples other problems, then they'd probably be more environmentally friendly and more likely to get involved in circular economy. But I think it's important to take all of that stuff into account. So, sorry what was the question again, or do you have another one?

Dora: Yeah, so if it makes sense to differentiate from sustainability and being green and there are all these phrases out there and people don't necessarily want to learn a new one, so it's just more about as you said their environment and how can they change or affect their own environment.

Lucy: Yeah, exactly, being green, that doesn't mean anything to anybody, like it's very fluffy, it's meaningless on an everyday level, it's something everyone aspires to but it doesn't have concrete meaning. So I think it's not effective. So I mean maybe for businesses the difference between sustainability and circular economy is important, I think it's been one reason that businesses really engage with circular economy, whereas they didn't with sustainability. I think it's possibly more effective in that it has this kind of idea of recycling things in loops and most people can kind of get on board that we shouldn't waste stuff, something can turn into something else and it's better to do that then to put it in the sea or burn it or put it in a hole in the ground. So I think they are both…maybe they are useful in different ways for different audiences. I think with communication it's important to think about who the audience is and those two terms probably have uses for different audiences and they engage with different types of people. But when it comes to consumers and people on the street, I'm not sure they are necessarily useful or meaningful, I think it requires like a local authority or maybe a tourism board to kind of translate that to people, why should people get involved on a really you know

at the ground level, we would like you to do these specific actions, put your plastic bottles in this bin, they will get made into some new park benches for the city and that will save us the X amount of pounds and we will try and reduce local taxes as a result or I don't know, something that's a bit more relevant. Or like you know, second hand shops, I think it's interesting, in the UK where I come from charity shops are very culturally acceptable, there is a lot of them, people feel like they are doing a good deed, they give their stuff away, but there is a lot of problems with reused clothing shops, because only 20% of it gets rebought and the rest of it gets stumped in Africa and Eastern Europe, so that's a whole other problem. But it's culturally acceptable in the UK to buy from second hand shops, whereas I know that in some other cultures it's not, like in some Eastern European countries and in Iran a friend of mine was telling me that, if you buy second hand stuff then you are like poor and dirty and there is this cultural associations. That's why I think you can't take this one size fits all approach, it has to be very locally and culturally sensitive and relevant.

Dora: Yeah, so considering that there is not that much research specifically about circular economy, I read your paper about Design for Sustainable Behaviour and green marketing, but is there anything new you discovered since or which of these fields are do you think the most relevant to implement in this context?

Lucy: Well, it depends, what you are trying to do I guess, are you trying to implement something specific?

Dora: Yeah, because in tourism it's more about businesses changing their practices and then getting that across to consumers, it's not really about the product because tourists mainly buy services, so that's not really something you can make circular. You can make circular what is happening in the background, what the businesses are doing to provide that services, so it's more like you have to communicate what you are doing as a business and why is it better then another business which is not doing circularity so it's more about communication and it's mostly online because people are not in the destination when they buy the services, so it's very distanced, the businesses and the consumer.

Lucy: So, what kind of businesses are you thinking?

Dora: Travel agents, hotels and service providers, tour operators.

Lucy: And what kinds of circular economy would they want to communicate with their customers?

Dora: Yeah, so the examples that I could find are mostly about hotels, how they manage their waste or how they manage their energy efficiency, so it's things that they do in the background, or food waste, it's a huge issues in restaurants and hotels. So there you can find some positive examples, and then some tour operator or small local businesses that organize tours about circular economy in Berlin for example, so it's more difficult to make it relevant for the tourists and consumers.

Lucy: Yeah, and again I think it's difficult to generalize because it's probably different in each case, I think there is probably examples, where businesses don't need to tell the customers that they are doing it, because it's just not relevant for them. So maybe you know the question is, do customers need to know this, and why? Is it going to help the business, is it going to bring more customers on board, or are you trying to tell them something that's not very interesting? Who are the customers? Being generally green is a bit fluffy, be a more specific about how the businesses are saving waste…In fact there was a radio programme, maybe a couple of weeks ago about a hotel in Norway where they started that the leftover stuff from the breakfast, they make this kind of sausage and potato pie and they make it for the breakfast the next day, and it's really popular, people love it. So they just thought a bit more creatively and rather than chucking all the waste in the bin, they make into something for

the next day, so something innovative. I think a lot of hotels do this nowdays that they make the squashy fruit into a smoothie and I think there are ways to being much more waste conscious in the kitchen, so yeah food is a massive one. Also maybe you come across the nudge approach. So something that they do in restaurants is they reduce plate sizes, so people don't take as much to start with and so they don't have as many leftovers, just by reducing the size of the plate and people can go back as many times as they want, but it means that they don't have this huge pile of food that they thought would be nice, but they can't finish. Yeah and also I think it's quite simple, like signs saying "Please take what you need and come back as many times as you like, but be aware of hungry you are…", so yeah that kind of nudging. And I think there are other nudging examples in that book by Thaler and Sunstein. Especially certain things to do with foods, like putting things on the top of the menu, making things more visible, encourage people to opt for those. So maybe the kind of nudge approach means that you don't need that much communication, if you are just encouraging different behaviours. I know there is a school of thought which says that nudging is not very good, because, it's basically manipulation - The manipulation of choice, I think is the book – and you know, according to who is it better for people to do one thing over the other? And I mean I think we can all agree that saving waste is a good thing to do, but you know maybe there is other instances where we are trying to get consumers to do certain things and it's actually counterproductive. So I think the interesting argument is…. because if you think about it, whenever we are in a shop, we feel like options for what is available to buy are always limited, you can only buy what's on the shelf, so there is a whole science of shop design to make you buy more stuff, to sell you more stuff, so it's a difficult argument, how much can we coerce people and how much do we try to get them to see it for themselves. But there is a lot of literature, as I think I mentioned in my article, which tells us, that information doesn't really change people's behaviour, it's got to be a bit more than that.

I think that one thing that is important is engaging with people at a more emotional level, not just giving them facts, but making things more meaningful for them, more kind of human, not just giving them dry statistics, but a bit more emotive stories. Another thing I've been looking at is the power of storytelling to engage people. There is some literature that shows that we… it's called narrative transportation theory, so when we are really engaged in a story than we are more likely to empathize with it and take on the message, it's like our defences are down, so storytelling is I think a quite effective technique for marketing communication.

And I guess it's difficult because these circular services have to be as good as the competition and then better. So all of those other things that people want, I have that 12 factors of things that people want, convenience and value for money and they need the warranty and all of those things are important as well so for each service what's the most important thing for the customer? So I think in different instances it will be different, it might be that convenience is a real issue if it's like a transport service, it might be something where if it's something loaned or reused then I think having a kind of guarantee, like a warranty that it's going to be a good service or product and work really well, I think that's important. Yeah, so telling a good story, people do like…You know one of the companies I used, Elvis & Kresse which does the fire hoses into bags, people love stories like that, that's a very kind of neat example, because it's upcycling, they give away 50% of their profit, so it's like a great business model, they manage to make money, it's a nice product, it's long lasting, but when it comes to lower value items it's difficult. And services, hotel services, I think what's meaningful to people is things that see and experience in their day to day lives, so like you know everybody experiences kitchen waste, so if the hotel can kind of communicate in a way that people understand what they're doing in terms of their own kitchen at home, I think that's effective. It's like kind of you have to mentally go to where people are, you can't just impose your own values and assumptions, that's why something like design thinking type exercises are quite useful, because it's about really empathising with the customer, where

are they, what issues and concerns and challenges do they have that's going on in their lives and how can you engage with them at that level. You know if they are really stressed out, they've got like six meetings to get to, their kids teacher is trying to call them cause something happened at school and you are trying to tell them that you have a sustainable product, they are like "what the hell?". It's not going to matter. Maybe it's also a bit about timing, to find people at the right time when they are open to these things, there is that research also that shows when it comes to time it's a lot about introducing new things at different life stages, so people are much open to adopting new behaviours and new things in their lives at a time when they are moving house anyway or having a kid or getting married or there is some kind of big change in their life, so they are like "Okay, yeah I'm doing this massive new thing so it's all new and I'm going to look through some stuff", so they are more open and less set in their routine. And maybe you know people are going on holiday, there may be an element where they are open to new stuff because they are taking in so many new impressions all the time anyway, so perhaps that's a really good way or good time to communicate with them, cause they are bit more chilled out, perhaps that's a good way to talk to them.

I think it's interesting when businesses collaborate with each other, especially like across different fields, I don't know maybe a hotel collaborates with a laundry service or a transport service and talks about that, something they might have done together. I think consumers are likely to be cynical, so like you know when they put those signs up in the bathroom "Oh, hang up your towel and then you'll save the environment". Then it's a bit like "Oh yeah or maybe we'll just save you some money on laundry bills". So maybe rather than just having that notice it would more effective to like tell a little story about the last five years and how much water they saved or like one person who stays with them every month and saved all this water. But then of course unless people already care about saving water and think that's very important it's going to be a bit difficult to connect to them. I do think it's really difficult and trial and error, like I think trying and seeing if they work and then trying something different see if that works. I think story telling can engage better with people, also like humour or a more visual design, you know using more exciting graphics or puns, comedy. I mean a lot of techniques have been used over the years in traditional marketing, but I think actually circular or like green companies haven't been as good, they rely a bit on their values, you know "we are really good, so you should shop at us". Well, why if you don't make me feel excited, if they don't make me want to shop there… Everybody aims to be more virtuous, but this values-action gap shows that we all have these intentions, but we don't follow up on them. So if we can try and get people to align those better. So I think it's really important to think about framing, like the way the message is framed, there is lots of framing theories. I don't know if you've seen there is something called the Common Cause Handbook, it's about values and frames. If you just do go common cause values and frames handbook. That's I think really interesting and it's quite easy to read, it's not an academic paper.

Dora: Yeah, so just one more thing I was thinking about, if you think it's kind of easier to do all this with a new product which is already a circular economy based product and get it out as something new and exciting or with something that's already out there and people know it and use it every day it's just maybe we need them to do it a bit different way, but they already know it and they are anyways using it.

*Lucy: I don't know, instinctively I would say something they already know, but then people… you have to look at…there is this called *BAD QUALITY RECORDING* … more to do with practices then behaviours, if you've come across the practice theory approach. And that's quite interesting because if you look at things not in terms of a product itself, but if you look at for instance laundry practices or shower practices or fridge practices, then you look at more peoples day-to-day routines and how they kind of use and adopt certain products or services as part of their routines that they already have. And*

it might be that the product is very familiar to them or it might just be that they are used to doing the laundry in a certain way. So if you could introduce a totally new thing that really fits to their currant routine, then maybe that will work just as well. Again I just think it's difficult to generalize because it's different things for different audiences in different contexts. I'm just trying to write a paper at the moment about sufficiency in circular economy and why actually we have to reduce the overall consumption of materials and energy. So it's not just about leasing everything and buying it second hand, we have to like sometimes not to consume. So that's even more difficult to communicate, because it's very counterintuitive and at the moment we have this.. . the underlying economic message that we have is that it's all about growth and expansion and more stuff is better and all this kind of subliminal messaging is implying and we never really question whether it is. There is again this research on well-being and materialism and it shows that if we are more materialistic, we are less happy. And that actually it's not the having of something that gives us the buzz, it's the anticipation before, so there is a paper called Why wanting is better than having? So maybe if you know you could find a way to give people the buzz that they get from wanting something or anticipating something without then actually wasting the resources or without them actually having to own it, that could be really interesting. And I think it's almost about how we kind of get down to what peoples real needs are, so Max-Neef talks about human needs across cultures, the universal human needs, things like independence, freedom, I think there is nine of them. And in the western countries we kind of got really good at fulfilling these needs through stuff rather than through relationships and experiences. So I think the question is like how communicate and fulfil peoples underlying needs, without just wasting resources. And I think experiences are an interesting part, the experience economy, so how to kind of communicate great experiences, so maybe the flipside is not just trying to communicate how to be green and use different things, but how do we get people out of the shopping center and outdoors and make these alternative experiences, which are not resource intensive and feel really great and how can we kind of get people there. But so much also comes down to infrastructure and context and the places we live. You know on your way home from work you will pass fifty shops, it's very distracting, you'll probably go into one. If those shops weren't there, if those shops were a park instead...so a lot of it is just down to the way our infrastructures are built and how we encourage people's behaviours through the way that we kind of figure their environments. I think communication is a very good tool and we can do a lot more with it, but unless it's supported by better infrastructures, better economic incentives, then it's almost like... you know the government on the one hand is telling us to be good citizens, be more green and more healthy and on the other hand, it gets all of its taxes from companies that sell us sugar, fast fashion, fizzy drinks. And the message to us is that we have to consume to keep the economy going. So if we are getting those mixed messages from all over the place, it's no wonder people are confused.

Dora: Yeah, makes sense.

Lucy: Yeah, I've got off on a lot of…

Dora: No, no, it's absolutely interesting and relevant. Okay, I think those were my questions basically, we discussed a lot.

Lucy: It's nice that you are talking about this and like I'm glad someone else is thinking about it.

Dora: Yeah, I just started my thesis and it's a process, because in tourism this is like very narrow field at the moment, but I think there is a lot to explore and learn so I think it will get more attention.

Lucy: And I think like trying stuff and like doing kind of mini-experiments and seeing what works, I think that's really important, just in a kind of low-key way and learning from failure is probably the best way.

Dora: Yeah, that's true.

Lucy: Yeah, design some communications and then ask people, you can like give them 5 or 10 options and see how they react to each one, and do some kind of basic stuff.

Dora: Yeah, absolutely, I'm thinking about doing some more practical things, beside the research so I think it's exciting this whole new approach and see how people will use that opportunity, I guess.

Lucy: Yeah, we'll see, if we have more people do this stuff than it will happen.

Dora: Yeah, I'm sure. Okay, so thank you so much for your time.

Lucy: No problem Dora, nice to meet you.

Dora: You too and good luck with your PhD.

Lucy: Thank you, good luck with your research and let me know if there is anything.

Dora: Thank you, great, bye.

Lucy: Bye.

Appendix 5.

Tourist Survey

Reducing single-use plastic in tourism

Through this short survey I would like to understand how much tourists and travelers use single use plastic products, find out if there is a more eco-friendly alternative and if it's possible to change some habits for a more sustainable tourism.
Thank you for your help!

* Required

1. **How often do you travel in a year for leisure? (Including city breaks, weekend getaways, summer/winter holidays, etc.)** *
   Mark only one oval.

   - ( ) One-two trips
   - ( ) Three-five trips
   - ( ) Six-ten trips
   - ( ) More than ten trips

2. **How often do you travel to city destinations in a year?** *
   Mark only one oval.

   - ( ) One-two trips
   - ( ) Three-five trips
   - ( ) Six-ten trips
   - ( ) More than ten trips

3. **Which European cities have you visited in the last two years?** *

   _____

4. How often do you buy the following products during traveling? *
Mark only one oval per row.

	Never	Sometimes	Often	Always
Plastic bags (Clothes or grocery shopping)	⬭	⬭	⬭	⬭
Pre-made food in plastic packaging or take-away	⬭	⬭	⬭	⬭
Water or soda in plastic bottle	⬭	⬭	⬭	⬭
Maps and tourist brochures	⬭	⬭	⬭	⬭
To-go coffee	⬭	⬭	⬭	⬭

5. Have you ever seen separate bins for recyclable waste on the streets in of the cities you visited? (Plastic, paper, communal waste) *
Mark only one oval.

⬭ Yes

⬭ No

6. If yes, in which city? And did you use the bins?

_____

7. Have you ever seen an option to collect recyclable waste separately in a hotel or private accommodation? *
Mark only one oval.

⬭ Yes

⬭ No

8. If yes, did you use the bins? If you didn't, why not?

_____

9. Do you collect recyclable waste separately in your home? *

Mark only one oval.

◯ Yes

◯ No

Untitled Section

10. Have you ever heard about zero-waste lifestyle? *

Mark only one oval.

◯ Yes

◯ No

11. If yes, do you use any zero-waste solutions in your home? For example carrying a canvas bag, a water bottle, coffee cup or anything else?

_____

12. If you use any of those have you ever thought about using them while traveling as well? If you didn't, why not, please explain in a few words.

_____

13. Would you be open to using alternative solutions while traveling instead of single-use plastic in case it was easily available on a similar price? *

Mark only one oval.

◯ Yes

◯ No

14. Are you worried about the plastic waste polluting our land and waters and the future consequences of that? *

Mark only one oval.

◯ Yes

◯ No

Untitled Section

15. How old are you? *

Mark only one oval.

◯ Under 18

◯ 19-30

◯ 31-50

◯ 51-70

◯ Above 71

16. Gender

Mark only one oval.

◯ Female

◯ Male

◯ Other: _____

100

Appendix 6.

Observation notes

- 13th of March 2019, Wednesday, 10:30 - 12:30 – Central Copenhagen: Nyhavn, Nørreport, Strøget

  Cloudy, rainy weather, few tourists

Due to the weather and the fact that most stores open at 10:00-11:00, there are very few people around the Nyhavn and Nørreport area.

The streets are clean, waste bins are empty, clearly the clean-up and waste collection works well, so at least the trash generated is collected.

- 30th of March 2019, Saturday, 15:30 – 17:30 – Nyhavn, Kongens Nytorv

The streets and shops, cafes are much more crowded than last time.

Most of the people carry shopping bags, water bottles, coffees.

Trash (plastic, paper) on the street.

Cleaners are not visible on the streets.

- 21th of April, Sunday, 11:00 – 14:00 – City centre, Tivoli, Strøget, lakes

Since it's Easter Sunday and the weather is warm and sunny, the center of Copenhagen is extremely crowded with tourists and locals.

Trash is visible on streets, some waste bins are full and waste is piling up next to them.

No cleaners are visible.

There are a lot of plastic bottles, forks, food containers and coffee cups in the waste.

Some of the waste ends up in the lakes where birds eat it or use it for making their nests.

REFERENCES

Bird, T. (2018, November 21). Zero isn't nothing: Two Helsinki restaurants cut waste out of the picture. Retrieved May 02, 2019, from https://finland.fi/business-innovation/zero-isnt-nothing-two-helsinki-restaurants-cut-waste-out-of-the-picture/

Boulding, K. (1966). E., 1966, THE ECONOMICS OF THE COMING SPACESHIP EARTH. New York.

Bryman, A. (2016). Social research methods. Oxford university press.

Charter of Commitment BLUEISLANDS (2018) Charter of commitments for sustainable material resources management and circular economy https://blueislands.interreg-med.eu/index.php?id=7603 (accessed: 18/03/2019)

Chowdhury, M. F. (2014). Interpretivism in aiding our understanding of the contemporary social world. Open Journal of Philosophy, 4(03), 432.

CRADLE TO CRADLE (C2C) – THE DUTCH REGION OF VENLO TOWARDS A CIRCULAR ECONOMY http://www.innovationseeds.eu/policy-library/core-articles/cradle-to-cradle-c2c--the-dutch-region-of-venlo-towards-a-circular-economy.kl (accessed: 18/03/2019)

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Decrop, A. (1999). Triangulation in qualitative tourism research. Tourism management, 20(1), 157-161.

Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy–A new sustainability paradigm?. *Journal of cleaner production*, *143*, 757-768.

Girard, L. F., & Nocca, F. (2017). From linear to circular tourism 1. Aestimum, (70), 51-74. doi:http://dx.doi.org.zorac.aub.aau.dk/10.13128/Aestimum-21081

Goodson, L., & Phillimore, J. (Eds.). (2004). Qualitative research in tourism: Ontologies, epistemologies and methodologies. Routledge.

Green Solution House (2019, May 15) Green Solutions. Retrieved from http://www.greensolutionhouse.dk/green-solutions/

Green Tourism Network (2015) Circular Economy. Available at: http://www.greentourism.eu/ (accessed: 18/02/2019)

Grundtvig, A. (2019, February 17). Ny app skal vise vej til fontæner, hvor du gratis kan fylde din vandflaske. Retrieved from https://politiken.dk/forbrugogliv/art7033646/Ny-app-skal-vise-vej-til-fontæner-hvor-du-gratis-kan-fylde-din-vandflaske

Guba, E. G. (1990). The paradigm dialog. In Alternative Paradigms Conference, Mar, 1989, Indiana U,

Guba, E. G., & Lincoln, Y. S. (1989). Fourth generation evaluation. Sage.chool of Education, San Francisco, CA, US. Sage Publications, Inc.

Hollinshead, K. (2006). The shift to constructivism in social inquiry: Some pointers for tourism studies. Tourism Recreation Research, 31(2), 43-58.

Jones, P., & Wynn, M. G. (2019). The circular economy, natural capital and resilience in tourism and hospitality. International Journal of Contemporary Hospitality Management.

Jonker, J., & Pennink, B. (2010). The essence of research methodology: A concise guide for master and PhD students in management science. Springer Science & Business Media.

Kalof, L., Dan, A., & Dietz, T. (2008). Essentials of social research. McGraw-Hill Education (UK).

Korhonen, J., Nuur, C., Feldmann, A., & Birkie, S. E. (2018). Circular economy as an essentially contested concept. Journal of Cleaner Production, 175, 544-552.

Københavns Kommune (1) – Resource and Waste Management Plan 2018, retrieved from: https://kk.sites.itera.dk/apps/kk_pub2/index.asp?mode=detalje&id=1184

Københavns Kommune (2) - RESSOURCE- OG AFFALDSPLAN 2024, retrieved from https://blivhoert.kk.dk/sites/blivhoert.kk.dk/files/rap24_hoering_opslag.pdf

Lenzen, M. & Sun, Y. & Faturay, F. & Ting, Y. & Geschke, A. & Malik, A. (2018). The carbon footprint of global tourism. Nature Climate Change. 8. 10.1038/s41558-018-0141-x.

Mackenzie, N., & Knipe, S. (2006). Research dilemmas: Paradigms, methods and methodology. Issues in educational research, 16(2), 193-205.

Manniche, J., Larsen, K.T., Broegaard, R.B. and Holland, E. (2017), "Destination: a circular tourism economy. A handbook for transitioning toward a circular economy within the tourism and hospitality sectors in the South Baltic region", Centre for Regional & Tourism Research,

Merli, R., Preziosi, M., & Acampora, A. (2018). How do scholars approach the circular economy? A systematic literature review. Journal of Cleaner Production, 178, 703-722.

Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: An interdisciplinary exploration of the concept and application in a global context. Journal of Business Ethics, 140(3), 369-380.

Naydenov, K. (2018). Circular Tourism as a Key For Eco-innovations In Circular Economy Based On Sustainable Development. Sofia: Surveying Geology & Mining Ecology Management (SGEM). doi:http://dx.doi.org.zorac.aub.aau.dk/10.5593/sgem2018/5.3

Nexoe, available at: https://crt.dk/media/90318/Cirtoinno-handbook_CRT_05102017-002-.pdf (accessed: 07/03/2019)

Pamfilie, R., Firoiu, D., Croitoru, A.G. and Ionescu, G.H.I., 2018. Circular Economy – A New Direction for the Sustainability of the Hotel Industry in Romania? Amfiteatru Economic, 20(48), pp. 388-404. DOI: 10.24818/EA/2018/48/388

Pattanaro, G., & Gente, V. (2017). Circular economy and new ways of doing business in the tourism sector. European Journal of Service Management, 21(1), 45-50.

Riley, R. W., & Love, L. L. (2000). The state of qualitative tourism research. Annals of tourism research, 27(1), 164-187.

Sauvé, S., Bernard, S., & Sloan, P. (2016). Environmental sciences, sustainable development and circular economy: Alternative concepts for trans-disciplinary research. Environmental Development, 17, 48-56.

Scheepens, A. E., Vogtländer, J. G., & Brezet, J. C. (2016). Two life cycle assessment (LCA) based methods to analyse and design complex (regional) circular economy systems. Case: Making water tourism more sustainable. Journal of Cleaner Production, 114, 257-268.

Schlanger, Z. (2019, April 02). Your cotton tote is pretty much the worst replacement for a plastic bag. Retrieved from https://qz.com/1585027/when-it-comes-to-climate-change-cotton-totes-might-be-worse-than-plastic/

The Copenhagen Post - Danish News in English. (n.d.). Retrieved from http://cphpost.dk/news/thousands-of-new-hotel-rooms-coming-to-copenhagen.html

UNIDO (2018). CIRCULAR ECONOMY. Available at: https://www.unido.org/sites/default/files/2017-07/Circular_Economy_UNIDO_0.pdf (accessed: 18/03/2019)

UNWTO (2018). Annual Report 2017

Vargas-Sánchez, A. (2018). The unavoidable disruption of the circular economy in tourism. Worldwide Hospitality and Tourism Themes, 10(6), 652-661. doi:http://dx.doi.org.zorac.aub.aau.dk/10.1108/WHATT-08-2018-0056

Visit Denmark (2016) Tourism in Denmark. https://www.visitdenmark.dk/sites/default/files/VDK_Website_images/Pdf_other_files/Analyser/2017/tourism_in_denmark.pdf (accessed: 07/03/2019)

Visit Denmark (2017) Tourism in Denmark. https://www.visitdenmark.dk/sites/default/files/VDK_Website_images/Pdf_other_files/Analyser/2018/tourism_in_denmark.pdf (accessed: 07/03/2019)

Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods and methodologies.

Winans, K., Kendall, A., & Deng, H. (2017). The history and current applications of the circular economy concept. *Renewable and Sustainable Energy Reviews*, *68*, 825-833.

Wonderful Copenhagen (2017) The End of Tourism as We Know It. http://localhood.wonderfulcopenhagen.dk/wonderful-copenhagen-strategy-2020.pdf (accessed: 07/03/2019)

Wonderful Copenhagen (2019) Tourism for Good. https://www.visitcopenhagen.dk/sites/default/files/asp/visitcopenhagen/Corporate/PDF-filer/Strategier/tourismforgood.pdf (accessed: 23/05/2019)

World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy — Rethinking the future of plastics (2016, http://www.ellenmacarthurfoundation.org/publications).